

COAST ARTILLERY JOURNAL



JULY-AUGUST, 1944

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COAST ARTILLERY JOURNAL

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COVER. 120mm AA Gun. Signal Corps Photo.

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PUBLICATION DATE: AUGUST 1, 1944





A mahogany OP
150 feet high con-
trolled fire on
Munda.

Marine Corps photos.

Superhighways were
scarce on Rendova.



We

The opinions and assertions contained in the following article are the private ones of the writers and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.

THE ADMIRAL ADJUSTED his glasses, pushed back his chair, and in the manner of one who already knew the answer asked, "Can you do it?"

The time had come at last. We were slated for the Rendova-Munda-Kolombangara operation.

Months of waiting emplaced on sand spit positions on Guadalcanal for the Tokyo Express to come within range of our guns, were about to end. The fast-cruising destroyers of Tojo's fleet no longer visited Tassafaronga, for the Japs who had not died on Guadalcanal had been evacuated. Our strength had been reduced by disease but our outfit was composed mostly of youngsters who had enlisted immediately after Pearl Harbor and they were itching for a fight. I had all the confidence in the world in the competence of my officers—but we were trained as Seacoast Artillerymen and in the initial stage of the next operation were to function as field artillery. To further complicate matters, we were armed with G.P.F.'s which we were to

Had to Do It

exchange for M-1 guns. To cap the climax we were to receive the guns twenty-two days before embarking.

A thorough study of the situation convinced me that we had to have one hundred and eighty enlisted men and four officers as a minimum to do the job. That spelled difficulty in capital letters for men were scarce in the Southwest Pacific Area, and the best that I could do was to get forty-five communicators and the promise of one hundred recruits to arrive the day before we were to leave, but two experienced field artillery officers, two young officers with field artillery training, and two officers trained for seacoast defenses were assigned to our unit.

Our maps of the area where the operation was to be conducted were meager but we had some fine aerial photos and from these I selected our battery positions and coordinated our positions with the Division Artillery Officer. We were placed under the tactical control of the Division Artillery who assigned to us our mission, field of fire, and main targets out of range of their artillery. Our supply of ammunition was limited and because of the short period of time available for training, I hesitated to deliver fire in support of infantry. However, before the operation was completed, we did fire in close support of infantry but our primary mission was to deny the Munda Airfield to the enemy.

After the landing extensive clearing of fields of fire had to be done and once in position the guns would have to remain, for the area was so cramped that there were no locations suitable for alternate positions. Therefore the emplacements would have to be dug in or emplacements would have to be built around the guns for protection. Camouflage, because of the necessity of clearing fields of fire, would be nearly impossible. If we received counter-battery fire from the enemy, we would have to slug it out.

Upon my return to my area, I put my problem before Lieutenant General Pedro del Valle, USMC, and requested that men be assigned to my unit from other units in the area at once, to be replaced by the recruits due us the day before sailing. With no hesitation, this fine artilleryman agreed the transfer so that we could get men and the guns the same day.

* * * * *

LIEUTENANT COLONEL A. E. O'NEIL:

Colonel Bill Scheyer handed me a pretty good size job to train a field artillery unit for combat from a seacoast defense group in about the time a recruit gets in boot camp. I had served in the Tenth Marines, a crack field artillery regiment, so I had some idea of what that job would be. The least of my problems was to stimulate interest in the project. The men literally 'fell in love' with the new guns. In fact, one gun captain pitched his shelter-half on the trail of his gun and slept with it. Each gun was

By Seacoast Artillery Officers of a Marine Defense Battalion

promptly named and was affectionately referred to as 'she.'

"Colonel Scheyer has mentioned that our men were spoiling for a fight. With the excellent possibilities facing us for a nice scrap after seven months of inactivity, the men were eager to learn their jobs and to learn them well.

"Our training program necessarily had to be directed toward two groups of men—the gunners and cannoneers, and the technicians or fire control, communication and survey personnel. We began immediately by starting schools for the fire direction center personnel. As the guns had not arrived at this time, we had the opportunity to canvass the entire group for men capable of computing and plotting. Naturally, our Range Sections were fertile fields to exploit. Major Hiatt, a field artilleryman, was transferred to the group about this time and I set him to work culling through available personnel and organizing a fire direction center team. From somewhere, Colonel Scheyer obtained a few men who had received basic field artillery training at Camp Pendleton. The men selected for the Fire Direction Center were all moved into one area and after three weeks of intensive schools and drills we had a crew three deep in each job and capable of functioning smoothly as a team. The men lived and breathed fire direction procedure during this period and could be heard mumbling 'Range, Baker,' and 'Site, Able' in their sleep.

"When the guns arrived, the task of training gunners and cannoneers began. Our chief problem in the gun crews was the training of gunners on the sight and using field artillery methods of laying and pointing the guns. All hands were tried as gunners and from each gun crew, two men were selected.

"Our daily training schedules were long and full, but varied. We alternated gun drills, sight setting drills, cleaning and maintenance periods, and occupation of position drills with lectures on nomenclature, service of the piece, duties of cannoneers, functioning, maintenance, and ammunition. Our drills were aided from time to time by a Condition 'Red,' at which time we put the guns into 'March Order' and pulled them into the jungle. Our best time was fifteen minutes for eight guns from a standing start at gun drill, to a 'March Order,' and then into the concealed positions in the jungle.

"Officer's School was held nightly by Major Wenban, an experienced field artilleryman who had seen service during the Guadalcanal Campaign. During these schools, a cri-



M1's loading to move to New Georgia.

Official Marine Corps photo

tique was held on the training schedule for the past day and the training schedule for the next day was discussed. All officers attended and aired their individual problems, reported on the progress of the training, and either sought or gave advice. Instruction in the conduct of fire, sequence of fire commands, and fire direction center procedure were given at these nightly schools. Because of the vast amount of material to be covered in the short time available, this instruction was necessarily sketchy, but valuable. Before we embarked, all officers had a general idea of field artillery methods, could give fire commands, and could conduct a simple axial precision or bracket adjustment, in addition to functioning as Battery Executive Officers on field artillery missions.

"Survey personnel and communication personnel required little basic instruction but were kept busy by drills and lectures on their duties in a field artillery mission. The survey personnel from time to time attended the fire direction schools and drills and several of the men became proficient in computing and could have performed this duty in case of emergency.

"When the time came for us to show the results of our training, I was justifiably apprehensive but also confident that much had been accomplished in the time available. After the first few fire missions, I no longer had doubts but knew that those twenty-two days had been profitably employed. I've been told since that we performed as field artillery in a passably creditable manner."

OUR FIRST BATTERY, "A" Battery, was to land on D + 1 day, so, in order to get our positions prepared, an advance party was to land on D-day with the Operations Officer, thoroughly reconnoiter the positions selected from the air photos, select a C.P. and an O.P., then to install the com-

munications net and clear a field of fire so that when the battery arrived, it could immediately go into position and start delivering high explosives to the Sons of Heaven. They were to go in immediately after the infantry had cleared the area but in some way they got a little ahead, became infantry and fought their way in.

* * * * *

MAJOR R. C. HIATT:

"After discussing with Colonel Scheyer and Lieutenant Colonel O'Neil the things that would have to be done before our first battery could open fire, I giddily wondered if I couldn't also arrange to have our laundry done and to establish a branch bank in my spare time. Bearing in mind the jobs to be done and the time in which to accomplish them, I set about organizing our forward echelon.

"For my communication section, I selected three teams of six men each, a total of eighteen men, and assigned each team to a job. Team "A" was to install the battery net for the first battery, team "B" was to install the C.P. circuits and team "C" was to run the trunks from the C.P. to the first battery position and, if possible, to run the circuits for the second battery which was due on D + 2 day.

"To clear a field of fire for the first battery, I selected six men and enlisted the aid of a Bomb Disposal Officer to train them as demolition men. Their job was to blast and chop a field of fire in the first battery position area and, if possible, to start the construction of coconut-log parapets for the guns.

"In order to organize and set up a C.P. and an O.P., I selected twelve men from my fire direction crew and the survey section. Their assignment was to dig in and set up the fire direction center, the C.P., and the O.P. The survey personnel were to carry the survey control that was to be es-

published by Division Artillery to the battery positions and the O.P., and to execute a target-area survey from the O.P. No connection survey was necessary because of the short distances involved between the contemplated Division Survey Station and the battery positions. Their two operations would have resulted in a survey fire chart.

"As an assistant, I chose Lt. D. V. Sandager, a quiet, efficient field artilleryman.

"We carefully selected the tools and equipment we were to take along for the job. Everything would have to be carried on our backs or in our hands so the non-essentials were quickly eliminated. Each man was assigned a tool, a roll of wire, or an instrument for which he was responsible. All members of the party knew in detail the jobs to be done, who were to do them, and the tentative areas into which the installations were to go. In addition, we selected a rendezvous point where we would assemble in the event something went wrong and the party became separated in the initial landing. I should like to state at this point that I have seen many good men while serving in the Marine Corps but I have never encountered a better group of men than those hand-picked specialists that were assembled for this job—and I can prove my statement, but I am getting ahead of my story.

"By virtue of combat necessity, we were divided into two groups, one group to a ship. We formulated an alternate plan which covered only the essential operations, to be used in the event one group did not get ashore—those of clearing a field of fire, the establishment of an O.P., and of a simple wire net from the O.P. to the first battery position. With our plans laid and our gear assembled, we embarked.

"Our convoy slipped into Blanche Channel and began to discharge landing boats and we soon found ourselves headed for the beach. Everything on the beach was too quiet and I found myself thanking my stars that we had prepared our plans in event of something going wrong. The infantry LC's failed to make the time schedule and were late for the party so we entertained for them. Navy CB's, assorted Army groups, and the Marine advanced echelon held school like Tojo's best—a few Imperial Marines.

"Our time schedule was thrown off by the party on the beach and the subsequent game of tag through the coconut plantation with a few persistent snipers, so I left my party to assemble at the rendezvous point and set off to contact the Division Artillery Survey Officer. The survey control had not been established due to some unforeseen difficulty so it was necessary to forego the luxury of a survey fire chart and use an observed fire chart. Because of the excellence of the low angle vertical and oblique photos, I soon located on the ground the first battery position, a good C.P. and O.P. It was necessary to move only the second battery position area one hundred yards from the positions selected from Colonel Scheyer's study of the air photos and map—that's what I call 'calling your shots.' I returned to the rendezvous point, gathered my party, and the work began.

"The wire crews set about their tasks with a vengeance, the fire direction center crew established themselves and started on the O.P., but the demolition crew ran into difficulties. All the explosives had been landed on another island and were not in the area where the Battalion Demolition Officer had so faithfully promised they would be. We were

able to pick up a few cases of TNT from the CB's but not enough to do the job. The saws and axes we had brought along became the star performers in the hands of the survey and demolition crews. As the wire crews and the members of the fire direction center crew completed their assigned tasks, they took their turn on the axes and saws and nightfall found us with the C.P. established, the wire circuits in, the O.P. half way up a one hundred and fifty foot tree, and a field of fire cleared for 'A' Battery. I failed to mention that we were held up from time to time by a strafing Zero or some lonesome sniper desiring attention.

"Both Lieutenant Sandager and I had taken our turns on the saws and axes and we welcomed the end of the day. We dug foxholes and crawled in for some badly needed rest. Some say that it rained that night and that the lizards ran all over them and they couldn't sleep. I didn't have that trouble."

THE HEAVY RAINS that began shortly after our landing soon made the roads, such as they were, impassable. The existing roads were typical plantation roads that are found in this area—narrow, high-crowned coral lates. The heavy





Official Marine Corps photo

trucks soon broke down the shoulders of the roads and the entire road net soon disintegrated into a sea of mud in which innumerable vehicles were floundering. Any resemblance to a road ceased to exist after our guns and their prime movers had passed through. From then on, there were no roads. In spite of this and with the help of our tractor prime movers and the Athey tracklaying trailers, we got into position and opened fire on the Japs the afternoon of D + 1 day. On the following day, the Japs did about the nicest bit of pattern bombing through the center of our position that could be imagined and it was only good luck that saved one gun from total destruction.

* * * * *

CAPTAIN H. H. REICHNER, JR.:

"Despite rain, mud, and lack of sleep—three things for which we never could find a remedy—our second day on Rendova was proceeding according to schedule. Our tracklaying trailers, without which we could never have accomplished our mission, continued to bring up additional ammunition and supplies. Lulls in firing were utilized in digging foxholes and further organization of the position.

"You are drawing blood" was the message transmitted from the fire direction center to the battery. At last we were actually getting a good crack at the Japs. The breech of number four slammed home and there was a brief silence as we awaited the command to fire. An unfamiliar drone came to our ears from the south. A glance in that direction disclosed a closely knit flight of twin engined bombers coming over Rendova Peak. Were they friendly? . . . No! Split seconds later the orders went over the phone 'Cease Firing, hit the foxholes.' To a man, the battery followed the order, some piling into foxholes, others falling flat on the spot. The gunners, using their heads and remembering their training, grabbed their precious sights and took them along.

"Seconds later bombs were dropping all around us. Earth

and debris all but covered many. It was all over in a minute or so, and as the sound of the enemy raiders faded away, we immediately took stock of our situation. Section leaders supervised the removal of endangered equipment, fires were put out, and damage noted. At least twenty-five bombs had landed on our position, but casualties were light, thanks to our SOP on immediate excavation of foxholes. Loss of powder and ammunition was negligible as our short training period bore fruit as far as ammunition dispersal was concerned. Damage to matériel was minor in spite of the fact that we had had neither time nor the equipment for the completion of revetments.

"Completing the inspection on the last gun, number One, we all but fell into a deep hole between the trails. We



...dug up an unexploded 60KG dud. This was the only unexploded bomb in the battery position and by some strange quirk of fate the gun was unharmed.

"Our prescription for protection—air sentries, foxholes, emplacements, dispersal, and, good luck."

DURING THE WHOLE of the operation, we used observed fire—a combination of air spotting and ground spotting. Here again, we ran into difficulty because officers without artillery training were assigned to act as aerial observers. The sensings, in some instances, were startling, to say the least. There was also no little confusion created by the difference in the Army and Marine Corps technique of spotting. The Marine Corps system is derived from the Navy Spotting Technique where the spot is sent to Plot or the Plotter, in the form of a command for increase or decrease of range and a deflection shift of right or left. The Army uses a system which spots the fall of shot with reference to a base point or a reference point and not on the target. By the time a mission had been cleared through Division Artillery Headquarters and assigned to our group, converted from the Army system to the Marine system in order to plot the target, then reconverted for the Aerial Observer, everybody was amazed that so simple a problem could take such a perplexing aspect. Nevertheless, we managed to keep our steel on the way to our little sland-eyed friends.

We finally got an excellent spotter assigned, a Lieutenant Craig of the Field Artillery, who did a superior job for us. In fact, there were serious attempts to get him transferred to the Marine Corps. However, he was too smart for us. The only cause for complaint that Lieutenant Craig gave was that we could not keep him in the air. He was the serious sort of aerial observer who always had to have a second look. He was shot down twice in three days and each time the Japs tried to eliminate him while he sat on a

reef awaiting rescue. On both occasions, we executed a counterbattery mission on some Jap shore emplacements to keep them from getting Craig's range or the range of the boat that put out to rescue him. His luck was as good as his spotting and he was rescued both times.

Throughout the operation, we were assisted greatly by excellent photo coverage. The pictures were developed and printed within a few minutes after they were taken and Captain Lager, USA, of the Photo Interpretation Unit, supplied us with copies of the prints and his photo studies as fast as a messenger could carry them to us. Captain Lager's excellent studies and the promptness of dispatch of the pictures were of great assistance in engaging profitable targets and in determining the amount of ammunition to expend on any assigned target. We wasted no rounds of our precious ammunition on neutralized targets.

When Munda fell and the initial phase of our operation was completed, it was somewhat of a relief to go back to the humdrum business of seacoast defenses. One battery was emplaced on a beautiful little island off the coast of Rendova and the other battery moved to the New Georgia mainland. Then one of the queer things that is so characteristically "Jap," happened: they let us emplace our battery and then began shelling us. We had infantry somewhere in the area from which the shelling was coming and we could not fire back. Consequently, we were subjected to intermittent shelling for four days but Tojo's marksmanship was not the best and the shelling proved to be an annoyance rather than a serious problem.

When New Georgia was cleared of Japs, our next mis-

Marine Corps photos



Types of emplacements the battalion used.

sion was to make Kolombangara an unhealthy place to live, and to deny Vila airfield to the enemy.

I chose the approximate positions for the batteries from the map and thought I was selecting a position out of range of the Jap artillery of Kolombangara. However, the excellent position in which Major Hiatt located his guns was well within range of the Jap's "Pistol Petes." The Jap Air Force reacted strongly too, and every night they laid strings of bombs where they thought our batteries were located. Sometimes they were not far wrong.

* * * * *

CAPTAIN REICHNER:

"Our second crack at the Japs was by no means uneventful. We had a chance to use the knowledge gained on Rendova, and the energy stored up in our brief stay on an island paradise. The movement was easy. We arrived at our destination finding landing area, gun positions, roads, and communications already prepared for us by the advance party.

"This time we fully realized that no long range artillery could carry out its mission in forward areas without attack from enemy aircraft. Previous experiences found us well prepared for such eventualities. Foxholes were deep and plentiful, gun pits were temporarily bulldozed coincidental with the emplacement of the pieces, ammunition and camp installations were widely dispersed.

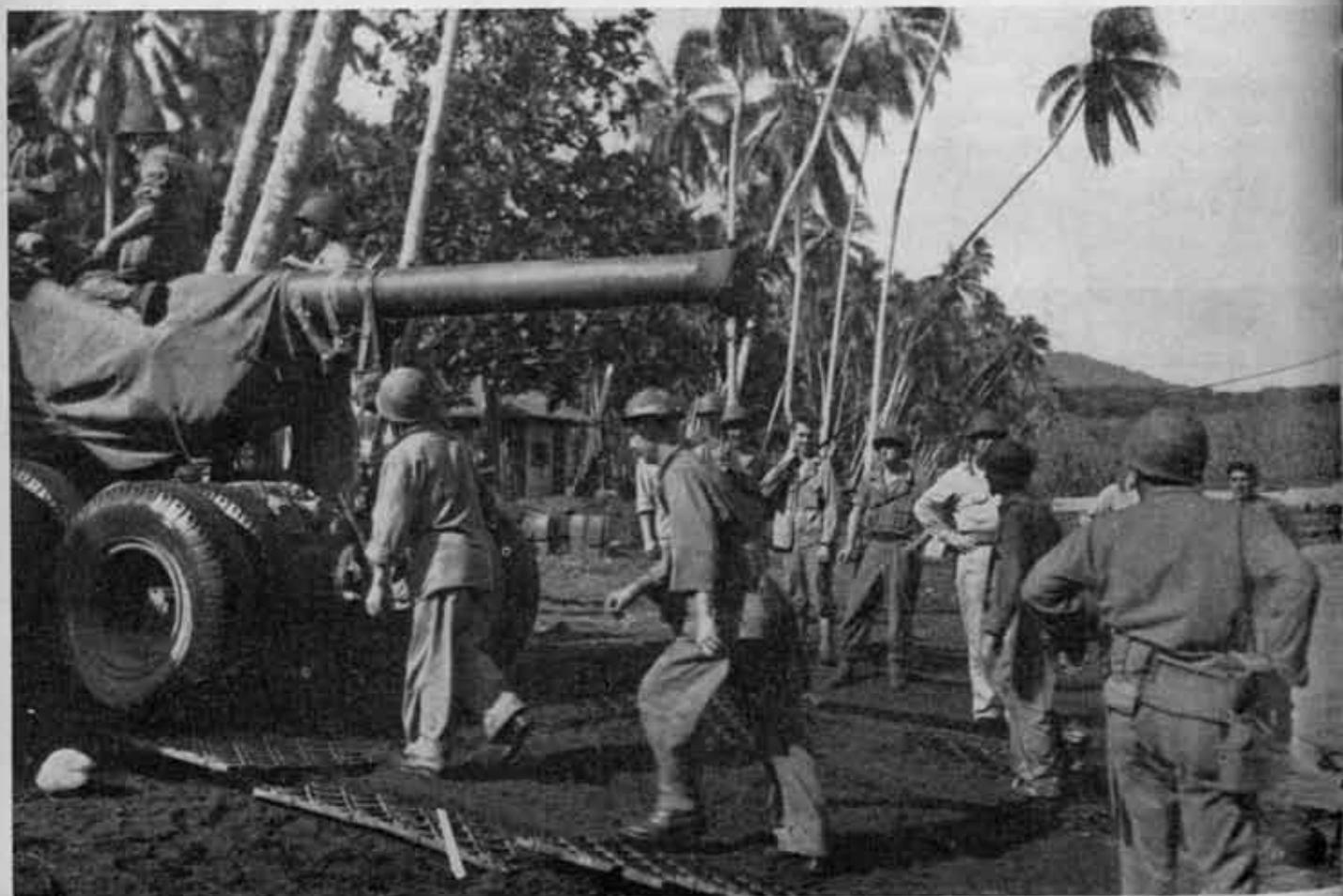
"Due to having no AA protection other than our own

light organic weapons, our precautions were, of a necessity, passive. Air sentries were posted for our warning system and turned out to be very successful, as by this time it was easy for an experienced ear to detect the droning sound peculiar to Nip planes. Blackout was enforced rigidly.

"Our expectations were fulfilled the first night after we opened up. Enemy planes scouted our area all night long, and finally found our clearing at dawn, then dropped three bombs about one hundred yards from our still lucky No. 1 gun. This scouting and night bombing harassed us for about two weeks, causing much loss of sleep but no damage.

"Jap 'Pistol Petes' were introduced to us one day during the noon meal and presented us with another problem. Here at least was something we could slug it out with. As the shelling began to arrive on a daily schedule we changed our meal hours and kept a constant daylight watch on the guns. This was evidently the remedy, for in conjunction with the watch at the C.P., in one instance we were able to get our first round off within thirty seconds of the first enemy shell.

"New problems involved during this mission were the terrific concussion in the pits due to the battery's location in defilade and the fact that this was my battery's first taste of counterbattery fire. Concussion was remedied by the erection of vertical parapets as close to the gun as possible. Counterbattery measures were taken care of by keeping all guns laid on the area where we thought the enemy guns were located, when our guns were not engaged on other



Unloading a 155mm gun at Rendova.



Unloading the guns at Rendova.

...ions. We found that one or two rounds generally shut
the Nips up. Fortunately for us, the Japs across Kula Gulf
were very poor marksmen and used even poorer ammu-
nition. The only damage done was to our daily schedule."
Our O.P. was finally located by the Japs and after they
put a shell through the observation tower, we moved
and moved fast.

* * * * *

MAJOR F. J. WENBAN:

Our first Observation Post was situated on a very small
island north of Sunday Inlet from which we were able to
cover the entire southwest side of Kolombangara from the
mouth of the Vila River to Banbari Harbor. We had erected
an observation tower among the palm trees on the island with the
observation platform at tree-top level. It was an ideal setup
until the Japanese located us and started to throw 4.7 inch
shells at the tower. Don't let anyone say that the Japanese
were not in service a piece. They were making a 15-second buzzer
and had their deflection almost perfect. Fortunately they
had more A.P. than H.E. since one A.P. projectile broke
through the front that fell on the platform while the next shell

(H.E.), had just a little more elevation and broke in the
lagoon directly behind the tower. They dropped sixteen
rounds within seventy-five yards of the island before our
guns were able to quiet them. It was decided, then and
there, to build a new observation post without delay. A tall
tree located on a ridge on the mainland was selected and
work started immediately. The men built rungs up the tree
to a point 140 feet above the ground and then constructed
a large platform complete with roof and railing. This could
accommodate all the instruments as well as the observer's
hammock. This new Observation Post with its added ele-
vation made the observation much better.

"Towards the end of the campaign Pistol Pete would fire
during the night at our positions on Piru. As Major Hiatt
and I stood alternate watches at the O.P., whoever had the
duty at the time would roll out of his hammock, put the
cross hair of the B.C. scope on the gun flashes and then at
dawn make a precision adjustment on the gun."

WHEN THE SECOND phase of our operation began, our
Army Aerial Observers were no longer available and we had
so much communication trouble that it was decided to use
one of our own officers as an Aerial Observer. Lieutenant

D. V. Sandager volunteered and did a bang-up job for us. His cool headed adjustments in the face of heavy anti-aircraft fire earned him the award of the Silver Star. Take over from here, Lieutenant:

"Before take-off time the pilot, the observer and the air intelligence officer held a brief consultation. Such important items as gun-target line, orbiting area, target area, location of our batteries, probable locations of Jap AA positions, and areas occupied by friendly troops were carefully pointed out on the photo maps. Radio frequencies, call signs, and possible areas for crash landing were carefully discussed. Each day we had a different pilot. We found that the extra minutes spent in explaining the mission to the pilot were well repaid by better observation of the target area. I have only praise for these Marine pilots who would fly their SBD's anywhere.

"Ten minutes after the little dive bomber roared down the Munda strip, we would be 'on station' over the blue-green waters of Kula Gulf. Directly in front was the cloud shrouded peak of Kolombangara with the Vila plantation at its feet. Upon close observation we could see the Vila airstrip and a network of roads. Often times we could see truck movements and other activity. Once the Japs sighted the plane, all movement ceased.

"We found that the quickest way to adjust on targets was to give the Fire Direction Center target numbers or grid coordinates. They would calculate the range and deflection

from the base point, and then fire a battery salvo with that data. First salvo would land somewhere near the target. The aerial observer could then quickly complete the adjustment by range corrections of 'up or down—yards,' and deflection corrections of 'left or right—yards.'

"I was permitted to engage any targets of opportunity which I might see. This method saved the observation plane and its occupants from possible disaster several times. Always we were seeking better observation. In order to obtain this we would go in at low altitude—sometimes as low as three hundred feet. The Nips let this happen just so many times! Looking over the side, we would see a gun wink, followed by puffs of black smoke from bursting shells, and ripples on the water below from shell fragments. The commands were brief: 'Target number 84—Fire when ready.' It was very gratifying to hear the radio crackle: 'Number one on the way. Time of flight, 34.6 seconds,' then the beautiful sight of smoke and dust curling from the target area. It was an effective way to locate AA guns and to bring fire for effect into that area.

"Communication was always unpredictable. At times we could receive the F.D.C.'s radio five by five; many times we could not hear them at all, especially at extreme ranges. We could, however, transmit to them. Each day before going up we consulted with the officer in charge of F.D.C.; thus if reception was poor we could proceed on the previously planned schedule."



Special delivery from Rendova to Munda—the 155mm projectiles on the ground are about to be delivered.

AERIAL SPOTTING of artillery fire was effective because of the close cooperation between observer and Group Headquarters. The F.D.C. supplied the necessary photographs with plotted targets, a regular planned schedule of the day's activity, and accurate data to place the first salvo near the target. The observer could, in turn, report irregularities in the fire of the guns and adjustments necessary to improve the effectiveness of fire.

* * * * *

CAPTAIN W. T. BOX:

"Our Fire Direction Center, during the Kolombangara phase of our shelling was located in a coral fissure about three hundred yards from the nearest battery. It was a natural spot and safe from any counterbattery or naval gunfire.

"The mission assigned to us was to neutralize or destroy all the heavy AA guns surrounding the Vila airfield and to destroy all coastal and field guns capable of shelling Bairoko Harbor and the new airstrips being constructed on New Georgia. This was a large assignment for our two batteries.

"The AA guns were located from aerial photographs provided by Division Artillery. During the firing, Division Intelligence, Strike Command and our aerial spotter gave us reports daily on the activity and condition of the enemy heavy AA. Destroying their AA wasn't nearly as easy as spotting them. To permanently silence one of their guns it was necessary to get a direct hit in a circle roughly four yards in diameter. We were fortunate to have been able to inspect the positions after the enemy evacuated, and in some instances the parapets had withstood ten hits before the gun was finally destroyed. All their positions were constructed with a great deal of skill and an unbelievable amount of work was put in on them.

"The field and coastal guns offered an even more difficult problem. At first we had no suitable spotting station since the enemy held all ground that commanded a view of Kolombangara. Finally we were able to establish an observation post about five thousand yards to the north near Bairoko Harbor. From there it was comparatively simple to put fire on the guns along the coast once they disclosed their positions by firing. Because their guns usually had about seven feet of overhead covering, again it took a great number of rounds to dig them out of their positions.

"Our difficulties really developed when guns began firing from three hundred to five hundred yards inland even though they were not in flash defilade. Our single spotting station wasn't adequate and area shelling was out of the question, since ammunition was limited. We did use a little area shelling from time to time to silence the guns temporarily until we could get set up to bring more accurate fire to bear on them. After a time, a Field Artillery Battalion got a forward observer on Arundel Island who saw the gun flashes. By coordinating his spots with our spot, we were able to bring accurate fire to bear using bilateral spotting methods. Since some of us were Seacoast Artillerymen at heart, this appeared to us to be an ideal place to employ the Blake plotting board. We continued to use the bilateral system of spotting until we made our surveys and got our board properly set up. We never got the chance to try it out, for the Japs decided to leave for a more peaceful south

sea island, only to be caught in the barges by our Navy."

THROUGHOUT THE ENTIRE OPERATION, I was exceedingly proud of the enlisted men of the Seacoast Artillery Group. They never completed a night's rest, the chow was rugged we were always shorthanded, but they were made of the stuff that makes America great. Each shell, and there were something over eight thousand for the entire operation, they rammed home and sent on its way to blast the sons of Nippon with a sort of deadly hate. They would work until they dropped from fatigue serving the guns and keeping ammunition in the ready pits. We tried to keep the men informed of what was going on and when they were told that they had started a fire in a Jap area, had blown up an ammunition dump, or had scored a hit on a gun position, a cheer would go up and they would turn to with renewed vigor. Bob Hiatt, call one of your gun captains and let's listen to his story!"

* * * * *

PLATOON SERGEANT PADGET:

"Having captained number one gun of 'A' Battery throughout the bombardment of Munda and Kolombangara, I experience some satisfaction in reviewing our activities during that period.

"In spite of the fact that the mud was ever present, the chow sometimes inadequate, and the nights long and sleepless, it was all worth while when we knew we were giving Tojo's backyard ninety-five pounds of Hell every time the lanyard was pulled. The only thing that really bothered us was 'Pistol Pete's' whimsical habit of interrupting our chow formations.

"When we go in the next time, I won't have to learn the following points from experience to get the maximum efficiency from my gun crew. For once the problem was due not to absence of action with the enemy, but rather to the constant grind in the gun pits. Rotation of the gun crew in the different jobs was a necessity to prevent the crew from getting stale and to give relief to those whom the concussion hit the hardest. The number of powder lots and shell weights forced a constant watchfulness on the ammunition. Drainage of active gun pits is of the utmost importance. Water from constant swabbing of the tube and chamber often turned our pit into a sea of mud, sometimes knee deep. Matériel needed checking constantly to keep the gun operative. In this respect, the small, usually overlooked things are the things that caught us flat-footed.

"Throughout the whole operation, morale was excellent.

If a man is actually accomplishing something toward the destruction of the enemy he can go on his nerve for weeks after he is physically done."

We were only a small unit in the forces engaged and we are proud to have been a part of the team. We were seacoast artillery on a field artillery mission but when we are committed again, we shall be ready to be seacoast or field artillery—anything just so we can send a few Sons of Heaven to visit their ancestors. I believe that we have shown that Seacoast Artillery can be effectively employed in the amphibious type warfare we are waging against the Japs in the Pacific, by increasing the fire density of field artillery concentrations or by engaging land targets out of range of the field artillery units.



Report from Italy

By Lieutenant Colonel Linscott A. Hall, Coast Artillery Corps

After taking a minor part in the landings on North Africa and viewing the Tunisian and Sicilian Campaigns as a member of a higher staff, I received orders in October to report to the Fifth Army in Italy.

I obtained air passage and early one morning several of us loaded into a Douglas transport plane, took off from an airport near Algiers, and headed for Italy.

The first leg of the trip was uneventful, except for the beautiful view we obtained of North Africa. To call the country rugged is an understatement—tortuous would be more applicable and yet as we lost altitude to land at Tunis the country suddenly became flat and monotonous. The most interesting experience I had in Tunis was the opportunity to examine the graveyards of German and Italian aircraft that surrounded the airfield.

As one AA officer put it, "There are all our category III's."

I crawled in and out of Ju 87's, 88's, and 52's, Me 109's and 110's, FW 190's and enough Italian fighters to make a relatively strong air force. The most interesting of all the wrecks was the twisted frame of a huge Me 323. The most amazing features I noted were the plumbing-like tubular structure of the stripped fuselage, the two sets of six landing wheels, the armored cockpit sitting at least ten feet above the wheels, and the large door opening at the nose. The other aircraft were just as interesting to one who had handled plastic models, read identification books and charts and trembled in bed or in a slit trench when some unearthly machine came roaring down out of the black starless sky to drop earth-rocking bombs near by. To be able actually to put your hand on one of the enemy's aircraft, climb in the cockpit, and count the holes in the wings and fuselage is an experience I have never ceased to enjoy.

II. INITIAL TRAINING AND EXERCISES

Shortly after assuming command my next higher headquarters informed me that I would have a month before

the battalion would move into the forward combat areas. Fortunately the unit had received good basic training in England and had taken part in the last couple of months of the Tunisian Campaign. However, since then the unit had received entirely new armament and had spent some time in bivouac or assembly areas. Incidentally, men in such areas after a campaign must be kept under rigid control and kept busy or the resultant bad habits, particularly contacts with venereal disease, will cause trouble months afterwards while engaged in combat operations. A small amount of practice firing was conducted by the battalion, but due to the lack of tow targets the gun crews had never fired at an aerial target prior to their first engagement of enemy aircraft in the front lines.

The officers and men of the battalion had had little experience with self-propelled AA weapons and hence did not have very much confidence in them. A few selected members had spent a week with a similar unit in the front line, but little experience was gained during that brief period. Plans were made for individual training of officers and noncoms and group instruction of the men on the new guns. The plans were interrupted before they had hardly begun with orders to take part in practice river crossings. These exercises were very beneficial and many lessons learned here proved valuable several months later when the real crossing was attempted. Some of the more vital lessons were as follows:

1. There is no requirement for AA protection for an Infantry assault crossing at night. However, if the crossings are to continue through dawn and into the day, AA units must be in position prior to dawn.

2. The SP AA guns cannot move forward until secrecy is lost due to the noisy half tracks. They must move ahead of the Field Artillery or the roads will become hopelessly blocked. Close liaison must be maintained with each separate Engineer force so that the AA vehicles can follow immediately behind the bridging vehicles.

ING FRONTS

3. Thorough reconnaissance, preferably by personal observation, or at least aerial photographs and maps, must be made prior to occupying positions.

4. Small digging details with .50 cal. AA MG should go ahead of the Bofors or SP gun, as crews arriving with the heavier gun may be pinned down with loss of men and matériel.

5. Each gun section must plan to evacuate its own position and provide its own local security.

6. In complicated operations such as landing on a hostile shore or crossing a river in the face of the enemy, the best plans often break down. Alternate plans must be made and all personnel informed of the general mission so that when plans are changed confusion will be at a premium.

7. AA units, while on the offensive and closely following the advance, must often deploy in mined areas well off the beaten path. In such suspected areas a qualified mine detector operator with detector must be with each gun section. Gun sections should proceed off the road into position in the following order: Mine detector operator, mine marker, guide with white tape, the SP AA gun and SP AA crew less all crew members but the driver, and gun crews walking in the vehicle tracks. It is felt that greatest safety for the driver is provided in the SP AA gun.

8. No lights—not even blackout lights—can be used.

III. OPERATIONS ON THE SOUTHERN FRONT

After a month of exercises, basic training, and guard-

ing of rear areas, the battalion moved into the forward areas to provide AA protection to forward installations, roads, defiles, and bridges. The infantry line by this time had run against several large hills from which the German directed his artillery quite effectively. As it has been the policy all through the Italian Campaign to push artillery and antiaircraft guns right behind the infantry, the battalion was usually deployed within a few hundred yards of the enemy outposts and always within range of enemy light artillery.

In the confined and vulnerable forward areas on the Southern front the number of vehicles in the area and movement around individual sites had to be the absolute minimum. With this idea in mind the battalion headquarters and each battery operated with a forward and a rear echelon. The forward echelons were normally located alongside the CP of the larger unit supported, and were primarily operational. Those echelons to the rear were administrative.

The supply problem was one of the most difficult. The battalion S-4 and his crew were normally kept well to the rear but made daily trips to a distribution point near the battalion forward CP. Gas, ammunition, rations, and other classes of supplies were combined with the message center run. The batteries then picked up all mail and supplies and distributed them by $\frac{3}{4}$ ton weapons carriers and $\frac{1}{4}$ ton trucks and trailers. Neither the weapons carriers or the $\frac{3}{4}$ ton trailers are authorized this unit, however it would



Men and matériel come ashore at Anzio.

Signal Corps Photo



Signal Corps Photo

A "90" on the Southern front.

have been impossible to carry on without them. The 2½ ton trucks authorized simply cannot be allowed in most extreme forward areas. One 2½ ton truck and trailer was kept fully loaded with ammunition at the battalion forward CP in the event a sudden ammunition shortage occurred at the batteries.

We found in this battalion that best control and supervision could be accomplished by keeping the entire battalion directly under the battalion commander and the results obtained were extremely satisfactory. The attachment of individual batteries or platoons to field artillery battalions for operations or even messing was discouraged. The only exceptions to the above procedure were for medical attention and evacuation, where arrangements were made with adjacent units to assist our men in an emergency. However, daily inspections by line officers and the battalion surgeon were continued.

Protection of personnel and matériel against artillery, mortars, and bombs was essential. This was best provided by individual dugouts and completely digging in the vehicles, guns, gas cans, tents, and other items. If the ground was too rocky for digging then sandbag revetments were constructed. There was general lack of knowledge in construction of dugouts and sandbag revetments. The armor plate on the SP vehicles afforded some protection but its greatest asset was the morale factor of the gun crews and radio operators.

It was absolutely essential that individual slit trenches be immediately available to the crew for any gun under artillery barrage. Later on in the Anzio Beachhead the German, profiting by lessons our 90mm AA batteries taught him on the Southern Italian front, combined his artillery barrages with air attacks. A rule was established within the battalion that the AA guns would be manned until artillery concentrations began landing within fifty yards of the gun.

Shortly after moving into the line "Sunny Italy" turned into a bottomless quagmire. Immediately upon leaving the main paved highway all vehicles except jeeps and tracked vehicles became stuck. The powerful, self-propelled armored field artillery guns plowed through nearly any type of mud and soil, but in so doing made such deep ruts and holes that the accompanying SP AA guns floundered. Time after time the wrecker and artillery vehicles had to tow the SP AA guns out of holes and often right into the position where they remained until towed to another location. During such weather it was found that best results could be obtained by backing the vehicle. If the terrain were not too sticky, the half tracks proceeded in low gear without front wheel drive. The loss of power by not using front wheel drive was compensated by the fact that when under power the front wheels often dug themselves in. Another practice adapted was to have the crew walk behind the gun over soft or dangerous ground as the vehicle was top heavy and apt to turn over. The crew seldom used the seat straps for the same reason. Certain small modifications in the vehicle and gun were made to assist in the maintenance of equipment under such abominable conditions.

The largest administrative problem of all was to maintain the health of the men. Overshoes were difficult to get but were finally obtained; combat clothes did not arrive until after arrival on the Anzio Beachhead, however the men had sufficient heavy underwear, wool uniforms, fatigues, overcoats, and raincoats so that they did not suffer from the cold. The rain could not be kept out and each battery had to construct drying sheds for soaked clothing. In spite of the rain, bathing was difficult. The person who said "Cleanliness is next to godliness" should have had the statement modified to "Cleanliness is next to impossible." Sponge baths were taken when the men were pulled to the rear (1000 yards behind the line) and cleanliness was maintained.

Due to artillery fire and rain, slit trenches developed into two-story shelter tents, with cold running water. After arrival at Anzio these shelters later developed into miniature dugouts complete with pin-up girls. The nasty little anti-personnel bombs caused the addition of a strong roof. On the Southern front constant supervision had to be maintained to keep the men from pitching tents under trees. The sensitive fuze of the German 88mm and 105mm shells often exploded on hitting a branch or even a twig, resulting in bad air bursts. I know of a case where an 88 hit the radio antenna on a half track, exploded, and seriously injured two men. Of course this sensitiveness also had some advantages as shells sometimes struck the roof of dugouts and exploded without damage to the occupants. The officers and men quickly learned the benefits of mother earth's bosom and with officers continually checking the dugouts for dampness, dirt and food, and construction, few men experienced any bad results. Long periods of sitting on the guns or standing in machine-gun pits caused some trench foot, however, overshoes greatly reduced this danger.

