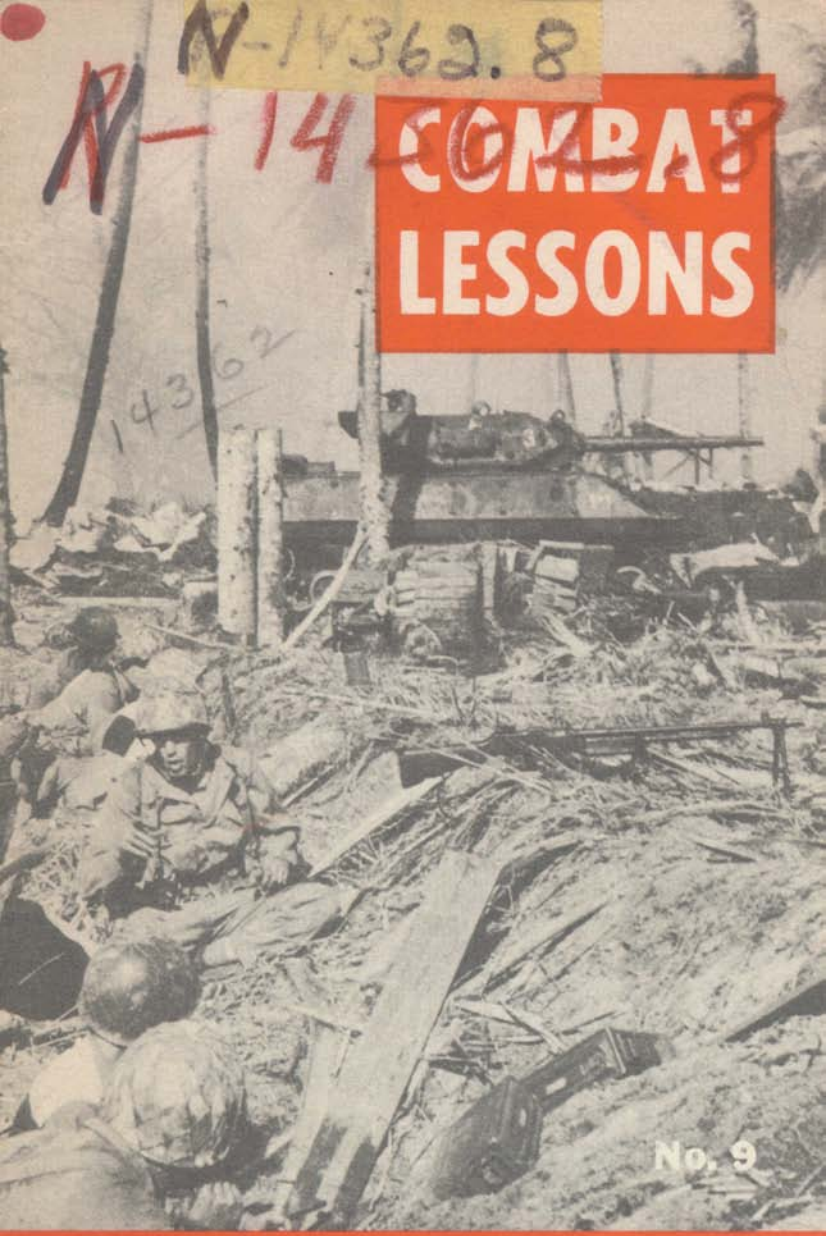
COMBAT LESSONS



No. 9

COMBAT LESSONS

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Rank and file in combat: What they are doing How they do it

WAR DEPARTMENT WASHINGTON, D. C.

Introduction

Our Armies in Europe have won their victory. Veterans of the campaigns in North Africa and Europe are now joining forces with the veterans of the Pacific for the final assault against Japan. They are coming to grips with a foe quite different from the German soldier, different as an individual fighting man and different in the tactics employed. Even the most experienced soldier of the European battlefields will have much to learn.

We must now bring to bear against the Japanese all the experience we have gained in every theater. The suggestions made in "Combat Lessons" are drawn from such experience. Since, to be effective, they must reach

the soldier promptly, publication is not delayed to insure that they always represent the thoroughly digested views of the War Department.

The great combat lesson learned from every operation is the importance of *leadership*. Our equipment, our supply, and above all, our men, are splendid. Aggressive and determined leadership is the priceless factor which inspires a command and upon which all success in battle depends. It is responsible for success or failure.

Chief of Staff.

Contents

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Refer to FM 21–6 for explanation of distribution formula.

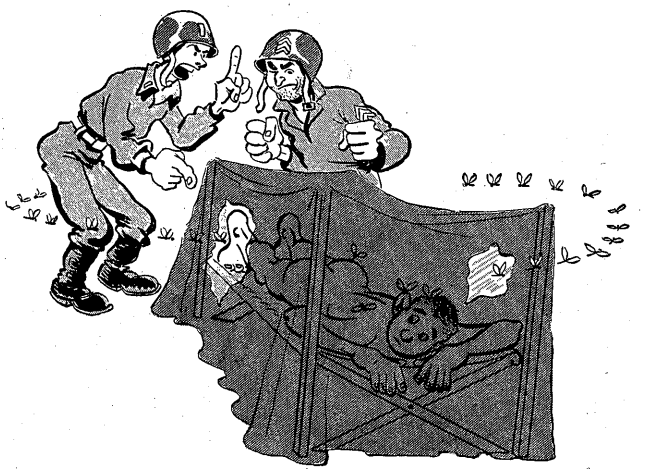
Leadership

Responsible Noncoms—the Officer's Mainstay

Field officers constantly emphasize the importance of noncoms who actually share the commander's over-all responsibility for the troops and fully perform their function of supervising their units. *Lieutenant Colonel Edson Schull, Battalion Commander, 1st Armored Division,* makes this strong comment: "Responsibility for the men under them must be forced upon NCO's to the fullest extent. This statement is a platitude, but in my opinion, failure to hold to it has been a common weakness among American troops.

"The fault often lies with the officers. Officers fail to delegate responsibilities to NCO's and to require that NCO's meet them specifically. The platoon leader fails to hold his squad leaders or tank commanders fully responsible for the appropriate instruction and discipline of the men under their command.

"If the platoon leader discovered, for example, that Private Blank has been sleeping for a week under a torn



Hell should be raised through channels.

mosquito bar, it is probable that the platoon leader will discipline Private Blank—but much less probable that he will take the even more important step of demanding to know what the tank commander or squad leader has been doing to correct the deficiency. In short, the platoon leader does not fully appreciate why the NCO is wearing those chevrons.

"Many examples of such encouragement of NCO laxity could be cited but one is sufficient. Any one example is trivial in itself, but the total accumulation is responsible for much of the grief that besets organization commanders. NCO laxity in responsibility results in a fundamental organizational weakness.

"This laxity is sometimes aggravated by an insidious tendency to charge officers with duties which should have been assigned to an NCO. Such malassignment further sabotages the proper development of NCO's."

Instead of resisting the tendency to assign officers NCO

duties, some officers voluntarily perform the noncom's job while the latter "stands around with his teeth in his mouth." Not only does such action cause the enlisted men to lose respect for the noncom, but it makes the noncom feel like a "fifth wheel" or a "hanger-on." The net result is a total absence of NCO supervision and control with the officers trying to do all the work.

Place Responsibility Where It Belongs

Colonel Charles W. Yuill, an infantry regimental commander, says: "It is absolutely necessary that NCO's be required to assume the responsibilities delegated to them. Platoon, company, and battalion commanders have more than enough to do 'fighting their outfits.' Any time spent in worrying about or performing NCO duties tends to decrease the combat efficiency of the officer and of the organization."

The (rifle) squad leader is responsible for the discipline, appearance, training, control, and conduct of his squad. He leads it in combat. Under the platoon leader's direction, the squad leader arranges for feeding his men, enforces proper observance of rules of personal hygiene and sanitation, requires that weapons and equipment be kept clean and in serviceable condition, and checks and reports on the ammunition supply within his squad." (FM 7–10, Par. 143.)