IV. OPERATIONS ON THE ANZIO BEACHHEAD

The beachhead thus far has been an Antiaircraft Artilleryman's paradise. It was here that this battalion en-

encountered nearly every problem likely to be experienced by an automatic weapons unit. At the port of embarkation we loaded on board LST's in the midst of one of the port's air raids—the noise of bombs and shells, aircraft dropping overhead, smoke and extreme blackness, excited crews, and unfamiliarity with loading on such a vessel, provided an extremely interesting two hours. Upon arrival in the Anzio harbor we had the unique experience of firing SP AA guns from the decks of the LST's at enemy aircraft during three attacks that day. That night we disembarked over the beach during another raid in which the German very kindly illuminated the whole area with his flares. Shortly after arrival on the beachhead units of the battalion accompanied armored units which drove a salient several thousand yards into German lines. After the subsequent withdrawal and establishment of the defensive lines the German Air Force threw the book at us. We encountered air attacks, both day and night, sometimes as many as seven during the twenty-four hours, each consisting of twenty-five to thirty aircraft; employing all types of tactics, dive-bombing, level bombing and strafing; utilizing all types of aircraft, ME 109's, FW 190's, JU 87's, and 88's, HE 111's and 177's; dropping all types of bombs, antipersonnel, fragmentation, high-explosive, and radio-rocket. In addition, enemy artillery of all calibers was constantly coming in, and there was the ever-present threat and several false alarms of a paratroop or small-boat attack. Such periods of intensive work were extremely interesting and very costly to the enemy; however, none of us liked it so much that we could ask for another such experience.

The nature of the initial landing was such that the bare minimum of men and vehicles could be taken ashore. The gun sections were reduced to eight men and each battery numbered less than a hundred men including officers. The vehicles were all waterproofed and after loading, the SP AA guns were placed on the top decks of the LST's to supplement the ships' AA guns. No major difficulties were encountered and only one vehicle, a ¼ ton (Jeep), stalled going ashore. A seagoing 2½ ton Dukw attempted to assist the Jeep but by mistake pulled it into deeper water until only the driver's head was above water. The vehicle was eventually recovered and now runs as well as ever.

The enemy day attacks on forward areas, against which this battalion was particularly deployed, followed rather consistent "hit and run" attacks by twelve to thirty fighter-bombers (FW 190's and ME 109's) and of "cub hunting" attacks by two to four ME 109's on our air OP's. The fighter-bombers usually approached the beachhead around the southern edge at 10,000 to 12,000 feet, turned east and lined out of the sun in a straggling group to drop their bombs, and then streaked for German territory rapidly gaining altitude. Occasionally the aircraft strafed the roads on the way out of the area, but usually they were too busy dodging the heavy concentrations of light flak. The "cub hunting" ME 109's seldom penetrated deeply into our lines, but preferred to sneak in very low over the front lines,

strafe their objectives or one of the artillery air OP's and streak for home hedgehopping. A system was easily worked out whereby warning was flashed to all friendly cubs in the air, who immediately dived to the ground or certain "safety islands" protected by our AA. We had very good luck against these attacks.

V. TRAINING LESSONS LEARNED

As a result of several months operations in the forward areas, many items concerning the training of officers and men were noted. Some of them are as follows:

1. Insufficient training in maintenance and operation of all types of weapons, including small arms. Battalion refresher schools must be frequently conducted, particularly for the officers.

2. Insufficient importance placed on how to apply leads to particular guns and how to adjust tracers once firing is begun. Daily classes must be conducted for gunners by officers who understand the average intelligence of our normal soldier.

3. Insufficient and timely firing at tow targets, due principally to a shortage of towing aircraft for nearly ten months after AA units arrived in this theater.

4. Aircraft identification is usually excellent by AA units, particularly those that have been in the line. Too much stress is placed on types of aircraft no one ever sees.

5. Camouflage and camouflage discipline becomes lax where Allied troops enjoy air and artillery superiority. Officers must make daily checks and be very firm in their suggestions.

6. There must be constant stress of sanitation and personal hygiene. Contacts with venereal disease must be kept to a minimum by intensive training, maintenance, and recreational programs and careful selection of bivouac areas. Officers sleeping at gun sites greatly help such supervision.

7. Continuous training of personnel in doing other than their basically assigned task. Nearly every man of a gun crew must know how to fire the gun, place leads, operate the radio, and cook. Individual and small-unit cooking training cannot be overemphasized.

8. Half-track drivers must be carefully trained. The vehicle feels like an ordinary vehicle but the tracks have many peculiarities that only careful training and experience will alleviate.

9. Proper instruction in digging in of the vehicles, construction of dugouts and sandbag or log revetments must be conducted prior to arrival in the front lines.

10. Instruction was given to personnel on bomb and shell reconnaissance, detection and removal of mines, and detection of booby traps. As the German has had sufficient time to prepare many such devilish devices and as his attitude becomes more desperate, personnel must be well versed in location and detection of such instruments.

11. Officers must constantly stress personal appearance, proper wearing of the uniform, and saluting. An officer who sets a good example has little difficulty with his men.



AA on the Southern Front

By Lieutenant Frederick H. Ziervogel, Coast Artillery Corps

Unlike the beachhead of the Fifth Army, where Anzio is the lifeline of the operation and where our installations are confined to a limited area, the much larger territory occupied by the Allied Fifth Army in southern Italy offers little today (May) in the way of remunerative targets for the once mighty *Luftwaffe*. Since enemy raiding activities are confined almost exclusively to Naples, and these raids are attempted infrequently, the success enjoyed by our ack-ack gunners here has been less spectacular than at the hotly contested beachhead where several raids a day are not uncommon.

However, in addition to fulfilling adequately its primary mission on the main front, Fifth Army antiaircraft artillery, under the command of Brigadier General Aaron Bradshaw, Jr. (Editor of the *JOURNAL*, 1936-1940), has been employed in numerous ways. Each new use of this young branch of the service has demonstrated its versatility, mobility, and accuracy. It rates high among the factors dulling the sharp edge of the *Wehrmacht* in Italy.

In the uncertain early days of the campaign, when the beachhead at Salerno was being won, guns and vehicles were brought ashore under heartbreaking conditions. For the first time in this war, AAA units came in with the early assault waves, and despite constant hammering by enemy aircraft and artillery, positions were established firmly enough to protect installations and supplies on the beaches by light on D-Day. Since that time, each important road juncture, each new bridge and airfield, vital cogs in our supply lines, has received adequate AAA defense.

Antiaircraft artillery has been used extensively in for-

ward areas in the Italian Theater to protect our forward artillery positions, sometimes joining with the field artillery in laying barrage fire. The most notable example occurred when 90mm guns joined massed Fifth Army artillery in laying down one of the heaviest concentrations in the history of warfare against the Camino-Maggiore hill feature, which was denying our entrance into the Liri Valley.

Another demonstration of the flexibility of the AAA has been the ease with which coordination has been achieved with our allies. Since the landings in Italy, U. S. antiaircraft units have operated in support of British, French, New Zealand, and Italian AAA units.

During the battle for Cassino in March, AAA units were committed to the defense of vital bridges and roads necessary to the follow through after the attack. The assault was preceded by an unprecedented air force bombing, after which troops of the New Zealand Corps jumped off. The original gains were to be exploited by armor across the Rapido River. This highly unusual employment so far forward of antiaircraft artillery proved successful. One battery destroyed four enemy aircraft, probably destroyed three others, and damaged one. Another battery probably destroyed three enemy aircraft, in forty-three brushes with the *Luftwaffe*. AAA casualties during this operation were three killed, two by bombs, and one by artillery, and four wounded.

It was proved that AAA could be used successfully in front lines if careful consideration were given to revetments.

Much of the success of AAA firing during the Cassino action was due principally to early warning provided by



The landing at Salerno.

GOR platoon. Gun crews were given greater alert time, as much as ten minutes' warning was reported for at least three raids, seven for another, and three to five minutes for nine others. The period, 9 March through 27 March, was marked by heavy *Luftwaffe* activity, with numerous sorties and thirty raids reported. During these actions, Allied Fifth Army AAA gunners destroyed twenty-four enemy aircraft, probably destroyed thirteen others, and damaged twenty-three. In addition, AAA prevented any accurate bombing of the area, for all the raids, the majority of which were directed at the bridge area, were dispersed with little damage and few casualties sustained by us.

A number of factors contributed to the success of the GOR, among them chiefly good OP's, and efficient communications. The OP's were located on high hills and mountains, and in many instances the terrain was such that supplies and rations had to be brought up to the crews by pack mules. All the gun positions acted as independent

OP's and forwarded their observations to the GOR. A great deal of credit belongs to wire crews, which maintained communications constantly, even though harassed continuously by enemy artillery fire.

Tactics employed by the *Luftwaffe* in the Naples raids are much the same as those used at Anzio. The main features of the plan of attack are: level bombing at stepped-up heights, attack from as many "safe spots" as possible, and a minimum of time spent over the gun-defended areas. The enemy aircraft approach in waves, one quickly following the other, and many times several waves will come from different directions. Not only has the AAA's defensive mission been accomplished, but the fact that ack-ack gunners have destroyed 432 enemy aircraft, and have probably destroyed 281 others from the date of the original landings in Italy, until 30 April '44, show that this youngest branch of the service is now a powerful offensive arm of the Fifth Army in Italy.



Narrative of 3d Battalion, --- CA, 1942-43

By Lieutenant Colonel Henry G. Fowler, Coast Artillery Corps

Late in January, 1942, the battalion sailed from New York as part of a task force assigned the mission of occupying the French-controlled island of New Caledonia in the South Pacific. The force was not combat loaded. News received en route required that the force proceed to Australia in order to reload so as to permit occupation of New Caledonia by force if necessary. The 36-day trip to Australia and the additional 5-day trip to New Caledonia passed without incident insofar as the troops were concerned. Morale and *esprit* were high, maintained by planned training and educational programs—crowded conditions did not permit much in the way of physical training and recreation.

The occupation of New Caledonia was effected with the aid of the French who, while we were en route, had established a Free French government of the French possessions in the area. Exhaustive map study and a brief reconnaissance permitted orderly dispersal of the landing troops to assembly areas from which they could be quickly moved to final positions as the organization of the island defense progressed.

The battalion arrived without its guns or searchlights. Reconnaissance was delayed and hampered by erroneous conceptions on the part of the task force staff as to proper employment of the 155mm G.P.F. The Commanding General cleared up this difficulty after a conference at

which the battalion commander was asked for recommendations, and a full discussion of the capabilities and limitations of the armament. The battalion was assigned the mission of defending the base port of Noumea against seaborne attack. With this decision, final reconnaissance was completed promptly and a plan of defense laid out. It is worthy of note that the final positions selected for the G.P.F.'s were almost identical with those indicated after a thorough study of the adequate maps and hydrographic charts which have been issued during the voyage to Australia. Later operations further demonstrated that the basic plan of organization of a temporary harbor defense can be practically completed—if adequate maps and charts are available—prior to landing or capture of the required areas, leaving only the final selection of gun positions and the siting of other installations to be decided by actual ground reconnaissance.

Security considerations together with difficulties of access, supply and evacuation, led the task force commander to proscribe sites on the small islands in and about the main harbor. However, with the exception of the *Passe de Dumbea*, all of the main avenues of approach could be covered from mainland positions quite as effectively as from the islands. Furthermore, upon mutual disclosures by the French artillery, the Australian Navy, and the American Forces, it was found that the *Passe de Dumbea* was strongly

guarded by uncontrolled mines, the greater part of which were covered by the seacoast guns as initially emplaced.

The development of the plan prior to arrival of the guns permitted the completion of orientation and partial preparation of the positions. As the guns were unloaded they were immediately checked by Ordnance men and moved to positions. Communications were already in operation so that as soon as the first gun was emplaced some fire could be brought on the most dangerous water areas, and within a few hours of the unloading of the last gun the harbor defenses of Noumea were in order, that is, with the exception of the position at the foot of Mount Dore.

There the difficulties of access slowed down the final occupation, and would have stumped any but a unit which would not be stumped. However, by building roads and bridges, by clearing, in fact, by everything short of carrying the guns on their backs, the men of this platoon finally got them in. This experience brought home the fact that, in mountainous country, reconnaissance made in clear weather should be supplemented by inquiry or further reconnaissance as to what happens to the terrain when it rains. In this case a part of the route was over gently rolling ground which sloped, also gently, to the shore for one or two miles from the foot of the mountain. Low spots which had appeared amply firm on reconnaissance became torrents during the rain, and bogs for days thereafter.

Aside from this, no important obstacles were encountered. The amount of dangerous water area, however, and the fanning out of the avenues of approach, necessitated organizing four two-gun batteries. With a battalion already called on to man four Australian 25-lb. on beach defense missions, the job of manning and providing range sections for these widely separated positions presented serious problems both as to personnel and equipment.

The equipment problem was solved in due course by the requisition of additional fire control equipment. A simple request to the Ordnance Officer brought duplicate sets of plotting room equipment and four M1 D.P.F.'s which had been ordered for the specific battery positions without much hope of obtaining them. We had asked for "either or" and got both, but after a wait of several weeks. In the meantime the battery range sections were organized and trained in rapid reorientation so that they could plot for either one of their respective platoons. The other platoon would have to rely on Case I—feasible by reason of height of site for both the guns and axial observers on still higher ground in rear. The prevalence of reefs and small islands along the avenues of approach and in proximity to the areas open to naval maneuver made it possible to prepare range charts which gave reasonably good initial data and a sound basis for estimating range changes. Four hundred fifty and 750 foot heights of site for the posts of officers adjusting fire for these platoons greatly facilitated range estimation. Range corrections for various check points were computed in the battery plotting room upon receipt of each "met" message and referred to a chart for rapid interpolation. Thus were provided reasonably accurate ballistic corrections for the homemade percentage corrector. Initial deflections were computed and thereafter gun pointers jumped splashes when directed by the

lateral deviation observer. The results from these emergency methods in practice firings were encouraging.

The personnel problem was solved by doubling all the "overhead" in battle positions. Chauffeurs, clerks and cooks all manned stations. This should be standard practice in the field for the purpose of building up morale and esprit, regardless of battery strength, and even if the men so doubled are obviously remote reserves.

In the beginning it was estimated that, with the exception of Boulari Pass, the Woodin Canal represented the most dangerous threat. For years the Japanese had conducted extensive operations in the iron ore deposits to the east. Contiguous to the entrance lay Prony Bay, an anchorage capable of holding a sizable fleet. Almost inaccessible overland and frequently blanketed by heavy mists and fog, Prony offered a safe rendezvous with only the short run through Woodin Canal to the open waters of the outer harbor of Noumea. The initial positions to the eastward were capable of bringing fire on the exit from Woodin. Later, when Panama mounts for the G.P.F.'s were completed at Ouen Toro and when naval and air forces were sufficient to cope with hostile naval operations in the Prony area the positions at Plum and Mont D'or were evacuated. The G.P.F.'s were moved to positions at Naia from which they could reinforce the defense of Passe de Dumbea and take over the Passe de Uitoe from the howitzers.

On the theory that the way to learn to shoot guns is to shoot them, permission was obtained to expend ammunition for practice. From then on, starting with careful calibrations, hardly a week passed that some element of the battalion did not fire some prepared problem. At first towed targets were not always available but when the Navy really moved in, targets making 10 to 15 knots were always available. In the meantime, the men had acquired all the refinements of serving the piece from firing patterns and night practices. When A.P. shell arrived without firing tables progressive shoots by both batteries, giving plotted impacts for each 50 mils of elevation, established the trajectory much more exactly than was shown in the tentative tables which arrived shortly after, and closely in line with the final approved tables received about two months later.

Almost before the arrival of the guns the question of Panama mounts had been thrashed out with the task force staff, and materials ordered. In due course these were received and the mounts constructed by battalion personnel under Engineer supervision. Due to Engineer insistence on standard specifications, delays in some materials, priorities on welding equipment, concrete mixers and other essential equipment the work was not completed until the end of August. Thereafter, of course, but long past the critical period, the power against naval attack was quadrupled. Since then simplified 180-degree mounts for the G.P.F.'s and 360-degree mounts for the M-1 guns have been developed which can be emplaced in a matter of days and hours, rather than weeks and months. These should be standard equipment for all units armed with these weapons and designated for island operations or those along coasts subject to hostile attack. Both our experience, and that of the Marine Defense Battalions who carried their materials with them, indicate that the old standard Panama mount is too cumbersome, requires too much time

to install, and represents unnecessary labor—items which cannot be afforded in amphibious warfare. On the other hand, light mounts which can be quickly installed greatly increase the capabilities of the weapons.

Relations with the French and later with the New Zealand elements of the harbor defenses were good from the start, maintained perhaps by memories of the generous hospitality extended by the Australians, particularly the citizens of Bendigo, during our week's stay in that town. For several months the Battalion served under a French sector commander with the Battalion Commander acting as Sector Artillery Officer thus bringing all artillery under a unified command.

About the time the last Panama Mount was completed the Marines on Guadalcanal were calling for long range guns to combat the Jap 6-in. pieces which were making trouble, especially at Henderson Field. As ours were the nearest proven pieces it was arranged—with the consent of the Navy who were now vitally interested in the defenses of Noumea—to send one battery of the battalion up to that hard-pressed island. The mission was to be essentially counterbattery. To provide for this, special radio equipment was obtained and the battery was given one of the two "met" stations which the battalion had acquired. Extra officers were detailed to provide a sufficient supply of forward observers and a plan of rotation of officers was laid out in order to insure that the other elements of the battalion would have experienced officers when they were called for.

Battery "F" arrived on Guadalcanal on November 1, 1942, and by November 16 Henderson Field was safe for the bombers. Most of the intervening time was spent trying to locate "Pistol Pete" or "Kokumbona Pete," the Jap launchers which had been causing all the trouble. Because they never fired more than one at a time, and for only a few rounds, and because they held all the high ground, their positions were difficult to fix. For the same reasons it was thought at first that there were only one or two of these pieces and that the Jap was moving them frequently from place to place and concealing them quite cleverly. However, when the enemy was finally pushed off the island our Ordnance salvage dump accumulated no less than twelve, many of them evidently damaged beyond usefulness by shell fire, which tends to confirm Battery "F's" claim that they knocked them off one by one whenever they could find them.

The battery found itself as much at home in its rôle of Field Artillery as it had been in coast defense missions. In addition to accomplishing its primary mission, it engaged all types of targets, including two enemy vessels which came within its field of fire at extreme range and were promptly sunk, fired interdictions, broke up reserves and dumps, and generally enjoyed itself. Its work was good enough to merit high praise from General del Valle commanding the Marine artillery, to win a Presidential citation, and later a mention in general orders by General Woodard commanding the Army artillery.

In December, 1942, the battalion was called on to reorganize a provisional battery to relieve Marines manning 51 naval rifles on barbette mounts at Guadalcanal.

The arrival of a New Zealand Heavy Artillery Regiment (the equivalent of a Coast Artillery battalion) permitted the withdrawal of the platoon which had taken over Battery "F's" original position and around this was built Battery "H" which arrived at Guadalcanal early in January. While this battery never fired a shot in anger its positions close to a fighter strip brought plenty of excitement and experience. They could never be sure whether the strip or the battery was the target of Jap bombers.

We were now beginning to feel like a taut rubber band. To relieve the strain, to provide adequate grades and ratings, and to obtain a type of organization better suited to actual service conditions in the area, we requested reorganization as a Type D Harbor Defense Battalion. While that T/O was not ideal it did provide for additional batteries and gave greater flexibility in the existing situation. The mobility of the tractor-drawn type of organization was not needed. In fact, we had never drawn most of our transportation and the chauffeurs had long since been converted to gunners, since from the time of arrival at New Caledonia the battalion had manned at least twelve and most of the time fourteen guns. The request for reorganization was granted and the needed filler replacements arrived. On Jan. 20, 1943, on War Dept. authority the reorganization was effected and the battalion redesignated as a Separate Coast Artillery Battalion. The wide distribution of well-earned promotions was the occasion of a well-earned party.

Early in April, 1943, the battalion was reassembled at Guadalcanal where, with the seacoast elements of three Marine Defense Battalions, it formed the Seacoast Defense Command of the Guadalcanal-Florida Area. Again a provisional battery was organized to man two naval 6-in/50's in addition to the G.P.F.'s and 5-in/51's. Again Panama Mounts were constructed but this time with active assistance of Engineers. However, from then until the relief was ordered in October activities were confined to the organization and constant improvement of positions between sporadic visits from Tojo. Just as the relief order came the battalion had, with some gratefully received assistance of the Navy, settled itself into "improved" positions which, for comfort, almost rivalled the Harbor Defenses of Chesapeake Bay.

At Guadalcanal the battalion proved that well-trained Coast Artillerymen can outshoot any other artillery at normal field artillery targets. This fact, together with the capabilities of Coast Artillery against seaborne attack, makes the Coast Artillery Battalion a highly valuable unit in amphibious operations where economy of personnel and equipment are of paramount importance. The normal sequence in such operations makes it possible to utilize the Coast Artillery as the primary long range weapon in support of ground operations without interfering with its missions against hostile naval operations. Even in those situations where the two missions cannot be accomplished from the same positions the time factors involved will frequently permit one unit to handle both successfully by judicious selection of alternate positions. The fire missions assigned to 155mm guns in ground operations can in many, if not most, instances be handled by one or two guns.

The Unhappy S-2

By Lieutenant Harry Harris, Coast Artillery Corps

Unenviable is the lot of the gun battalion S-2. Accused in garrison of having a sinecure, he is often the File Number 13 for battalion oddenda—special services, public relations, orientation, claims, court-martial investigations, insurance, War Bonds. Scorned and outranked by other staff members, he is the burnt and reburnt offering for higher headquarters who insist on officer attendance at G.I. schools on chemical warfare, mine laying, judo and pencil-sharpening. He usually finds that he can devote only a thin slice of his time to his allegedly T/O function, intelligence.

But extraneous military assignments are not the only cross borne by the gun battalion S-2. In those isolated oases of peace on earth, good will toward S-2's, where C.O.'s do more than initial perfunctorily War Department demands that he be given every opportunity to master his number one job, the intelligence officer often finds himself uncertain about just what, precisely, constitutes his job.

Sometimes he is led astray by the siren songs of dime novel apocrypha. He conjures up false beards, invisible ink, svelte seductresses in skin-tight gowns, and similar shenangigans. Wide-eyed, he pictures himself as a character by Oppenheim or Hitchcock.

If he is more mundane, he may think instead in terms of reconnaissance patrols, situation maps, and interrogation of prisoners. The FM's themselves foster this version. Adequate curricula for the S-2's essentially ack-ack responsibilities are not to be had for cash or caresses.

Consequently he crams himself with intelligence lore which may add to his sum of miscellaneous knowledge but unfortunately, contributes little to his combat mission.

Now a participant in the Pacific pyrotechnics, the writer is uncomfortably aware of the undue stress he placed on relatively trivial facets of his job during the training period. Different theaters may evoke somewhat different S-2 responsibilities, but within his own small puddle the writer is acutely aware of slighted requirements.

The following is intended as an indication of the type of preparation he would have found more fruitful while still in the land of milk-shake and honey.

First in importance is intimate knowledge of the ramifications of AA warning systems—every aspect of the AAAOC or GOR, the AAAIS, and AWS. The S-2 should be the battalion Kieran on Air Corps intercom and warning procedure, for he is the battalion's logical candidate for AA liaison with Fighter Sector. Although the Group S-2 generally organizes such liaison, this is a twenty-four hour job in a "hot" theater, and until the situation is stabilized, the battalion intelligence officer is required to pull a lengthy shift. He should be thoroughly conversant with the Air Defense Grid, Air Corps theater "false grids," and Air-Ground vocabularies.

As AA liaison at Fighter Sector or as gun operations officer in the GOR, he is delegated the tactical control of

AA throughout the area during alerts, for split-second decisions are often required. To exercise this function properly and to furnish adequate replies to the Sector Controller's frequent queries, the S-2 must be well versed in the capabilities of AA equipment—detecting devices, weapons (automatic weapons, as well as his own unit's guns), fire control aids, searchlights—the whole works. This requirement alone is sufficient to absorb the energies of a normal young man during the training period. Except, of course, for week ends.

While enacting the GOO or liaison rôle, the S-2 may choose personally to broadcast the warnings and instructions, in order to eliminate the delays of relaying. He must then be well indoctrinated with proper radio and telephone procedure. A "first echelon" knowledge of radio and telephone, while not indispensable, is a handy tool in the S-2's kit.

To acquire these abilities, the S-2 in garrison should collaborate with local Air Corps personnel, visiting Sector and AWS installations whenever possible; and should work hand-in-glove with the battalion S-3 and communications section. His own section should be trained to assist him in his duties and to operate a battalion GOR, if the situation requires it, and this necessitates careful teaching and frequent dry runs.

Basically, the enumerated duties are divorced from purely battalion concerns. As mentioned, Group is normally charged with constructing the façade of AA warning. And the projected GOR platoons may further affect the battalion S-2's rôle in warning.

In any event, he is invariably charged with intrabattalion AAAIS, and must establish with the S-3 a workable system of air guards, radar, interpretation of warning plots, and their receipt and transmittal by radio and hot loop.

The gun battalion S-2 and his section must know CP procedure, for the plethora of postaction intelligence reports make a journal and aircraft flight worksheets or overlays of considerable importance.

The gun battalion is not acutely concerned with maintaining a precise situation map, but it helps in preparation of daily S-2 summaries for dissemination to the troops. Front line or miles behind, the EM yearn for a play-by-play account of what's cooking. The S-2 should be prepared to cater to this morale-important desire, and in order properly to assay G-2 "poop," he must have a working idea of the functions and tactics of the various arms.

(Aside: in a combat area, the battalion S-2 would do well to shanghai a personnel clerk to jot down a shorthand summary of the nightly news-broadcasts, for inclusion in the daily S-2 news report.)

As in other branches, the AAA S-2 is supposed to be a fount of information on enemy morale, tactics, and equipment. In garrison, he is swamped by intelligence literature, but unfortunately he is rarely afforded the time to imbibe their contents. In combat, the S-2 finds knowledge of

enemy planes, their appearance, tactics, and capabilities of special help in reporting enemy air action, and he should maintain a comprehensive file on these subjects.

It is doubtful that a 90mm outfit will do a rushing business in POW's, and in any case, field orders will amply enumerate the S-2's responsibilities. However, with AA units now moving in on D-Day, almost nudging the barriers of the infantry assault wave, battalion personnel submit numerous documents and items of matériel, and the S-2 will find himself making frequent hegiras to C.I.C. He will also find himself busily engaged in evaluating the military importance of items submitted as souvenirs, and in issuing certificates of clearance.

The S-2 secures the operational maps and terrain information prior to a movement and plays an important rôle in briefing personnel. This briefing supersedes conventional FO "enemy situation" paragraphs.

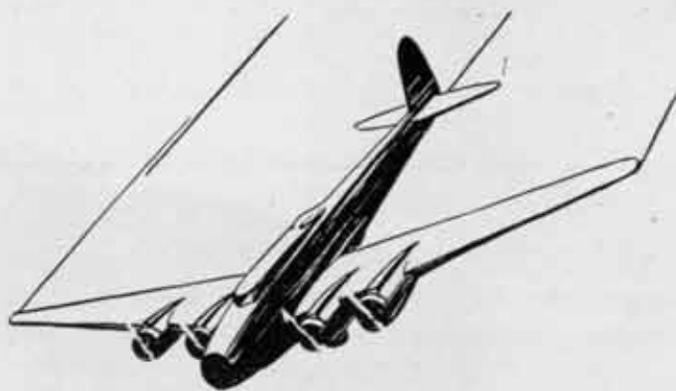
Map-making is no problem, for higher headquarters now furnish fantastic numbers of 1/100,000, 1/63,360, and 1/20,000 maps for even the lowest echelons. (Aerial photos are not distributed as gratuitously, and the S-2 must often consult those jealously guarded by Group or G-2, and pass on the results of his examination. To do this, he must know the peculiarities of aerial photographs and the use of thereoscopic viewer.) The S-2 may be called on to supervise the production for the gun batteries of warning maps marked with the Air Defense Grid, for such maps are not readily available. Knowledge of maps is mighty handy, too, when the S-2 goes ashore with an advance

party as early as H plus 30, to assist in reconnaissance of AA and CP positions.

By the time the S-2 is overseas, his CS duties have usually been liquidated, but in combat, as elsewhere, he is responsible for inculcating in the men, and even more importantly in the officers, the ABC's of AR 380-5, unto the last amendment thereof. Education in safeguarding information, if conscientiously undertaken, with frequent informal battery bull sessions as the most potent aid, can take a lot of the S-2's time.

The battalion S-2 is, moreover, the custodian of passwords, the consultant on local security, the authority on camouflage (although AA finds little opportunity for concealment on jampacked beachheads), the dictator of censorship policies, and *beaucoup et cetera*, and yet, with all his combat functions, he continues to wince when his fellow poker players continue to tag him the battalion goldbrick.

A competent S-2 is an invaluable asset to any battalion staff, but only if he is hep to his peculiarly AA functions, which are but distantly related to those of, say, the infantry intelligence officer. To be prepared to earn his overseas pay, the S-2 must be permitted the time and elbow room not only to supervise combat intelligence training for the battalion, but to learn his own trade and to train his section. The shortsighted C.O. who insists on using his intelligence officer as a jack-of-all trades, doubling in brass and trebling in strings, will find himself lacking an important combat aid.



A DATE TO RE

Call it the beginning of the Invasion, or of the Liberation, 6 June 1944 was the day that marked the death of the myth of the *Herrenvolk*.



Protected by a naval barrage American troops land on the Norman Coast of France.

Signal Corps



↑ A shore fire control party directs the fire of Navy guns.

Signal Corps



→ American Ordnancemen inspect an abandoned German rocket gun.

Signal Corps

MEMBER



Allied bombers took care of this tunnel connecting strong points.

Press Association



German defense—a French 37mm gun in a French tank turret.

Press Association



German emplacement near Quineville.

Signal Corps

Empty cases indicate that this 90mm gun has done its quota of firing. The newspaper accounts rarely mentioned it, but the CAC was among those present.

Signal Corps





Sovfoto

Soviet Employment of Searchlights*

By V. Cherednichenko

Three fundamental tasks evolved in the course of the war for personnel of searchlight crews in shore defenses may be listed as follows: illumination of targets on sea and land for the benefit of shore batteries, aircraft, and warships; flash signaling to secure tactical collaboration between batteries, ships, and aircraft; blinding and demoralizing enemy crews at sea and in firing positions ashore. These uses were developed particularly in the course of landing operations.

When a party has been landed on enemy shores the matter of all-around support and supplies becomes a decisive factor. At one sector, for example, contact was maintained through the night between the landing force and the bases in the immediate rear by small vessels constantly on the move. Striving to sever this vital route the enemy continuously attacked with his E-boats, fast landing barges, and aircraft. The skillful employment of searchlights and their coordination with the guns of the shore batteries, aircraft, and warships did much to render the route safe.

As an illustration, when a convoy of small Soviet ships left its base in the war zone and headed for the sector held by the landing party, the Soviet command learned that several groups of enemy E-boats were approaching to intercept them. Navy dive bombers were sent up to reinforce the convoy's patrol-boat escorts. Soon searchlights caught first one and then another group of enemy ships. First to open fire on the well-illuminated enemy vessels now bringing their own guns into play were the shore batteries of Guards Captains Zubkov and Chelak. The bombers immediately appeared over the scene and descended upon their illuminated targets with machine guns and cannon. One of the E-boats was hit and others, unable to withstand the combined pressure of shore batteries and aircraft, fled seaward.

The convoy came through safely with its vital cargoes intact.

On another occasion one dark night a Soviet searchlight disclosed two E-boats patrolling the route of the supply vessels. Another searchlight disclosed another enemy grouping. Soviet shore batteries opened fire at once and sank one of the E-boats. Here it must be mentioned that the great number of Soviet ships at sea rendered things difficult for our artillery and searchlights alike. Victory was won only because the searchlight crews knew the silhouettes of their own ships and those of the enemy so well.

Of particular interest were the uses of the searchlights during the battle for one of the Black Sea ports. Thanks to their successful coordination with the mighty fire potential of shore batteries, ships, and aircraft, it was possible to adopt effective measures for the defense of the sea route along the shore and docks which the supply boats used. The landing and subsequent support of striking units were assured. This enabled Soviet possession of positions of primary importance to be consolidated and finally led to the capture both of the town and the port. It should be mentioned too that during the entire period of occupation not a single enemy ship had been able to enter this harbor. Several attempts to use the port cost the Germans so dearly that they were never repeated.

Searchlights also performed excellent service when engaged against targets on land. Peculiarities of the terrain enabled them to illuminate the defense hubs of the enemy—his artillery emplacements, infantry concentrations, supply dumps, highways, and front line.

It was imperative to furnish landmarks for bombers heading to their targets after dark. Having prearranged signaling and other matters with the commanders of the air units, searchlights commanded by Sergeant Subbotin con-

*By radio from Moscow to the COAST ARTILLERY JOURNAL.



Sovfoto

ordinated their actions skillfully with those of Navy bombers and enabled the bombers to bomb effectively an enemy supply base, a troop train, and other important objectives. At forward positions particularly where fighting was in progress an abundance of rockets and other signals made

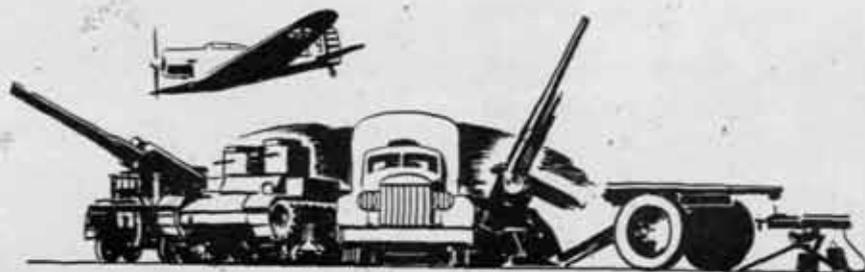
things very difficult for flyers searching for their targets. Prearranged searchlight signals solved their problem and light night-bombers were again able to deliver effective blows.

Such combined employment of searchlights and artillery causes severe losses to the Germans. It is not surprising therefore that the enemy's artillery and aircraft finally began to hunt for the searchlights. Under such conditions new methods and countermeasures had to be evolved. Stationary outfits gave way to nomad (roving) searchlight stations. Maneuverability of the lights and the initiative and daring of their crews and mutual aid between them rendered them nearly invulnerable. Such mobile outfits began to operate from previously prepared emplacements. When the enemy's fire was concentrated upon one of them illuminating a target, another cast its own beams over the target while the first went out of action and rushed to a new emplacement. As often as not they would cast their beams directly from the trucks which carried them, and then rush off pursued by the enemy's shells. In a single night such outfits were compelled to change their positions several times. This, it was found, increased the period of service of each searchlight station.

The importance of nomad searchlight stations grew evident particularly during the battle for the Crimea. To supply and reinforce their men who were pressed back against the Crimean coast the Germans made extensive use of their landing barges, particularly through the night. Here the rôle of the searchlight often proved decisive.

One rainy night shore-sited searchlights picked up two German landing barges on their way to the Crimean coast. Artillery opened fire at once. The barges attempted to evade the searchlight beams and gain the shelter of darkness. When one of the barges was hit they both ran aground.

Nomad stations in no way diminish the importance of well-equipped positions. In the Crimea it has been shown that nomad stations in action from well-prepared positions equipped with up-to-date mechanisms are nearly invulnerable even under heavy shelling and bombing.



The Fighter-Searchlight Team

There was once a time when day fighter pilots, caught in the middle of an enemy night raid, had the unpleasant choice of diving for the nearest slit trench or remaining in the *status quo*, while their airplanes, with their tremendous amount of fire power, had to sit helplessly in their dispersal areas. The old adage that "you can't hit something you can't see" had a real meaning for these day fighter pilots.

Down at Army Air Forces Tactical Center, Orlando, Florida, however, a great change has been brought about by the development of a new combination—the Fighter-Searchlight Team. With the coming of the fighter-searchlight team, pilots were actually able to see the enemy planes at night, and, being able to see their targets, they no longer were tied helplessly to the ground during the long hours of darkness.

To visualize the nature of the fighter-searchlight team properly, the word "team" must be emphasized. For it is a team consisting of men on the ground illuminating enemy targets and men in the fighter planes ready to shoot them down.

The men on the ground are formed into individual twenty-man sections, each under the leadership of a non-commissioned officer known as a section chief. Each of these sections is responsible for the operation of one searchlight.

The primary purpose of these searchlights is, of course, to illuminate enemy planes. But they can make it very uncomfortable for the fighter pilot also, unless they are controlled by well-trained, responsible noncoms. For this reason, the light commanders and other responsible noncoms must undergo a very complete training program in searchlight tactics. In this program, they learn to control

the searchlight beams so that the enemy plane will be brilliantly illuminated, but in such a way as never to interfere with a fighter pilot who is intent on making his attack. Searchlights controlled in this manner will illuminate an enemy plane completely, but will allow the fighter pilot to close in, gradually adjusting his speed to equal that of the bomber to within 100 to 200 yards without danger of his own plane being illuminated.

The various searchlight sections are so deployed on the ground that once a bomber enters the searchlight defense, he will be continuously illuminated either until he is shot down or until he passes outside of the searchlight area. He will be illuminated in spite of his most desperate efforts to avoid the searchlight beams as attested to by many pilots who have unsuccessfully attempted to employ evasive tactics against expertly directed searchlights.

As for the ability of the fighter pilot to locate the bomber, he will find this much easier than during daylight hours. It is the responsibility of the searchlight organization to furnish a short range, very accurate detection and plotting system. The intercept officer, using this information, will place the fighter pilot on orbit at the proper altitude around a vertical, colored searchlight beam which is located close to the point where the bomber will first be illuminated. As soon as the target comes within range of the searchlights, the big "X" of searchlight beams in the sky will "mark the spot," pointing out to the fighter pilot the exact position of the enemy bomber. In addition, just in case there are several intersections in the sky, the colored orbit beacon will point out the proper intersection for a period of fifteen seconds. From this point, it's "Tallyho" for the fighter, just as if sunlight had been used for the illumination rather than the searchlights.



Interbranch cooperation—a Fortress crew and a "40" crew exchange good wishes as they set out for the night's practice.



The control board keeps track of all aircraft, friendly and enemy.

AAF Photo

Now, if you can, visualize the predicament of the bomber pilot at this point. He has been feeling very safe and far from danger as he flies along protected by the cover of darkness. His mind is intent on the approach to the target and in preparing for the bombing run. Then, suddenly, blinding beams of light streak up and flood the entire plane with light. He no longer can see outside of the plane and must fly by instruments alone; his bombardier cannot see to adjust his bombsight; his gunners are dazzled and blinded by the brilliant glare of the 800,000,000 candle-power searchlights. The sudden dazzling effect of the light itself is disconcerting enough, but he also realizes that he is in immediate danger of being attacked—being attacked by something he cannot even see; for no matter how he strains his eyes, he cannot see outside of the ball of light splashing around his plane. He puts his plane into a series of violent maneuvers in an attempt to avoid the searchlights, but all of his efforts are of no avail. The position of his bomber and of his crew is helpless as the day fighter, in complete safety, maneuvers to a favorable position behind the enemy plane and just outside of the glare of light, and sends cannon and machine-gun bullets crashing into the doomed bomber.

The Fighter-Searchlight Team provides the best protection yet devised against mass bomber raids at night, since it permits the concentration, at the most strategic location, of the most formidable weapon against enemy bombers—fighter aviation.

Such ability to concentrate force, through its tactical mobility, and the tremendous amount of fire power of fighters, constitute two of the outstanding advantages of fighter aviation over any other means of air defense. The system of Fighter-Searchlight cooperation is designed so as to be capable, where necessary, of employing multiple fighters with maximum effectiveness against concentrated attacks by multiple enemy raiders.

The significance of the Fighter-Searchlight Team is emphasized by the fact that in recent months the great increase in the number of Allied planes destroyed over Berlin has been due very largely to the increased employment of fighters and searchlights. All available reports indicate that German searchlight equipment and training of personnel (as indicated by results obtained in illuminating Allied planes), is inferior to that of American searchlight units. This being the case we may well expect a higher degree of efficiency from our own Fighter-Searchlight Team than

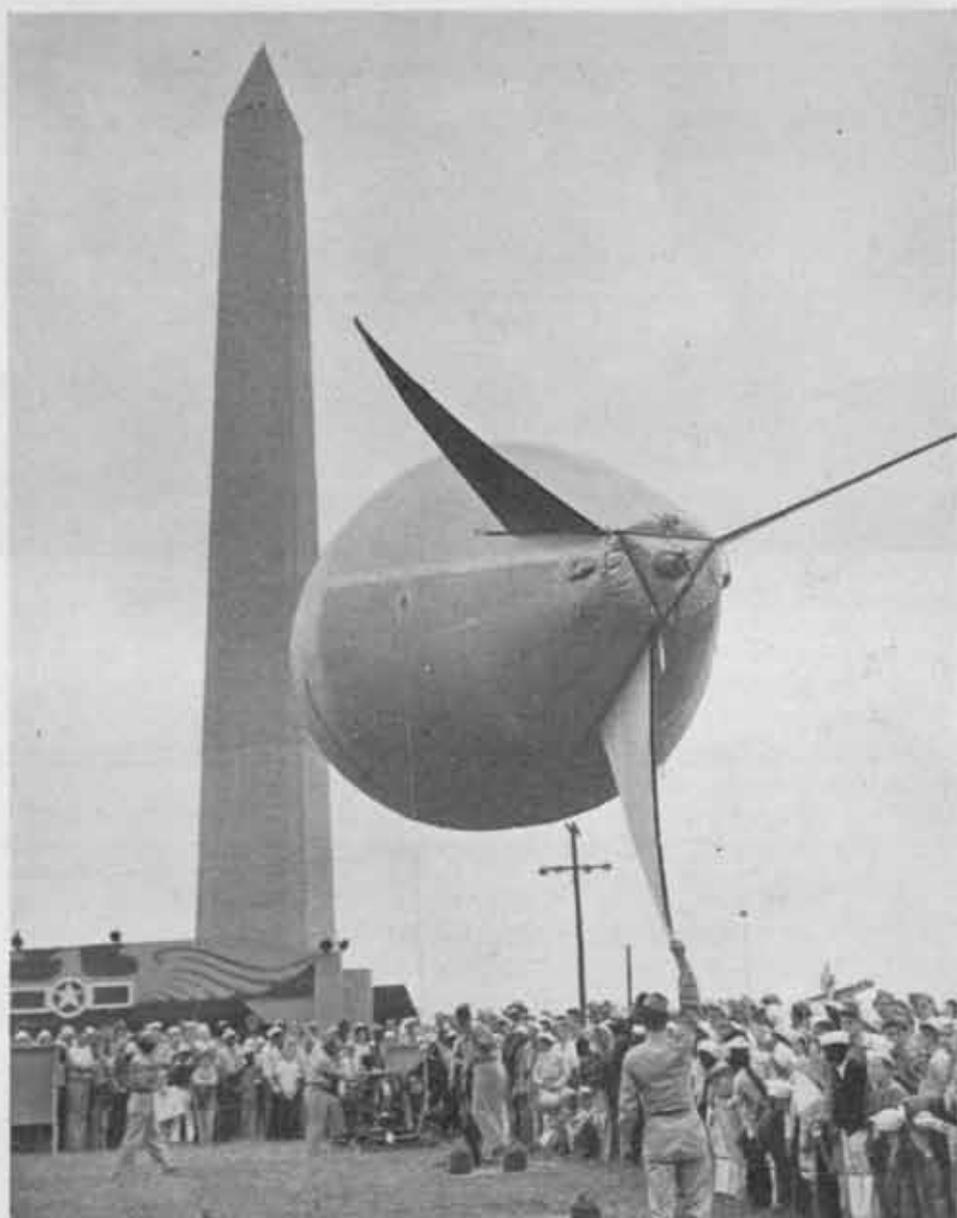
that which the admittedly strong German fighter-searchlight defense around Berlin is now producing.

The system of Fighter-Searchlight Team cooperation and control is not experimental in nature, but has been battle-tried, and has proved itself successful; our enemies have already learned to respect its capabilities.

Since the original tests, and during the stages of development of the present fighter-searchlight team in this country, similar methods of fighter-searchlight defenses have been set in other countries, both Allied and enemy, and in all cases, they have been effective against raiding night bombers.

A complete training program for searchlight battalions has been set up at AAFTAC, and it is through this training program that searchlight personnel learn, by theory and practice, the methods of illuminating enemy airplanes so that our day fighters can shoot them down.

The use of searchlights to point out position of enemy bombers and illuminate them dates to World War I. The adverse effects on the enemy of illumination was popularized by many officers of the Air Corps prior to World War II, but its effectiveness apparently has been demonstrated and the development of a combat Searchlight-Fighter Team is the latest development of the old idea.



Washington Star

A VLA balloon from Camp Tyson aids in the bond drive at Washington, D. C.

Target Practices for Seacoast Searchlights

By Lieutenant Colonel Percy F. Parker, Coast Artillery Corps

The conduct of target practices for all types of large seacoast cannon, antimotor torpedo boat batteries, and submarine mines is covered by TM 4-235 but, to the knowledge of the writer, no provision has been made to test the proficiency of the seacoast searchlights emplaced in and around the Harbor Defenses. This article proposes a target practice whereby the efficiency of the searchlights may be tested. A practice, similar to the one described, was held at a Harbor Defense on the west coast with results that will be explained later in this article.

Even though other agencies be in use, searchlights still play an important part in the defense of an area. The silhouette provided by searchlight illumination makes possible the identification of surface targets by the various battery observation stations.

The target practice is designed to test the efficiency and state of training of the searchlight battery in its primary mission, that of illuminating surface craft, and covers the following:

1. The picking up and illuminating of seacoast targets early enough to permit gun batteries to take them under fire at longest possible ranges.
2. The use of the proper lights for illumination for each individual gun battery.
3. The knowledge of the searchlight officer and battery personnel for the provisions of the local Standing Operating Procedure.

Searchlights may be called upon to illuminate two types of surface craft; the large, slower moving target and the small, high speed target. This practice is therefore divided into two phases, one course to be towed by a large surface craft and the other course by a fast, highly maneuverable speed boat simulating a motor torpedo boat attack. Both courses are prearranged and consist of bow-on, zigzag, and broadside targets. Other means are to be used for tracking target. The various targets are assigned to the searchlight officer by means of the Local Grid System in use at the Harbor Defense conducting the practice. Each assignment will be from five to ten minutes duration. Horizontal base tracking for the large, slow moving target and the tracker of the AMTB battery for the high speed target used and records made to determine the elapsed time from target assignment to pickup and to determine whether or not the target is properly illuminated after pickup so that at least two observation stations of each designated gun battery or the tracker of the AMTB battery can continuously track.

On the course of the slow moving target, no more than four searchlights will be employed at any one time in searching for the target and not more than two searchlights will be employed to carry the target after pickup. On the course of the fast moving target, any desired number of

lights may be used for pickup but no more than two lights at any one time may be used for illumination. Spread beam may be used if desired. The commander of the fast moving target will attempt to escape the illuminating lights by zigzag maneuvers consistent with safety, provided he continues in the general direction of a prearranged course. The commander of the slow moving target will not attempt to escape the illuminating lights but frequent changes in the prearranged course and the ordering of all lights extinguished and then targets being reassigned after short intervals of time will simulate evasive action by the target.

The target practice will not be conducted on nights when conditions are such that the target may be seen with the unaided eye or by use of binoculars from the searchlight positions. No information will be given to the searchlight officer prior to the practice concerning the type, direction, or range of the course. Control stations will not be manned during the time the target is going out preparatory to the practice and no binoculars will be used to track the target prior to assignment.

A service practice will be completed on the same night

CHIEF TIMEKEEPER'S RECORD SEACOAST SEARCHLIGHTS												
BATTERY _____						C.A. PLACE _____						
DATE _____						TIME _____						
CLOCK TIME	TARGET ASSIGNMENT											
	1	2	3	4	5	6	7	8	9	10	11	12
Each Target												
1. Assignment ----- First Light												
2. In Action ----- First Pickup of												
3. Target Assigned ----- All Lights Ordered												
4. Out of Action ----- Target Visible from												
5. Both observation stations ----- Target not visible												
6. from either obs. sta. -----												
7. ELAPSED TIME TO NEAREST SECOND												
Target assignment to												
8. pickup ----- First light in action												
9. to pickup ----- Total carrying												
10. time ----- Target not visible												
11. during period of ill. -----												
(Signed) _____												
Chief Timekeeper												

SUMMARY OF PRACTICE SEACOAST SEARCHLIGHTS

Battery _____ CA Place _____

Date _____ Time _____

Type of Target (Slow) (High Speed)

1	2	3	4	5	6	7	8
Target Assignment Number	Type of Course	Range at Time of Pickup	Total time Target assigned	Elapsed time to Pickup	Total time Target should be carried	Time Target not Visible from Observing Stations	Total time Target was carried
1							
2							
15							
16							

Average Range to Pickup

Total time Target assigned

Total time to Pickup

Total time Target should be Carried

Total time target not visible

Total time Target carried

Broadside	Zigzag	Bow-On

 SIGNED _____
(Battery Commander)

Form SCSL 7

on which it is begun except that the Harbor Defense Commander may postpone the completion when:

1. A break down of the vessel being utilized as the target occurs.

2. A sudden change in atmospheric conditions prevents continuance of the practice at prescribed ranges.

3. Friendly naval or commercial vessels are present, any illumination of which might possibly endanger their safety.

Officials necessary for the conduct of the practice together with their duties are as follows:

1. Tug Director—He will direct and transmit all instructions to the commanders of the target vessels.

2. Operations Officer—He will make all target assignments to the Searchlight Officer.

3. Officer in Charge of Records—He will have many assistants and will perform the following:

a. Organize and supervise the functioning of the records section.

b. Act as Chief Timekeeper and complete form SCSL 6.

c. Station target position details and timekeepers in locations which will insure that all parts of the target practice courses are under observation.

d. Supervise the operation of the plotting room sections.

e. Collect and verify all records immediately after the practice.

Locator Director—Will direct personnel in tracking and reporting the position of targets to the Operations Officer at all times during the practice.

Accurate information on the results of a target practice depends in a large measure on the thoroughness, completeness, and accuracy of the records taken during the practice.

Coordinated training of personnel involved in record taking must be accomplished prior to the practice.

In order to determine the proficiency of the searchlight battery and the performance of the matériel, a complete analysis of the practice must be made. The forms neces-

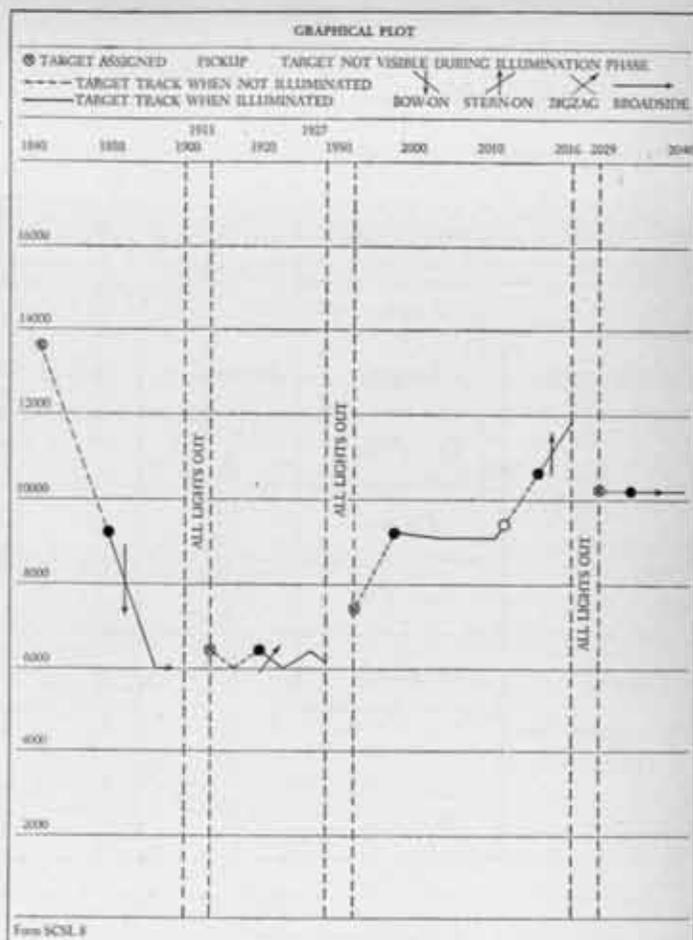
ary with a brief description of each are as follows:

1. The standard Target Position Forms as given in TM 4235.
2. An overlay constructed from other than searchlight reading.
3. The Chief Timekeeper's Record, Form SCSL 6, which gives a chronological record of events.
4. The Summary of Practice, Form SCSL 7, which is a recapitulation of the type of course, average range to pickup, total time target is assigned, total time from assignment to pickup, and the total time the target is carried.
5. The Graphical Plot, Form SCSL 8, which presents a picture of the more important aspects of the practice as a whole. The graph shows in chronological order the progress of the practice and the various target assignments and pickups. These items are all indicated on the graph by means of distinctive symbols.
6. The Battery Commander's Report, Form SCSL 9, is used by the battery commander to determine the accuracy of his battery on the various types of targets in reference to two factors; pickups per minute and carrying time per minute. The number of pickups per minute for each type of target is determined by the formula:

$$\text{Pickups/Min} = \frac{\text{Total number of target assignments}}{\text{Total time from assignment to pickup}}$$

The carrying time per minute for each type of target is determined from the formula:

$$C = \frac{T-M}{T}$$



BATTERY COMMANDER'S REPORT

1. General

Organization _____ Harbor Defense _____

Date of Practice _____ Weather Conditions (Clear and Dark) (Moonlight) (Cloudy)

2. Time

	SLOW SPEED TARGET									HIGH SPEED TARGET									
	Broadside			Zigzag			Bow-On			Broadside			Zigzag			Bow-On			
	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	
Total time Target assigned																			
Total time to first pickup																			
Total carrying time																			

3. Accuracy

	SLOW SPEED TARGET									HIGH SPEED TARGET									
	Broadside			Zigzag			Bow-On			Broadside			Zigzag			Bow-On			
	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	H	M	S	
Pickups/Min.																			
Carrying time/Min.																			

4. Battery Commander's Narrative Report (Brief)

a. Delays:

b. Errors:

c. Unusual Occurrence:

d. Recommendations:

SIGNATURE _____

1st Ind.

HEADQUARTERS _____ CA(HD), _____

To: _____ CA(HD), _____

- I certify that I have checked all records and reports pertaining to this practice.
- Various elements of practice are rated as follows:

SLOW SPEED TARGET

Element	Target	Normal	Actual	Sat.	Unsat.	Comments (Including corrective action taken)
Pickups Per minute	Broadside	Table A				
	Zigzag	Table A				
	Bow-On	Table A				
Carrying time Per minute	Broadside	Table B				
	Zigzag	Table B				
	Bow-On	Table B				

HIGH SPEED TARGET

Element	Target	Normal	Actual	Sat.	Unsat.	Comments (Including corrective action taken)
Pickups Per minute	Broadside	Table A				
	Zigzag	Table A				
	Bow-On	Table A				
Carrying time Per minute	Broadside	Table B				
	Zigzag	Table B				
	Bow-On	Table B				

Knowledge of Local S.O.P. (Sat) (Unsat)

3. Deficiencies and corrective action:

4. Recommendations:

Form SCSL 10

SIGNATURE _____

when C = Carrying time per minute

T = Total elapsed time from pickups to lights out.

M = Time target not visible from observation stations.

7. The Battalion Commander's Indorsement, Form SCSL 10, is prepared by the battery commander's immediate tactical superior and is designed to give the tactical commander

a means of comparing the performance of the battery with a standard that should be obtained in combat. The values in the column headed Normal are obtained from Tables A and B. A comparison of these values with those actually obtained during the practice forms a basis for determining the performance of the battery during various phases of the practice.

TABLE A . . . EXPECTED PICKUPS PER MINUTE

Range (yds.)	SLOW SPEED TARGET			HIGH SPEED TARGET		
	Broadside	Zigzag	Bow-On	Broadside	Zigzag	Bow-On
2000	1.00	.67	.50	.67	.50	.40
3000	.86	.60	.46	.60	.46	.37
4000	.75	.55	.43	.55	.43	.35
5000	.67	.50	.40	.50	.40	.33
6000	.60	.46	.37	.46	.37	.32
7000	.55	.43	.35	.43	.35	.30
8000	.50	.40	.33	.40	.33	.29
9000	.46	.37	.32	.37	.32	.27
10,000	.43	.35	.30	.35	.30	.26
11,000	.40	.33	.29	.33	.29	.25
12,000	.37	.32	.27	.32	.27	.24
13,000	.35	.30	.26			
14,000	.33	.29	.25			
15,000	.32	.27	.24			
16,000	.30	.26	.23			

Enter table with mean actual range of all pickups to nearest 100 yards.

TABLE B . . . EXPECTED CARRYING TIME PER MINUTE

Range (yds.)	SLOW SPEED TARGET			HIGH SPEED TARGET		
	Broadside	Zigzag	Bow-On	Broadside	Zigzag	Bow-On
2000	1.00	1.00	1.00	1.00	1.00	1.00
3000	1.00	1.00	1.00	1.00	1.00	1.00
4000	1.00	1.00	1.00	1.00	1.00	.96
5000	1.00	1.00	1.00	1.00	.95	.91
6000	1.00	1.00	1.00	.96	.90	.85
7000	1.00	1.00	.96	.92	.85	.78
8000	1.00	.97	.92	.88	.80	.70
9000	.97	.94	.88	.84	.75	.61
10,000	.94	.91	.84	.80	.70	.51
11,000	.91	.88	.80	.76	.65	.40
12,000	.88	.85	.76	.72	.60	.28
13,000	.85	.82	.72			
14,000	.82	.79	.68			
15,000	.79	.76	.64			
16,000	.76	.73	.60			

Enter table with mean actual range to point of pickup to nearest 100 yards.

The searchlight target practice recently held was preliminary in nature. Due to a mechanical breakdown of the small speed boat, it was possible to conduct only the first phase of the practice. A 120 foot tug with a maximum speed of 10 knots was used. This tug was painted the standard Navy color and presented a reflecting surface similar to that expected from enemy vessels. A course was selected that would necessitate the use of all the emplaced searchlights in the Harbor Defense and consisted of 18 target assignments and was to be of 4 hours and 30 minutes duration. However, due to a very heavy fog, it was necessary to terminate the practice after 3 hours and 30 minutes with a total of 12 target assignments. These assignments consisted of 4 bow-on, 3 zigzag, and 5 broadside targets and simulated the

type of ship maneuvers that might be expected under service conditions. One assignment was made to test a section in local Standing Operating Procedure.

The practice was very successful and indicates that this type of target practice is workable. Targets were picked up and successfully illuminated at ranges in excess of 14,000 yards. The only difficulty encountered during the practice was caused by the haze preceding the dense fog which undoubtedly caused pickups to be missed near the end of the course. The pickups per minute and the carrying time per minute actually obtained closely approximated the values as given in tables A and B.

A complete proposed target practice prepared by the writer is submitted with this article.



Press Association Photo

This midget British submarine was "unveiled" during a recent demonstration. It carries a three- or four-man crew, has no conning tower, and can submerge only to ten or twelve feet below the surface. They are thirty to thirty-five feet long.

PREVIEW OF A TRAINING FILM



The symmetrical pattern in the above photograph shows the start of the flash as a 12-inch seacoast gun fires. This photograph and those on the following four pages are taken from the recent training film series, *The 12-inch Gun Battery, Barbette Carriage*. Designed to give full instructional detail to officers and enlisted men of a 12-inch gun battery, this training film consists of 8 parts:

- 4-630 Part I *Matériel and Personnel.*
- 4-631 Part II *Breech Mechanisms.*
- 4-632 Part III *Checks of Base Ring and Range Disc.*

- 4-633 Part IV *Duties of the Ammunition Squad.*
- 4-1321 Part V *Safety Precautions (Revision of 4-634).*
- 4-635 Part VI *Care and Maintenance.*
- 4-636 Part VII *Firing.*
- 4-948 Part VIII *Checks for Pointing in Direction.*

A revision of Part V, *Safety Precautions*, has just been completed, bringing that subject up to date according to the latest regulations.

*Prepared for the JOURNAL at the Coast Artillery School.

This shot, from Part IV, *Duties of the Ammunition Squad*, shows an important pre-firing check being made. The officer is examining the rotating band of the projectile for defects. The rotating bands should be protected by grommets (as shown here), until just before firing.





Before all firings, the mushroom head should be checked, to make sure that there is no longitudinal play. However, you should be able to turn the mushroom head freely, as seen here in this picture from Part II, *Breech Mechanisms*.



One of the last, but most important checks to be made before firing is that of the firing mechanism. In this scene from Part VII, *Firing*, the proper operation and functioning of the safety features are being tested.

→
After all the necessary prefiring checks have been made, the piece is ready. From Part VII, *Firing*, we see in this over-all view, the projectile being rammed home. Following this, the truck will be run off to one side, clearing the way for the powder detail.



←
With the ramming detail standing by, ready, the powder detail is bringing up the powder charge.

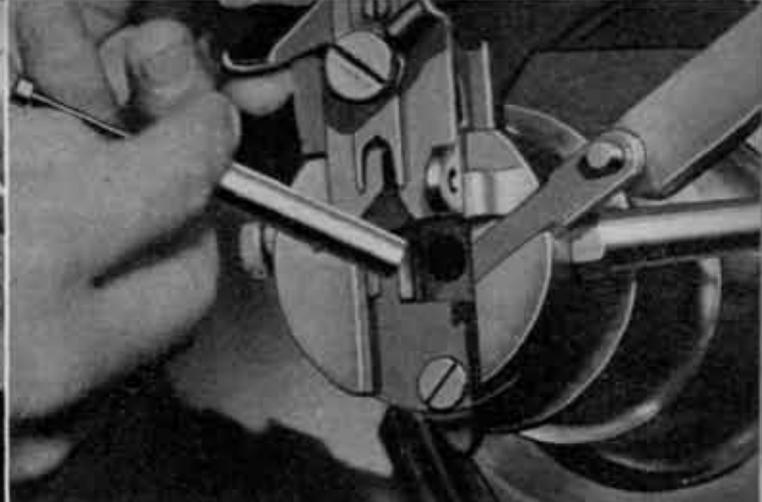


→
Here we have a close up of the powder being rammed. Immediately following this, the powder detail will clear the breech and return for another charge.

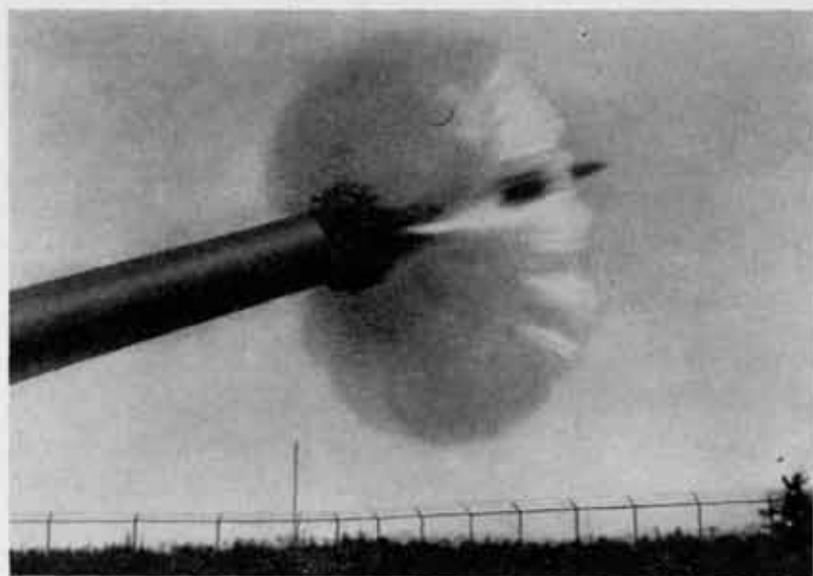




With the piece fully loaded, the breech is closed and the No. 3 man (breech detail) is lifting the slide to insert a primer.



This close-up shows the No. 3 man about to insert the primer. When the primer has been completely inserted, he makes sure that the slide (held in the left hand), is all the way down before attempting to fire the piece.



←
The piece is fired. In this unusual photograph it is possible to see the projectile right after it has left the muzzle.

→
Right after the round is fired, the piece is depressed. Now the breech is being opened and the sponging detail is already in action to sponge the chamber before firing the next round.



←
After firing has ceased, routine cleaning of the piece takes place. When the bore has been thoroughly cleaned and dried, it is well coated with oil. From Part VI, *Care and Maintenance*, we see a detail pouring oil on the bore brush in preparation for this final step in maintenance.

Submachine Gun Course

By Captain Harold M. Dudley, Coast Artillery Corps

EDITOR'S NOTE: *The use of pop-up targets instead of bobbing targets improves the course greatly. In swampy terrain, however, revetments almost eight feet high would be required. The requirements for telephones and wire, and for other materials and labor, far exceeds the same expenditures required for the course described in FM 23-40.*

The Thompson Submachine Gun Course described below was constructed in the Aleutian Area, where certain materials were scarce or even unobtainable. The advantages of the course are such that it is believed other units may be interested in the details of its construction and operation.

CONSTRUCTION

The course was laid out as outlined in Par. 57, (3), FM 23-40, which is pictured in Figure 15, page 41. At each stake indicating Targets 1, 2, 3, 4 and 5 a pit was dug 4' x 4' x 5'8". In front of this pit (the side toward Point A) a wall was constructed of scrap wood 2 feet high and extending to protect the flanks of the pit. For targets 6-7 and 8-9-10 the pit must be 12' long. The dirt from the pit was thrown over this wall and sodded to form a parapet 4 feet in thickness.

The method of construction of target frame is shown in Figure 1. Two 2" x 4"s were used in the uprights A and B. Their length will be such for each target that by standing at Point A (FM 23-40, page 41) you can just see the 2" x 2" marked E above the parapet. The uprights A and B will extend about 4 inches above the crosspiece E. They will have small holes drilled in them about 4 inches from the top. In each end of E will be driven a large nail. This will permit the 2" x 2" to swivel between the up-

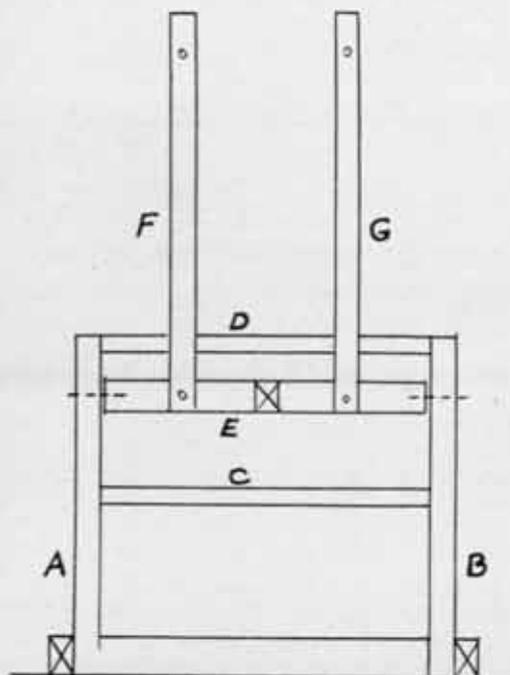


Figure 1.

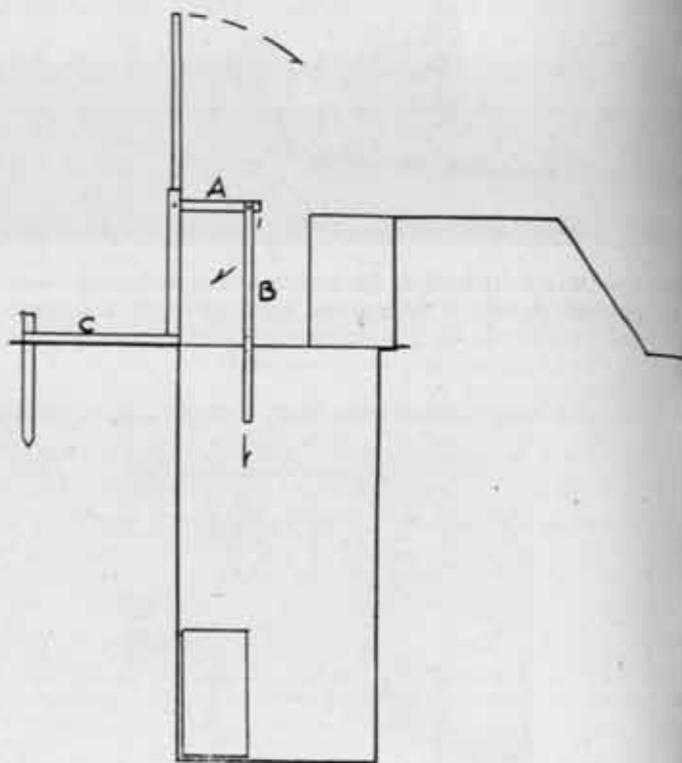
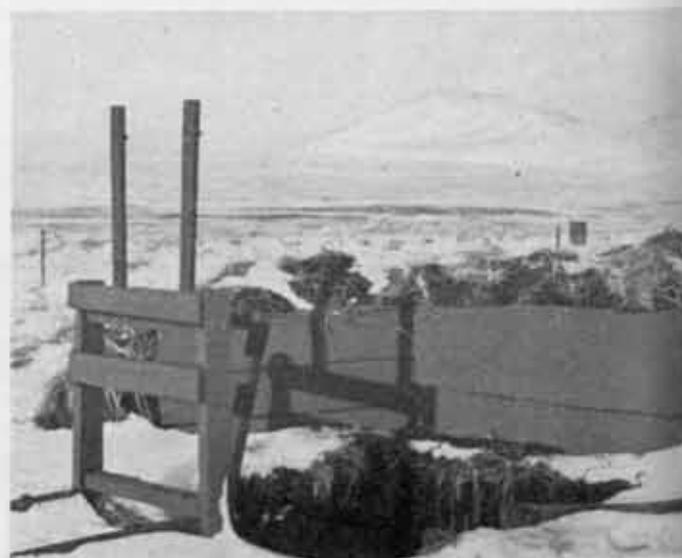


Figure 2.

rights. The pieces F and G are 2" x 1" x 28" which were mortised into the 2" x 2". Two bolts hold them in place having the nut end toward the front. About 3 inches from their top were placed two small bolts in a similar manner. Holes were made in the targets, and they were secured to the frame by these four bolts. Any piece of 2" x 2" or 1" x 2" (marked D) was nailed on the back to keep targets vertical during their exposure.

Referring to figure 2, the handle was constructed from



Rear view of target pit.



The target in the "up" position.

2" x 2" material. Piece A was about 1' long and was nailed to piece E (figure 1) at its center. Piece B was 3' long and the two were bolted together, permitting an action which will raise and lower the target.

Piece C (see figure 1) was placed in such a manner that in lowering the target, piece A was stopped, and the target was held in a position on a level with the parapet. Referring to Figure 2, any type of material can be used for C, which extends to the rear of each upright, and is staked at the end. The purpose of this extension is to prevent any moving of the pit in staking the target frame securely.

In the pit proper was placed a small holder for the telephone, the top of which was used as a stand for the paste cans and pasters. In the bottom was placed a small box.

All of the target frames were constructed in a similar manner with minor alterations. For target 3, which is an M target, the entire framework was widened to take care of the wider target and pieces F and G (figure 1) were shortened. For the targets in Group "C" and "D", due to the heavy load, the piece E (figure 1) must be 2" x 4". Also, on the M Target it is better to use one piece of 1" x 6" in the center for support.

The targets used were the standard targets for this type range; however, if they are not available, suitable silhouettes can be made from cardboard boxes.

A range house (see photograph) was constructed using a large box and slanting one side to form a roof. This house was used for storage of targets, telephones, paste cans, and tools necessary to perform repairs. On the back was placed a seat which acted as a control tower in the running of the course.

The range necessitated the use of one telephone in each of the seven pits and one on the control tower. The pit telephones were all hooked in parallel with the control telephone.

Before starting the running of the course it is advisable to have several pieces of materials cut to exact length with holes already drilled. Particularly do you need replacements for pieces F, G, and E (figure 1) since these parts are the most exposed. Having these replacement parts on hand, any difficulty can be repaired in a very few minutes.

The particular pieces of material which we used are not to be taken as standard. Any scrap lumber which will accomplish the same end can be used. Also, if bolts are not available, nails can be used in their place. The entire range was constructed from boxes and short pieces of any type of lumber which we were able to find at the scrap pile.

OPERATION

The method of operation was unique indeed. Although the method may seem complicated, careful analysis will indicate its simplicity, as did its practical application.

You who are acquainted with the course, know that the targets from 1 to 5 come up in irregular order. One target will remain exposed for three seconds, and three seconds later, another will come up. Using this as a basis, we converted these times into rings on the telephone in the manner indicated in Table 1.

		<i>Ring On Telephone</i>
0:00	Whistle Blows	
0:03	Target 1—Up	1st
0:06	Target 1—Down	2nd
0:09	Target 2—Up	3rd
0:12	Target 2—Down	4th
0:15	Target 3—Up	5th
0:18	Target 3—Down	6th
0:21	Target 4—Up	7th
0:24	Target 4—Down	8th
0:27	Target 5—Up	9th
0:30	Target 5—Down	10th
0:35	Whistle Blows; Gunner Walks to Point B	
0:45	Target "C"—Up	1st
0:50	Target "C"—Down	2nd
0:55	Target "D"—Up	3rd
0:60	Target "D"—Down	4th

Table 1.

From this chart we constructed a master schedule of sixteen courses, all different in respect to the appearance of targets. Instead of using target numbers, they have been converted into a certain numbered rings on the telephone (using Table 1).

Any number of courses could have been made. Sixteen proved sufficient to prevent any memorization of target



Combination range-house and control-tower.

Course No.	Target No. 1	Target No. 2	Target No. 3	Target No. 4	Target No. 5	Target No. C	Target No. D
1	1st Ring	7th Ring	5th Ring	9th Ring	3rd Ring	1st Ring	5th Ring
2	7th	1st	9th	3rd	5th	3rd	1st
3	3rd	9th	1st	7th	5th	3rd	1st
4	7th	1st	5th	9th	3rd	1st	3rd
5	3rd	7th	9th	1st	5th	3rd	1st
6	1st	9th	3rd	7th	5th	1st	3rd
7	7th	3rd	9th	5th	1st	1st	3rd
8	5th	3rd	7th	1st	9th	1st	3rd
9	1st	5th	9th	3rd	7th	3rd	1st
10	9th	3rd	5th	7th	1st	1st	3rd
11	7th	1st	3rd	9th	5th	3rd	1st
12	9th	7th	1st	3rd	5th	3rd	1st
13	5th	9th	3rd	1st	7th	1st	3rd
14	5th	9th	7th	3rd	1st	3rd	1st
15	7th	3rd	1st	9th	5th	1st	3rd
16	1st	3rd	7th	9th	5th	1st	3rd

Table 2.

appearances for any course. Each pitman had a board with a piece of paper pasted on it indicating on which ring he was to raise his target. Pitman No. 1 had the schedule appearing in Table 3.

This was taken, as you can readily see, from the first two columns of Table 2. For Pit No. 2 you would use the first and the third column, and so forth. The pitman in "C" and "D" awaited the second whistle before starting their count. When any pitman had his target raised he would immediately pull it down on the next ring. For

Course No.	My Target Will Be Raised on the	Course No.	My Target Will Be Raised on the
1	1st Ring	9	1st Ring
2	7th Ring	10	9th Ring
3	3rd Ring	11	7th Ring
4	7th Ring	12	9th Ring
5	3rd Ring	13	5th Ring
6	1st Ring	14	5th Ring
7	7th Ring	15	7th Ring
8	5th Ring	16	1st Ring

Table 3.

example: No. 1 pitman raised his target on the first ring on Course No. 1, and lowered it on the second.

The control operator sat on the tower as indicated in photograph. He must be equipped with a stop watch, and a whistle. At the beginning of each course he reported by telephone the number of the next course. When the gunner reported, "Ready" he blew his whistle, and started his stop watch. Then all he did was to turn the crank of the telephone at each of the times indicated in Table 1. Five seconds after the last target disappears in "phase A" he again blew his whistle, at which time the gunner runs from Point A to Point B; and at the same time the pitmen in "C" and "D" realized that the next ring will be their first. At the conclusion of each course, the number of hits were reported in order to the controller who recorded them.

This method worked perfectly. The gunner did not know which target was "coming up"; there was no telling over the telephone which target was to be raised; no pulling of sticks. Everything worked by the mere twist of a wrist. The target pits were quite inconspicuous by their having been sodded. All in all, it made a very realistic and interesting course for our submachine gunners.



Get the Preventive Maintenance habit. TM 9-2810 says, "It is fundamental that preventive maintenance services be performed on a regular cycle."



Fort Monroe's Officers Beach Club which was destroyed by fire during the early morning hours of June 15.

Monroe Beach Club Burns

The summer season at the Officers Beach Club at Fort Monroe has taken on a gala atmosphere with the erection of a large canvas tent, with roll-up sides, which replaces the Colonial type cabin clubhouse which was destroyed by fire during the early morning hours of June 15.

The tent which has been placed on a wooden platform constructed on the foundation of the former clubhouse, has been equipped with all conveniences possible under the circumstances and is an excellent substitute for the screened-in porch of the clubhouse which was so popular among the officers and their families during off hours.

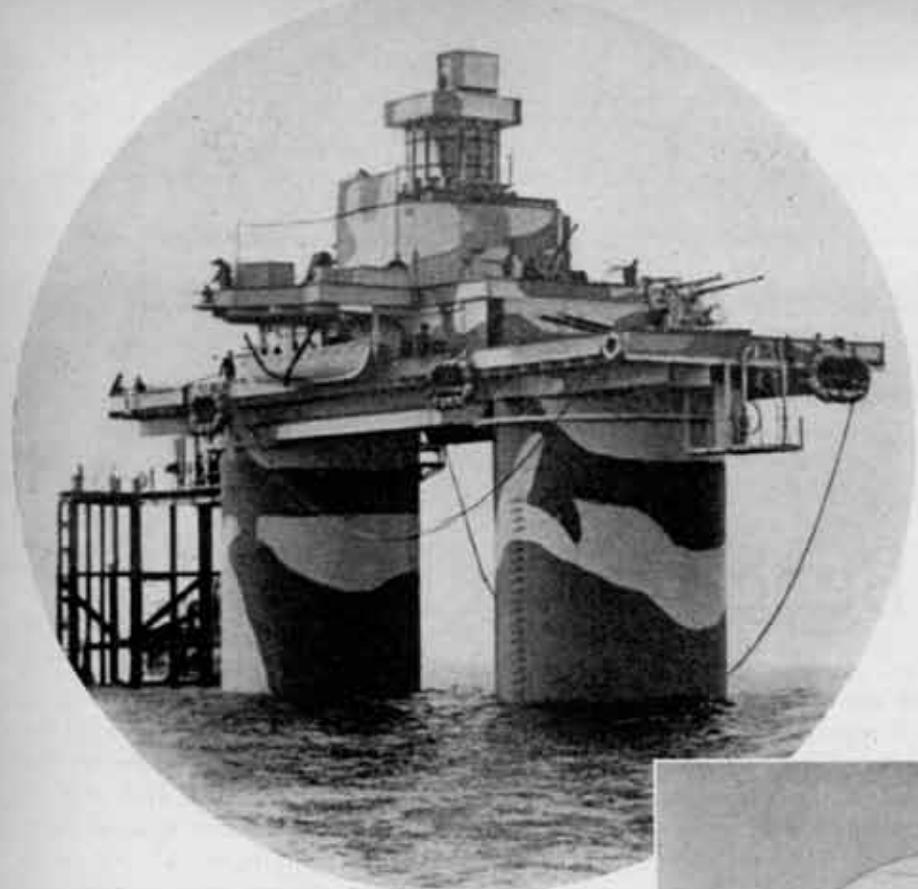
The bathhouses and swimming pool adjacent to the club were not damaged in the fire and were immediately policed and placed at the disposal of the members.