Continues Colonel Yuill: "Mistakes can be expected from anyone but repetition of the same mistake cannot be tolerated. In a military organization, the leader who fails must be replaced."

Responsibility Develops Leadership Initiative

The feeling of personal responsibility for his men is clearly evidenced in this statement by *Technical Sergeant*

Breinard, 330th Infantry: "When the situation permits, get the men out of their fox holes and have them move around a bit. Let them contact other members of the squad. Have them observe shell holes in the area so that they realize enemy fire wasn't as close nor as concentrated as they may have thought. It pays to relieve battle tension in this way."

The ability to sense the men's needs, and the initiative and resourcefulness to supply those needs cannot develop in an NCO whose responsibility is not firmly fixed and who depends upon some higher officer for routine instructions.

Platoon Leadership vs. NCO Efficiency

Orders Must Be Clear

NCO efficiency and squad accomplishment are materially reduced when combat orders fail to give full information

"Junior officers often complicate orders."

and to specify clearly each assignment. Says an Okinawa report: "Junior officers often complicate combat orders. They forget about intermediate objectives which should be the next terrain feature, whether it be a hill, road, or an edge of a rice paddy. They neglect to tell each squad specifically what to do. They take on the responsibilities of NCO's and scouts and then, finding it impossible to remain continuously in a control position, encourage bunching which results in needless casualties.

Leaders Are Not Scouts

"In one regiment, five platoon leaders were killed because their scouts were not out. The platoon leader must realize that he is not a scout and that if he attempts to do that work, it will be at the expense of his control responsibility.

"Invariably, when trying to do their own scouting, the platoon leaders allowed their support squads to get too close to the leading squads and thus sacrificed the platoon's maneuverability."

Tank-Infantry Teamwork

Current operations point to the increasing employment of the small infantry-tank team in a role requiring the closest cooperation and the ultimate in mutual support. Recent reports stress the need for the sound training of each individual in his own and his unit's share of the job and for better understanding of the cooperating unit's responsibilities, capabilities, and limitations. Joint training which will develop team unity must supplement technical training if missions are to be efficiently accomplished at minimum cost in lives and time.

Building Team Unity

Acquaintance Aids Teamwork

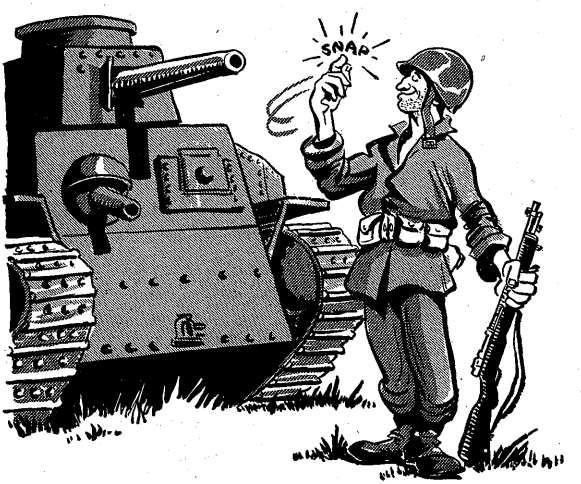
From the *752d Tank Battalion:* "The tank-infantry team must work together from 48 to 72 hours at a minimum before it can hope to operate smoothly. It takes time to learn how the other unit does things and expects you to do them.

"When the tank-infantry commanders (including company commanders and staffs) know each other, they can work together much more efficiently than they can as strangers."

An Okinawa report advocates personal contact between the members of the infantry-tank team: "In addition to technical training before embarking upon this mission, one regiment had tankers bivouac in the infantry area while some of its own men were sent to bivouac with the tankers. This helped to promote closer teamwork through discussions, understanding, and friendship."