Built originally in 1931 on the same spot, the club was destroyed by the near hurricane that visited the Virginia Peninsula in 1933 when a large portion of the beach on the bay side of Fort Monroe was washed away including the concrete seawall. Following this disaster the club was redesigned and constructed in Colonial cabin style of huge logs, having a rustic appearance from the outside but boasting modern and convenient interior and furnishings. Since that time it has been the recreational center for officers during the warm Virginia summer months.

Plans for rebuilding the clubhouse have already been started and it is expected that by next summer, it will again serve the permanent garrison and officers visiting at the post.



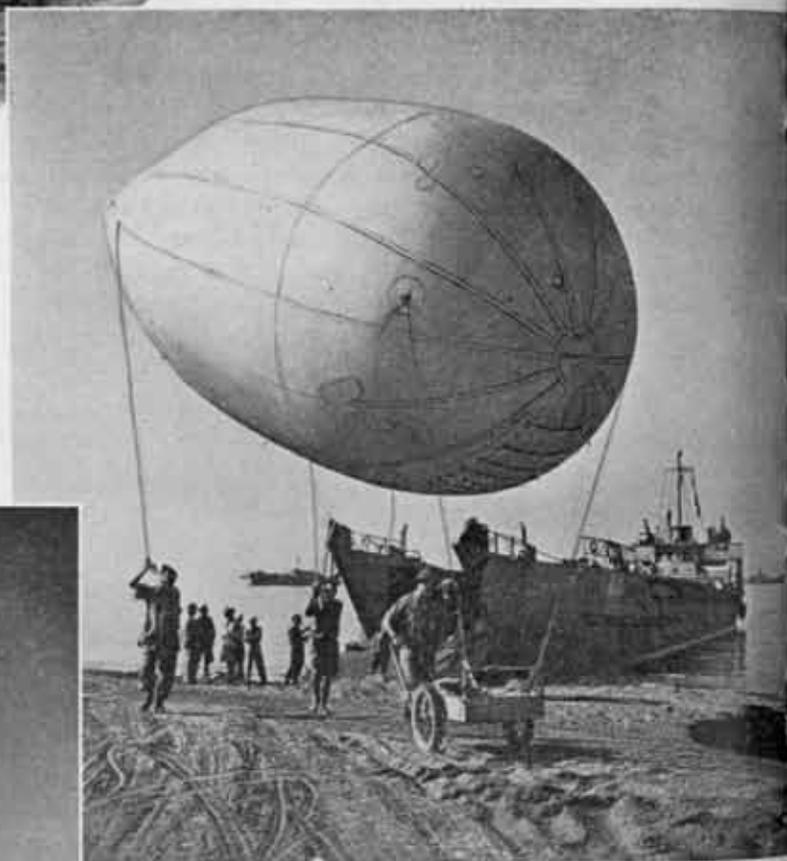
The tent replaces the burned clubhouse.



Tommy is a good soldier, as our own troops will testify. These British Official photos portray our allies in varied situations—all warlike.

THE

British Marines man these AA forts, which are placed along the Thames Estuary and along the East Coast. ↑



↑ Barrage balloons, manned by the R.A.F., aided the landing at Salerno.



← British soldiers man a captured German AA gun in Sicily.

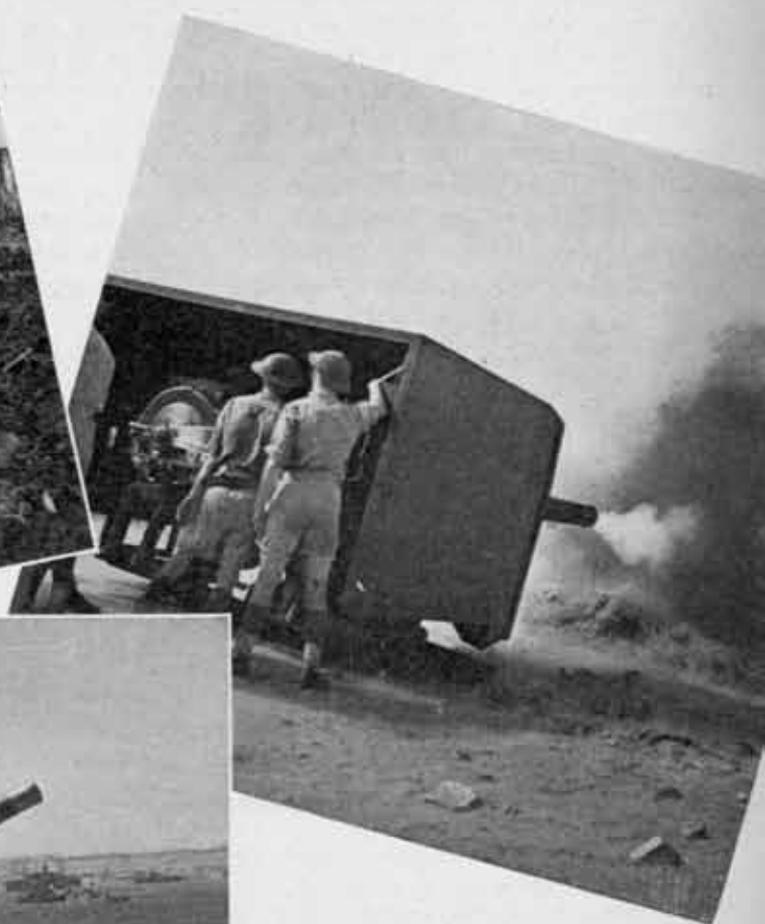
KING'S MEN

British Official Photos

↑ Mt. Camino trembles as British 25-pounders open up.



← Indian troops hold a post-mortem over a German 150mm gun.



↑ British 6-inch gun firing near Bizerta.



← Italian coastal defenses on Sicily in British hands.

Azimuth Determination in the Southern Hemisphere

By Major George M. Hays, Coast Artillery Corps

The reconnaissance officer in the past has been in the habit of depending on observations taken on Polaris because it is a star easily found and readily recognized. There are several disadvantages to permitting such a habit to be formed, the main one being that if that star is obscured, or is below the horizon, the reconnaissance officer is not familiar with an alternate method of azimuth determination.

In many parts of the world, natural conditions are such that certain sections of the sky are obscured a great proportion of the time. In such a case, it is well to have sufficient knowledge of the constellations to select a star for observation that is in a location favorable for determining azimuth. All reconnaissance officers should be able to accurately and quickly select a star in any of four quadrants that might be favorable for observation at any selected time.

In the northern hemisphere an observation on the star Polaris (α of Ursa Minor) is the easiest to perform as the star's relative movement is very slow. However, the stars α of Ursa Major, β of Cassiopeia, Vega (α of Lyra) and Capella (α of Auriga) are roughly located in four different quadrants so that one of these stars is always in a good location for observation irrespective of the time of year or time of day. If then, the reconnaissance officer is able to positively identify these four stars, he is not handicapped by having to depend on Polaris alone for observation.

In the southern hemisphere, there is no star in the immediate vicinity of the pole, so that dependence must be placed on one of several stars some distance from the pole. As the earth rotates, some of these stars either are obscured by the horizon or approach the horizon so closely that the effects of refraction are too great to permit an accurate observation. It is necessary therefore, to be able to identify at least one star in each of the four quadrants so that an accurate observation may be made at any time.

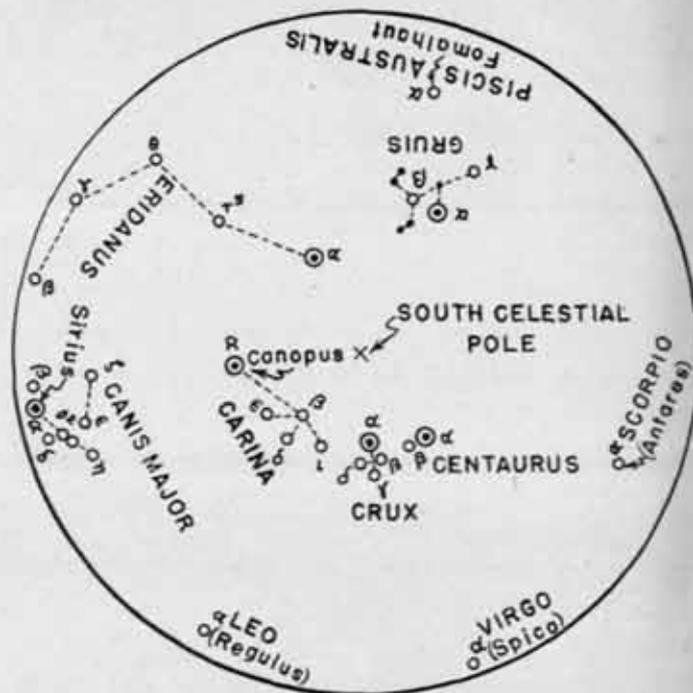
The stars shown on the chart include the brightest circumpolar stars in the southern hemisphere and are in such position that one may be found in a favorable location for observation at any hour. The most readily identified stars in the immediate vicinity of the south celestial pole are α of Eridanus, α of Carina (Canopus), α of Crux, α of Centaurus, and α of Gruis. α of Crux should not be used for accurate azimuth determination unless a sufficient knowledge of astronomy is acquired to correct the tabular values of the almanac for readings on the brighter or fainter of the two stars as this is a double star. α of Centaurus is in such a position, however, that α of Crux is unnecessary for observation as a rule. For observations made at lower latitudes it may be preferable to make observations on stars closer to the celestial equator. Some of the brighter and more readily identified stars of the southern hemisphere are included on Chart 1.

The choice of stars to be used in any observation is de-

pendent to some extent on the latitude of the observer. If there were a south polar star, similar to Polaris in the northern hemisphere, the observations for azimuth in the southern hemisphere could be made in the same way as Polaris observations. However, the circumpolar stars of the south pole are at a considerable distance from the pole making some other type of observation necessary. Either the hour-angle method or the altitude method can be used. If the exact time is available, it is perhaps preferable to use the hour-angle method. If the exact time is not obtainable, the altitude method may be used. This method does not require that time be determined as when using the hour-angle method, but any instrumental errors or maladjustments may give inaccurate results. By using care in the selection of stars and by following the rules prescribed for procedure in making an observation, the instrumental errors and maladjustments may be reduced to a negligible amount. Naturally the altitude method can also be used in the northern hemisphere.

AZIMUTHS BY THE ALTITUDE METHOD

In the altitude method as in the hour-angle method of determining azimuths, the observation consists of measuring the horizontal angle between the mark whose azimuth is desired and the celestial body whose azimuth can be computed. In the hour-angle method, time is one of



Note: Stars are designated by greek letters and the name of the constellation in which they appear. The brightest star in each constellation is the α star and as a rule the α star has been given a proper name designating that particular star.

the elements used in computing the azimuth of the sun or star. In the altitude method the observed altitude takes the place of time in this respect. In the altitude method the known elements of the astronomic triangle are:

(1) The side from the zenith to the pole, which is the complement of the latitude of the place of observation.

(2) The side from the pole to the celestial body (polar distance), which is the complement of the declination of the body.

The element obtained from observation is the side from the zenith to the celestial body (zenith distance), which is the complement of the observed altitude. As in the hour-angle method, the desired element in the triangle is the angle at the zenith which is the bearing of the celestial body.

The bearing may be determined by the formula

$$\cos \beta = \frac{\sin \Phi \sin h - \sin d}{\cos \Phi \cos h}$$

where β = bearing from south

d = declination of star

Φ = latitude of the place of observation

h = altitude of star

This formula determines the bearing of the star from the south point of the horizon. The observed altitude must be corrected for refraction and the declination of the star is obtained from the Nautical Almanac. An error of one minute in the determination of latitude or altitude will make an error of approximately one minute in the bearing of the star.

This formula is recommended for use in latitudes of 40° or less in the southern hemisphere. For observations in the northern hemisphere the formula may be changed to give the bearing from the north point.

The formula for the northern hemisphere will be

$$\cos \beta = \frac{\sin d - \sin \Phi \sin h}{\cos \Phi \cos h}$$

The altitude formulae as given require the use of both natural functions and logarithmic functions in their solution. Also, the general direction of the star must be determined by estimation or compass so that the quadrant of the star may be accurately placed.

Corrections must be applied to an observed altitude before it can be used in the computation. Any observed altitude, whether of the sun or a star, must be corrected for refraction. Table XXI, TM 5-236, computed for mean temperature and mean barometric pressure, gives mean values of this correction. In observations of a precise nature this mean value needs two small corrections, one for temperature and one for barometric pressure. The corrections are so small, however, that they may safely be disregarded for any observations made by means of a standard type of transit. The refraction is invariably a negative correction; that is, it is always subtracted from an observed altitude, as refraction always makes a celestial body appear higher than it really is.

An observed altitude of the sun is corrected for parallax, that is, for the error introduced by the fact that the observer is on the surface of the earth and not at the center.

Altitudes of fixed stars do not need this correction, the distance from the earth being so great that no error is thus introduced. The correction for the sun's parallax in seconds is approximately equal to $8.8 \cos \text{altitude}$.

Table XXII, TM-236, gives these corrections with observed altitudes of the sun as arguments. The correction for parallax is invariably positive; that is, it is always added to an observed altitude.

The accuracy of the solution is maximum where the bearing of the celestial body is 90° or, in other words, when the celestial body is to the east or west of the observer. However, other factors must also be considered. When the altitude is less than 20° the corrections for refraction are uncertain. When the altitude is greater than 45° the inaccuracies of the ordinary instrument will introduce serious errors when the telescope is depressed to sight the azimuth mark. The instrument should be carefully leveled before each set of readings and reversed between sets, an equal number of angles with instrument—direct and reversed being measured. Observations by the altitude method should not be taken when the celestial body is near the meridian as the altitude is changing very slowly and the solution will give poor results. Time is needed only in order to interpolate for declination at the time of observation when making observations on the sun. In observations on stars, the time is unnecessary, only the date being required, but as the maximum hourly change in the declination of the sun is nearly $1'$ an error of 1^m in time will make an error of $1''$ in declination.

PROCEDURE IN OBSERVING

a. Center the instrument over the station and level plate bubbles carefully. Do not change the leveling during a single set of readings.

b. With telescope direct, sight the azimuth mark, clamp both horizontal plates, and record the readings of the horizontal vernier A.

c. Unclamp upper horizontal plate and point on the star, clamping both horizontal and vertical motion screws. Record the reading of the A verniers on the horizontal and vertical circles.

d. Invert the telescope, unclamp the upper horizontal plate and again point on the star. Record the readings as in c.

e. Unclamp the upper horizontal plate and sight the azimuth mark with the telescope inverted, recording the readings as in b.

f. This completes one set of readings. An additional set should be taken, shifting the relative positions of the horizontal plates about 90° . The readings should be made as rapidly as possible so that the mean of the altitudes and of the horizontal angles may be taken to correspond to the mean position of the star.

Excellent results will be obtained by use of the altitude method if observations are made on two stars, one to the east and one to the west of the meridian. These stars should be selected near the prime vertical (the prime vertical is the vertical circle whose plane is perpendicular to the plane of the meridian. It cuts the horizon in the east and west points) and between the limits of 20° and 45° of altitude. If close circumpolar stars are selected, they

should be observed when near elongation. The average azimuth of the mark determined from the two observations should be adopted. This procedure will eliminate gross errors both in observation and computation.

The solutions to the formulæ will sometimes be an angle less than 90° and at other times greater than 90° . The proper angle to use may be found by comparing the latitude of your position with the declination of the star. Declination on the celestial sphere corresponds to latitude on the earth. If the declination of the star is less numerically than and of the same sign as the latitude of your position the bearing line from your position to the star will be toward the equator and away from the pole, in which case the bearing angle to the star will be more than 90° . If the declination of the star is of opposite sign from that of the latitude of the place of observation, the bearing line to the star will again be toward the equator and the bearing angle will be more than 90° . The bearing angle will be less than 90° when the declination of the star is greater numerically and of the same sign as the latitude of the place of observation. The algebraic signs for latitude and declination should always be considered both in determining direction and in the actual computations. The subtractions in the computations of the formula will be affected as the algebraic signs of latitude or declination change.

EXAMPLE

You are the reconnaissance officer for an anti-aircraft regiment. On July 15, 1942, you are in the Great Sandy Desert of Australia and you determine your latitude from a map as $21^\circ 12.0'$ South. You select the star Fomalhaut (α of Piscis Australis) for observation which is roughly southeast of your position at the time of observation. The declination of Fomalhaut (α of Piscis Australis) determined from the Nautical Almanac is $-29^\circ 55.5'$. The results of your observations are as follows:

Station A		Mark Station B		
Date July 15, 1942		Time 11:00 P.M.		
Star Fomalhaut (α of Piscis Australis)				
Latitude $21^\circ 12.0'$ South		Longitude $119^\circ 44.4'$ East		
Point Sighted	Vertical Circle Vernier Reading	Horizontal Circle Vernier Reading	Angle	
Mark (Telescope direct)		$66^\circ 34'$	Mark to left of Star	
Star (Tel. dir.)... ..	$30^\circ 43'$	$30^\circ 43'$	$84^\circ 54'$	$18^\circ 20'$
Star (Telescope reversed)	$31^\circ 30'$	$31^\circ 30'$	$262^\circ 26'$	
Mark (Tel. rev.)..			$243^\circ 15'$	$19^\circ 11'$
Mark (Tel. rev.)..			$305^\circ 28'$	
Star (Tel. rev.)..	$32^\circ 15'$	$32^\circ 15'$	$325^\circ 24'$	$19^\circ 56'$
Star (Tel. dir.)..	$33^\circ 04'$	$33^\circ 04'$	$144^\circ 22'$	
Mark (Tel. dir.)..			$123^\circ 38'$	$20^\circ 44'$
mean = $\frac{4/127^\circ 32'}{31^\circ 53'}$		mean = $\frac{4/78^\circ 11'}{19^\circ 32.7'}$		

Required: To determine the azimuth of station B from station A.

Solution: Mean astronomic refraction for altitude $31^\circ 53' = 1' 33''$.

Observed mean altitude = $31^\circ 53.0'$
 Correction = $-1.5'$ ($1' 33'' = 1.5'$)
 Corrected altitude = $31^\circ 51.5'$

(Correction for refraction was taken from Table XXI, TM 5-236. The corrections for temperature and barometric pressure are unnecessary in ordinary field work.)

Azimuth of star:

$$\cos \beta = \frac{\sin \Phi \sin h - \sin d}{\cos \Phi \cos h}$$

$\Phi = -21^\circ 12.0'$ (from map)
 $h = 31^\circ 51.5'$ (from observation)
 $d = -29^\circ 55.5'$ (from almanac)

$\log \sin \Phi = \log \sin -21^\circ 12.0' = 9.55826$ (Table II, TM 5-236)

$\log \sin h = \log \sin 31^\circ 51.5' = 9.72249$
 sum logs = 9.28075
 value = -0.19037 (Φ is minus, so value has minus sign)

natural $\sin d = \sin -29^\circ 55.5' = 0.49886$ (add algebraically)
 $+ 0.30799$ (minus a negative declination)
 $\log 0.30799 = 9.48854$

$\log \cos \Phi = \log \cos -21^\circ 12.0' = 9.96957$

$\log \cos h = \log \cos 31^\circ 51.5' = 9.92909$

9.89866

9.89866 (Subtract)

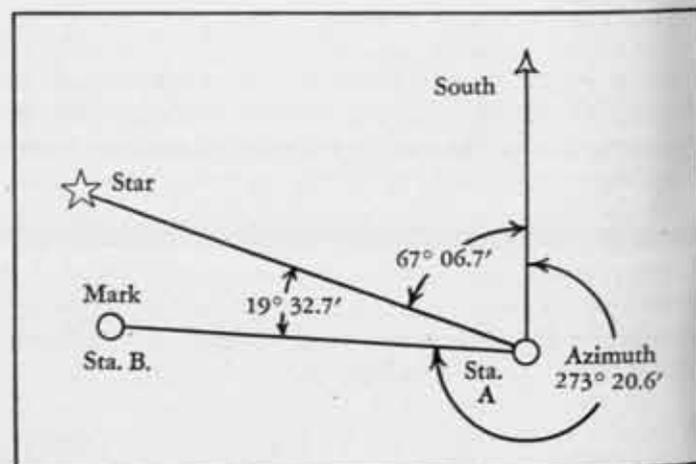
$\log \cos \beta = 9.58988$

$\beta = 67^\circ 06.7'$ or $112^\circ 53.3'$

Star's declination was $-29^\circ 55.5'$, latitude was $-21^\circ 12.0'$. Declination is numerically greater than latitude and has the same sign, therefore the star's bearing line leads away from the equator; therefore, the bearing angle is less than 90° or $67^\circ 06.7'$.

Bearing of star from south point will be $67^\circ 06.7'$.

Station B is to the left of the star and the angle between the two is $19^\circ 32.7'$.



Bearing to mark = $67^\circ 06.7' + 19^\circ 32.7'$

= $S 86^\circ 39.4' E$.

Azimuth to mark = $273^\circ 20.6'$ from South.

Bracketing Adjustment Board

By Lieutenant Leonard E. Starr, Jr. and Captain Earle Mountain
Coast Artillery Corps

To aid in the elimination of personnel error by the Range Fire Adjuster, our rapid fire battery is now using a locally constructed Fire Adjustment Board.

The high rate of fire of the guns with the corresponding rapid receipt of sensing requires that the range fire adjuster be cool and competent if desirable results are to be obtained. To insure such coolness, the device pictured above was made to give the adjuster confidence that:

1. All necessary charts are at his fingertips.
2. The proper chart can be chosen without fear of error.
3. He cannot make a "sense" error.

This particular battery fires two projectiles, each having a different probable error. To choose a proper firing fork we have divided the range into three range areas for each projectile; 1000-6000, 6000-12000, 12000-Maximum Range. The average fork for each of these range areas was used as the basis for computing a Bracketing Fire Adjustment Chart (par. 149, FM4-10). Thus we have six different fire adjustment charts that could be used.

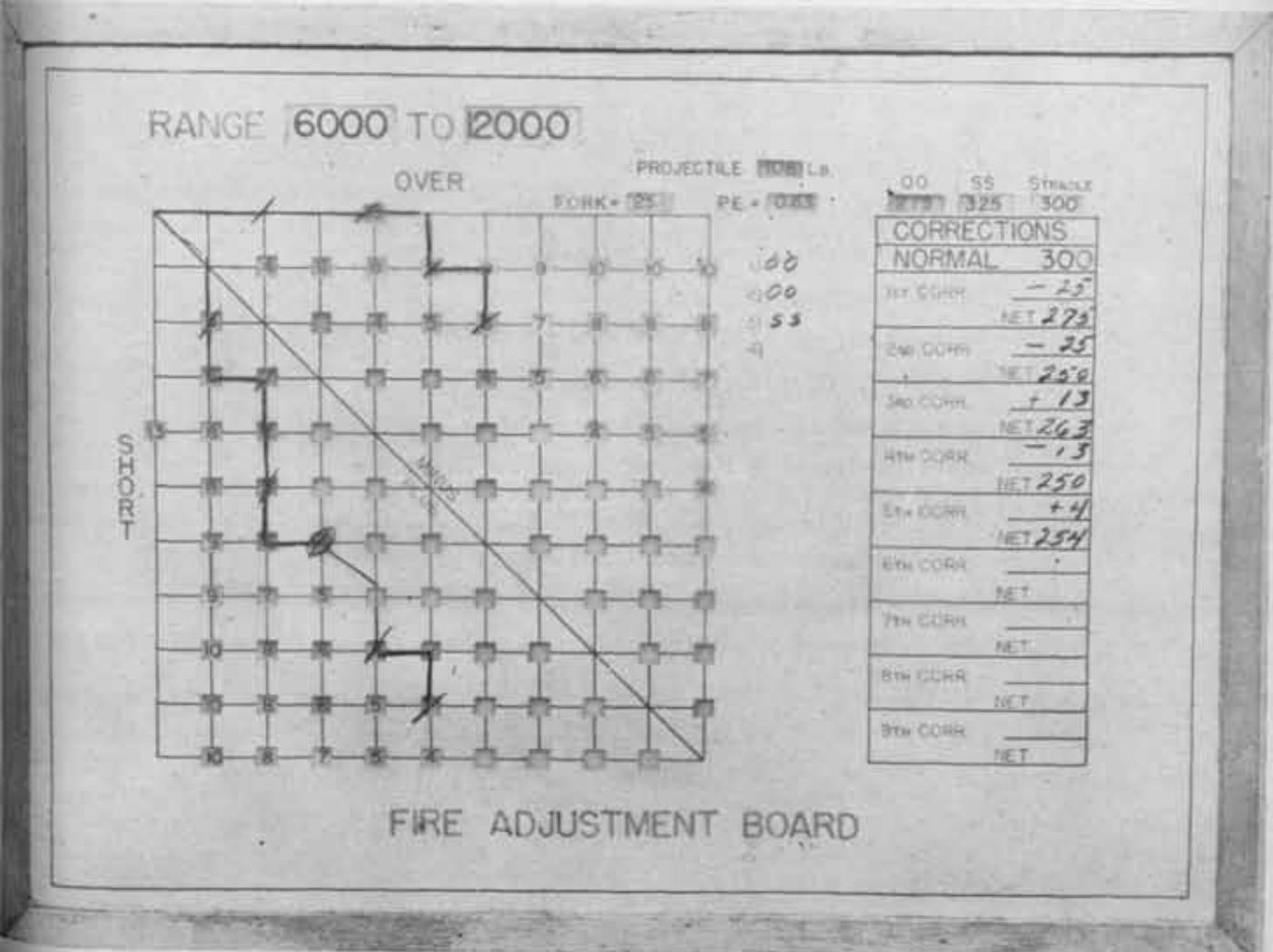
To eliminate loose charts, easy to misplace and easy to confuse, the six charts have been consolidated into one Fire

Adjustment Board. The board consists of a wooden box containing a "Base" adjustment chart and a tape on wooden rollers. The chart itself is similar to the normal Fire Adjustment Chart except that where correction numerals should appear, square holes have been cut to allow different sets of numerals to appear when turned into place by the tape system.

The tape, made of plotting paper reinforced on the edges by cellulose tape, has inscribed on its surface six different sets of numerals corresponding to the range areas mentioned above.

As the tape is turned, bringing a set of numerals into view, the set is identified by a simultaneous appearance of the range area and projectile involved with its probable error and fork for that area. The correction for any possible sensings of the first ranging salvo appears with each set making a sense error during trial fire improbable. Directly under the first salvo corrections and on the base chart is a column for the addition or subtraction of following corrections.

The base chart is covered with heavy Acetate, a trans-





parent cellulose material allowing the use of colored grease pencils, and easy erasure with a cloth.

In operating the board the Adjuster first receives the weight of the projectile to be used as specified by the Range Officer. He then turns the tape until the set of

figures for the central range area (6000-12000) for that projectile appears. After the tape is "normalised" for the proper projectile weight, the adjuster stands by until the first set-forward range is called from the plotting board. On receipt of the first set-forward range the tape is turned to the range area for the chosen projectile that includes the range called by the plotter. As a further check against error the correction numerals for the two projectiles are in different colored inks.

After the proper set of numerals is chosen, the operator follows the normal procedure of Bracketing Fire Adjustment. Large markings of Short-plus, Over-minus help to eliminate sense error during fire for effect. The construction of the board is simple and inexpensive, and by changing only the tape, the board can be modified to fit any set of conditions.

EDITOR'S NOTE: The chart as described is for a two-gun battery. For a four-gun battery two correction windows for trial fire should be added to show the combination OOOH, OOO S, SSSH, SSSO; the window OO should be labeled OOOO and the window SS labeled SSSS.



*I have nothing to offer but
blood, toil, tears, and sweat . . .
You ask, what is our policy? I will say:
It is to wage war, by sea, land and air,
with all our might and with all the strength
that God can give us;
to wage war against a monstrous tyranny,
never surpassed in the dark, lamentable catalogue
of human crime. That is our policy.
You ask, what is our aim? I can answer in one word:
It is Victory, victory at all costs,
victory in spite of all terror,
victory, however long and hard the road may be;
for without victory, there is no survival.*

—WINSTON CHURCHILL, 13 March 1940.

Some of Our Subscribers Are Missing . . .

The JOURNAL tries very hard to keep in touch with its subscribers, but mail goes astray, subscribers fail to send changes of address, and some headquarters neglect to forward mail. We have lost contact with the personnel listed below—if you know where they are, or if the missing men read this, please notify the JOURNAL.

Name	Last Known Address	Name	Last Known Address
Adams, Major Ray	958th C.A.	Fredericks, Lieut. Robert I.	Btry. I, 88th C.A.
Allen, Lieut. Thomas L.	67th C.A.	Friedrichsen, Lieut. C. W.	69th C.A.
Anderson, Capt. Herbert E.	216th C.A.	Gaetz, George G.	Btry. C, 549th AAA Bn.
Anderson, Lieut. Jerome F.	206 N. 2nd, Wilmington, N. C.	Garbee, Capt. Walter A.	246th C.A., Btry. A
Andrews, Captain Norman M.	Hq. 197th C.A.	Gersoni, Lieut. James A.	245th C.A.
Apparatus, Major Walter P.	APO 851	Getzinger, Lieut. Philip L.	202nd C.A.
Arnold, Lieut. Henry H.	83rd C.A.	Geyer, Lieut. Charles W.	AAATC
Babry, Captain Jules W.	Btry. K, 207th C.A.	Gilbert, Lieut. H. Edwin	Btry. A, 601st C.A.
Baker, Captain Charles K.	28th Sep. C.A. Bn.	Gilbert, Capt. Oliver H.	Fort Adams, Rhode Island
Baker, Lieut. Gordon G.	Luke Field, Arizona	Giles, Lieut. Walter T.	APO 3929, N.Y.C.
Ball, Lieut. Peter	202nd C.A.	Graff, Lieut. Ulrich B.	Camp Haan, California
Bullmer, Lieut. Richard W.	615th C.A.	Grasso, Lieut. Vincent A.	Btry. E, 18th C.A.
Burchan, Lt. Col. Stanley S.	265th C.A.	Gray, Lieut. Asa P., Jr.	494th C.A. Bn.
Burth, Captain Charles W.	455 AA AW Bn.	Gray, Lieut. John L.	303rd Bar. Bln. Bn.
Burghin, Lieut. E. Lee	858 61st St., Oakland, California	Greenfield, Lieut. Louis G.	Shenango Repl. Depot
Burandin, 1st Sgt. Francis X.	Btry. E, 144th F.A.	Haggart, Lt. Col. Alexander L.	1st C.A.
Behan, Lieut. Fred H.	249th C.A.	Hall, Orrin L.	18694 Warrington, Buffalo, N. Y.
Bennett, Lieut. Samuel C.	c/o Post Exch., Santa Ana AAB, Santa Ana, Calif.	Harloff, Lieut. Edwin L.	Bay Saint Louis, Mississippi
Blackwell, Lt. Col. Herbert H.	64th C.A.	Harris, Capt. William H.	AF0 826, New Orleans, La.
Bliss, Captain Leonard J.	AF0 868	Harves, Lieut. William W., Jr.	474th C.A. Bn.
Booth, Lieut. Wilmer L.	407th C.A.	Hatt, Major Kendrick A.	ERTC, Fort Belvoir, Va.
Borzella, 1st Sgt. Belgium	Btry. D, 260th C.A.	Hattox, Capt. Leonard W.	69th C.A.
Bourdon, Major Adrian A.	469th C.A.	Heizer, Capt. James H.	260th C.A.
Boyer, Lieut. Robert A.	Off. Gas. Det., AATC, Camp Edwards, Mass.	Henderson, Capt. John R.	AATC
Brice, Lieut. D. W.	AF0 960	Henderson, Pvt. Robert R.	Btry. A, 7th C.A.
Brightbill, Lt. Col. Floyd G.	Camp Hulen, Texas	Hennessy, Capt. Charles E.	1st Brg. Bln. Gp.
Brown, Lieut. Walter N.	94th C.A.	Hennessy, Colonel Harold P.	73rd C.A.
Bryant, Lieut. Woodrow W.	Fort Monroe, Virginia.	Herr, Lieut. Edwin D.	244th C.A.
Buzener, Lt. Col. Henry H.	1201st CASU.	Hindle, Col. Clifford D.	5256 Cottage Grove, Chicago, Ill.
Burd, Lieut. William N.	78th C.A.	Hobbs, Lieut. Warthen L.	202nd C.A.
Campbell, Lieut. Robert F.	Camp Edwards, Massachusetts	Hofstatter, Lieut. Frank W.	Btry. B, 454th C.A. Bn.
Carman, Lieut. John Van W.	452nd C.A.	Hollist, Lieut. Lynn O.	Btry. G, 250th C.A.
Carpeneto, Lieut. James H.	241st C.A.	Holt, Captain Samuel E.	252nd C.A.
Chamberlain, Major Edwin W.	3605 Quesada St., N.W., Washing- ton, D. C.	Holton, Major Larwin S.	AF0 825
Clayton, Capt. Preston C.	70th C.A.	Hoppe, Capt. Woodrow C.	Hq. Btry. 57th C.A. Brigade AA
Craver, Capt. Thayer	Camp Hulen, Texas	House, Lt. Col. Thomas D.	Fort Gaines, Mobile, Alabama
Crawe, Capt. Temple S.	Btry. O, 401st C.A. Bn.	Huber, Captain Henry S.	207th C.A.
Coates, Capt. Austin M.	206th C.A.	Hudson, Lieut. Howard E.	AF0 932, San Francisco, Calif.
Cocroft, Col. Reginald B.	Fort Story, Virginia	Hunnicutt, Lt. Col. Jack D.	132nd C.A. Bn.
Collins, Lieut. James J.	797th AAA AW Bn.	Hurlocker, Capt. Harold S.	217th C.A.
Cooper, Major Avery J., Jr.	428th C.A. Bn.	Imhof, Lieut. Conrad C.	8th C.A.
Cox, Major Leonard	604th C.A.	Immer, Major William L.	Hq. 123rd C.A.
Cropey, Sgt. Joseph	Btry. R, Platoon 2, O.C.D., AAS	Isham, Charles H.	Mapping Sec. 2nd Engr. Bn.
Daniels, Lieut. R. W., F.A.	Fort Bragg, N. C.	Isreal, Lieut. Rudolph C.	493rd AAA Bn.
Danielson, Capt. Arthur D.	482nd Sep. C.A. Bn.	Johnson, Capt. C. W., Jr.	Hq. Btry. 421st C.A.
DeBetta, Lieut. Anthony G.	212th C.A.	Johnston, Major William W., Jr.	1st Bn. 72nd C.A.
DeHart, Capt. Stanley B.	52nd C.A.	Jones, Col. Clifford	355 Post Office Bldg., Knoxville, Tenn.
Demaro, Major William K.	38th AAA Group	Jones, Lieut. Ernest B.	76th C.A.
Desonie, Lieut. James J.	245rd C.A.	Jones, Capt. Robert J.	O.C. School, Camp Davis, N. C.
Devereaux, Major W. C.	AF0 851, N.Y.C.	Jordan, Capt. William H.	Fort Moultrie, South Carolina
Di-Cristina, Lieut. Eduardo	123rd Sep. CA Bn.	Kaiser, Lieut. Edward H.	50th C.A.
Dumnick, E.	62nd C.A. Band	Kearns, Lieut. William S.	Btry. D, 57th Bn.
Dullinger, Lieut. Francis O.	Camp Hulen, Texas	Kelly, Lieut. Samuel G.	489th C.A.
Dunn, Lt. Col. George W. Jr.	Presidio of San Francisco, Calif.	Kennedy, Lieut. David A.	Teaneck Armory, Teaneck, N. J.
Dwyer, Lt. Col. John W.	Hq. AAATC, Fort Bliss, Texas	Keys, Capt. John M.	Bn. Hq. 231 AAA Sl. Bn.
Eby, Captain Frank W.	55th C.A.	Kimball, Lieut. Paul S.	5th Tgn. Btry. CASD, C.A. School
Edwards, Major Farmer W.	AF0 834, New Orleans, La.	Kimble, Capt. W. D.	51st C.A.
Elliot, Lieut. John G.	75th C.A.	Kirk, Capt. L. Harvey	1st Bn. 198th C.A.
Emerson, Lieut. Brian P.	Gunter Field, Alabama	Klitzke, Lieut. Robert	Hq. Btry. 240th C.A.
Encleshmyer, Capt. Harold D.	614th C.A.	Koenig, Col. William C.	West Point, New York
Feltman, Major John	Camp Davis, North Carolina	Konkright, Major Milton T.	AF0 812, N.Y.C.
Fink, Pvt. Emil H.	Btry. D, 402nd C.A.	Krasnow, Lieut. Nathan A.	AF0 7019, N.Y.C.
Fisher, Lieut. John M.	260th C.A.	Kratz, Lieut. Wilbert L.	108th C.A. Bn.
Fisher, Lieut. Robert G.	A.A.T.C., Camp Edwards, Mass.	Lamson, Lt. Col. Donald (Ret.)	Pierpont Hotel, Brooklyn, N. Y.
Fleming, Capt. Charles S.	Hq. 7, Hq. Btry. 369 AA Gn. Bn.	Lanelli, Lieut. Lester P.	69th C.A.
Fleming, Capt. Myron T.	Camp Davis, N. C.	LaRose, Lieut. Raymond J.	73rd C.A.
Fragasso, Capt. George	245th C.A.	Lawrence, Col. Abraham M.	Hotel Cortez, El Paso, Texas
Frankie, Lieut. William H., Jr.	Btry. C, 90th C.A.	Lefkowsky, Lieut. Leon J.	Texas A. & M. College
		Leitch, Lieut. Roger W.	790th Sep. Bn.
		Lembert, Lieut. Leo	503rd C.A.
		Lenhardt, Lieut. John R.	SCU 1927, Presidio of San Francisco, Calif.
		Leonard, Lieut. Richard P.	AF0 8854, New Orleans, La.
		LePage, Lieut. Jean	Camp Haan, Calif.
		Lewis, Lieut. Thomas M.	73rd C.A.
		Libby, Lieut. Curtis M.	USAMP Hunt
		Lloyd, Emil E., Jr.	Camp Davis, N. C.
		Lucas, Lieut. Peyton R.	260th C.A.
		Lukens, Arthur L., Jr.	Box 1071, University, Alabama