A Tank Ride Helps Doughboy Morale

Says the *Battalion Commander* of the *175th Infantry:* "To make him realize the limited vision and field of fire and the closed-off feeling of the tankers, every infantry-



Knowledge gives confidence.

man should be given a ride in a buttoned-up tank. One such ride does a lot to counteract the infantryman's dread of a tank attack and to increase his faith in his own ability to resist tanks."

Tank-Infantry Team Plays

States a report from the *752d Tank Battalion:* "At certain times the burden of carrying the attack must, because of the terrain and the situation, fall on the infantry. At other times, the tanks are best qualified to bear the brunt of the attack. Both units must know this and learn to recognize the situations in which one or the other unit should lead."

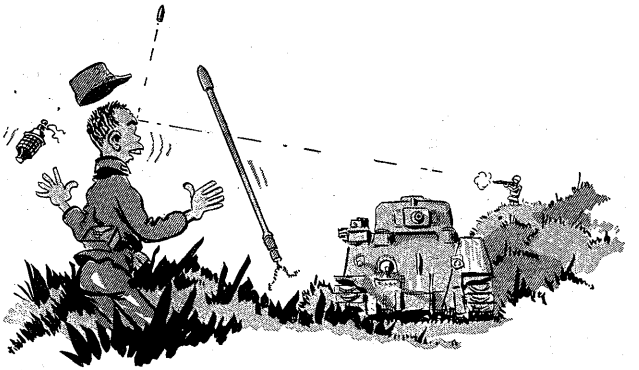
The following extracts from field reports describe team plays used by some tank-infantry units in specific situations.

—In General

From a *36th Infantry Division* training memorandum: "When infantry and tanks are used together, the tanks' primary targets are enemy machine guns and riflemen. Tanks will also make paths through wire and antipersonnel mines and break up any counterattack . . .

"If infantry does not come up with tanks within a reasonable time, a section or more of tanks should be sent back to investigate. The delay will usually have been caused by enemy MG's previously overlooked by the tanks."

From the *XXIV Corps* on LEYTE: "Infantrymen must protect the tanks by fire to prevent the enemy from ambushing the tanks. Ground distance between tanks and infantry is dependent upon the ability of the infantry to cover the tanks by effective fire."



"Infantrymen must protect the tanks by fire . . ."

—At Night

From the *191st Tank Battalion:* "When working with infantry at night, the tanks should follow the infantry. The tank platoon leader or the tank platoon sergeant, however, should advance on foot with the leading elements of the infantry. Then, knowing the location of our own infantry, he can quickly bring up the tanks when tank targets are located."

—In Woods

From the *774th Tank Battalion:* "We gained surprise in using our light tanks with infantry in woods by having the tanks follow the infantry from phase line to phase line. When resistance was met, the tanks would go up quickly (with guides) and spray enemy positions with canister and .30-caliber machine-gun fire. One section of tanks was assigned to each assault rifle company. Mine removers moved just behind the infantry and cleared routes for the tanks. The infantrymen checked all clearings for antitank positions.

"When possible, the tanks moved off the trails and covered one another. On each tank the bow gunner covered the area to the left, and the coaxial gunner covered the area to the right.

"Two infantrymen rode each tank; one was an automatic rifleman and the other manned the tank antiaircraft gun. Both carried grenades and used the turret for protection. It was found best to assign a definite field of fire to each.

"Four mines and fuzes to be used by the infantry for local protection were carried in each tank."

—In Heavy Undergrowth

A report from *Headquarters XIV Corps* includes these comments on target designation: "Jap pillboxes are usually extremely well hidden and tanks are almost blind in thick vegetation or undergrowth. For these reasons, prime consideration should be given to target designation. Tank obstacles as well as targets should be designated to the tank commander by the infantry squad leader whenever possible.

"Tracer fire proved unsatisfactory for designating targets to the tanks. The best method was the use of red or violet smoke grenades. The full-charge grenade produces too much smoke and obscures the target. However, if the fuze is unscrewed from the grenade and half the charge removed, an adequate amount of smoke will be produced."