Name	Last Known Address	Name	Last Known Address
Lundin, Lieut. Lloyd W.	461st C.A. Bn.	Ross, Major Monette C.	Hq. 538 AA AW Bn.
Lynch, Lieut. Arthur P.	Btry. D, 585th AAA AW Bn.	Rotar, Capt. Louis	A.A.F. Classification Center, Nashville, Tennessee
McCandless, Lyon	Cannonsburg, Pennsylvania	Russell, Lieut. Harold G., Jr.	Btry. D, 204th C.A.
McCarthy, Lieut. James E.	793rd AAA AW Bn.	Ryan, Lieut. John E.	Hq. 69th C.A.
McCroskey, Brig. Gen. Samuel I.	Hotel New Yorker, N.Y.C.	Sackville, Lt. Col. William	71st C.A.
McFeters, Lieut. Glen A.	301st Ser. Sqd. A.A.B.	Schmidt, Lieut. August M., Jr.	69th C.A.
MacLachlan, Lt. Col. Clifton L.	441st C.A. Bn. AA Sep.	Schubmehl, Lieut. William J.	354th C.A.
McLellan, John W.	Box 681, University, Alabama	Schultz, Lieut. John	550th C.A. Bn.
McNulta, Lieut. John J., Jr.	21st C.A.	Seashore, Capt. Malcolm D.	Air Base, Tucson, Ariz.
Mackey, Lieut. John J.	Rec. & Ind. Service, N.Y.C.	Seymour, Lieut. Edward M.	McCloskey General Hospital
Mancuso, Capt. Salvatore J.	APO 835, New Orleans, La.	Shanks, Lieut. Dwight A.	AAAS Officers Div.
Manley, Lieut. John B., Jr.	Randolph Hall, Fort Monroe, Va.	Sine, Capt. George A.	APO 937, Seattle, Wash.
Marliave, Lieut. Elmer C.	Camp Wallace, Texas	Singleton, Major Burt N.	606th C.A.
Maurer, Lieut. John G.	Btry. A, 786th AAA Bn.	Sloan, Lieut. Charles W.	2nd Bn. 204th C.A.
Maxwell, Capt. James S.	Btry. E, 15th C.A.	Smith, Lieut. John C.	Btry. E, 248th C.A.
Mazol, Lieut. Joseph J.	APO 860	Smith, Sgt. Maurice S.	207th C.A. Band
Mercury, Lieut. Chester G.	260th C.A.	Smith, Capt. William B.	52nd C.A.
Mereski, Pvt. Anthony S.	Fort Wadsworth, N. Y. *	Spears, Lt. Col. Charles O., Jr.	Camp Hulon, Texas
Miller, Capt. John E.	B.T.C. No. 9, Miami Beach, Fla.	Spitzer, Lieut. Rudolph M.	Btry. C, 603rd C.A.
Miller, Lieut. Robert E.	260th C.A.	Spurgin, Capt. William F.	APO 1069, N.Y.C.
Moore, Capt. Charles E.	Btry. M, 97th CA	Stanley, Lieut. Joseph W.	Camp Young, California
Moore, Capt. Everett B.	Kings County Hospital, N. Y.	Stealy, Major Oscar B.	MacDill Field, Fla.
Moore, Lieut. James M.	Camp Davis, North Carolina	Steiner, Lieut. Raymond P.	10th C.A.
Moreau, Lieut. E. J.	Hq. N.Y.P.E., Mil. Ctr. Off. Repl. Pool	Stephens, Capt. James R. (A.C.)	Camp Stewart, Georgia
Morgan, Captain Joseph W.	Btry. C, 207th C.A.	Stevens, Lieut. Paul E.	Fort Eustis, Va.
Morgan, Capt. Paul F.	2nd C.A.	Stine, Lieut. Kenneth E.	458th C.A. Bn.
Morrow, Colonel Samuel H.	2nd C.A.	Strawn, Lieut. Clarence A.	Btry. B, 55th Tr. Bn.
Murphy, Capt. Charles G.	2nd C.A.	Stuckey, Capt. Clement A.	203rd C.A.
Murphy, Lieut. George J.	245th C.A.	Sukiennick, Lieut. Stazy J.	82nd C.A.
Murphy, Lieut. Hugh J., Jr.	52nd C.A.	Supple, Lt. Col. Edward L.	Camp Edwards, Massachusetts
Murray, Lieut. Robert M.	7th C.A.	Sweeney, Lieut. John J.	245th C.A.
	Btry. G, 62nd C.A.	Swensen, Lieut. Oliver S.	5th C.A.
Nagel, Lieut. James R.	464th Sep. C.A. Bn.	Talbot, Lieut. Charles H.	604th C.A.
Neff, Capt. Edwin E.	AC 36th Bn. Sq. (H)	Taylor, Lieut. Waights M.	77th C.A.
Nelson, Lieut. Harold C.	Upper Portland Road, Highlands, New Jersey	Texter, Lieut. Kenneth G.	Camp Callan, Calif.
Newman, Lt. Col. Howard H.	Orlando Air Base, Orlando, Florida	Truman, Capt. Alfred D.	Btry. E, 61st C.A.
Nichols, Pfc. Norbert W.	Btry. K, 65th C.A.	Turner, Capt. Harrison F.	52nd C.A.
Norment, Lieut. Richard M.	252nd C.A.	Turner, Capt. James E.	Hq. 3rd Bn. 50th C.A.
O'Brien, Lieut. John A.	65th CAC	VanVoorhis, Capt. Ford E.	96th C.A.
O'Donnel, Lieut. Edward, U.S.N.	U.S.S. Lexington	Vatterott, Lieut. Glennon R.	115 Prov. AW Bn.
Orr, Capt. B. Neville	7th C.A.	Veasey, Lieut. Haywood D.	246th C.A.
Ostroff, Lieut. Morris M.	Repl. Center, Transfer, Penna.	Vogel, Col. Berthold	Camp Wallace, Texas
Owens, Col. George R.	97th C.A.	Wahle, Lt. Col. Clarence W.	212th C.A.
Paeper, Capt. Henry	Craft Lab. Harvard U.	Wald, Lieut. Meir	739th C.A. Bn. AA
Painter, Capt. Clark H.	523rd C.A.	Walters, Lieut. Frank C.	197th C.A.
Penney, Lieut. John J.	Btry. A, 605th C.A.	Weggenmann, Major William S.	Drew Field, Fla.
Persell, Major Ralph M.	3rd Bn. 50th C.A.	Weston, Lieut. Harold	AFO 4046, N.Y.C.
Pierce, Capt. George O.	3rd Bn. 50th C.A.	White, Capt. Charles G.	7th Traf. Reg. Gp. TC AT Area
Pillsbury, Capt. Hobart B.	57 W. Bond St., Astoria, Oregon	Whitfield, Charles	Box 1762, University, Alabama
Pizam, Major Joseph S.	Raleigh Bldg., Raleigh, N. C.	Wilderson, Lieut. DeWitt A., Jr.	469th C.A.
Plant, Capt. Ottis M.	Hq. 75th C.A.	Wilkinson, Lt. Col. Joseph B.	AAS Off. Div.
Pohlman, Capt. William B., Jr.	85th C.A.	Willett, Major James F.	Airborne Eng. School
Porter, Lt. Col. Harry W.	8th C.A.	Williams, Lieut. Albert C.	AATC, Camp Stewart, Ga.
Potter, Lieut. Howard S.	100th C.A.	Wilson, Major C. Forrest	207th C.A.
Powell, Major Cherner W.	198th C.A.	Windrow, Lieut. Rollen Joe	97th C.A.
Powell, Capt. Harry C.	Btry. C, 542 AAA AW Bn.	Witte, Lieut. Grant L.	240th AA SL Bn.
Pringle, Lieut. James L.	Camp Stewart, Ga.	Wojcik, Capt. Julian M.	250th C.A.
Pruzin, Lieut. Chester E.	M.C. Unit 775, F.P.O.	Woodes, Major Raymond C.	Camp Butler, North Carolina
Rahiser, Lt. Col. Martin S., USMC	85th C.A.	Wortman, Lt. Col. Volney W.	862nd AAA Bn.
Randolph, Lieut. John	8th C.A.	Wrenn, Major Oscar I.	252nd C.A.
Ransone, Cpl. Leo C., Jr.	100th C.A.	Yancey, Lieut. Travis A.	3891 Locust, Riverside, California
Rawlings, Lieut. Byrd L., II	198th C.A.	Yates, Capt. Justin J.	245th C.A.
Rice, Lieut. Carl L.	Btry. C, 542 AAA AW Bn.	Yow, Lieut. George W.	260th C.A.
Richards, Major Edward J.	Camp Stewart, Ga.	Zaldo, Capt. William T., Jr.	38th Prov. SL Bn.
Riley, Cpl. Howard P.	P.C.D. Service Unit 2145		
Rogers, S/Sgt. Ralph H.	Btry. A, 385rd C.A. Bn.		



Have we YOUR latest address?

COAST ARTILLERY

Citations and Commendations

Legion of Merit

TO: WALTER K. WILSON, major general, U. S. Army.

FOR: Exceptionally meritorious conduct in the performance of outstanding service as commanding general, Third Army Corps and Southern California Sector, Western Defense Command, from December 22, 1941, to April 30, 1942, and as commanding general, Northern California Sector, Western Defense Command, from May 1, 1942, to January, 1944. With keen foresight, aggressiveness, initiative, and superior qualities of leadership, he developed the plans and the organization of his command in such an outstanding manner that his units have constantly been prepared to meet any threat from enemy action against the coast of the United States. He has at all times exhibited the utmost tact and diplomacy in meeting the problems incident to contact with the civilian population and agencies within the geographical location of his command. General Wilson, by his vigorous action and close personal supervision, aided materially in the effective evacuation of enemy aliens and persons of Japanese ancestry from the area of his command, with the result that the threat of extensive sabotage was removed before any damage could be inflicted.

TO: JOHN B. MAYNARD, brigadier general, U. S. Army. Birthplace—Portsmouth, Va.

FOR: Service as commanding general of the Antiaircraft Replacement Training Center at Camp Wallace, Texas, from February 1, 1941, to February 15, 1942; as commanding general of the Barrage Balloon Training Center, Camp Tyson, Tennessee, from February 16, 1942, to July 19, 1943; and later as commanding general, Antiaircraft Replacement Training Center, Fort Eustis, Virginia, from July 21, 1943, to April 7, 1944. Throughout the periods and while on the duties cited above, he displayed exceptional organizing, administrative, and executive ability; and by his sound judgment, high technical attainments, personal leadership and untiring efforts contributed markedly in the adequate preparation of individuals and units for combat service.

TO: MORRIS C. HANDWERK, brigadier general, U. S. Army, 3535 Beechwood Drive, Riverside, Calif.

FOR: Service from April, 1942, to March, 1944. As the commanding officer of the Antiaircraft Artillery Training Center, Camp Edwards, Massachusetts, General Hand-

werk (then colonel), although faced with shortages in troop housing, training facilities, matériel, and qualified staff personnel, enlarged and developed his command so rapidly and efficiently that the training capacity was increased from thirteen to forty-two battalions. The ocean firing range at Scorton Neck was expanded and additional ranges established at Wellfleet and Popponessett Beach; the gravity antimechanized range was renovated and improved and all small-arms facilities doubled. Assigned to the command of the Antiaircraft Training Center, Camp Haan, California, in September, 1943, he instituted a new system in the conduct of fire on aerial targets to simulate that encountered in actual battle and devoted more time to the use of antiaircraft weapons as field artillery for direct fire on ground targets.

TO: HOWARD H. NEWMAN, colonel, Coast Artillery Corps, Broad Paru Lodge, White Plains, N. Y.

FOR: Services in New Guinea from October, 1943, to March, 1944. Commanding an antiaircraft artillery group, he planned and supervised the installation of antiaircraft defenses at Nadzab, Gusap, and Tsili Tsili. When exigencies of operations did not permit movement of his tactical headquarters in time to supervise and coordinate the defenses of these areas he moved a part of his staff and a small amount of needed equipment to the forward area by taking advantage of every available amount and type of transportation. With sound knowledge of antiaircraft and exceptional initiative and devotion to duty, involving hazardous reconnaissance missions, he overcame unusual strategic and administrative problems and established an effective antiaircraft defense in those areas.

TO: MARTIN J. A. SCHWARZSCHILD, second lieutenant (then private, Coast Artillery), Ordnance Department, Rutherford Observatory, Columbia University, New York, N. Y.

FOR: As instructor from March 4 to July 4, 1942, in the Meteorological Section, Master Gunners' School, Antiaircraft Training Center, Camp Stewart, Georgia, he devised and perfected an improved and faster method of securing ballistic data for use of antiaircraft artillery which, after thorough test, was adopted as the standard Army system. The relative simplicity, ingenuity, and accuracy of the Schwarzschild system marks a distinct advance in the method of preparing meteorological messages and results in an important saving of time, equipment and personnel required for the determination of this essential data.

TO: SETH S. LUDWICK, master sergeant, Coast Artillery, Elberton, Georgia.

FOR: Services from March 1, to December 1, 1943. During the North African, Sicilian, and Italian campaigns he was in charge of the installation and maintenance of the communication systems of an antiaircraft group and attached searchlight battalions. He worked with extraordinary fidelity and efficiency in placing both radio and wire communication systems into operation at each change of tactical position, and maintained the systems at peak efficiency. Due to his superior technical knowledge and ability he devised many improvisations which were vital and indispensable to the efficient operation of this huge system. Normal maintenance problems were greatly increased due to sabotage of lines by enemy sympathizers. By careful training and supervision of repair groups he was able to cut the time lost by sabotage to a point far below that expected.

TO: LEONARD C. OLIVER, master sergeant, Coast Artillery, Coke, Va.

FOR: As technical instructor with the Coast Artillery School, Fort Monroe, Virginia, from August 1, 1940, to May 6, 1942, and subsequent to that time performing the same duties in the Antiaircraft Artillery School, Camp Davis, North Carolina, he has demonstrated outstanding devotion to duty and exceptional application of initiative and technical skill in developing the "Oliver Method" of checking and maintaining the helium content of the stereoscopic height finders. As a result of his efforts, the using arm in the field is now able to achieve a higher quality of performance from this important fire-control instrument, while conserving manpower, critical materials, and expensive manufactured equipment.

TO: EUGENE O. NORTON, first sergeant (then sergeant), Coast Artillery, 309 E. 2d Street, Winona, Minn. and

TO: ROBERT G. WALTHER, staff sergeant (then sergeant), Coast Artillery, 657 Howard Street, Winona, Minn.

FOR: Working together from January 1 to May 16, 1942, they undertook to develop and perfect a device to increase the speed of loading 37mm clips. The joint efforts of both men resulted in a clip-loading machine which greatly reduces the time required for the operation and which is so designed that it may be operated in complete darkness. The machine greatly improved the service of ammunition for the 37mm antiaircraft gun, and its efficiency has been recognized by the Ordnance Department of the Army, which has adopted the machine, with only slight modification, as a standard article of issue.

TO: HOYT E. ALLEN, technical sergeant, Coast Artillery, 1564 Unionport Road, New York, N. Y.

FOR: From March 1 to December 1, 1943, as operations sergeant he was in charge of setting up searchlight control rooms for the control of units during the North African, Sicilian, and Italian campaigns. Due to his superior technical knowledge and ability, he devised many improvisations which proved vital and indispensable to the operation of these rooms. He worked with extraordinary fidelity and

efficiency in placing the rooms in operation at each tactical set-up. He was invaluable in training, supervising and organizing his personnel. Through his outstanding ability to lead and instruct he placed his men in the right teams and maintained high standards of efficiency.

TO: HAROLD L. SUNDERLAND, technical sergeant, Coast Artillery, 905 20th Street, Seattle, Wash.

FOR: Exceptionally meritorious conduct in the performance of outstanding service in Alaska.

TO: EDGAR J. BABIN, technician third grade, Coast Artillery, Fort Kent, Maine.

FOR: As technical advisor in planning and putting into operation improved methods for demonstrating the Air Defense Plan to students of the Antiaircraft Artillery School, Camp Davis, North Carolina, from November 1, 1943, to April 24, 1944, he displayed outstanding initiative, superior tact, a high degree of technical skill and extraordinary devotion to duty.

★ ★ ★

Silver Star

TO: AUDIE M. DENNEY, private first class, Coast Artillery, posthumous. Next of kin: Mrs. Jennie Denney, mother, R.F.D. 1, Blountsville, Alabama.

FOR: On March 4, 1944, at Momote, Los Negros Island, Admiralty Group, during early morning hours while a vicious and determined enemy counterattack was threatening the annihilation of our troops, he, dissatisfied with the passive rôle of a member of an antiaircraft gun crew not engaged in the ground fighting, left the security of his gun emplacement to run through heavy enemy fire to join another gun section being attacked by numerically superior enemy forces. With deadly accuracy he killed several of the enemy with carbine fire, repelling the assailants. When one enemy soldier remained close to the gun and threw grenades into the pit he left a safe position to seek out the enemy grenadier and kill him with his trench knife, thus eliminating a grave threat to the gun position. In continuing his bold and aggressive activity against the enemy forces, he was instantly killed by grenade fragments. His vigorous and determined resistance aided greatly in repulsing the enemy attacks.

TO: CHARLES L. MACDONALD, private first class, Coast Artillery, 345 W. Grove Street, Waterbury, Connecticut.

FOR: On March 4, 1944, at Los Negros Island, Admiralty Group, our troops occupied a narrow defensive perimeter and because of continuous infiltration and sneak attacks by the enemy, orders required all personnel to remain in their foxholes and fire at any moving object. At 2:45 A.M. at the height of an enemy counterattack he heard a near-by machine gunner call for additional ammunition. Disregarding the intense enemy fire and his extreme peril in exposure to the fire of friendly troops, he left his foxhole and secured a supply of ammunition which he brought to the machine gun to enable it to remain in action. Thereafter he returned to the dump, secured additional ammunition and again made his way through heavy fire to the gun position where he found the gunner killed at his post.

Although the machine gun was the target for concentrated enemy fire and grenades he unhesitatingly manned the gun and continued it in operation against the enemy, aiding greatly in stemming the enemy attack.

TO: CHARLES A. ROOT, private, Coast Artillery, 221 N. Clay Street, Coldwater, Michigan.

FOR: Gallantry in action near Roosevelt Ridge, New Guinea, August 14, 1943.

Oak Leaf Cluster to Silver Star

TO: RUSSELL J. PETERSON, technician fifth grade, Coast Artillery, 203 East Lake Avenue, Ladysmith, Wisconsin.

FOR: Gallantry in action near Roosevelt Ridge, New Guinea, August 14, 1943.

Soldier's Medal

TO: CHARLES H. BLAND, second lieutenant, Coast Artillery Corps, 7338 Wellington Avenue, University City, Missouri.

ALFRED W. SCHALK, second lieutenant, Coast Artillery Corps, 101 E. Pine Street, Roselle, Illinois.

DELBERT E. JONES, staff sergeant, Coast Artillery, 176 Mount Avenue, Ashland, Oregon.

BERNARD J. RIDDERS, staff sergeant, Coast Artillery, Albany, Oregon.

ERNEST W. FIEGUTH, sergeant, Coast Artillery, Ashland, Oregon.

VERNON G. RIGGERT, sergeant, Coast Artillery, Talent, Oregon.

ARTHUR H. STRIVE, corporal, Coast Artillery, Ashland, Oregon.

GENARO V. PEREZ, private first class, Coast Artillery, Tempe, Arizona.

FOR: On January 13, 1944, while on duty at an installation on Clatsop Spit, Fort Stevens, Oregon, a group of two officers and six enlisted men who, knowing the danger to life it involved, voluntarily proceeded out on a jetty in the face of a violent wind which was causing waves to break with great force over the jetty, and attempted to rescue a Navy pilot who had parachuted from a Navy airplane into the ocean. With ever-increasing danger and under constant and severe buffeting by the waves, members of the party succeeded in reaching a point 2,700 yards from the shore end of the jetty. As a result of injuries sustained, they required medical attention. Although the attempted rescue was unsuccessful, willing self-sacrifice and heroism displayed by them on this occasion reflect great credit upon themselves and the military service.

TO: VINCENT E. KAUFMAN, sergeant, Coast Artillery, 1325 Pearl Street, Sandusky, Ohio.

FOR: On February 10, 1944, at the Indianola Firing Range, Magnolia Beach, Texas, a fragmentation grenade, thrown by a soldier, struck the parapet and rolled back

into the firing pit. At the risk of his life, Sergeant Kaufman jumped into the pit, removed the grenade from under the leg of the soldier, who was in a prone position, and threw it over the safety parapet which it barely cleared before exploding. His act not only saved the soldier from death or injury but also officers and men within range.

TO: HULET M. WHITEHEAD, corporal, Coast Artillery, 421 Clinton Street, Cincinnati, Ohio. (Posthumous.)

FOR: Heroism at Casablanca on 11 July 1943. Corporal Whitehead, without thought of danger to his own life, entered turbulent and dangerous waters to attempt to rescue two drowning Frenchmen from the Atlantic Ocean. He gave his life in the effort.

TO: BEN F. HENSLEY, JR., technician fourth grade, Coast Artillery, R.F.D. 9, Box 537, Phoenix, Arizona.

FOR: At Camp Erwin, California, February 14, 1944, during a fire in the kitchen of headquarters battery, a soldier fell into the flames. Technician Hensley, at the risk of his life, entered the kitchen through fire and intense heat, assisted the soldier to escape and beat the fire out of his clothing.

TO: ALBERT A. TAMKER, private, Coast Artillery, 2021 Jane Street, Pittsburgh, Pennsylvania.

FOR: At Gusap, New Guinea, December 27, 1943, when a bomber crashed near his gun position, trapping three injured crew members, he immediately rushed to the aircraft to tear away the fuselage and free the injured men. Despite the imminent danger of exploding gasoline he succeeded, with later assistance by two others, in securing the injured crew members and carrying them to safety.

Bronze Star

TO: RALPH W. OAKLEY, lieutenant colonel, Coast Artillery Corps, 404 S. Maple Ave., Glen Rock, N. J.

FOR: Heroic achievement in connection with military operations against the enemy as a shore party commander and antiaircraft defense officer during the assault on Kwajalein Island from January 31 to February 5, 1944. He disregarded his personal safety to direct efficient landing operation, exposing himself to enemy sniping and machine-gun fire. His calm, forceful leadership was an inspiration to his officers and men during the critical stage of the assault.

TO: DONALD W. SHIVE, lieutenant colonel, Coast Artillery Corps, 160 24th Avenue, San Francisco, Calif.

FOR: Achievement between May 1 and November 1, 1943. In addition to his normal duties he devised a method whereby certain antiaircraft matériel could be loaded on transport aircraft. After intelligent planning and experimentation a practical operative procedure was developed and put into practice. By his initiative, technical knowledge and devotion to duty he made a valuable contribution in the Southwest Pacific Area.

TO: EDWARD F. DELEON, captain, Coast Artillery Corps, 21-21 Thirty-sixth Street, Astoria, Queens, New York.

FOR: The performance of meritorious services as commanding officer of an antiaircraft battery which was in the first echelon to land on enemy-occupied Mono, Treasury Islands. Displaying leadership and initiative, Captain DeLeon quickly established gun positions despite bitter enemy resistance. His strong antiaircraft defense repelled all enemy air attacks for five successive nights.

TO: JAMES O. MURPHY, captain (then first lieutenant), Coast Artillery Corps, 1615 Jerome Avenue, Fort Lee, New Jersey.

FOR: The performance of meritorious services at Guadalcanal, Solomon Islands. He directed the fire of his coast artillery battery which sank a Japanese transport vessel and silenced an enemy antiaircraft battery and an enemy heavy artillery battery.

TO: BUFORD C. TACKETT, captain (then first lieutenant), Coast Artillery Corps, 3216 Perry Street, Kansas City, Missouri.

FOR: Achievement between July 1 and November 1, 1943, in New Guinea. In addition to his normal duties he devised a method whereby certain heavy equipment could be loaded on transport aircraft, a task never before undertaken. After long hours of experimentation, a practical operative procedure for air transportation of the equipment was developed and put into practice. By his initiative, technical knowledge and devotion to duty he made a valuable contribution to the mobility of antiaircraft artillery in the Southwest Pacific Area.

TO: JAMES W. SWAIN, first lieutenant, Coast Artillery Corps, Upper Marlboro, Maryland.

FOR: The performance of meritorious services while participating in a commando reconnaissance raid on the enemy-occupied Green Islands, Solomons Group, on 31 January 1944. The invaluable information he obtained on this daring mission made possible the expeditious occupation of heavy antiaircraft gun positions when the allies seized and occupied the islands two weeks later.

TO: DAVID L. NORRIS, JR., first lieutenant, Coast Artillery Corps, 605 Pendleton Street, Greenville, S. C.

FOR: Achievement in the Southwest Pacific Area between December 15, 1943, and January 11, 1944.

TO: DELMAR E. TUCKER, chief warrant officer (then master sergeant), 1312 Chestnut Street, Commerce, Texas.

FOR: Achievement in New Guinea between July 10 and December 28, 1942. He undertook the reconnaissance of location and the supervision of emplacement of coast

defense guns. With initiative and tact he assisted in the training of Australian and American personnel in the use of this equipment. Through his exceptional technical ability and devotion to duty he made a substantial contribution to the readiness of allied forces to repel threatened attack from the sea.

TO: NELSON W. VOGEL, corporal (then private), Coast Artillery, 1310 Arch St., Norristown, Pa.

FOR: When the enemy attacked the air strip at Dobo-dura, New Guinea, on November 26, 1942, with strafing and dive-bombing airplanes, our troops set up four machine guns to engage the enemy. Ammunition was urgently needed, and he volunteered to obtain it by proceeding across the exposed air strip to a transport aircraft. Returning, he was caught in the strafing fire and was forced to fall on the ground with the ammunition chest. Despite the danger he succeeded in carrying the ammunition to our troops. By this act he aided the successful defense of the air strip.

/ / /

Commendation

THE ARMY OF THE UNITED STATES
HEADQUARTERS, NORTH AFRICAN THEATER
OF OPERATIONS

COMMENDATION FOR MERITORIOUS SERVICE

To All Whom It May Concern

JULIO A. MERCADO

Has received official commendation and praise for outstanding performance of duty.

CITATION

When a soldier swimming in the sea near Tenes, Algeria, on 12 July 1943 was suddenly swept out to sea by a strong undertow, Julio A. Mercado, technician fifth grade, Coast Artillery, with disregard for his own safety, swam through the treacherous waters to aid the helpless man. He succeeded in pulling his drowning comrade to shore, and although completely exhausted by the struggle against the current assisted in administering artificial respiration. The heroism displayed by Technician Fifth Grade Mercado reflects great credit upon himself and the military service.

By Command of Lieutenant General Devers:

Colonel, AGD,
Adjutant General.



COAST ARTILLERY



BOARD NOTES

Any individual, whether or not he is a member of the service, is invited to submit constructive suggestions relating to problems under study by the Coast Artillery Board, or to present any new problem that properly may be considered by the Board. Communications should be addressed to the President, Coast Artillery Board, Fort Monroe, Virginia.

Items pertaining to Antiaircraft Artillery should be sent to the Antiaircraft Command, Richmond 10, Virginia.

THE COAST ARTILLERY BOARD

COLONEL LEON C. DENNIS, C.A.C., *President*

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LIEUTENANT COLONEL W. M. VESTAL
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CAPTAIN FOSTER A. HINSHAW, S.C.
CAPTAIN W. P. G. HALL

Range potentiometer for Gun Data Computer M1. The Board has recently tested a range potentiometer for the Gun Data Computer M1. This unit is mounted on the CT shaft of the computer and, when used in conjunction with a suitable range transmitter and the Azimuth-Range Receiver M12, permits the continuous and automatic transmission of range data from a gun-laying locator to the Gun Data Computer M1. Ranges are transmitted over the system in repeated cycles of 200 yards; there are 100 steps on the potentiometer, each step corresponding to 2 yards. Synchronization of the transmitter and receiver to the correct multiple of 200 yards is accomplished by telephone. As a result of the test, the Board recommended that all Gun Data Computers M1 be modified by the addition of such a range potentiometer. In order to provide for uniform operating procedure in all cases, the Board recommended also that all Azimuth-Range Receivers M12 be modified by the addition of a double-throw switch which will reverse the polarity of the tracking meter. By proper use of this switch, the direction of handwheel turn on the receiver will always correspond to the direction in which it is desired to move the tracking meter needle.

Replenisher gauge for 155mm guns. About a year ago, the Coast Artillery School recommended for adoption a replenisher gauge to be attached to replenisher rods on 155mm guns of all models. The use of this gauge would simplify the method of determining the amount of oil in the replenisher by eliminating the necessity of taking measurements of the replenisher during firing. The sample gauge was tested on the 155mm Recoil Mechanism M3 for the 155mm Gun M1, by the Ordnance Department, and their conclusions, in part, read as follows:

"The sample replenisher gauge is unnecessary on the 155mm Recoil Mechanism M3. The replenisher piston may travel the whole length of its stroke without malfunctioning, therefore the end of the piston can serve the purpose of the sample replenisher gauge."

The Ordnance Department recommended that:

"a. The end of the replenisher piston on 155mm Re-

coil Mechanism M3 be painted with red or, if practicable, luminous paint.

"b. Paragraph 28 c (1) TM 9-350 on 155mm Gun Matériel M1 dated 11 May 1942 be revised to conform to the following limits:

- (1) Before rapid firing, the replenisher shall be set at not more than 186mm and not less than 152mm.
- (2) During firing, the replenisher shall be bled when the piston has moved to a zero measurement or flush with the end of the replenisher cylinder."

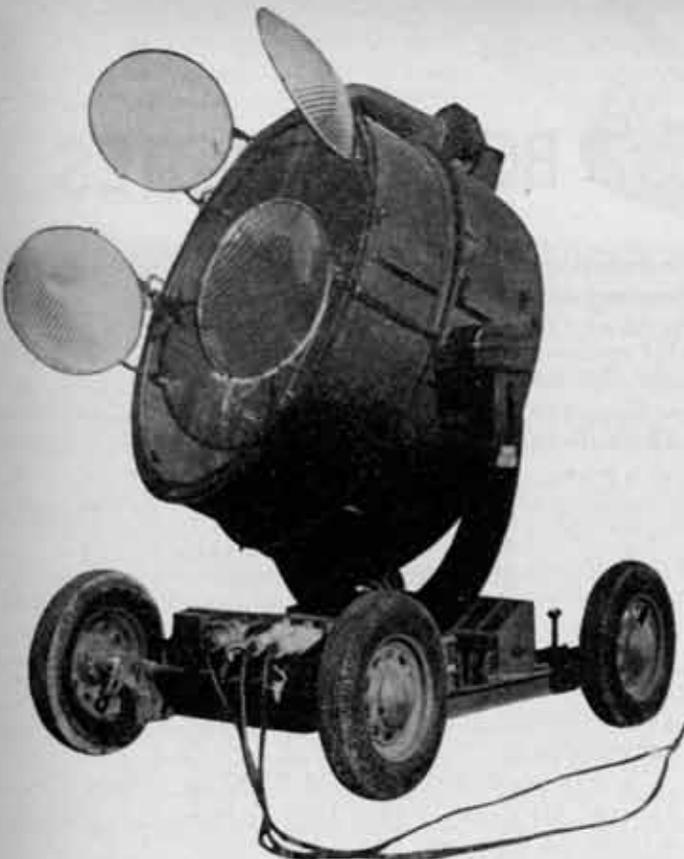
The Coast Artillery Board concurred in these recommendations, which were then forwarded to the Field Artillery Board for comment.

It is to be noted that the Ordnance Department investigation of the replenisher gauge did not include a test of the M1918 recoil mechanism. It is assumed by the Board that this test has been cancelled due to the low priority category in which the 155mm guns (GPF) have been placed.

It is pointed out that the use of the replenisher rod as a gauge is adaptable only in determining when the cylinder should be drained. A measurement of the replenisher is still necessary to determine when the cylinder requires more oil. However, the replenisher would seldom, if ever, require filling during firing.

Cranes for L-boats. Due to the fact that L-boats are now being used as junior mine planters in many harbor defenses, the First Service Command recommended that 2½-ton cranes be installed on all L-boats in the Service Command having 1½-ton cranes. All L-boats having a serial number greater than 100 are already equipped with 2½-ton cranes. The recommendation of the First Service Command was concurred in by the Board and approved by the Water Division, Maintenance and Repair Branch, Transportation Corps.

Maintenance of out-of-service locator equipment. As a result of recent directives of the War Department, it may be necessary to place some of the harbor defense electronic equipment on a maintenance status for varying periods of



time. The Board has recommended that the Chief Signal Officer be requested to prepare and distribute instructions of the maintenance of such equipment thus taken out of service.

Azimuth instruments for 155mm guns. The azimuth instrument used with the voltage division base-end data transmission system has been designated as the Instrument, Azimuth, M2 (degrees). Army Ground Forces has approved the recommendation to change the Table of Organization and Equipment 4-157, Coast Artillery Battery, 155mm Gun, as follows:

ORDNANCE			
Weapons and miscellaneous			
Instrument, azimuth:	2X	2Y	2Z
M1910A1 (degrees)	5	10	Per btry equipped with gun M1917 or 1918.
	or	or	
	5	13	Per btry equipped w/gun M1.
M2 (degrees)	3	3	Authorized only for btry equipped w/gun M1.

These changes will be incorporated in the next publication of changes to this table.

Heavy Carriage Limber M5 for 155mm guns. The replacement of the present Limber, Heavy Carriage, M2, by the newly standardized Limber, Heavy Carriage, M5, for use with 155mm Guns M1 and M1A1, has been approved by the War Department for issue as follows: Four (4) per 155mm Gun M1, M1A1, or 8-inch Howitzer, M-1, tractor-

drawn battery. This new Limber is a decided improvement over the M2 Limber.

Accessories, 90mm Gun Mount M3.

a. *Exhaust fans.* Due to smoke concentrations, service of the piece may be dangerous to personnel after four or five rounds of FNH (flashless, nonhygroscopic) ammunition have been fired. This ammunition is normally employed for training purposes. Two exhaust fans, mounted in the roof of the shield and exhausting toward the breech correct this trouble. They function effectively except when opposed by a strong direct off-shore breeze. Tests have been completed, and issue of the fans to all AMTB batteries on a Class A status has been recommended.

b. *Telescope mounts.* The Telescope Mounts M52C and M52D have been tested on the 90mm Gun Mounts M3 and M1A1, respectively. With the Telescope M6A1, they have proved entirely satisfactory for Case II pointing. Deflection scales are in hundredths of degrees, 7 degrees each side of 3.00 (normal). The mounts are supplied with necessary braces, and an auxiliary lighting system. Their recovery time from the shock of firing is so short that a rate of fire of twenty rounds per minute should be normal with NH powder.

c. *Gun covers.* Production of gun port and associated covers for AMTB guns has been delayed due to low priorities. Test of four covers will soon be completed, however, and their provision recommended. The covers are for the gun port, the breech, the sight, and the muzzle. The gun port cover permits rapid alerting by providing a zipper fastening. This also permits both low and high angle fire. The cover is attached by means of a light steel frame clamped to the shield. The frame is easily removed for maintenance of the mount or replacement of canvas. The sight cover has a leather cup attached to protect the rubber eyepiece of the sight. A zipper fastener runs from the front of the scope to the rear of the M52 type sight mount. The breech cover has one spring clip fastener that permits almost instantaneous removal of the cover. All machined surfaces of the breech are completely covered. The muzzle cover is standard except for a rubber innertrim that provides an excellent weather seal. All covers are made of heavy duty canvas, and it has been recommended that zippers and rivets be made of brass to guard against corrosion.

Spread beam attachments for seacoast searchlights. A few units in the field have expressed dissatisfaction with the spread beam lenses which have been issued for use with seacoast searchlights. It is believed that most of the troubles encountered were due to lack of knowledge of the proper use of these lenses by searchlight operators. Instruction material is being prepared for publication by the Coast Artillery School at the present time.

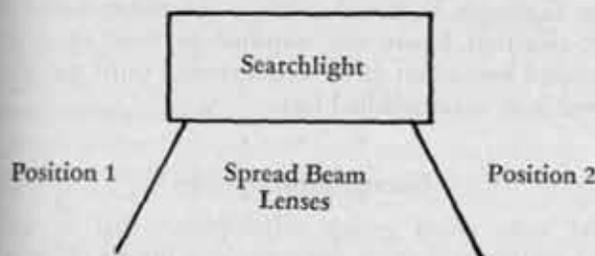
The following suggested sequence of operations in the use of spread beam lenses is published as an interim measure until manuals are printed and distributed:

I. General Sequence of Operations.

The lenses should be moved in a definite sequence to increase speed of operation and to prevent breakage of lenses:

- (1) To produce a spread beam (assuming the operator to be in Position 1):
 - a. Close lower lens.

- b. Close upper lens.
 - c. Move to Position 2 and close the lower lens.
 - d. Close upper lens.
- (2) To change from a spread beam to the standard beam, the following sequence is used (assuming operator to be in Position 1):
- a. Open upper lens.
 - b. Open lower lens.
 - c. Move to Position 2 and open upper lens.
 - d. Open lower lens.



II. Operator's Instructions—From Normal Beam to Spread Beam.

1. Have operator take position marked 1 (see sketch), facing the spread beam lenses.
2. Grasp the bottom of the lower lens with the right hand and the locking pin with the left hand.
3. With the right hand, lift the lens from its locked position almost to the limit of its vertical travel, and rotate the lens so that its plane is perpendicular to the plane of the front door.
4. Then push the lens with the left hand and let it ride down the track, still keeping the plane of the lens perpendicular to the plane of the front door.
5. When the lens has moved to the limit of travel, rotate the lens into its position by moving the right hand.
6. The upper lens is raised out of the locked position by the right hand which grasps the bottom of the lens.
7. The right hand then rotates the lens and lets it drop into its locked position.
8. The operator walks through the beam to Position 2 and repeats the process except that the left hand replaces the right, and vice versa.
(It will be necessary to do little moving from the operator's initial position. The arms and the body do the moving.)

III. Operator's Instructions—To Convert from Spread Beam to Standard Beam.

1. Assume operator to be in Position 1. Raise upper

lens with right hand, rotate through limit of travel with right hand, allow to drop in lock.

2. Using right hand, rotate lower lens from normal position to a plane perpendicular to the plane of the front door.
3. Then, using left hand, raise it along track, but still resting on track, to the end of travel. Then rotate as far as stop and let it drop into position.
4. Move to Position 2 and repeat but with the left hand in place of right, and vice versa.

Searchlight spread beam modifications are to be made on Searchlights M1934 or later models.

Changes to T/O & E. The new appendix "Fire Control Equipment and Accessories" to T/O & E 4-260-1, 11 April '44, does not provide for the issue of the following books: *Battery Emplacements*; *Fort Record*; *Mine Group Record*, *Jane's*; *Lloyds' Register of Ships*; and *Merchant Vessels of the United States*. Changes to affect the inclusion of these items and establish a basis of issue will be included in the next publication of changes to this table.

Radio Sets SCR-543 and SCR-593 (CW). An improvement kit has recently been recommended for the field modification of Radio Set SCR-543 to permit CW operation. It will not be possible, however, to operate from a remote point as is the case with voice operation. The modification is of such a nature that it probably will have to be made by a skilled personnel equipped with proper test equipment to assure proper alignment of the set. Complete details are not available at this time.

It has been found in Board tests that adequate CW contacts can be made at ranges considerably in excess of those possible with voice operation.

Rectifier PEC-172. A constant voltage rectifier known as Rectifier PEC-172 (Signal Corps Stock No. 3H4701-1) has recently been approved for seacoast fire control switchboards. It is designed to provide direct current from an alternating current source for operating the fire control switchboard. With an input of 105-125- or 210-250-volt, single phase, 60-cycle, alternating current, it delivers 12 amperes direct current at a normal voltage of 33 volts. The equipment is mounted in a metal cabinet 21 inches long, 24 inches wide, and 12 inches deep, arranged for wall or 24-inch relay rack mounting. It weighs approximately 180 pounds. Access to the equipment is provided by means of a door on the front of the cabinet.

The service test indicated that this rectifier is satisfactory for use with the fire control switchboards in that it will carry the switchboard load up to 14 amperes, either with the battery floating or with it disconnected, as might be the situation in case of a failure of the battery. Even when 13 amperes were being delivered by the rectifier to the switchboard with the battery disconnected, the noise produced in the switchboard was not objectionable.



Coast Artillery Journal

Fifty-third Year of Publication

COLONEL E. B. WALKER, Editor

LT. COL. ARTHUR SYMONS, Associate Editor



The JOURNAL prints articles on subjects of professional and general interest to officers of all the components of the Coast Artillery Corps in order to stimulate thought and provoke discussion. However, opinions expressed and conclusions drawn in articles are in no sense official. They do not reflect the opinions or conclusions of any official or branch of the War Department.

The JOURNAL does not carry paid advertising. The JOURNAL pays for original articles upon publication. Manuscripts should be addressed to the Editor. The JOURNAL is not responsible for manuscripts unaccompanied by return postage.

The United States Coast Artillery Association

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The purpose of the Association shall be to promote the efficiency of the Coast Artillery Corps by maintaining its standards and traditions, by disseminating professional knowledge, by inspiring greater effort towards the improvement of matériel and methods of training and by fostering mutual understanding, respect and cooperation among all arms, branches and components of the Regular Army, National Guard, Organized Reserves, and Reserve Officers' Training Corps.

News and Comment

All Over . . . But the Shooting

It is well to take a little salt with the grains of over-optimism that have been put forth as to the early ending of the war. It is not unreasonable to believe that the Germans will survive the winter of 1944-1945 and that the end of the European War will come in the summer or fall of 1945; also that Japan will continue to resist until 1947. Continued maximum effort is demanded until the end of the war is an accomplished fact.

Group Subscriptions

The story about group subscriptions that is usually found on this page must undergo some drastic changes for this issue—there are too many for the usual treatment. This sudden awakening to the value of the JOURNAL makes a desk job and the famed Washington summer a bit more bearable. Thanks, you people out in the field—we'll do our best to give the new subscribers (and the old ones, too) their money's worth.

A new member of the 100% club is the Harbor Defenses of Boston, which sent in 45 to top the list; the letter was signed by Brigadier General P. S. Gage himself, which indicates the importance he places on the JOURNAL as a training aid. Other new members are the 242d Coast Artillery, Colonel D. B. Greenwood, commanding, with 31 subscriptions; the 76th AAA Group, whose S-2, Major William C. Leonard, sent in 11; the 34th AAA Group, commanded by the JOURNAL's old friend, Colonel William P. Bray, with 9; and the 529th AAA AW Battalion, whose Lieutenant Colonel Myron H. Blotcky sent in 8. The Department of Training Publications of the Coast Artillery School got in under the wire for this issue with an order for 12 subscriptions which puts the Department into the 100% class; Lieutenant Colonel Lafar Lipscomb, Jr., sent these orders to us.

As for the rest, space requirements dictate a list form, even though we'd like to mention each unit with an individual comment:

Unit	Number of Subscriptions	Transmittal Signed by:
587th AAA AW Battalion	27	
Coast Artillery School Det. Hq., H. D. of N. Y.	25	Major Howard P. Davis
257th AAA AW Battalion	22	Lt. Colonel Vincent A. Mac Donald
231st AAA SL Battalion	20	Lieutenant W. E. Knight
31st Coast Artillery	19	Lieutenant Ernest C. Brunder
14th Coast Artillery	13	Captain E. J. Lytle
339th AAA SL Battalion H. D. of the Delaware	12	Captain C. K. Curtright
34th AAA Group	12	Lieutenant John M. Rutledge
6th Coast Artillery	12	Captain Charles L. Schultz
137th AAA Gun Battalion	11	Major Lyle S. Daughtery
450th AAA AW Battalion	10	Captain Harold S. Bareford
769th AAA AW Battalion	10	Lieutenant George F. Sullivan
216th AAA Group	10	Captain Gaylord C. Dowd
816th AAA AW Battalion	10	Lieutenant Denis K. Lane
1st Bn., 241st Coast Artillery	9	Colonel Paul F. Schlick
Coast Artillery School	9	Lieutenant John C. Bockoven
482d AAA AW Battalion	8	Lieutenant Francis L. Slusher
570th AAA AW Battalion	8	Major Leland P. Berry
Coast Artillery School	8	Major Richard T. Maddox
Coast Artillery School	8	Lieutenant Heinz E. Walther, Jr.
Coast Artillery School	8	Major E. E. Staples
Coast Artillery School	7	Lieutenant L. M. Eisaman

Battery C, 237th AAA SL
Battalion
Coast Artillery
237th AAA AW Battalion
237th AAA AW Battalion
237th AAA AW Battalion
237th AAA AW Battalion
237th AA Gun Battalion
237th AAA AW Battalion
237th AAA AW Battalion

7 Captain Marvin N. Stanford
7 Lieutenant Colonel N. B. Wilson
7 Lieutenant F. M. Martinschang
7 Captain Joseph W. Gardner
6 Lieutenant James C. Fendley
6 Lieutenant Robert S. Deatrick
5 Lieutenant Colonel E. W. Hiddleston
5 Lieutenant Shirley Brakefield
5 Lieutenant Nathan Levine

The Score at Anzio

In less than three months in the Anzio harbor area, 349 enemy planes were destroyed, plus 242 "probables," by expert antiaircraft artillerymen of the Fifth Army.

So outstanding was the work of the antiaircraft sharpshooters, coupled with that of the Allied Air Forces, that the one-time fierce enemy aerial assault eventually dwindled to mere nuisance raids.

Climax of the Allied antiaircraft successes came the day our gunners destroyed or disabled approximately 10 per cent of the 172 aircraft sent by the Germans in their intermittent attacks aimed at harbor shipping, installations and ammunition dumps, and ground personnel. On that day Allied AA units brought down five German planes, with eleven more probably destroyed. Seven of the enemy's nineteen missions were flown at night.

Continuing to keep the port in full operation and contributing materially to the ultimate destruction of the German Air Force, Fifth Army antiaircraft marksmen scored heavily on numerous occasions. One corps alone bagged 115 opposing planes during some forty-three days of the heaviest fighting.

In another instance when twenty German planes approached the port area in two flights, the heavy fire hurled at the raiders caused twelve planes to abandon the mission, and broke up the formation. The other eight broke through a cover of clouds to dive over shipping, but pulled up short due to the intense firing from the ground. All bombs fell wide of the target.

The B-29 Super-Fortress

General George C. Marshall made the following statement on June 15, 1944:

"The attack on Japan by the Super-Fortress B-29 from distant bases introduces a new type of offensive against our enemy. It also creates a new problem in the application of military force. Because of the enormous range and heavy bomb load of these Super-Fortresses, far exceeding that of previous strategic bombers, they can strike from many and remote bases at a single objective. The power of these new bombers is so great that the Joint Chiefs of Staff felt that it would be uneconomical to confine the Super-Fortress organization to a single theater. These bombers therefore will remain under the centralized control of the Joint Chiefs of Staff with a single commander, General Arnold, acting as their agent in directing their bombing operations throughout the world. The planes will be treated as major task forces in the same manner as naval task forces are directed against specific objectives.

"This type of flexible, centralized control recognizes that very long-range bombardment is not a weapon for the Air Forces alone. Under the Joint Chiefs of Staff theater commanders will have a voice in its employment, ensuring

that maximum effectiveness will be obtained through missions which will contribute directly to the over-all strategy for the defeat of the enemies."

How About Your Conscience?

APO —
c/o P.M.

Editor, COAST ARTILLERY JOURNAL
Sir:

Received a copy of the March-April JOURNAL yesterday. Glanced down the table of contents until "A Training Camp in Cornwall" by Lt. Harold R. Daniels besmote my eyes. I read through the article several times, laid the JOURNAL down and tried to fight off a guilty conscience. I could see then how I had let my fellow officers down by failing to describe it sooner through your organ.

For the better part of a year I was Firing Director of the camp young Daniels wrote of. I knew all along that it was one of the best practice camps in the world—that the men were getting "more for their money" than at any other similar camp I had ever seen on either side of the ocean. Had I any doubts, the appreciation expressed by departing battalion commanders—always the same words—"Isenson, we've gotten more out of the — weeks we've spent here than all the rest of our training periods put together"—would be sufficient to convince me. A bit of flattery, no doubt, but, as for results—never before have I been in a position where I had to order a plus 5% altitude or range spot to protect targets. Sleeves were lasting from one to three courses and time lost in restreaming was consuming the better part of the eight hours' air co-op we were getting each day. I might say, these results were achieved through the combined efforts of Major Ian Hope, RA, his successor, Major Peter Figgis, RA, his staff and one of the grandest groups of American AW 90mm, radar, and fire-control officers and enlisted ordnance and artillery instructor personnel any officer could dream of having serve with him.

RAYMOND W. ISENSON, Major, C.A.C.

Christmas Mailing Instructions

The Army Postal Service, which must look far into the future in order to insure delivery of mail to millions of men overseas, has designated the 30-day period between September 15 and October 15 as "Christmas Mail Month" for soldiers.

During this period, Christmas packages may be mailed overseas without the presentation of a request from the soldier. Gift packages will be accepted for mailing only within the present limitations of weight and size—five pounds in weight, fifteen inches in length and thirty-six inches in length and girth combined. Only one such package will be accepted from the same person to the same addressee during any one week.

Perishable articles will not be accepted and every effort will be made to discourage mailing of fragile articles. Plans now are being drawn up by the War, Navy and Post Office Departments, in cooperation with the Office of War Information and the War Advertising Council, for an intensive nationwide campaign to educate the public on all phases of Christmas mail regulations.

Reduction in Air Defense Installations

The War Department has announced that substantial reductions are contemplated in air defense installations within the continental United States. Trained soldiers and air defense equipment thus released will become available for overseas service.

Aircraft warning centers which have been manned partially by soldiers and partially by civilian volunteers are to be closed. The aircraft warning service, on a reduced scale, will be absorbed into installations used for the training of fighter pilots. Anticipated economy both in military personnel and in equipment as a result of the curtailed and combined program was described as "substantial."

The War Department emphasized that a reduction in the air defense program should not be interpreted as meaning that danger of enemy bombing attacks has passed. Raids of a "sneak" type on a comparatively small scale still are regarded as possible. However, a reduction in the air defense system was believed justified in view of the enemy's lowered strategic ability to carry a bombing attack to this country.

It was pointed out that the almost nightly German raids over England prove that even a battle-tested aircraft warning service cannot guarantee protection against a sneak raid.

* * *

Study in . . .

North Africa
20 June 1944

Dear Sir:

I have been working with the French as Senior AA adviser at a French training camp, and have had occasion to show them articles printed in the two copies of the COAST ARTILLERY JOURNAL I have received since being overseas. I thought that you would be interested in hearing that in every case, the JOURNAL elicited extravagant praise for itself. As a courtesy gesture, and to provide the French here with latest AA developments and ideas, I am herein placing two subscriptions for use of The School to be sent to:

* * *

Thank you,

JOHN E. ABER,
Major, CAC.

* * *

. . . Contrasts

"We believe that we are better able at APO — to furnish news than you of CA JOURNAL. Tailor-made news are never digestible."

(NAME WITHHELD),
2d Lieutenant,
— CA Bn.

* * *

Swell, Lieutenant —, we're waiting to hear from you people at APO —. That's what we want, material from the APO's. People in the U. S. and at other APO's want the benefit of your experiences.

Correction Requested—Mission Completed

Headquarters, Harbor Defenses
of San Francisco,

15 June 1944

Editor, COAST ARTILLERY JOURNAL

Sir:

In writing you about the following, I am expressing the views of the officers and men of the Harbor Defenses of San Francisco, a great number of whom are subscribers to the COAST ARTILLERY JOURNAL.

I refer to Lt. Colonel H. G. Fowler's article entitled *Employment of SCA in Island Warfare*.* It is a fine article, well written, and logically sound from a tactical standpoint. But there alas we must stop with the plaudits and start "gripping." The "Gripe" is on page 12, second column, first paragraph.

I quote—"The so-called Kelly Mount for the M-1 Gun for all around fire was developed by the Marine Corps and has been used at harbor defenses in this country." (Italics supplied.)

Ye Gods, I trust Colonel "Pete" K. Kelly, O4703, CAC, did not read the quoted paragraph.

Colonel Kelly, then Executive Officer, — CA, and Asst. Harbor Defense Executive, designed the original "Kelly Mount" here in the Harbor Defenses of San Francisco. The pilot model was constructed at Fort Scott and the guns were fired at Fort Funston (both on a wooden spider mount and on an existing Panama Mount for the 155mm G.P.F. guns) and at Fort Cronkhite on a small concrete block.

The mount proved successful and a full report was rendered to the Chief of Ordnance through channels. As a matter of fact, it was considered so effective that 155mm battalions which were trained in the Western Defense Command were furnished the plates and hold-downs prior to their departure overseas.

The Commandant, Marine Corps, at San Diego heard about the Kelly Mount and sent an Operations officer from one of their Defense Battalions up here on detached service to observe the mount in action. This officer was "sold" and took back with him one complete set, together with the plans and specifications for the plates, hold downs, as well as the plan for the wooden spider mount.

This wooden spider mount, together with the Kelly Mount, was regarded highly by the Marine Corps.

To continue with the history of the "so-called Kelly Mount," the Ordnance Department took the original design, complicated it considerably with fancy hand-holds, etc., and have now issued it as the Firing Platform M1 (TB 9-350-5). Basically it is not more than a fancy Kelly Mount.

So you see, Colonel, why we feel so badly here in the Harbor Defenses of San Francisco (I refer back to the italicized words in the paragraph from Lt. Colonel Fowler's article quoted above). We realize of course that this statement was written by Colonel Fowler on incomplete knowledge and entirely inadvertently. However, we believe you should, in some later issue of the JOURNAL, print a retraction and give our good friend "Pete" Kelly, the credit he is

*May-June, 1944.

Incidentally, the Harbor Defenses of San Francisco would also like a good plug for itself as we pride ourselves on being wide awake and on the job.

So please accept this "Gripe" in the spirit in which it is written.

Also let me state that we feel the COAST ARTILLERY JOURNAL is the "tops" in Service Journals and we are for you 100%, even if sometimes you do us wrong.

With best wishes from the Harbor Defenses of San Francisco for a greater JOURNAL than ever.

Sincerely,

WM. F. LAFRENZ,
Colonel, C.A.C.

* * *

4 July 1944

Colonel E. B. Walker, Editor,

THE COAST ARTILLERY JOURNAL:

It has been brought to my attention that the "Kelly Mount" for the M1 gun as mentioned in my article in the May-June issue was erroneously accredited to the Marines. The mount was designed and developed by Colonel Peter E. Kelly, C.A.C., and is the basic design from which development of the Firing Platform M1 for 155mm gun carriage M1 progressed.

The Marine Corps adapted certain modifications to the original design and used the mount, which occasioned the error in the article. My apologies to Colonel Kelly.

Very truly yours,

HENRY G. FOWLER,
Lt. Col., C.A.C.

The All-Purpose Rôle

The unit training program of twenty-four weeks for gun batteries at antiaircraft training camps will be increased to one of twenty-six weeks in order to give the ack-ack troops special training in using their weapons to reinforce the Field Artillery, the War Department has announced. Certain programs and schedules for officers and enlisted men at the Antiaircraft Artillery School, Camp Davis, North Carolina, will be revised to provide for this increasingly important rôle of the antiaircraft artillery.

The new training program announced by Lieutenant General Lesley J. McNair, U. S. Army, former Commanding General of the Army Ground Forces, is built largely on lessons learned in combat areas. Ground Forces observers have made extensive reports on the effective use of antiaircraft guns and field artillery pieces when the two arms have combined to blast enemy-held positions.

Antiaircraft artillery has been used against tanks and other armored vehicles with good effect for many months. In some sectors, where there is practically no necessity for guarding the skies, the antiaircraft units have been emplaced for defense against armored vehicles. But it is from the Italian front, in particular, that antiaircraft gun units have shown their versatility knocking out pillboxes and strong points as well as armored vehicles.

Now, according to the order issued by General McNair, ack-ack gun units in this country will receive specialized training in their new rôle of reinforcing the Field Artillery. Army and corps commanders will be responsible for the training.



Women workers observe the launching of a landing craft they built at a British shipyard.

British Official Photo

Field Expedients in Tunisia

BRIDGE PIERS OUT OF OIL DRUMS

In some sections of the road networks all bridges and culverts have been destroyed by the retreating Nazis, and fast but sturdy reconstruction to accommodate traffic was necessary. Discarded 50-gallon oil drums with their ends removed, placed vertically one on top of the other and filled with concrete, proved very adequate expedients for making bridge piers and abutments. These drums filled with rock were also used for bank-retaining walls, and when painted white make excellent markers for approaches to narrow bridges. Practically all culverts were made from oil drums, ends removed and placed end to end.

By experimentation, it was discovered that a small charge of slightly less than a quarter pound of TNT, placed midway between the ends of an oil drum by suspending it on a stick inserted through the side, would neatly blow one end out of a standing drum or both ends out of a horizontal drum. By varying the size of the charge, this method proved efficient on any type of drum: American, British, German, or Italian.

HOSPITAL TENT FLOORS

A very satisfactory and economical floor which can be rapidly constructed and has a clean surface was developed using a compact soil and gravel base topped with a thin layer of concrete. An area 16' x 50' is formed with 1" x 4" strip dunnage lumber on edge with stakes at 3-foot intervals. Any available semistable filler such as creek gravel, waste crushed stone, sea sand, or gravelly clay is then placed inside the forms. A 1-inch coat of concrete mixed 1:3:6 with ¾-inch gravel is then poured on top, struck off, and belted. Very satisfactory floors have thus been obtained using only seven sacks of cement per 16' x 50' ward tent floor or two sacks per 16' x 16' pyramidal tent floor. The forms are left in place to protect the corners and edges and to prevent undermining of the base course. A great advantage of this type of floor is that after the site is vacated, the floors can be broken up by a plough, thus obviating rehabilitation damage claims.

ELECTRIC SYSTEMS

During the Tunisian and Sicilian campaigns, electric equipment was very scarce. Some hospitals arrived with TBA generators and some with none. It was necessary to redistribute these and spread the available supply as far as possible. Sockets being unobtainable, wire "pigtales" were soldered directly to the entire stock of bulbs, which were "lipped" directly on the lead wires. Empty food tins were commonly used as reflectors for operating rooms and for dental lights.

SIDING MATERIALS

An economical and durable siding was improvised by using building paper sandwiched between two layers of chicken wire and stretched tightly over ordinary framing. Roofs were provided by means of tent fly stretched tight over widely spaced rafters and ridge poles.—*Military Review*.

Occupation of Antiaircraft Positions at Night

From Italy comes this sound advice to antiaircraft units on the occupation of positions at night:

"Occupation of positions at night is one of the most difficult maneuvers of AA and one which has received the least attention. The following points should be stressed:

"1. In training, gun sections and headquarters must take everything as if they were never to return to their former location. If this is not done, important items will be forgotten and left behind when the time comes to move to new keeps.

"2. Allow only one boss on a job to talk. When more than one man gives instructions there is a loss of time, and confusion results. However, make the boss talk in a low tone.

"3. Do not allow a single flashlight. If there is any light at all the men will depend upon it and will not develop a sense of night vision.

"4. The best way we have found to get our vehicles from their final assembly point on the road into the position area, and also for leading them to cover after they have unloaded guns and equipment, is to have two leaders on foot with luminous discs precede each vehicle.

"5. Loading and unloading must be done the same way each time; there must be a definite procedure for the occupation of a position."—*Military Review*.

Overseas Forces

The United States Army today (June 1) has 3,657,000 soldiers deployed outside the continental United States in theaters of operation throughout the world, striking and preparing to strike victory-winning blows by land, from the sea, and in the air against Germany and Japan.

This force, at the end of protected supply lines stretching more than 56,000 miles and reaching into every continent represents approximately 47 per cent of the total strength of the Army. By the end of 1944, the number of troops overseas will be increased to more than 5,000,000 men approximately two-thirds of total strength.

Already, the United States Army overseas exceeds by 1,571,000 men the peak overseas strength of the Army in the World War, and is only 400,000 men short of equaling the entire strength of the Army at the close of the World War. One year ago, 1,466,000 troops were overseas, representing 21 per cent of the Army's strength at that time.

Cable Rates to POW's in Far East

CABLE RATES TO JAP-HELD

American Red Cross has completed arrangements for reduced rates on cable service to prisoners of war and internees held by the Japanese in the Far East. The lower rates went into effect on June 1.

The new cost for a 10-word message will be \$6 plus 10 per cent tax, or \$6.60. Cablegrams to the Far East formerly cost approximately \$16.

The number of cables which may be sent to any one individual is limited to one nonemergency message during

the year. However, the Red Cross is prepared to accept additional cablegrams from next of kin in the event of serious emergency. Red Cross also will assume the cost of the message if the sender is financially unable to pay for it.

Cablegrams may be sent to officially reported prisoners of war by the next of kin, to United States civilians, and to nationals of countries other than the United States who are in Japan and Japanese-held territory, exclusive of Java.—*Army and Navy Register.*

POW Parcels

WASHINGTON, D. C., May 24—The American Red Cross has shipped six thousand Red Cross capture parcels for distribution to American prisoners of war in Dulags, or transit camps, in Italy and Germany, it was announced by American Red Cross Headquarters today.

The shipment, now en route on the Swedish ship, *Mandalore*, brings the total number of Red Cross capture parcels so far shipped to prisoners of war up to 26,000. A further shipment of 24,000 capture parcels will leave within the next thirty days.

These capture parcels, the gift of the American Red Cross, are issued through the International Red Cross Committee to American prisoners of war as soon after they are captured as possible. They provide newly captured American prisoners with immediate personal essentials.

Each parcel contains the following items: one pair pajamas, one pair bedroom slippers, one safety razor, three packages razor blades, one sweater, two pairs socks, one light undershirt, one pair light drawers, six cakes of toilet soap, two bars of laundry soap, one tin tooth powder, tooth brush, clothes brush, hair brush, shoe brush, one pocket comb and cover, one jar brushless saving cream, two bath towels, two face towels, one tin shoe polish, four handkerchiefs, one "housewife" (including needles, thread, buttons, safety pins, pins and darning cotton), two pairs shoe laces, one box cascara, one box vitamin tablets, one box band-aids, one pipe and pipe cleaners, three packages smoking tobacco, one carton cigarettes, and one carton of chewing gum.

Both in the transit and in the permanent camps, American prisoners are issued the regular weekly Red Cross food packages distributed to all American prisoners of war in Europe. Effort is made to keep a three months' reserve of these packages, paid for by the Army, Navy and other U. S. Government departments, in all camps.

CAC Promotions

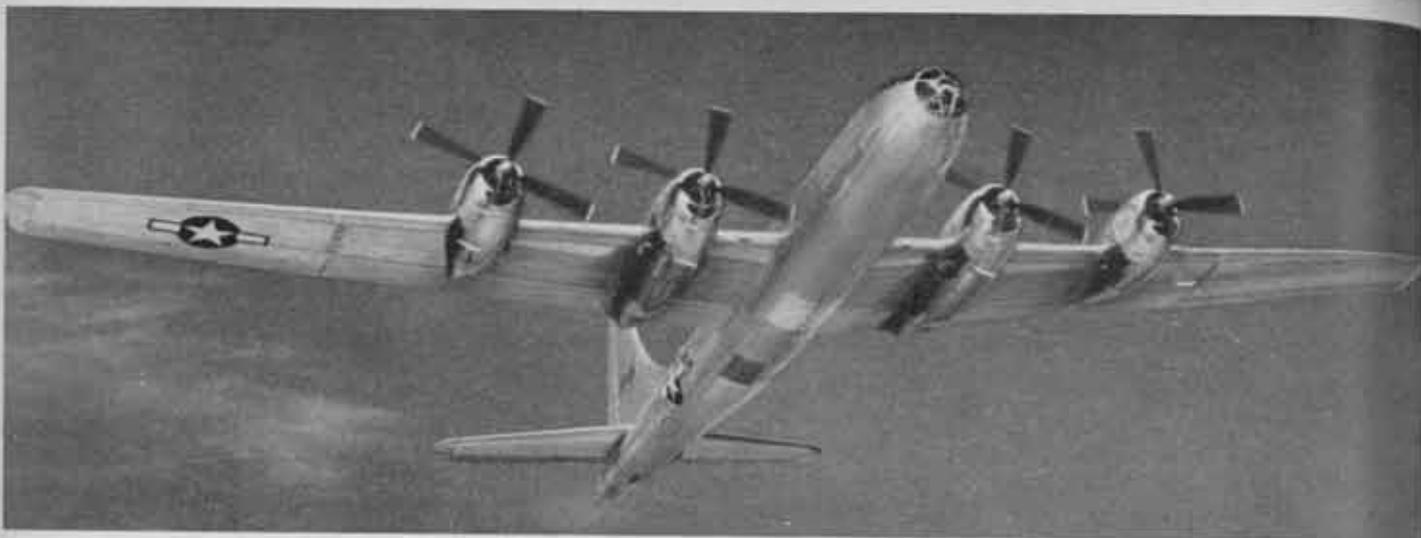
Brigadier Generals Lyman L. Lemnitzer and Walter L. Weible have been promoted to major general (temporary).

Promoted to brigadier general (temporary) was Colonel Clesen H. Tenney.



90mm AA guns firing at Camp Edwards.

Pvt. Harold Fialkoff



B-29 in flight.

Army Air Forces

Beach Tractor

The public saw the Army Engineers' newest combat vehicle, the "Beach Tractor," when the Army Service Forces "Weapons of War" exhibit opened in West Potomac Park, Washington, D. C., May 22.

The beach tractor, a huge crawler tractor, was seen alongside another example of Engineer ingenuity, the small two and one-half ton airborne bulldozer. During the show Engineer soldiers operated both vehicles, including a demonstration of the beach tractor, which weighs more than twenty-one tons, lifting the smaller vehicle.

The new beach tractor has a bulldozer blade, a self-mounted crane with a double action power-control unit and an armored cab for the protection of the driver. Once ashore, it can do the work of 500 men in aiding other equipment, including landing craft. The horizontal drawbar pulling power of the D-7 tractor, the size shown in the exhibit, is the equivalent of more than 500 men. The big tractor can lift and carry with its crane a deadweight load of seven tons, but its pushing and pulling power constitute its greatest usefulness.

Unsatisfactory Equipment Report

Headquarters officers in the Technical Services, responsible for the improvement of all equipment, say that officers in the field are not taking fullest advantage of the Unsatisfactory Equipment Report. They wonder how many of the men in position to observe the daily performance of matériel simply never heard of the form, and how many are just lax about using it. The form in question is W.D., A.G.O. Form 468, reference TM 38-250 and Circular No. 4, W.D., 1944.

The Unsatisfactory Equipment Report form provides a convenient and easy way to report on any unsatisfactory equipment to the Chief of the proper Technical Service. There is space for complete identification of the equipment, its length of service, description of the trouble, its probable cause, description of any remedial action taken and recommendations for eliminating the difficulty.

As stated in the instructions on the form it is to be used

for "reporting manufacturing, design or operational defects, and for use in recommending modifications of matériel." It is not used "for reporting failures, isolated matériel defects or malfunctions of matériel resulting from fair wear-and-tear or accidental damage."

Unsatisfactory Equipment Reports provide the most important and reliable means of finding out the real worth and performance of Army equipment. They convey vital information from the field. Sometimes they lead to only minor changes, but these improvements in the aggregate are of enormous importance.

Army equipment is subjected to accelerated tests before it goes into service. But these tests cannot provide the information that may be derived from extended experience under field conditions.

"You have good equipment," say the men at headquarters to the men in the field. "But if we do not have your reports and recommendations, we cannot make the modifications and improvements that should be constantly in progress."

♦ ♦ ♦

Steel Ammunition Containers

Army use of a new steel ammunition container, designed to afford packaged artillery rounds and powder charges increased protection from handling damages, has been announced by the War Department. It is estimated that the Ordnance Department, Army Service Forces, will require 125,000 tons of steel during the first three months of the container production program.

A previous container, made of fiber and metal, provided inadequate protection. A blow on the package could dent the cartridge case. If the package was dropped, the weight of the projectile often caused the case to bulge, or loosened the crimp.

Although the new container has not been standardized by the Ordnance Department, orders already have been placed for its production. Hot and cold rolled sheet and strip steel are required, with more than one-third the tonnage to be purchased in the form of steel tubing. The tubing required by the Army represents almost the entire heavy welding tube steel capacity of the country.

Keep Bearings Wrapped

Bearings are still among "the chosen few," at the top of the list of critical items used by the Army. Therefore, constant attention to maintenance practices in the use and handling of bearings is one of the important duties of Army personnel whose responsibilities involve operation and maintenance of mechanical equipment on which they are used. And no less important than their proper use in service is their handling before installation.

A common failing in this phase of operation is the tendency to take bearings out of the wrappers before they are ready for installation, or to fail to wrap them when they are being stored.

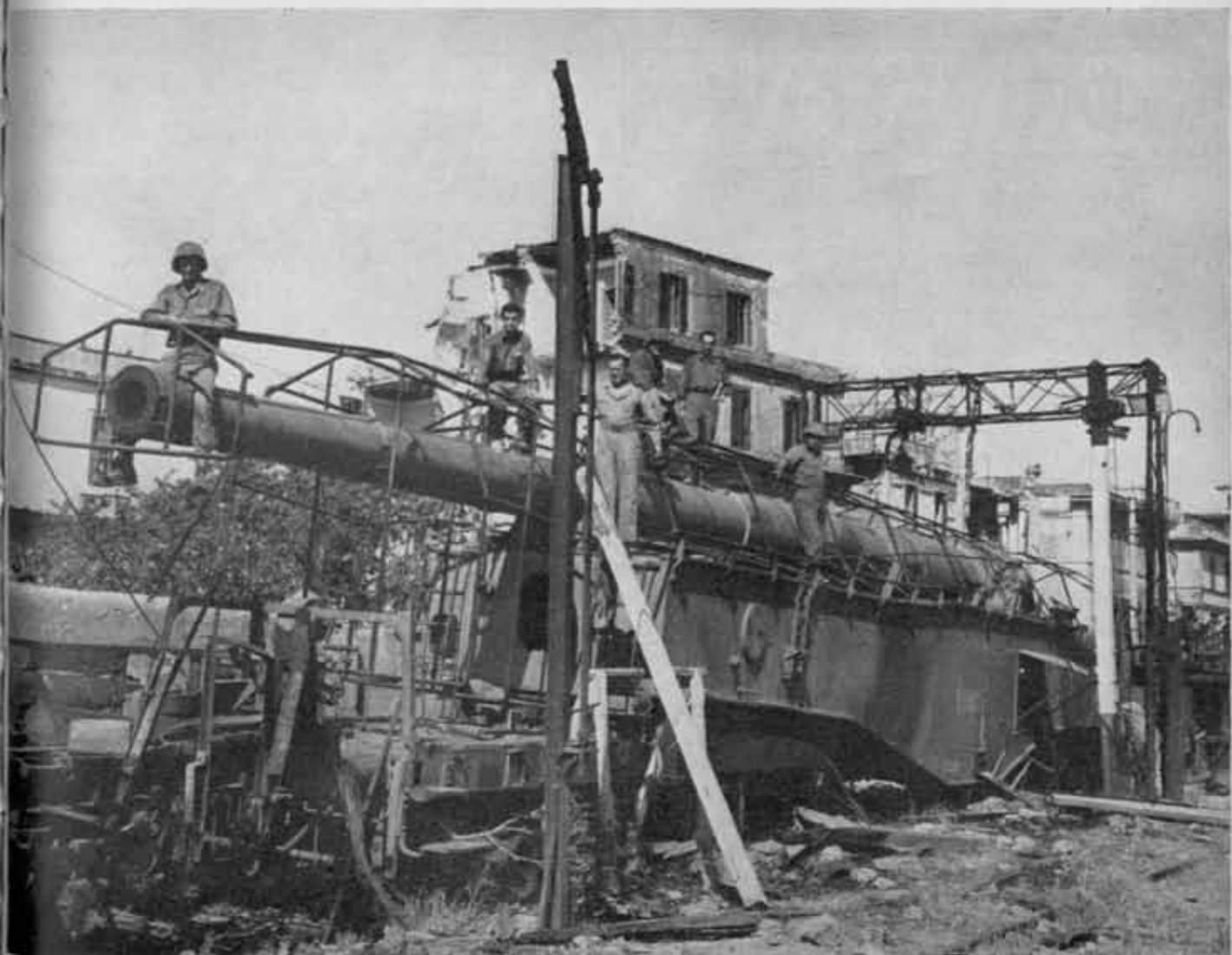
An unwrapped bearing is like a soldier without a fox hole. It hasn't got a chance against its mortal enemies—sand, grit, rust and breakage. For it only takes a couple of grains of sand to score a bearing and turn it into a piece of scrap. A bearing stored in a bin without wrapping is subject to a constant shower of particles of sand and grit falling down from items thrown in on top of it. A bearing placed on the running board of a vehicle or on a dirty workbench can pick up enough grit in one instant to ruin

it in short order. Moisture from the hands will cause rusting as surely as if the bearing were dipped in a pail of water, when there is no protective wrapping.

There are, of course, numerous other danger points in handling bearings which are equally vital. They must always be properly cleaned and lubricated, and in this regard it is essential that dry-cleaning solvents and lubricants be *clean*. Lubricant containers, therefore, should be kept covered as much as possible, to prevent dust and grit from settling and blowing into them. Hands, benches, rags, tools—everything that touches the bearing—must be kept *CLEAN*.

Lubrication Orders and instructions in technical manuals must be followed to the letter, so that bearings are installed and lubricated properly.

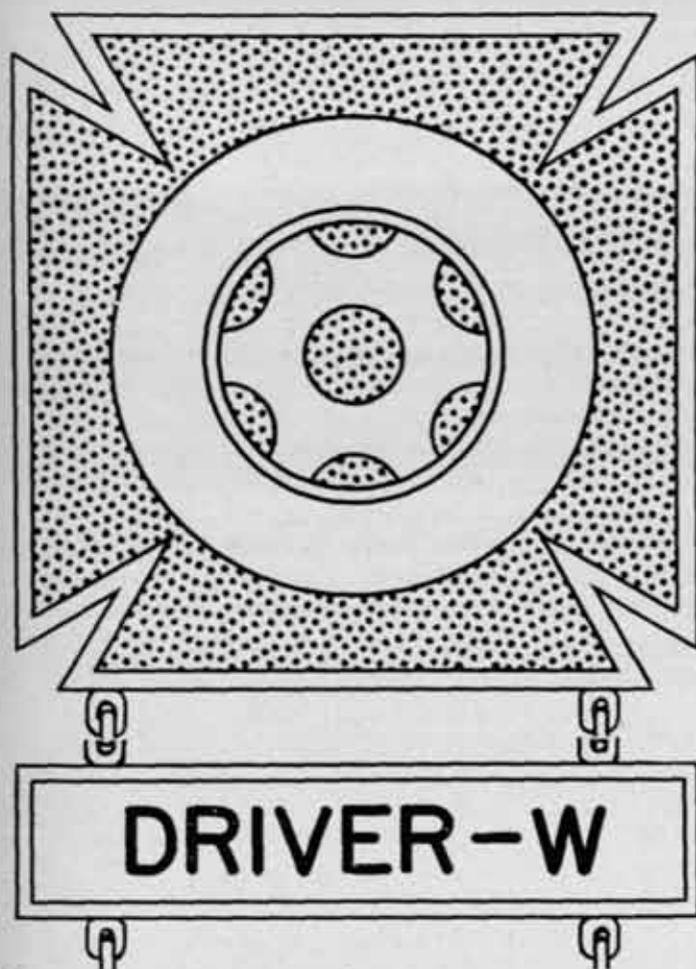
Bearings are scarce—they *must* be protected. And the wrapping is one of the most important forms of protection. A bearing that is unwrapped for any reason should be wrapped again before storing. A bearing should never be issued unwrapped. Anyone who receives an unwrapped bearing should wrap it before storing. Bearings must be kept wrapped *at all times*—right up until the time they are installed.



Signal Corps Photo

German railway gun captured in the Civitavecchia area, Italy, after being immobilized by aerial bombardment. The caliber is listed as 280mm. The pipe arrangement is believed to be a frame for camouflage.

Drivers and Mechanics Award



Unit commanders who want to encourage better first and second echelon maintenance should keep in mind the award for qualified motor vehicle drivers and mechanics authorized by War Department Circular 248, dated 28 July 1942.

The basic badge with appropriate bar may be given anyone regularly assigned as driver, assistant driver or automotive mechanic who can qualify under the requirements of the circular. The prospect of winning the award should serve as a real incentive to more faithful performance of organizational maintenance duties.

Over a half million of the badges have been awarded through Philadelphia Quartermaster Depot, but there are still many qualified drivers and mechanics eligible for the awards who have not had recognition.

The nomenclature and Federal Stock numbers of the badge and bars are as follows:

Badge, Qualification, Motor-Vehicle Driver, Mechanic, 71-B-197-50.

Driver-W, for wheeled vehicles, 71-B-1212.

Driver-T, for track or half-track vehicles, 71-B-1213.

Driver-M, for motorcycles, 71-B-1214.

Mechanic, for automotive or allied trade mechanic, 71-B-1229.

These awards may be requested through any local Quartermaster Officer.

40mm Training Aid

Lieutenant Carl Bleiberg, Orientation Officer for the 135th AAA Group, has sent the JOURNAL a training aid used in that unit. His letter follows:

"1. Inclosed is a simple training aid which may prove as helpful to some of your readers as it has to us in learning 40mm gun drill. It consists of 14 wooden counters marked CS, RS, 1, 2, 3, 4, G, 5, 6, 7, 8, 9, 10, 11 on both sides, and paper cutouts to represent trucks, a 40mm gun and all the equipment of a fire unit. Used in conjunction with FM 4-160 it will enable a student to recreate on a table an entire fire unit and manipulate the pieces in any phase of gun drill with amazingly good results.

"2. Instead of learning gun drill from the manual by rote, we found that by using this device we could follow and learn the gun drill in a minimum of time and with greater understanding of the rhyme and reason of the sequence and order. Repetition being the keynote of learning drill, we estimated that one hour of drill with the model was the equivalent of 15 hours actual drill on the piece, because of the over-all observation and demand upon each student to know *all* the operations in sequence of *all* the crew members.

"3. Six sets of the training aid were made out of a discarded bingo game and three salvaged manila folders. It was designed better to prepare a group of staff officers for an AAC reexamination in gunnery, as approximately one quarter of the questions were on gun drill and all of us had been away from active duty in the battery for six or more months.

"4. Some indication of the value of this training aid may be gained by a comparison of the grades received before and after the use of the training aid:

	Before	After
1	49	86
2	59	98
3	42	72
4	44	96
5	36	98
6	64	95

"5. It is suggested that Platoon Commanders might find this device helpful for rainy-day drill, preliminary instruction by cadremen in small groups, or bringing replacements up to general level of excellence."

First Over Saipan

SAIPAN ISLAND, MARIANAS—(Delayed)—(AP)—The American antiaircraft battery that shot down the first Japanese planes over Saipan waited more than two years for a crack at the enemy.

The unit headed by Captain George E. Champion, was activated in April, 1941, at Camp Davis, N. C. It wasn't until last night that the Japs gave these gunners their first chance for action.

The AA crew blasted two Jap planes out of the air in ten minutes.



Corregidor



BRIGADIER GENERAL GEORGE F. MOORE, U. S. Army,
Commanding Philippine Coast Artillery Command

By Lieutenant Burton R. Brown

Change of command designation, tragedies, near tragedies, celebrations, and distinguished visitors have been as much a part of Corregidor during August and September as the rain. Orders from Headquarters, United States Forces in the Far East, have created the Philippine Coast Artillery Command with Brigadier General George F. Moore as Commanding General. The Harbor Defenses of Manila and Fort Mills are part of this command and Fort Mills is the headquarters.

The Harbor Boat Company... of trips from Fort Mills... the past quarter of a... morning of... to Fort Mills she rolled over on a few minutes... Wint in fifty work on... of all except time of acc... Hultquist, F. W. P... when they v down... they managed boat. For two kept afloat before the... By slow stage while, the assistance our own harbor boats w... missing boat. The survivors v... beach by a destroyer on the... and a small boat was sent as... for them. All survivors have now completely recovered and have rejoined the busy round of work at Corregidor.

A month after this near-tragedy part of the post engaged in a celebration when Colonel P. D. Bunker's regiment celebrated its twenty-third anniversary. It was especially gratifying to Colonel Bunker since this is the third time he has commanded this regiment and is justly proud of it. Lieutenant Colonel Valentine P. Foster, who was with this organization at its inception and served with it all during World War I in France reviewed the history of the regiment from his own personal experiences with it. General Moore, who in one of his previous tours at Corregidor, had also served in

the regiment, complimented the regiment on its past and present achievement. On this same occasion the newly authorized regimental band made its first public appearance.

On September 3d, Lieutenant General Douglas MacArthur, Commanding General of the United States Forces in the Far East, accompanied by Brigadier General... and his Chief of Staff, made... Fort Mills armament, in-

... Arthur having at... of the Philippine... Corregidor. But much... upon his de-

... vity but... uigently ap-... and little... r the vast... ing

... been ac-... ears, an ap-... oor instruc-... ers' In-

... e by batteries... ick and Lieuten-... slackening of the... completely outdoors

... ms and beach defense... at... all over the... craft... ine gun, and... being conducted by all regi-

... too early to comment on the record of... organization... but observation of the first firings... well of the preparedness of Corregidor for any... eventuality in these lines. General Moore, just completing a quarterly inspection of all phases of the training and installations in the Harbor Defenses, noticed a vast improvement in all cases over that displayed in his last inspection.

Frequent "conditioning marches" under full pack are made by all units. During these marches the organizations engage in gas defense and extended order problems. The improved physical condition of the personnel is very noticeable. Meanwhile several officers and non-commissioned officers are detailed for a short time with the Philippine Army to assist in their training. During this same rainy season, Mine Command of Lieutenant Colonel Kohn's regiment has worked day and night, in

I SHALL RETURN!