"Rifle projection of the grenade is desirable for longer ranges. Best results are obtained by arming the grenade before firing as this will then give a trail of smoke to the target."

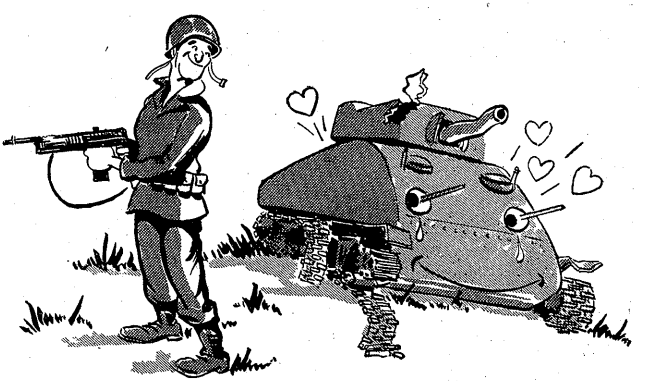
—Against Tank Stalkers

A G–2 on Okinawa comments as follows: "Infantry must be trained to work with the tank so that the Jap is killed *before* he reaches the tank. The Jap has a nasty habit of running up to tanks with satchel charges, bangalore torpedoes, or antitank mines and attempting to stay with the tank until both tank and Jap are destroyed. If he is not killed before he gets to a halted tank, the damage to the tank is usually assured. This is especially true when tanks are employed in villages and towns."

—When a Tank Is Disabled

Says *Colonel C. B. DeVore, 1st Armored Division:* "In the event a tank becomes a casualty, the infantry should protect it until it can be evacuated.

"The crew of a disabled tank should continue to render fire support as long as its armament functions and its ammunition lasts."



Infantrymen should protect disabled tanks.

Common Errors That Impair Teamwork

From the *36th Infantry Division:* "Platoon and squad leaders frequently forget during attacks that tanks are supporting them.

"Infantry leaders frequently go to a tank commander and tell him an enemy machine gun is holding them up but can give no idea of its location. Even giving four or five possible locations helps the tanks to reduce such a target.

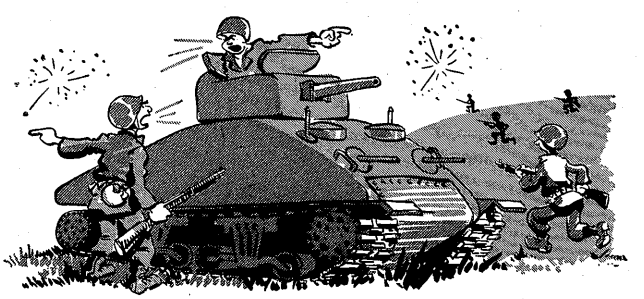
"Lack of communication between tanks and front-line infantry often makes real coordination impossible. (See p. 16.)

"Time for tank reconnaissance and orders is often not provided.

"Failure to use enough tanks sometimes reduces the effectiveness of the combined assault.

"Tank timidity is frequently encouraged. Tanks must expect losses as do the riflemen."

"Failure to give tanks the complete plan of maneuver reduces the effectiveness of tank support.



"Failure to give tanks the plan of maneuver . . ."

Third Division doughboys ride to the front.

Technique of Transporting Infantry on Tanks

Load Allocation

Says *Lieutenant Colonel Kinne, 781st Tank Battalion,* after working with six infantry divisions during European campaigns: "In an infantry mission, a maximum of 10 men may be carried.

"It is imperative that before mounting the infantry, thorough plans are made by the infantry commanders and tank commanders who are to ride together. It is the duty of the infantry commander to mount infantry personnel in such manner as to preserve unit tactical integrity. This insures that no time is lost in organizing for combat after dismounting.

"Heavy-weapons units as well as riflemen may be transported. A complete machine-gun or mortar crew with weapon can be carried on a tank.

What Tanks May Expect From the Infantry

"On the march, tanks provide their own security by pointing some of their turret weapons in each direction.