MACARTHUR



BRIGADIER GENERAL BRYAN L. MILBURN, *Commandant*
By Captain Herbert B. Warburton

Five hundred and fifteen cadets from the United States Military Academy arrived 19 June 1944 at the Antiaircraft Artillery School to take an intensive five-day course in all phases of antiaircraft artillery. Headed by Colonel N. I. Fooks, Inf., and a staff of nine officers from West Point, the cadets participated in a program that covered all phases of AA, ranging from automatic weapons through searchlights and detector training.

Brigadier General Bryan L. Milburn, Commandant of the AAA School, welcomed the cadets and told them of the increasing importance of antiaircraft artillery as a combat weapon. He explained that AA is not confined alone to aerial targets but is being used more and more against ground installations, tanks, and other AA weapons. Colonel Dean S. Ellerthorpe, Director of Instruction at the School, supervised the training program, and Major L. A. Simon acted as Liaison Officer.

An interested observer of the West Pointers' training program was Brigadier General C. H. Schabacker, G-3 of the AA Command, Richmond, Va.

A highlight of the cadets' stay here was a demonstration of all AA weapons, during which a gun crew of the 561st AAA AW Battalion set a new post record for speed in emplacing their 40mm gun. The total time for emplacement, orientation, and falling to the rear of the piece was three minutes, forty-five seconds.

The Antiaircraft Artillery School is saving nearly a quarter of a million dollars monthly in ammunition by using the "Polaroid Trainer" for training troops in high angle fire. It is a training device which shoots electrical impulses in the form of a moving dot of light, instead of bullets, thus eliminating the use of caliber .50 machine-gun ammunition, to teach the theory of lateral leads at moving targets. The Polaroid Trainer, the only one of its type in the Army, was built at a cost of over \$100,000 but has already saved a total of 7,300,000 rounds of live ammunition since being installed. Each man fires a total of 1,500 rounds at the target which flies across a screen at a speed of from 150 to 300 miles an hour. More than 5,000 men have used this novel training device, and Private First Class James Adesso, a machine gunner from New Bedford, Mass., is credited with the highest score thus far, by getting a total of 289 "hits" out of 1,500 rounds.

The Legion of Merit was awarded 26 June to Capt. Fairfax E. Watkins, who became the first officer from the Antiaircraft Artillery School to receive the award. Captain Watkins, in receiving the award from General Milburn, was cited for "exceptionally meritorious conduct in performance of outstanding duty. While assigned to a barrage balloon unit at Fort Randolph, Canal Zone, Captain Wat-

kins performed the hazardous task of manufacturing hydrogen gas, showing initiative and resourcefulness in keeping a worn-out hydrogen gas generator, used only for training purposes, in operation for more than eight months. Captain Watkins is a graduate of V.P.I., where he obtained his master's degree in mechanical engineering.

More than 150 antiaircraft artillerymen from the AAA School marked the commemoration of Infantry Day, 1 June, by volunteering for service with the famous "Queen of Battles" following a War Department order authorizing such transfers. The men have already been shipped to Infantry training units in the grades they held in Antiaircraft

In accordance with the War Department directive of the Utilization of Manpower, the Antiaircraft Artillery School has reduced the enlisted personnel to a minimum necessary for the operation of the School. Practically every general service enlisted man who was a member of the School overhead on 1 January 1944 has now been transferred to a unit subsequently destined for overseas duty. Some have been transferred to other branches. The school overhead now consists principally of enlisted men returned from overseas duty and others whose physical limitations or ages temporarily or permanently disqualify them for overseas duty. In many departments, members of the Women's Army Corps and civilian employes have replaced soldiers qualified for general service.

Forty-three officers from antiaircraft artillery commands throughout the nation attended a conference from 26 June to 29 June at the Antiaircraft Artillery School on the latest methods of establishing and operating Antiaircraft Operations Rooms (AAAOR), and the AAIS conducted under the immediate supervision of Major Walter H. Murray and Major Francis X. Bradley.

Representative officers of the various antiaircraft artillery commands held a ten-day conference at the AAA School recently for the purpose of studying the latest prescribed methods and procedures pertaining to employment of Antiaircraft Artillery guns as reinforcing Field Artillery. The officers spent the final two days of the conference period at Fort Bragg, North Carolina, where they witnessed and conducted firings of AAA guns at ground targets.



AA School Photo
 General McNair tries out the Polaroid Trainer.



The Coast Artillery School

BRIGADIER GENERAL L. B. WEEKS, *Commandant*

The most important recent event at the Coast Artillery School was the Sector and Harbor Defense Commanders' Conference held during the week of 26 June to 1 July 1944. The Conference, held under the supervision of Army Ground Forces, was scheduled in accordance with a directive issued by the War Department. Three Major Generals, three Brigadier Generals, thirty-one Colonels, and forty-seven other field and battery officers attended the Conference. Each Sector was represented by its Commanding Officer or his representative. There were Staff Officers present from each Department and Defense Command. Each Harbor Defense Commander and his Executive or S-3 attended the Conference. Harbor Defense Mine Group Commanders came from each Harbor Defense where there was a Mine Group Command. Officers from the War Department; Army Ground Forces Headquarters; Replacement School Command Headquarters; Signal Corps Head-

quarters and Ordnance Department Army Service Forces; the Ordnance School at Aberdeen, Maryland; Signal Corps School at Camp Murphy, Florida; and Antiaircraft Artillery School at Camp Davis, North Carolina, also attended the meetings.

After an introductory welcome to the School by the Commandant, Brigadier General Lawrence B. Weeks, welcoming remarks by Brigadier General Rollin G. Tilton, Commanding General of Fort Monroe, Colonel Delmar S. Lenzner, Commanding Officer of the Submarine Mine Depot at Fort Monroe, Colonel Leon C. Dennis, President of the Coast Artillery Board, Fort Monroe, and a lecture on "School Organization and Courses," by the Assistant Commandant, Colonel Ira B. Hill, the Conference moved on to a consideration of Special Equipment and Special Equipment Courses under the supervision of Lieutenant Colonel Roger A. MacArthur, Senior Instructor of Special Equipment Section, Department of Enlisted Specialists, and Lieutenant Colonel Richard S. Spangler, Director of the Department of Artillery. The day closed with an inspection of the Coast Artillery Board building arranged by Colonel Leon C. Dennis, President of the Board. The second day of the Conference began with a discussion of new developments on the agenda of the Coast Artillery Board. The speaker was Colonel Donald H. Smith, Executive Officer of the Board. The rest of the day was devoted to problems of fire control, and a lecture on "Coast Artillery Training Publications," by Colonel D. C. Tredennick, Requirements Section, Army Ground Forces. The Department of Training Publications of the School gave a conference on the use of visual aids.



Sector and Harbor Defense Commanders' Conference.

ROW ONE—LEFT TO RIGHT

1. Col. Phillip F. Biehl, 2. Col. L. A. Whittaker, 3. Col. Charles Thomas, 4. Col. William F. LaFrenz, 5. Col. Ira B. Hill, 6. Col. Ralph E. Walker, 7. Col. Lloyd W. Goepfert, 8. Col. Abram V. Rinearson, Jr., 9. Col. Delmar S. Lenzner, 10. Col. Robert E. Phillips, 11. Col. Robert E. Phillips, 12. Col. Robert E. Phillips, 13. Maj. Gen. J. H. Cunningham, 14. Maj. Gen. Fulton Q. C. Gardner, 15. Brig. Gen. Rollin L. Tilton, 16. Brig. Gen. L. B. Weeks, 17. Maj. Gen. Cortlandt Parker, 18. Brig. Gen. Phillip S. Gage, 19. Brig. Gen. Charles D. Y. Ostrom, 20. Col. C. T. Batten, Canadian Army, 21. Col. W. Hicks, 22. Col. Donald B. Greenwood, 23. Col. Christopher D. Peirce, 24. Col. Carl S. Doney, 25. Col. F. E. Edgcomb.

ROW TWO—LEFT TO RIGHT

1. Lt. Col. Norton B. Wilson, 2. Col. Raymond Watt, 3. Col. John Harry, 4. Col. John E. Fonvielle, 5. Col. P. H. Ottosen, 6. Col. Albert G. Frank, Jr., 7. Col. W. C. Rutter, 8. Col. Franklin Kemble, 9. Col. H. S. Benson, 10. Col. D. C. Tredennick, 11. Col. John L. Farley, 12. Col. Donald H. Smith, 13. Col. Herbert C. Reuter, 14. Col. Paul Elias, 15. Col. Ernest R. Barrows, 16. Col. William H. Sweet, 17. Col. James C. Wilmans, 18. Col. I. H. Ritchie, 19. Col. William L. Bayer, 20. Lt. Col. Wilmans K. Ballough.

ROW THREE—LEFT TO RIGHT

1. Maj. Paul A. Dent, 2. Maj. Donald E. Twyon, 3. Major Homer B. Eller, 4. Maj. Malcolm J. Chase, 5. Maj. Harold L. Freshwater, 6. Lt. Col. Robert A. Claffee, 7. Lt. Col. Samuel S. Neill, 8. Lt. Col. Lawrence J. Morgan, 9. Lt. Col. Ward C. Schweizer, 10. Lt. Col. Burton Hartley, 11. Lt. Col. Alfred F. August, 12. Lt. Col. William B. Johnson, Jr., 13. Lt. Col. A. A. Koscielniak, 14. Lt. Col. Harry Hewitt, 15. Lt. Col. Thomas C. Huguley, 16. Lt. Col. Francis A. Liwski, 17. Maj. Frank F. Waters, 18. Maj. Januar B. Bove, Jr., 19. Maj. M. H. Nelson, 20. Maj. Melville B. Duffy, 21. Maj. Leroy Land.

ROW FOUR—LEFT TO RIGHT

1. Capt. Eddie S. Aucoin, 2. Capt. Henry J. Hawkinson, 3. Capt. George W. Packowski, 4. Capt. Theodore L. Morrisette, 5. Capt. Donald V. Young, 6. Capt. John F. Bradshaw, 7. Capt. Lynn Neeley, 8. Maj. F. N. Seitz, 9. Maj. William A. Hinternhoff, 10. Maj. James A. Jones, 11. Maj. George S. Orlemann, 12. Capt. Alfred A. Gugino, 13. 1st Lt. Lloyd E. Keck, 14. 2nd Lt. Allen W. McGovern, 15. 1st Lt. Ralph Mielke, 16. 2nd Lt. Charles W. Kelly, 17. 2nd Lt. Paul C. Schaefer.

Highlights of Thursday's meetings (29 June) were a discussion of developments in new-type mines, by Colonel Delmar S. Lenzner, Ord., Commanding Officer of the Submarine Mine Depot, Fort Monroe, followed by an inspection of the Depot itself. The Department of Submarine Mining of the School presented the operation of submarine mine equipment with demonstrations. In the afternoon lectures were given at Murray Hall on land firing problems, current target practice regulations, and current tactical organization in Harbor Defenses. The next day, Lt. Col. Henry G. Fowler, Director of the Department of Tactics, led a conference on "Seacoast Artillery in Amphibious Operations." Lt. Col. Harold A. Maxfield, Assistant Director of the Department of Enlisted Specialists, discussed the operation and maintenance of Diesel power plants and Major M. J. Orbeck, of the Department of Tactics, gave a lecture on "War Game Boards." The day ended with a general discussion under the leadership of the Commandant, Brigadier General Lawrence B. Weeks. On the last day of the Conference a voluntary trip to Fort Story was scheduled which was enjoyed by a large number of the officers present.

The Department of Enlisted Specialists is now instructing some hundreds of students, the majority of whom are in the Enlisted Special Equipment Course. The first class in the Diesel Course for enlisted men graduated on 19 June 1944. These graduates are trained as key men for the operation and care of Diesel engine power plants of the Harbor Defenses, or Diesel engines in mine boats and mine installations, according to the requests of the organization commanders who sent the men to the School. In the Diesel Course training is given in basic electricity, the operation of electric generators, motors, voltage regulators and switchboards, as well as instruction in the operation of the Diesel engines themselves and the adjustment of their governors. New equipment is being installed in the form of two new modern Diesel engine driven electrical generators, 175 KVA capacity each, with all the necessary auxiliary equipment such as pumps, compressors, evaporative coolers, and a complete switchboard. The first class in Enlisted Radio Repairman's Courses started on Tuesday, 4 July 1944. The course will include circuit analysis, testing, receiver and transmitter alignment and adjustment, trouble shooting,

preventative maintenance, circuit testing and circuit isolation. Specially selected students who have just graduated from the twelve week Enlisted Communication Course and picked men from the Harbor Defenses take this course, the duration of which is six weeks.

The Department of Artillery has added actual firing problems to its course on land firing. The shooting is done on the impact range at Fort Eustis, Virginia. The purpose of this course is to acquaint students with the difficulties of observing and adjusting fire on land targets and the problems that arise in carrying out this mission.

The Department of Tactics has continuously revised the tactical subjects in the Officers' Advanced Course in order to keep abreast of the changing situation. In the seacoast artillery portion of the course, revisions have been made to include the latest doctrine in motor torpedo boat defense and in the organization of the harbor defenses. Much more time is now devoted to the tactics of small infantry units and to the tactics of seacoast artillery employed on dual naval and land missions. In the latter course, fire direction and tactical control in the attack of land targets is studied from the standpoint of seacoast artillery operating either alone or in coordination with Field Artillery. Instruction in map and aerea photograph reading has also been increased to meet the pressing need for this type of training. Whenever possible instruction in the various subjects is coordinated in a continuing situation with the final phase presented in a field exercise which emphasizes the principles and gives the students practical experience in applying those principles.

Activities of the Field Training and Replacement Department continue at nearly maximum capacity. The Field Training Section has several groups in their final phases of training and they have been given an opportunity to test their physical condition by twenty-five mile hikes and bivouacs under rigid field conditions. The Replacement Section continues to present refresher courses in the various phases of Gunnery and Artillery. A recent addition to the subjects presented is a condensed course in Field Artillery methods and procedure. Every effort is being made to take advantage of the time available to officers awaiting reassignment by keeping them busy and gainfully employed in improving their professional knowledge.



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BRIGADIER GENERAL H. C. ALLEN, *Commanding*

By Major Prime F. Osborn

Troops at this Training Center are taking the hot summer weather in their stride due to the successful efforts of the S-4 section to provide a pleasant, commodious place in which to swim. Although the camp is touched on two sides by waters of the Gulf of Mexico, swimming has often been a questionable pleasure because of the shallow water in the summer months, the hosts of jelly fish. Dredging has been completed, and depths of from ten to fifteen feet provided for swimmers using the end of the Camp Hulene Posts have been driven into the sandy bottom about the end to take the wire which will be strung to keep out the jelly fish. Some wire has already been placed and it is believed that the enclosure, measuring approximately fifty feet by one hundred feet will be completed in July. Also contributing to the convenience of the troops in training will be the opening of the Port Lavaca causeway. The causeway, which was destroyed by storm in the fall of 1942, has been rebuilt and is scheduled to be open to traffic in July. Crossing Lavaca Bay the reconstructed causeway will save troops traveling to Indianola for firing about twenty-five miles and some three and one-half hours of precious training time. For almost two years units have travelled 110 miles to the Lavaca Bay range; the distance along the new two-mile causeway is 35 miles.

Two variations in the use of standard training aids are worthy of mention this month. The OQ2A, an "old reliable" at the range, has been wooed away from its customary haunts to assist in AAAIS training. Catapult and transmitter are set up beside the "Operations Room," which is at the center of an area defense. The flight of the OQ2A is directed by the officer in charge of the "Ops" room and its actual course checked against the plots sent in by the observers. These AAAIS observers are set out at distances ranging from 400-600 yds from the operations board. With the OQ2A at such distances from the operations board the OQ2A is a much more realistic target than a full size airplane. When towing missions are available and good weather prevailing, the training center S-3 is not reluctant to release the OQ2A for AAAIS training. A new angle has been tried with the anti-paratrooper targets which are furnished for target practice. Flown over a unit on tactical exercise by tow target squadron planes the realistic air targets drift down and become "casualties" or "prisoners."

Attached to each parachute is an envelope containing a message of intelligence value. The troop thus receive, in addition to sighting practice, training in the collection and dissemination of information.

The range and records sections have two training aids for consideration. The first is the "Critique Board" which has been used for some time with great success by the training center. These boards measure approximately 4' x 4' with one side prepared for director control courses and the other for forward area and speed ring sights. On the side made up for director courses is plotted the range set by the range setter and the actual slant range as obtained from the records section. Plots are worked out on a time-interval basis to insure accuracy. Sensings from flank and gun spotters are also recorded to correspond with each shot fired. The sensings of the flank spotters—hit, over, or short—should check with the graphic portrayal of the course as computed by the record section with the ranges set in the director. Wherever possible, AAAIS observers are used in these flank spotting positions. Two men at the gun—an observer and a recorder—call out high—low (or left—right) and line. These sensings also are checked against those of the flank spotters and the records sections results. The reverse side of each board diagrams forward area, speed ring, and Mark IX sights. Again plots are received from flank spotters who observe ahead—astern—line. The spotter at the gun notes left—right or high—low. The actual leads are plotted on the diagram and the correct curve computed from R_{in} and S_{α} , compared with it. The gun spotter and flank observers serve to check the course and confirm or disprove the probable hits.

A more recent development is the check sight designed to be used on the 40mm during actual firing with forward area or speed ring sights. Mounted on the sight bar, it is of rigid, all-metal construction. Two bolts of the sight bar support bracket and a U-bolt beneath the sight bar hold the check sight in position. The rear sight is adjustable, thus simplifying orientation in azimuth and elevation. The rings are set for target speeds of 100, 150, and 200 mph. During practice tracking a crew member or officer operates the check sight. When firing is in progress a member of the records section takes over. The sight provides one more check on where the gunner carried the target, and is a valuable addition to the data offered at the critique.



Critique Board.

Signal Corps Photo

Southeastern Sector

MAJOR GENERAL DURWARD S. WILSON, U.S.A.,
Commanding

The Harbor Defenses of Key West, which includes the Temporary Harbor Defenses of Tampa, Miami and Fort Lauderdale, under the command of Colonel Ralph E. Hill, have conducted several interesting exercises and demonstrations to emphasize normal training methods.

The most interesting of these demonstrations was a maneuver conducted at West Martello Tower, Fla., where half the personnel of a 90mm battery was given the defense mission and the other half of the personnel, the attack mission. The groups were known as the "defenders" and the "attackers."

It was gratifying to observe how these groups took into consideration all points of tactics, and the excellent timing of their operations. The "attackers," in order to quiet the fire (blank cartridges) of the "defenders," made full use of smoke. This enabled them to get into position for the final assault.

The cleverest trick of the whole maneuver was performed by two soldiers of the "attackers" who were theoretically armed with grenades. They covered themselves with old orange crates, to give the impression of floating trash, entered the water and approached the "defenders" from the rear, making it possible for the "attackers" to take the defended strong point.

Upon completion of a course of instruction on "Booby Traps and How to Make Them Safe," which was given to all the personnel at the Harbor Defenses of Key West, all personnel were required to go through "Hitler's Rest House," an old HECF that had been booby trapped both inside and out. The object of the exercise was to make the place safe, by the removal of the Booby Traps.

Upon conclusion of the exercise, it was concluded that the troops were alert and had received very good instruction in the subject.

During the months of May and June, two special 90mm practices were conducted. The first practice, using inert ammunition, completely destroyed the high speed target. The practice continued as the target remained partially visible.

The batteries of the Harbor Defenses of Chesapeake Bay, under the command of Brigadier General Rollin L. Tilton, have fired nine practices on both sea- and airborne targets, during the months of May and June, with very satisfactory results.

An interesting phase in the training program was centered on .50 cal. machine gun firing on target planes. The .50 cal. guns were mounted on 40mm mounts and fired as sub-caliber. Antiaircraft mounts were also used in this type of practice and both proved very satisfactory.

Workmen at Fort Monroe have removed a number of temporary wooden barracks near the Officers Candidate School, and the area is being cleaned up and restored to its prewar appearance.

The Fort Monroe Baseball Team, back from playing series of road games, made its first home stand on the newly completed diamond on the parade ground, with Brigadier General Lawrence B. Weeks, of the Coast Artillery School, throwing out the first ball.

At the Harbor Defenses of Beaufort Inlet, North Carolina, one of the casemates of old Fort Macon has been renovated and made into a chapel. The chapel is very attractive and adds much to the religious services, formerly conducted in the post recreation hall.

Training for the past two months has emphasized organizing gun crews and training on new guns, using new methods of range finding and fire control.

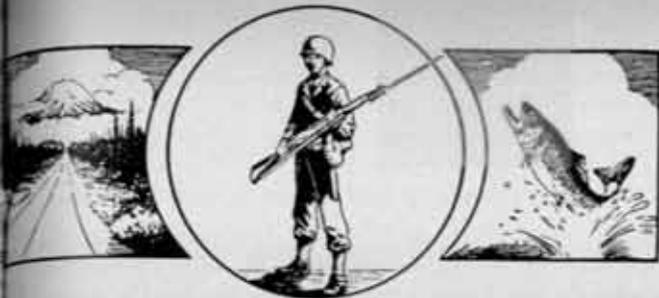
At the Harbor Defenses of New York, under the command of Brigadier General Charles D. Y. Ostrom, in an effort to promote training of Coast Artillery Submarine Mine Personnel in their tactical mission, one mine battery has devised an ingenious electrical method of presenting the operation of a mine project. By utilizing miniature models, a typical submarine mine project has been constructed, so that a clear picture, showing the relationship of shore installations to the mine field has resulted. The outstanding feature of this model is the ability to show the men, by visual demonstration, just how the mine field reacts to the presence of a ship as it passes over the field. As the ship passes over the mine field, a buzzer is sounded in the miniature casemate.

Besides this training device, the battery has devised several others, all of which are housed in the battery school house, which has become an attractive training center for mine personnel. Other training aids range from rifle marksmanship, using the principles of the photoelectric cell, to the demonstration of a mine firing circuit. In the latter, the sequence of operations involved in firing a mine is demonstrated by employing colored diagrams cased in glass. By pressing a series of buttons, parts of the circuit light up in the correct sequence.



Chapel at Fort Macon.





Northwestern Sector

BRIGADIER GENERAL JAMES H. CUNNINGHAM, *Assistant Sector Commander for Harbor Defense Matters*

With favorable summer weather, the Harbor Defenses of the Northwestern Sector, Western Defense Command, are entering into a concentrated target practice season.

At an impressive military ceremony, Mrs. Edna Hess, Aberdeen, Washington, received the Silver Star award on Thursday afternoon, 11 May 1944, at Fort Stevens, Oregon. It was presented by Colonel C. S. Doney, Commanding Officer of the Harbor Defenses of the Columbia. Mrs. Hess received the award for her husband, Sergeant Mike Hess, who was killed in action on 19 October 1943. Sergeant Hess and his company were advancing at an unannounced point in the face of heavy tank and machine-gun fire. The advance guard was cut off by a by-passed machine-gun nest and Sergeant Hess left his place of cover and crawled 200 yards under machine-gun fire to locate the machine-gun nest and liquidate it with a hand grenade. A parade review was given immediately following the ceremony, in which Colonel Doney pinned the Silver Star medal on Mrs. Hess.

During July there is planned a battle practice in the Harbor Defenses of Puget Sound to be conducted by two main AMTB batteries. This practice, the first of this type to be conducted in these harbor defenses, is to be in conjunction with a twenty-four hour exercise.

Major General Pearkes, General Officer Commanding, Pacific Command, Canada, visited the Harbor Defenses of Puget Sound on the 12th and 13th June. Included in the visit was a tour of the Harbor Defense installations, a target practice, and firing at an airplane target. The visit also included an inspection of Naval installations within the Harbor Defenses of Puget Sound.

A real full-blooded native from "America's Last Frontier" is Private Dan Nassuk, 31, who is the first Eskimo soldier to serve at Fort Stevens. Private Nassuk is a native of Koyuk, Alaska, which is approximately 150 miles northeast of Nome, Alaska. Koyuk is a village of only 100 inhabitants and seven men were taken from this village into the Army. When being interviewed, Private Nassuk stated that he, and other natives of his village in the frozen waste of northern Alaska, are very fond of ice cream and eat it frequently. Private Nassuk speaks several dialects of the Eskimo language. He is on duty with the Ordnance Department. Private Nassuk stated that he frequently traveled by dog team from Koyuk to Nome to trade for supplies and that this distance of more than 150 miles required from four to five days, which meant sleeping out along the snow drifted

trails en route. Private Nassuk said his father just has one name and that is "Nassuk." He said that missionaries often gave the Eskimo children their first names, which accounts for the American sounding first names.

With an impressive ceremony, Brigadier General Cunningham presented a "Minute Man T Flag" to the civilian employees in the Harbor Defenses of Puget Sound on 20 June 1944, as a reward to civilian employees, 90% of whom have subscribed at least 10% of their pay in war bonds.

The sign in the picture is erected at the entrance to a battery in the Harbor Defenses of the Columbia.

Although a veteran of two World Wars, this battery has never fired a round in combat action. It has, however, the distinction of being the only battery in the continental limits of the United States to have been fired on by a hostile power since the Civil War.

At 2330, 21 June 1942, a hostile vessel, presumably a Jap submarine, opened fire on Fort Stevens. The first salvo landed approximately seventy-five yards from the battery. It is needless to state that the enemy "alert" system was most effective and the battery was "in order" in record time. Succeeding enemy salvos falling in front of and to the flank of the battery sent shell fragments whistling through the trees of the bivouac area and over the emplacement. However, no casualties resulted.

A total of nine rounds were fired at the battery and several additional rounds were fired at other installations to the south. Flash ranging during the shelling fixed the hostile vessel approximately 1500 yards beyond the battery's range to the intense disappointment of all concerned. The knowledge of the range is indicative of the thorough preparation made by the Jap intelligence service. Shell fragments picked up the following morning showed that the hostile guns were 5½" caliber. It was interesting to note that the fragments had German manufacturers' names imprinted with Jap hieroglyphics die-stamped over them.





BRIGADIER GENERAL CORTLANDT VAN R. SCHUYLER,
Commanding AAATC

By Captain Roger B. Douless

The steady cadence of intensive training activity at the Antiaircraft Artillery Training Center at Camp Davis spontaneously picked up a new fighting rhythm as the tremendous news of D-Day was flashed on June 6.

Brigadier General Schuyler, commanding general of the AAATC, would brook not a moment's interruption of training tasks on D-Day, although the camp public address system several times an hour broadcast the progress of the great Allied Armies as they tore at the beachheads of the Normandy coast. However, General Schuyler ordered a "Retreat" ceremony in commemoration of the historic occasion and all antiaircraft artillery battalions, excluding those out on bivouac or special training exercises, took part.

After the regulation "Retreat" formalities, General Schuyler addressed the assembled troops, calling upon them

to "redouble your efforts to perfect your training and to dedicate yourself to the task of serving your Country in any assignment given you, in order that this Nation may the sooner achieve a victorious peace."

General Schuyler paid glowing tribute to the invading armies and spoke of the probable disappointment that troops of the AAATC might feel at not having been chosen to play a more active part in the tremendous undertaking. However, he said it had fallen to the lot of those present to remain in the United States preparing for the time when they too would be called to enter the actual fray.

After General Schuyler had concluded his brief address to the assembled troops, Colonel D. D. Martin, Inspector of Plans and Training of the AAATC, read the epic order of the day which General Eisenhower had earlier published to the Allied legions about to cross the English channel in the great invasion. Chaplain Silas A. Meckel, of the 787th AAA Battalion, then offered a solemn prayer for the success and well-being of the invasion troops while the battalions stood at parade rest, with bowed heads. Then the troops passed in review before General Schuyler, his staff and guests.

In the period preceding D-Day, the Army authorized the revelation to the public of the development of the 12 millimeter antiaircraft guns, which have dubbed the "stratosphere guns." At this Antiaircraft Artillery Training



BLIP II, a halftrack named in honor of BLIP I, mentioned by Ernie Pyle in a recent column, prepares to fire a 4th of July s

Signal Corps

...ter considerable work had been carried out in connection with the development of the huge antiaircraft artillery piece. One of the very few units especially trained in the use of the 120-millimeter guns received all of its schooling etc.

The 120mm, as most readers will already be aware, becomes the heaviest armament of the Antiaircraft Artillery. It encompasses a vertical range approximately 20,000 feet higher than that of the redoubtable 90 millimeter gun, previously the "top gun" of the AA and which has registered such success, both as a weapon combating enemy planes and as an antitank weapon of signal and more or less unexpected accomplishment.

As Colonel Rapp aptly put it, the men of the 517th AA Battalion learned how to handle their big new gun "the hard way." The battalion's personnel in the main was picked from 90mm and automatic weapons units of the Antiaircraft Artillery and from 155mm units. Training officers speak glowingly of the morale of the 517th, no small part of which is their intense pride in their big weapon.

During a recent visit to this post of Lieutenant General Wesley J. McNair, commanding general of the Army Ground Forces, the 517th demonstrated its prowess with the 120 and the Army Ground Forces chieftain declared he was very much pleased with the exhibition. After the War Department had allowed publicity and pictures regarding the 120mm piece to be released to the public, a large group of newsreel cameramen, representing all the major news agencies, visited Camp Davis and filmed the batteries of the 517th operating their gun. The spectacular filmings so obtained have been shown all over the nation.

Among training phases which have been developed here in months has been that of the Provisional Training Battalion. This unit has as its mission the training of teams in various special activities which correlate with Antiaircraft Artillery. Generally, the personnel of the Provisional Training Battalion is drawn from other branches of the Army. The groups are given a four-week course of training and familiarization with the work, mission, etc., of the Antiaircraft Artillery. This consists mainly of advanced basic, preparatory to overseas shipment; antiaircraft identification; the organization and aim of AA; guns and other matériel of the AA.

After this training is completed, the teams are organized and later they are assigned to regular Antiaircraft Artillery units.

Antiaircraft Artillery Training Center troops have been taking an active part in the Fifth War Loan Drive. Opening the drive early in June a large group of troops from the AAATC paraded in nearby Wilmington, N. C. Among AA matériel exhibited in the parade was the 120mm gun, with a large group of personnel of the 517th AA Battalion taking part. Numerous other items of AA matériel and personnel were in the line of march and drew an exceptionally favorable reaction from large crowds of watchers lining the sidewalks of Wilmington's thoroughfares. The bond sales immediately afterward were quite successful. Camp Davis is the largest military installation in the vicinity of Wilmington and the town has gradually become antiaircraft artillery conscious. The mayor of the town, Mr. Bruce Cameron, has two sons in the Antiaircraft Artillery, both overseas and both officers.



Army Air Forces Tactical Center

By Major Ray Kaplan

ANTIAIRCRAFT AT AAFTAC

With the advent in 1939 of mass air power, a true realization of the importance of air defense was brought home to the minds of military men all over the world. The air battle which took place over Britain in 1940 again brought home the need for a unified air defense system. Americans, who at that time were not as yet engaged in the war, realized that in order to keep up with existing trends it would be necessary to devise a means of air defense to meet this need. As we know it today, the Air Defense team is composed of Fighter Aviation, Antiaircraft Artillery, and the Antiaircraft Warning Service. The importance to Antiaircraft Artillery officers of a thorough knowledge of coordinated air defense came about when it was seen that, in order to have an efficient air defense, a system of close coordination must be maintained. To meet the problem as it arose, the

Fighter Command School was activated at Orlando, Florida, in August, 1942. In this Fighter Command School, an Antiaircraft Artillery Division was set up for the purpose of orienting Antiaircraft Artillery officers in the problems of coordinated air defense. Since the Fighter-Searchlight Team had been devised as a means of utilizing the potent day fighter for defense against air attack at night, the Antiaircraft Artillery Division was charged with the training in fighter-searchlight tactics and technique of key personnel from searchlight units then within the continental limits of the United States.

Colonel Arthur B. Nicholson, CAC, who was largely responsible for the fighter-searchlight development, became Director of the AAA Division, and set up a staff to present a course of instruction for the dissemination of air defense doctrine to AAA staff officers, and fighter-searchlight tactics and technique to key personnel from the searchlight units.

Later in the year, Colonel M. K. Deichelmann joined the AAA Division staff and became head of the AAA and Airdrome Defense section of the Division. Colonel Nicholson remained Division Director and also Chief of the

Fighter-Searchlight section. As time went on, and additional requirements for increased class capacities developed, the instruction staff of the Antiaircraft Artillery Division was expanded from time to time. The Fighter Command School was reorganized in December, 1942, and became the nucleus of the present Army Air Forces School of Applied Tactics.

The Antiaircraft Artillery Division then became a part of the Air Defense Department of AAFSAT. By this time, a training program had been developed whereby classes of 45 to 50 AAA staff officers were attending ten-day courses on AAA staff matters regarding employment of AAA with Air Forces, and classes of 80 to 150 students were being conducted in fighter-searchlight tactics and technique. In view of the fact that the Army Air Forces School of Applied Tactics had been organized to react rapidly to current tactical and technical developments of the war, it is only natural that the fighter-searchlight team gained impetus from the time of the inception of that course until the present date, because of the favorable results fighter-searchlight tactics produced in the combat theaters. As a result, it was decided to give final fighter-searchlight training to complete AAA Searchlight Battalions, under the Fighter-Searchlight section of the AAA Division, and this began in early 1943. Thereafter, when AAFSAT was reorganized, and the Army Air Forces Tactical Center was instituted, the AAA Division of the Air Defense Department was divided into two separate organizations. Colonel Arthur B. Nicholson became commanding officer of the AAA Demonstration and Training Unit, organized directly under AAFTAC to act as an AAA troop command headquarters and to conduct fighter-searchlight training of AAA Searchlight Battalions. Colonel M. K. Deichelmann became head of the Antiaircraft Artillery Department of the Army Air Forces School of Applied Tactics which was newly constituted a part of the Army Air Forces Tactical Center. The AAA Department was chiefly responsible for academic problems of AAA instruction not only to AAA officers but also to a large majority of Air Forces officers attending the School. This was a milestone in the long trek toward the ultimate goal of close coordination, in that it enabled the AAA Department to present to the Air Forces officers and men a detailed analysis of AAA problems, and, in turn, enabled the AAA Department and the Air Forces organizations of the School to present to AAA officers an analysis of the Air Forces' problems, capabilities, and limitations.

It is interesting to note The AAA Department has graduated AAA staff officers from the AAA Staff Officers' Course, and officers and enlisted men from the Fighter-Searchlight Course, and has conducted classes on AAA capabilities and limitations, AAA control, and AAA organization for a large number of Air Forces officers and men. The AAA Demonstration and Training Unit has collaborated in this instruction by providing matériel, demonstrations, and instructors. The AAA Demonstration and Training Unit now

has as its principal function the training of AAA Searchlight Battalions, in the field and in the classroom, in fighter-searchlight tactics and technique, and has conducted training of assigned Groups in addition to the battalions. Many AAA Searchlight Battalions have received their final unit training at AAFTAC and are now in operation overseas or on their way thereto. It is interesting to note that many of these battalions have already given good account of themselves in the various theaters of operation.

At the present time, Lieutenant Colonel Frederic H. Fairchild, CAC, is head of the AAA Department, AAFSAT. Also stationed at Orlando is the Army Air Forces Board which is charged with the development of tactics and techniques for Air Forces operations. In order to meet problems of combined operations between AAA and Air Forces, the Air Forces Board has on duty with it Colonel R. L. Anderson, CAC, who serves in the capacity of AAA Liaison Officer.

During the past month, the AAA Department, in conjunction with the AAA Demonstration and Training Unit, conducted Antiaircraft Artillery demonstrations of the operation of various types of AAA for Air Forces officers attending the School. In turn, many AAA officers witnessed demonstrations of the employment of various types of Air Forces planes, tactics, and ordnance. This enables all members of the Air Defense team to see the over-all aspect of air defense from an intelligent viewpoint.

The growth of the AAA Demonstration and Training Unit is the result of the type of training conducted at Orlando, the facilities available, and the cooperation of the Air Forces with AAA. Originally, one group and two battalions were trained for demonstration purposes. With the success of the training and the results obtained in active theaters by battalions that have left Orlando, the AAA Demonstration and Training Unit now has searchlight battalions and groups spread over a large portion of Central Florida in actual field positions, undergoing intensive training in combined defense.

The activities of Antiaircraft Artillery at AAF Tactical Center, Orlando, Florida, have accomplished the following:

1. Instruction of AAA officers in coordinated air defense.
2. Instruction and training of AAA officers in fighter-searchlight tactics.
3. Training of AAA Groups in searchlight tactics and combined air defense.
4. Training of AAA Searchlight Battalions in searchlight tactics and combined air defense.
5. Instruction and training of Army Air Forces personnel in the capabilities and limitations of antiaircraft, and in coordination with antiaircraft in searchlight activities.
6. Presentation of AAA problems and capabilities to Army and Navy Staff Officers attending courses at AAF Tactical Center.
7. Development of necessary policies, and conduct of programs and projects assigned to AAF Tactical Center.





Fort Bliss



BRIGADIER GENERAL STANLEY R. MICKELSEN,
Commanding AAATC

By Major Paul V. Meyer

The Antiaircraft Artillery Training Center was host to several distinguished visitors during June. Lieutenant General Lesley J. McNair, Commanding General of Army Ground Forces and several members of his staff spent several days here inspecting the Training Center installations, and also the Antiaircraft Artillery Replacement Training Center.

Included in the itinerary were visits to the Training Aids Building, to a field exercise, to unit and specialized schools, and a trip to the Hueco firing point for observation of night firing.

Major General Joseph A. Green, Commanding General of the Antiaircraft Artillery Command, was present during

the inspection by General McNair. During the previous week, General Green presented General Mickelsen with the Legion of Merit at a colorful ceremony at Armstrong Field.

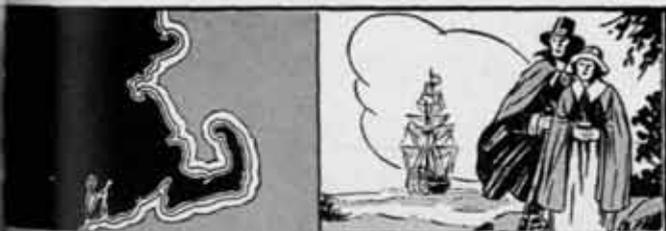
Two British Army Officers, Colonel William Brooks and Major John Thompson, spend several days here inspecting local training devices and exchanging views and ideas on the latest innovations in Antiaircraft.

May found the Antiaircraft Artillery representation at Fort Bliss increased again, this time by the arrival of the Antiaircraft Artillery Replacement Training Center formerly stationed at Camp Callan, California.

Captain Franklin Joseph, AAATC Recognition Officer, organized and put over a most successful Recognition Contest, open to all enlisted men of the Training Center. Tec 5 James A. Dhein, 513th AA Gun Battalion, was named Post recognition champion by correctly naming 81 out of 100 plane images. Each image remained visible for only one second. As a reward, Cpl. Dhein received an engraved walnut plaque, presented by General Mickelsen, a scroll, a free plane ride and \$10.00 cash.

A composite Gun-Searchlight Battery left Fort Bliss for Oklahoma City and Tulsa, Oklahoma to represent the AA Command at a huge Fifth War Loan Drive Army War Show. The Battery left with full equipment, and will be gone for approximately one month.

The athletic season is in full sway and AAATC teams have been entered in several of the tourneys in this area. Four baseball teams are participating in the Southwest Tourney held at El Paso and are among the favorites. Pfc George Ball, 15th-ranking U. S. tennis star, will represent the Antiaircraft Artillery Training Center in a tourney held at Austin on June 26th.



Northeastern Sector

MAJOR GENERAL FULTON Q. C. GARDNER, *Commanding*

By Lieutenant G. W. Caturani

Major General Fulton Q. C. Gardner assumed command of the Northeastern Sector, May 15, 1944, succeeding Major General Kenneth T. Blood.

Unusually clear, dry weather has favored almost uninterrupted completion of the varied and intensive artillery training schedules of the Harbor Defenses of Northeastern Sector. In sharp contrast to the days when one target prac-

tice a year was the primary objective of artillery training, today's schedule calls for some type of firing almost every day of the year within each harbor defense. Special target practices have been emphasized approximating all types of battle conditions.

Joint motor-torpedo-boat exercises have been held with the Navy at the Harbor Defenses of Long Island Sound, Narragansett Bay, and New Bedford during the past two months. PT's simulated attacks on shipping at the entrances of the harbors and conducted sneak night attacks to land combat and demolition groups whose mission was to destroy shore installations. Boats continuously illuminated by searchlights for two minutes were deemed casualties. A realistic touch was the appearance of flares at battery positions when fire was opened. Subsequent reviews of intelligence reports during critiques proved most useful in evaluating current motor torpedo boat defense tactics.

Direct Hit, Northeastern Sector's all service show, produced for the Fifth War Loan Drive, has almost completed its tour through twenty-five New England towns. The Treasury Department estimates that bond sales directly attributable to the show will exceed \$40,000,000.

Baseball continues to be the favorite sport at the harbor defenses, and there is every indication that the contests for the Northeastern Sector Baseball League pennant will be

spirited. The Harbor Defenses of New Bedford Post Team has won nine games straight in the New Bedford City League, the last four being shutouts. Softball and volleyball have had a large following, and fishing and lobster trapping are the off-duty avocation of determined and enthusiastic minorities at Portland and Long Island. One unit at Portland has built its own lobster pots.

During the past two months, Northeastern Sector's

Chemical Warfare Officer conducted schools at the Harbor Defenses of Portland, Boston, New Bedford, and Long Island Sound, for noncommissioned officers, covering all phases of Defense against Chemical Attack in a course lasting thirty-eight hours. Noncommissioned officers successfully completing the course were awarded an Eastern Defense Command Certificate of Proficiency qualifying them as instructors.




Camp Stewart

BRIGADIER GENERAL E. A. STOCKTON, JR.
Commanding AAATC

BRIGADIER GENERAL WILLIAM HESKETH
Commanding AARTC

By Major Clenen J. Bishop

On the eve of Infantry Day, 5,000 soldiers of the AAATC, AARTC, and the Service Command spelled out in giant letters "TO THE INFANTRY" in a salute to the fighting foot soldiers. Rounding out the all-service tribute to the fighters on foot were Air Forces planes from near-by Liberty Field dipping their wings in a salute over the huge formation.

Private Robert Thompson, Infantry combat veteran who fought four months on Guadalcanal, was on the reviewing stand representing his brothers in arms all over the world. With him were Brigadier General Edward A. Stockton, Jr., Brigadier General William Hesketh, and Lieutenant Colonel Frank H. Besselieu.

General Stockton, commanding the AAATC, keynoting the observance said: "This tribute is for men like Private Thompson, a Camp Stewart soldier who spent four months fighting the Japs with the 182nd Infantry regiment. . . . We in the Antiaircraft Forces are proud to have him represent our men who are with the Infantry on all the fighting fronts."

General Hesketh, commanding AARTC, said: "Even with the mechanization of the Army, the doughboy in the foxhole still has to slug it out with the enemy and rout him out."

Colonel Besselieu of the ASF commented: "The kind of teamwork displayed here today between the Air Corps, AAATC, AARTC and the Service Command wins wars!"

Second Lieutenant Martin J. A. Schwarzschild, former

Stewart enlisted man, was awarded the Legion of Merit medal on June 6 for meritorious conduct in perfecting a new system for compiling antiaircraft ballistic data.

For conceiving an idea whereby a firing pin on the 40mm can be replaced without removing the breechblock Tec 5 Herbert H. Meyer, 910th AAA AW Bn., was awarded the Legion of Merit on June 24.

All units of the Antiaircraft Replacement Training Center are now settled in their new home at Camp Stewart and officers and men of the AARTC are looking with satisfaction on the smooth and efficient way in which the movement was accomplished.

Not a single day of training was lost because of the movement. Each battalion and battery moved from Fort Eustis as one training cycle was completed and was ready to receive its new increment of trainees on schedule at Camp Stewart.

High light of recent activities at Stewart was a three-day inspection of training by a team of Army Ground Force Inspectors. The inspectors were accompanied by several officers from the G-3 section of AA Command. Major General Green paid an informal visit to the AARTC during this inspection.

The importance and responsibilities of each individual officer as well as a close relationship between all echelons of command is being emphasized by General Hesketh.

Brigadier General John B. Maynard, commanding general of the AARTC from July, 1943, until his retirement in April, 1944, was awarded the Legion of Merit at a ceremony at Fort Eustis on 5 June.

An Army Ground Forces general commended and praised the 365th Antiaircraft Ordnance Company, a unit of the 323rd Ordnance Battalion stationed at Stewart, for a "superior performance in the field" during a recent inspection. Captain Lenton G. Soulthrop, especially was commended for "unusual combat-mindedness," the letter said in part.

On the double occasion of the first anniversary of the activation of the ASF Service Command WAC Detachment here and the second birthday of the corps, Colonel William V. Ochs, post commander, said in a statement included in an editorial appearing in *Shoot 'Em Down*, camp publication, "The WACs have accomplished their duties with efficiency, loyalty, and an absence of ballyhoo."

Camp Stewart opened its Fifth War Loan Drive. Sales are piling up daily augmented by a huge bond auction in the sports arena, causing Captain William B. Wither, post bond officer, to express confidence that the goal of better than a half million dollars would be achieved.



BRIGADIER GENERAL H. F. NICHOLS, *Commanding AAATC*

By Major Russell S. Price

Combat swimming is being emphasized at the AAATC at Camp Haan. Brigadier General H. F. Nichols, commanding the AAATC, has ordered training to insure that the men in his command will be able to swim 50 yards clothed and carrying full pack and rifle. As a result, the training center has embarked on a rugged course in the Aquatic Warfare School, designed to make even the duffer self-sufficient in the water.

The camp-wide program, which has been carried on in its introductory phases with the coöperation and assistance of the American Red Cross, was launched with the announcement that 60 per cent of the men entering the army were unable to swim at all, and another 30 per cent could be classed only as insufficiently proficient.

"Many of our casualties in this war, in which so much depends on ship-to-shore movement under enemy fire and most difficult obstacles, have been caused by drowning rather than bullets," General Nichols said. "This need never be if all commands stress aquatic training in their programs."

The AAATC's program is divided into three general phases, depending on the aptitude of the men. The first eight hours, for those who know little or nothing about swimming, is designed to teach a man to stay afloat. A second eight hours is given over, in courses in the Enlisted Men's and Officers' swimming pools, to instruction in the basic swimming methods—sidestroke, breaststroke, and backstroke—described by instructors as the most energy-conserving, after which the pupil is expected to be able to swim a full 100 yards in trunks only.

Third phase of the program is given at the new combat swimming course built some miles from Camp Haan at Mulroad Lake, where the pick of the introductory classes are put through a rugged five to eight hours of instruction in strategic swimming, designed to fit them for the job of instructing in their battalions.

This latter phase of the aquatic warfare course deals with practical phases such as how to abandon ship by descending Jacob's ladders, lines, or by leaping; tactical swimming through wreckage or burning oil; methods of utilizing equipment or clothing as life-saving devices, and Red Cross tested life-saving methods.

These life-saving lessons, learned at the Aquatic Warfare School, are passed down to every enlisted man in the training center through the school-trained instructors.

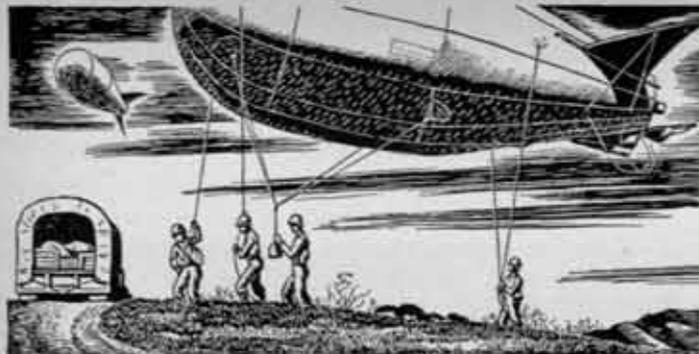
Camp Haan was given a vivid demonstration of things to come, when on June 15 a picked detachment of 110 expert infantrymen from the 381st Infantry Regiment, Camp San Luis Obispo, descended on the camp for an Infantry Day show.

With several score civic leaders from nearby communities as guests of the training center commander, the infantry performed at the Lakeview Firing Range before an audience of unit commanders, staff officers and five battalions of enlisted men. All of the basic infantry weapons were thrown into action during a two-hour program which ended with the attack on and reduction of a fixed objective by a combined infantry assault team.

The Infantry Day program coincided with opening of the 5th War Loan Drive at Camp Haan, and a speaker, Chief Yeoman James A. Peebles of the U. S. Navy, was provided by the Treasury Department for the occasion.

Camp Haan's weekly paper, *The Tracer*, was awarded national honors in a recently-concluded competition for service publications.





CAMP TYSON

COLONEL WILLIAM H. KENDALL, *Commanding
Barrage Balloon Training Center*

By Captain Loren E. Juhl

Very low altitude barrage balloons from the Barrage Balloon Training Center are being flown in 24 principal cities in the United States during the period of the Fifth War Loan Drive as a part of the Army's contribution to the bond-selling campaign.

Each balloon is manned by a detachment of one officer and four enlisted men who demonstrate the equipment and explain the uses of the balloon to the public. Because of their relative newness, the balloons have been quick to catch the public eye and have become the rallying point for bond-selling activities.

In Washington, D. C., crowds in excess of 2,000 people

have visited the balloon site, and large crowds in all other cities have indicated a tremendous interest in barrage balloons.

The cities in which balloons are being flown are: Portland, Maine; Providence, R. I.; Boston, Mass.; New Haven, Conn.; Hartford, Conn.; New York City (two balloons crews); Newark, N. J.; Wilmington, Del.; Pittsburgh, Pa.; Philadelphia, Pa.; Baltimore, Md.; Richmond, Va.; Memphis, Tenn.; Atlanta, Ga.; Birmingham, Ala.; Charlotte, N. C.; Charleston, S. C.; Toledo, Ohio; Cincinnati, Ohio; Indianapolis, Ind.; Chicago, Ill.; Milwaukee, Wis.; Detroit, Mich.; and Washington, D. C.

Wing Commander Alec S. Fletcher, RAF, British Army Commission, visited the BBTC from 20 June to 23 June to confer with Colonel Kendall and Major David E. Aldrich, Barrage Balloon Member of the Antiaircraft Artillery Board. Wing Commander Fletcher commented upon the important and successful missions that balloons are accomplishing in Europe.

With the coming of warmer days the new thirteen-acre training lake at Camp Tyson is in constant use. Construction was begun on the artificial lake last year, but this is the first summer it has been in use. All non-swimmers are being taught how to swim, and classes in watermanship are being conducted by the various units. The lake is also used for recreational swimming by military personnel and members of the families. Picnic tables and barbecue pits have been placed near the beaches.

Brigadier General John B. Maynard who was Commanding General of the Barrage Balloon Training Center



The new training lake at Camp Tyson.

February, 1942 to July, 1943, visited Camp Tyson during the latter part of May while on terminal leave. Camp Tyson personnel received a first-hand account of the war on the Anzio beachhead from Lieutenant S. Robert Marconi, who recently returned to the BBTC after serving with his balloon unit in the Sicilian and Italian campaigns. Lieutenant Marconi reported that in all places where barrage balloons were employed, German strafing and low-level bombing attacks were stopped. All units at the BBTC have now completed record fire on target F with the Cal. .22 rifle.

A War Information Center and a Telephone Center have been placed at the disposal of Camp Tyson soldiers by the Fourth Service Command. The War Information Center has been established in the Service Club by the Morale Services Officer, where up-to-date war news and information is posted on maps and bulletin boards. At the Telephone Center, easy chairs and reading material are provided for the benefit of soldiers waiting for connections.

A special map of the Camp Tyson area, designed to be used for training in map reading and in field exercises, has been published by the S-3 section.



Northern California Sector

BRIGADIER GENERAL RALPH E. HAINES, *Commanding*

The C. A. Mine Planters attached to the Harbor Defense of San Francisco recently played a prominent part in the rescue operations following the wrecking of the Liberty ship *Henry Berg* on the Farallon Islands.

The *Berg* went aground on the Farallon Rocks in a "Soup" Fog as she approached San Francisco.

Amy, Navy, and Coast Guard rescue ships sped to the scene and succeeded in picking up every shipwrecked seaman and crewman from life rafts, the water, and from the Rocky Island shores without serious injury to anyone. Crews of the mine planters performed like veterans and were highly commended both by their officers and by Captain Haislip, commanding 12th Naval District.

Artillerymen of the Third Battalion of the local Coast Artillery regiment got a taste of amphibious tactics recently when they staged a landing exercise on one of the islands in San Francisco Bay. The maneuver was covered by a smoke screen and the soldiers went ashore in several waves using mine yawls to complete a successful operation.

HDSF officers of battery grade are attending a three-day gunnery refresher course with the first group be-

ginning in June. Two weeks are spent in academic work at Fort Winfield Scott and the third week in field work and in firing a three-inch gun battery. Latest methods of firing seacoast, antiaircraft, and field artillery guns are presented by Lieutenant Colonel Walter E. Christie, and other members of the staff of Colonel Kenneth Rowntree.

Enlisted WACs have arrived for duty with the Service Command Unit in the Harbor Defenses of San Francisco and already have taken over duties at Fort Winfield Scott and Fort Baker.

A big-time radio show, the first for the Harbor Defenses of San Francisco, was staged at the Fort Winfield Scott Post Theater in May when the Coca-Cola Company's *Spotlight Band* program went on the air over a national network. Artillerymen from six forts in the HDSF packed the theater to hear Hal McIntyre and his band.

Exhibition tennis matches were presented for sports enthusiasts on the courts of the HDSF Officers' Club late in May by Private Frank Kovacs, ranking prewar netster, who was in San Francisco on furlough from the Southwest Pacific; George Lyttleton Rodgers, giant Irish star, and Margaret Osborne, U. S. women's doubles titleholder.

Also on hand were Barbara Kruse, national junior singles handcourt champ, and Mrs. Virginia Wolfenden Kovacs, women's Pacific Coast singles titleholder.

Figures on kitchen grease salvage in the Harbor Defenses of San Francisco show more than six tons of this valuable glycerine source are saved in battery kitchens each month.

The *Golden Gate Guardian*, camp newspaper for the Harbor Defenses of San Francisco, celebrated its third anniversary in late June.



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TEXTS

Hap's Boys

AAF: THE OFFICIAL GUIDE TO THE ARMY AIR FORCES. New York: Simon and Schuster, 1944. 369 Pages; Index; Illustrated. \$2.50.

Designed as "a single, authoritative, popularly-styled source of reference to the mightiest air force in the world," this book is copyrighted by the Army Air Forces Aid Society, and carries a foreword by General Arnold. There are sixty-four pages of photographs and 175 drawings, along with numerous tables, a war calendar, a list of historical events that concern the Air Forces, and a bibliography. There is a lot of book here for the price, and all of the book is of interest to any person interested in military aviation, the Air Forces, or the war—which takes in just about everybody.

A large part of the material in the book is information that just a few short months ago was classified—the military secrets of yesterday are the public property of today. The pace of this war is swift. Tactics, location of the different Air Forces, and a short piece about operators of radar are just a few of the subjects that were taboo earlier in the war. Production, maintenance, ditching procedure, blackouts and redouts, jet propulsion, takeoff rockets, and armaments are some of the hundreds of subjects that are covered.

Guide to Paperwork

HANDBOOK TO ARMY REGULATIONS AND OTHER DIRECTIVES ON ADMINISTRATION. By Lieutenant Colonel Walter Sczudlo. 205 Pages; Tables. \$2.50.

There is no index to this book because the book itself is one huge index on administrative matters. In alphabetical sequence are listed the titles to be looked up, with a short definition where applicable, and a reference to the pertinent Army Regulation or other directive that covers the point. Many questions will be answered by a reference to the book itself; others will require looking into the AR or other material listed. Records and who keeps them fill a table many pages long, and the list of army forms accounts for a few more pages. The book, we predict, will soon become one of the standard army desk volumes, since it should save hours of confusion and occasions of em-

barrassment for those of us who do not have card-catalog minds.

Keeping the volume up to date is going to be a chore. Colonel Sczudlo has bitten himself off a chunk of work, from now on. New edition after new edition should pour from the presses, but administrative officers will find them very useful.

Courts-Martial

THE SOLDIER AND THE LAW. By McComsey and Harris. Harrisburg: Military Service Publishing Co., 1944. 573 Pages; Illustrated. \$2.00.

With almost 200 pages added since the first edition in 1919, this third edition of *The Soldier and the Law* is the result of changes in regulations and procedure brought on by the war, as well as the survey of the needs of the tens of thousands of buyers of the previous editions. With practical illustrations, charts, as well as with hundreds of pages of text, the authors make the transition from civilian to soldier a bit more painless for those who have contact with military law—which means every soldier. Originally meant as a supplement to *Manual of Courts-Martial*, the book has gone far beyond its primary purpose, and is now a handbook on military law for every officer and enlisted man.

Officers assigned to courts-martial will find the book just what they need in the matters of procedure and custom, the one which is treated sketchily in the *Manual* and the other which is not treated at all. Even the junior member of the court has his own functions, as distinct from those of other members. He can learn those functions from this book, and from no other work which the reviewer is familiar. Within three years, *The Soldier and the Law* has become a standard military reference work.

Chow-Hound Special

ARMY FOOD AND MESSING. Harrisburg: Military Service Publishing Company, 1944. 389 Pages; Illustrated; Appendix; Index. \$2.50.

The fourth edition of this old reliable administrative aid is a recent face-lifting. The chapter on baking has been revised in line with the new TMs to bear more relation to the pre-

ities of a battery kitchen, rather than a Quartermaster bakery, the chapter on mess accounting has been brought closer to up to date, some of the less valuable information has been deleted to lessen the bulk of the book, and late official changes in other details are reflected in minor changes throughout the volume.

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Out in Front

MODERN RECONNAISSANCE. Harrisburg: Military Service Publishing Co., 1944. 230 Pages; Illustrated. \$1.50.

Thirty-two articles on reconnaissance, most of them from the *Cavalry Journal*, cover the field very well. Articles on the methods and principles of reconnaissance in the desert and jungle, on our own and foreign methods, and on methods for all types of units add to the completeness of the coverage. Pictures and maps assist in imparting clarity to the articles, which deal with both theory and practice. The experiences of our forces in Africa are prominent in the book. This should be a valuable volume for every officer or enlisted man who goes out on reconnaissance or acts on information acquired by reconnaissance—which includes every person within sound of the enemy guns. It is believed that more space might have been devoted to aerial reconnaissance, even though that is a particularly specialized field.

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The Gasoline Age

ENGLISH-CHINESE AUTOMOTIVE NOMENCLATURE. Compiled by Calvin C. Chang. Indianapolis: Marmon-Herrington Company, Inc., 1943. 236 Pages. \$2.50.

The Chinese language, written and spoken, has not yet caught up to the age of motor vehicles. But motor vehicles have caught up to China, and it was necessary to find some common ground of language so that Chinese mechanics and drivers could learn to know their vehicles. This book does the job, as far as the reviewer, who knows no Chinese, can tell. Mr. F. Myers, Technical Adviser to the Ministry of Finance, Republic of China, states, "Mr. C. C. Chang, in preparing this volume, has made a very substantial contribution in the way of standardization by using functional applications in his translation rather than, as was formerly the practice, using phonetic translations in Chinese characters, of the foreign names and terms."

propaganda. They know what the war is about, they don't like it, and they want to clean the situation up and get back to their own lives.

All this sounds like deep philosophy, without a chuckle in a carload, but the book isn't like that. Captain Hough is a fine observer, he has a delightful sense of humor, he makes friends easily—all of which helps to make the book pleasant reading. In many ways, the book is an officer's *Private Hargrove*.

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Long Hops

BOMBERS ACROSS. By Captain Edgar J. Wynn. New York: E. P. Dutton and Company, 1944. 178 Pages; Illustrated. \$2.50.

In his autobiographical account of the life and adventures of a ferry pilot, Captain Wynn describes dramatically what has taken place since the day of the NC-4, the day of Alcock and Brown, and the day of Lindberg. He tells of his flights to Scotland and return on the North Atlantic route taking bombers to England, of further flights across the South Atlantic taking planes to Africa and beyond, and of his training and service that made the flights possible. Although his first-person narrative may sound overdone at times, a little mature thought indicates that it is handled with restraint. There is a lot of water between the continents, and the skies are full of traps for the unwary. Weather, mechanical failures, pilot failures, and the pressure of war take their toll of the ferry pilots, and the ones who survive are lucky as well as good. There is more to the job than getting your license at the county airport and studying navigation from a correspondence course. The men who speak of India, Prestwick, Accra, and Fairbanks as we ordinary people speak of Wichita and St. Louis are tops in their profession, products of long periods of study and training.

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TRAVELER FROM TOKIO. By John Morris. New York: Sheridan House, Inc., 1944. 253 Pages. \$2.75.

Mr. Morris, an Englishman who worked in Japan as an employee of the Japanese Foreign Office and as a teacher of English Literature, tells us little that is new about Japan and the Japanese. Wisely he tells only of his own experiences, with no attempt at journalistic omniscience. The burden of his story is that the Japanese have been so sold by their Emperor-worship and propaganda that they cannot be understood by any Occidental, whose natural error would be to try to fathom the Japs on the basis of his own experiences and thought processes. He warns us not to expect any collapse of Japanese morale. He also cautions against trying to discredit the Emperor, but disappointingly, advances no reasons for this policy.

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PERSONAL EXPERIENCES

Vulcanized Job

CAPTAIN RETREAD. By Donald Hough. New York: W. W. Norton, 1944. 218 Pages; \$2.50.

Captain Hough had an idea when he wrote this book, and he developed it well. As an officer in the World War and also in the present one, he had a fine opportunity to compare the soldiers of both wars. As a civilian between the wars, the change was all the more noticeable. At the risk of using a hackneyed phrase, the author found the soldiers of the two wars very much the same, but totally different. They were alike in their appearance, in their life in barracks, in their relationships with civilians, and in the purposeful goofiness of the young soldier. They were dissimilar in their approach to war, to training, and to authority.

The author finds that today's soldiers are too close to the last war to be awed by the army, to look for glory in battle, or to be swayed by slogans and the other more obvious forms of

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"Nice Place to Visit . . ."

WAR BELOW ZERO. By Colonel Bernt Balchen, Major Corey Ford, and Major Oliver La Farge. Boston: Houghton Mifflin Company, 1944. 127 Pages; Illustrated. \$2.00.

The stories of our pocket-sized war in Greenland are just beginning to filter through censorship, although the events happened two years ago. There was bombing and shooting, and prisoners were taken on both sides. It was primarily a war for weather—Greenland is the source of many of Europe's weather changes, and whoever holds Greenland has the advantage in weather prediction.

Colonel Balchen headed the American forces that occupied Greenland originally, and his story of the hardships our men

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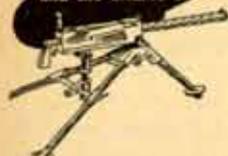
United States Infantry Weapons—Garand Semi-Automatic Rifle, Springfield Rifle, American Enfield Rifle, the new Winchester Semi-Automatic Carbine, .45 Colt Automatic, New Service .45 Auto, Smith & Wesson .45 Army, Winchester (or Remington) Riot Gun, Reising Gun, Tommy Gun, Browning Machine Rifle, Johnson Machine Rifle, Lewis Gun, Browning Machine Gun and Browning .50.

Great Britain Infantry Weapons—303 S. M. L. E. Short Rifle Magazine Lee-Enfield, .303 Pattern '14 Enfield, .303 Rifle No. 4, Boys' .55 Anti-Tank Rifle, .455 Webley Revolver, .38 Caliber Revolver No. 2, .455 Webley Automatic Pistol, Tommy Gun, 9 mm Sten Gun, Bren Light Machine Gun, British Lewis Gun, .303 Hotchkiss and Vickers Gun.

Russian and French Infantry Weapons—All operational and instruction data on seven Russian and eight French weapons of battle proved maximum effectiveness and common usage.

Axis Infantry Weapons—Up-to-the-minute technical details on fourteen German, nine Japanese and eight Italian small arms which American troops might need to use in emergencies. German Luger (Parabellum) Automatic, Mauser 7.63 mm Pistol, Walther Automatic, Steyr-Solothurn Machine Pistol, Mauser Machine Pistol, Erma Machine Pistol, Neuhausen Machine Pistol, Bergmann Machine Pistol, 7.92 mm 41 and 41-W Rifle, Gewehr 42 Automatic Rifle, Mauser Rifle, 7.92 mm Light Machine Gun, Japanese Nambu 8-mm Automatic, Arisaka 6.5 mm Rifle, Nambu Machine Rifle, 6.5 mm and 7.7 mm Light Machine Gun, Hotchkiss Heavy Machine Gun.

KNOW YOUR
WEAPONS—
and the ENEMY'S



took in their stride makes us proud to be Americans. Balchen himself is an old Arctic hand, and knew where he was going and what he was going to do, but his men were run-of-mill American kids who had no idea of the cold nor of the isolation of the Arctic. They learned, and did a fine job of establishing a base, running out the Germans, and surviving.

The second part of the book details the story that is known to many of us in bare outline—the story of the crash of the Fortress on the Greenland icecap and the waiting and the rescue. The third part consists of an account of a flight to Greenland in a fighter plane, and the story of life in an eight-man outpost. Sergeant Hall says of the icecap, "It's a nice place to visit, but I wouldn't want to live there."

OUR NAVY

Allies in Blue

THE NAVY'S WAR. By Fletcher Pratt. New York: Harper and Brothers, 1944. 288 Pages; Illustrated; Index. \$2.75.

Fletcher Pratt was writing of naval matters and devising his *Naval War Game* when many of the present crop of "naval experts" were covering City Hall and writing the amusement column for their daily papers. Class tells. Pratt's recapitulation of the naval actions from Pearl Harbor to Savo Island are scholarly without being stuffy, and at times critical without being hysterical. With the benefit of the material that came out in the newspapers at the time of the actions, with later material about the same actions, and probably from personal interviews with the participants, Pratt gives us as much of the stories as can be given with due regard for censorship and the public interest.

The particular value of Pratt's analyses is that he ties in the particular action with the Navy's strategy as a whole. After all, no battle, on land or sea, is an entity in itself, which impression we get from many writers. Pratt explains why the battle was fought, why the forces that fought were used rather than others, and in general fills in the blanks that less well-informed writers are prone to leave vacant.

On the whole, our Navy is rather good, if we make use of a bit of understatement.

LST, LCI, Etc.

BY LAND AND BY SEA. By Lieutenant Earl Burton, USNR. New York: Whittlesey House, 1944. 218 Pages; Illustrated. \$2.75.

Growing in a few years from a row of stakes in a field near Fort Lewis to the organization that landed our forces in North Africa, Sicily, Salerno, Anzio, and numerous places in the Pacific, and carrying out the big-league operation of 6 June, our amphibious forces have performed an unbelievable job of organizing, training, and procurement. The row of stakes was a make-believe beach—training didn't wait for water or boats. With quarters progressing from part of a wooden building near Norfolk to installations on both coasts, with vessels growing from makeshift tubs to the alphabet soup of LCI's, LST's, LCIL's, and all the rest, the forward strides we have made from Pearl Harbor to Caen are hard to believe.

Lieutenant Burton names names, places, facts, and dates, to tell a story of inter-service cooperation, of trial and error, of success and failure. Forsaking generalities for concrete instances, this book is one of the few written during this war that actually tells of the growth and achievements of an important part

COAST ARTILLERY JOURNAL

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armed services. The censors must have been having one of their good days when they passed this book for publication. Although none of the information should be of value to an enemy, the book does tell much of the inner workings of ambitious operations, including the uses of scale models, the methods of operation of naval liaison with our artillery, and of correction of errors in planning and execution. The book is so well done that we will even forgive the author his spelling of Fort "Eustace."

✓ ✓ ✓

Flat-Top

DAYBREAK FOR OUR CARRIER. By Lieutenant Max Miller, USNR. New York: Whittlesey House, 1944. 184 Pages; Illustrated. \$2.50.

There have been many books about life on a carrier and about carrier action, but Miller's book is in a class by itself. The author of *I Cover the Waterfront* and a number of other books is not of the wartime crop of writers. The combination of his writing skill and the wonder of life on an aircraft carrier results in a book that is good reporting, excellently descriptive—and devoid of the phoney excitement of the "Gee whiz" school of sensational writings. The book is almost restful in its smoothness. It does not strive for effect—it merely tells what life is like aboard a carrier, and that is effective enough.

The block-long vessel with its vast numbers of men, its planes, repair shops, guns, elevators, engines, and the myriad other installations, and most important, its mission, is more than a ship, more than a mobile landing field, more than a mere weapon of war. What it is, is the essence of Miller's book.

✓ ✓ ✓

Lost Cruiser

THE FIGHTINEST SHIP. By Lieutenant C. G. Morris and Hugh B. Cave. New York: Dodd Mead, 1944. 192 Pages; Illustrated. \$2.50.

In her less than three years of life, the cruiser *Helena* proved to be a headache to the Japs. The ship's specialty was gunnery and accurate fire was stressed from her earliest days, and her training paid off in the battles of Cape Esperance, Guadalcanal, and Kula Gulf. In the Kula Gulf mixup alone, the *Helena* got four Jap ships before the torpedoes hit her. At Guadalcanal she got five, and at Esperance, four.

Lieutenant Morris was a communications officer aboard the *Helena*, and thus was in a good spot to know what was going on. The style of the book is free and easy and entertaining. Specialists may become a trifle annoyed at the authors' insistence that the ship and everybody aboard her were perfect, but if a man doesn't believe that about his ship, he shouldn't be aboard himself. She was a good ship, the *Helena*, and she did her duty well before the torpedoes finished her.

✓ ✓ ✓

BACKGROUND MATERIAL

Cold Front

OUR HIDDEN FRONT. By William Gilman. New York: Reynal and Hitchcock, 1944. 266 Pages; Illustrated. \$3.00.

Billed as "The Complete Report on Alaska and the Aleutians," this book is probably as complete a report as can be given at this stage of the military situation. Mr. Gilman has spent most of our war period in the area, and he is a good reporter. Even if we accept his facts (and we do), his opinions seem a bit

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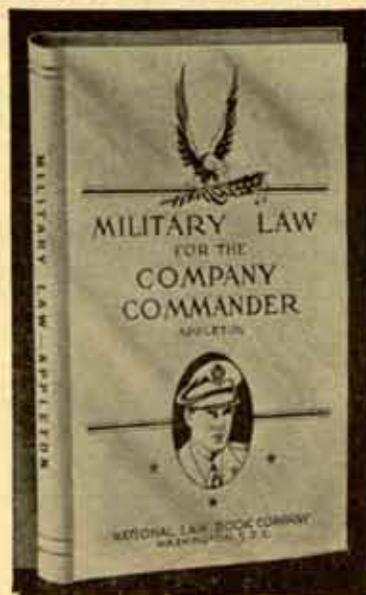
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open to question. It just doesn't seem reasonable that a person as omniscient as the author should have been a mere reporter when the Alaska Defense Command, the Western Defense Command, the Joint Chiefs of Staff, and the Combined Chiefs of Staff were all so incompetent. Those who direct our destinies in Alaska, the Aleutians, the Alcan Highway, and even in Washington and Moscow, seem to have made a career of mugging the Alaskan theater—if we take Gilman seriously.

The book's descriptions of the fighting, the building of the highway, the building of the bases, and the flying in the territory are well-written and informative. The tales of the construction boom among the civilians, and the sales talk on Alaska's resources also make good reading. But Mr. Gilman has his nose too close to Alaska to understand the war as a whole.

Rogue's Gallery

HITLER'S GENERALS. By W. E. Hart, New York: Doubleday, Doran, 1944. 213 Pages; Index; Illustrated. \$2.75

The man who signs himself W. E. Hart is supposed to have been a German cavalry officer, and later a member of the British Army. He writes with apparent intimate knowledge of his subjects—seven German generals and two admirals. There are three main types among the nine—the Prussians, the would-be Prussians, and the Nazis. Some belong to the last two classes at once. Some are competent, some incompetent, and all are ruthless to varying degrees.

Von Brauchitsch, according to Hart's estimate, led the list both as a soldier and as a man. Keitel seems to be rated the lowest on both counts. Admiral Doenitz does not come off at all well, but Milch gets a better break from Hart than he does from other writers. Rommel is far from the wonder-child whom Hart gets through with him. Von Bock is a second-rater, and Fritsch, Runstedt, and Admiral Raeder are hardly supermen in Hart's estimation.

The surprising thing about these biographies is not the scheming and cut-throat competition for promotion among the officers of the services, but the interference of the services with the civilian governments, and the results of this interference in the promotion scheme.

Hart ignores such "military" figures as Goering, Jodl, and Halder in his choice of the nine. The palace guard in uniform are not soldiers.

Our Far-Eastern Front

OUR JOB IN THE PACIFIC. By Henry A. Wallace. New York: American Council, Institute of the Pacific Relations. 1944. 56 Pages; Illustrated. 25¢.

Mr. Wallace's discussion of the problems to be met in the Pacific at the end of the war is not very specific, as would be expected in a pamphlet of this size. He foresees great progress toward freedom and economic accomplishment in the area, and reminds us that any real solution of the problems must be found as a result of international cooperation.

It Takes All Kinds

STATE OF THE NATION. By John Dos Passos. Boston: Houghton Mifflin Company, 1944. 333 Pages; Illustrated. \$3.00.

Whether or not they like what he writes, anybody who reads books will admit that John Dos Passos can write. The surprising thing about *State of the Nation* to an old Dos Passos

is that the book is not radical, or conservative, or pro-New Deal, or pro-Republican—it is just excellent reporting, with the added attraction of the author's individual bright style. The author traveled the country and saw the steel mills, the mines, the shipyards, the power dams, the farms, and the cities; he talked to the workers, the miners, the politicians and statesmen, the Negroes and the whites, the farmers and the florists. What he told him, and what he saw, makes the book.

We read of both sides of the simple questions, and many sides of the more complex questions. We learn why some think it is right to strike even when their own sons and brothers are in the theaters, why others risk health and life to production, why things are not smooth in Washington, and incidentally, why America, in spite of her faults, is a fine country to live in and to work in. The author repeats the words of the people he talked to—silly arguments and plain statements of pessimism and optimism, selfishness and selflessness. It tells all kinds to make America, and here we learn how all these kinds have combined to win a war in spite of hell and high water.

HISTORY

Morgan's Raiders

THE WHITE FEATHER. By Merritt Parmelee Allen. New York: Longmans-Green and Company, 1944. 196 Pages; \$2.00.

This is the story of a hill-country youth who fought with Morgan's cavalry as long as there was a Morgan's Raider organization during the Civil War. A historical novel, the book tells Morgan the best of it when we consider the stories that have been told about his unit of Confederate cavalry.

1898

SOLDIERS IN THE PHILIPPINES. By William Thaddeus Sexton. Washington: The Infantry Journal, 1944. 246 Pages; Maps. 25¢.

Colonel Sexton's painstaking history of the occupation of the Philippines during the Spanish-American war and the inspection that followed omits much of the color of the campaign but more than makes up for it in the presentation of facts. Most of the published writing on the Philippine campaigns of the five years ago stressed the glamor, the glory, and the individual deeds; Sexton's book stresses the military features. The book is extremely critical of General Otis for his habit of robbing his subordinate commanders of all discretion, and thus prolonging the war. Many of the Insurrectos are portrayed as selfish politicians who were more interested in their own pockets and power than they were in the welfare of their countrymen. Aside from the author's allotments of praise and censure, the book is a good military study.

The War Condensed

THE WAR: FOURTH YEAR. By Edgar McInnis. New York: Oxford University Press, 1944. 386 Pages; Index; Maps. \$2.50.

The JOURNAL's reviews of the three previous editions of this book have been laudatory, and this fourth volume gives us no reason to change our views. Mr. McInnis' skill in presenting important facts of a year's world-wide war in a few hundred readable pages demands admiration. From Kiska to En-

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3D DIVISION SUMMARY OF OPERATIONS IN THE WORLD WAR. American Battle Monuments Commission. Washington: Superintendent of Documents, 1944. 110 Pages; Maps; Index. \$1.50.

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7TH DIVISION SUMMARY OF OPERATIONS IN THE WORLD WAR. American Battle Monuments Commission. Washington: Superintendent of Documents, 1944. 20 Pages; Maps; Index. 75¢.

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79TH DIVISION SUMMARY OF OPERATIONS IN THE WORLD WAR. American Battle Monuments Commission. Washington: Superintendent of Documents, 1944. 40 Pages; Maps; Index. 75¢.

81ST DIVISION SUMMARY OF OPERATIONS IN THE WORLD WAR. American Battle Monuments Commission. Washington: Superintendent of Documents, 1944. 26 Pages; Maps; Index. 75¢.

93D DIVISION SUMMARY OF OPERATIONS IN THE WORLD WAR. American Battle Monuments Commission. Washington: Superintendent of Documents, 1944. 40 Pages; Maps; Index. \$1.00.

Each book consists of a pamphlet-like text and large two-color maps, attractively bound in an imitation-leather envelope binding. The books are essentially front-line histories, sticking closely to facts and figures. The appendices are especially

offering casualty tables, strength tables, sources, etc. The to-day changes of situation are listed, and all the information offered is authenticated. Military historians and students want the entire set of twenty-eight volumes, of which five have been issued. In addition to those listed above, the 26th Revision Summary was released several months ago.

MISCELLANY

American Stories

TREASURY OF AMERICAN FOLKLORE. Edited by J. A. Botkin. New York: Crown Publishers, 1944. 918 Pages; Index. \$3.00.

Carl Sandburg, in his introduction to the book, says, "So we have nothing less than an encyclopedia of the folklore of America. An encyclopedia is where you get up into box numbers. There have been small fry collections of folklore you might say, but this one is a big shot. It will pass the time, furnish laughter, provide entertainment. And then besides giving you the company of nice, darnfool yarn spinners, it will give you something of the feel of American history, of the romancers that moved many a good man who fought fire and flood, varmints and vermin, as region after region filled in by the settlers and homesteaders who proclaimed, 'We are making sod for unnumbered millions to come.'" Which is saying it better than we can.

In 918 pages of fairly small type one should find a bit of everything and everything it is. Plantation tales in Negro dialect, the nonsense rhymes of urchins on the streets of New York, Paul Bunyan and Joe Magerac, Casey Jones and Davy Crockett, ghost stories and just plain lies, and seemingly hundreds of old songs complete with music, merely begin to tell the story of the contents of the book. Here is the story of America, told better than the history books do it.

Khaki Music

G.I. SONGS. Edited by Edgar A. Palmer. New York: Sheridan House, 1944. 245 Pages; Index; Illustrated. \$2.75.

Crammed full of songs that are sung in every theater, this collection should have some value as a record of the varied moods of the soldiers of today's widespread army. The editor of the collection admits that the collection is really only a beginning of the task—that there are undoubtedly enough uncollected songs to fill several such books. No commercial songs are included, and in the cases of truly original songs, the musical score is given. Most of the songs, of course, are parodies or new words to old music.

Real lovers of barracks songfests will be disappointed in the lysoled versions of the old favorites, but the Postoffice department must be considered. With a little imagination and a flair for four-letter words, many of the songs in this book may be restored to their original latrine flavor.

Literary Detective

SLEUTHING IN THE STACKS. By Rudolph Altrocchi. Cambridge: Harvard University Press, 1944. 270 Pages; Index; Illustrated. \$3.50.

Those who wonder what professors of English and Literature do in their spare time can find out by reading this book, and profit while they read. Mr. Altrocchi, Professor of Italian Literature at the University of California, is a literary detective. Give him a set of marginal notes, or the plot of a story, or an old painting, or practically anything else, and he is off to the hunt, dragging in barrow-load after barrow-load of pertinent information. To him Tarzan is not merely a character in second-class fiction, he is one of many manifestations of the same basic story—the tale of the little child abandoned, cared for by animals, and living to grow up as a wonder of its kind. From ancient India through Romulus and Remus to mediæval Italy and back to modern India, the basic story is tracked by Mr.

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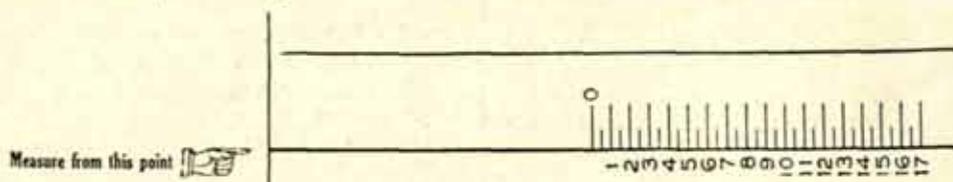
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