"The infantry riding these tanks can greatly aid the security of the column by maintaining watch over the same terrain covered by the tank gun. This is very important since the tankers' visibility is generally poor.

"At a halt, the infantry dismounts and takes up security positions. Two infantrymen from each tank patrol at a distance, and the others provide close-in security.

"On arrival in the vicinity of the objective, the tanks will halt and take up all-round defense positions. The infantry will dismount and leave a small number of men for tank protection; the remainder proceed with reconnaissance. When contact is made, the tanks prepare to support the infantry on call.

Discipline on March

"Mounting and dismounting are on tank commander's order only; upon coming under fire, tanks will take up prearranged road-march positions and the infantry will dismount and form local security.

"All men must hold on to the rope or the tank. They must not hang on to another rider for support.

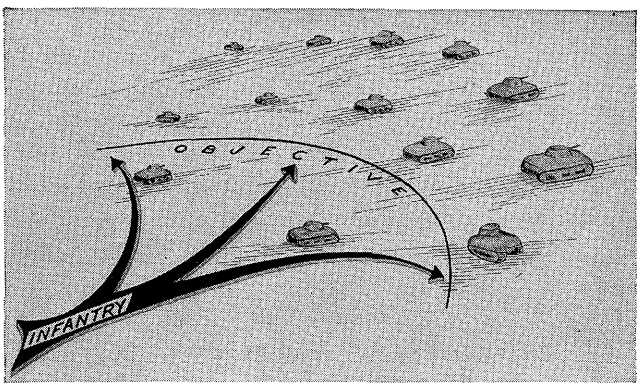
"Men must not smoke on tanks. Fire hazard is very great.

"When going through wooded trails or roads, keep eyes to the front to avoid being brushed off by branches."

Organization of the Captured Ground

From the XIV Corps in the Pacific: "When the final objective is reached, the tanks should halt and fire with all available weapons at definite targets or places of

likely enemy approach or concealment. The infantry squads of the two forward platoons as well as the company support platoon, should immediately push forward to the rear and flanks of the tank line and construct a defensive position. (See sketch.)



"If the attack formation has employed a company of tanks with a company of infantry (i. e., three infantry-tank teams in line or in echeloned line), a reserve reinforced company of infantry must be moved forward to construct the defensive positions. This position should follow standard infantry procedure of emplacing automatic weapons and mortars, of organizing the ground, digging in, and putting out protective wires. Prepared concertinas may be carried into action on the rear decks of support tanks because time is too short for apron fences to be constructed. No guns should be emplaced nor wire laid in the lanes made by the tanks as they advanced in the attack.

"After the defensive position is organized, the tanks and their protecting squads should withdraw via the original routes of advance. In turning to withdraw, all tanks

should turn to the rightabout if possible. A standard procedure like this enables the protecting squads to clear the danger space without confusion and subsequent loss of time. Tanks on withdrawing must reverse their turrets and keep them trained in the direction of the enemy because enemy AT guns silenced during the action may be remanned in time to fire on the withdrawing tanks.

"After the tanks have withdrawn, the lanes should be closed by concertina wire, and further preparations made to repel enemy counterattack. Special attention must be given to strengthening the flanks of the salient. Infantry must investigate all ground within the salient and search all positions for enemy personnel. Heaps of enemy dead should be investigated to insure that none are feigning death."

Infantry-Tank Communications

—Between the Leaders

"Because the infantry squad leader furnishes information which directs the fire and movement of his support tank, communication between him and the tank commanders must be continuous and reliable," states a *XIV Corps* training memorandum.

"Many means of communication were tried, but the one which worked best under fire was the EE8A telephone adapted for infantry-tank employment. An EE8A telephone is placed inside the tank turret. Also in the turret, at a place easily visible to the tank commander, is strapped a regulation flashlight. A 20-foot length of four-strand electric cable is laid from the telephone box inside the turret and extended down in rear of the tank. An EE8A telephone handset is connected to the end of the cable. The butterfly switch on the handset is modified so that

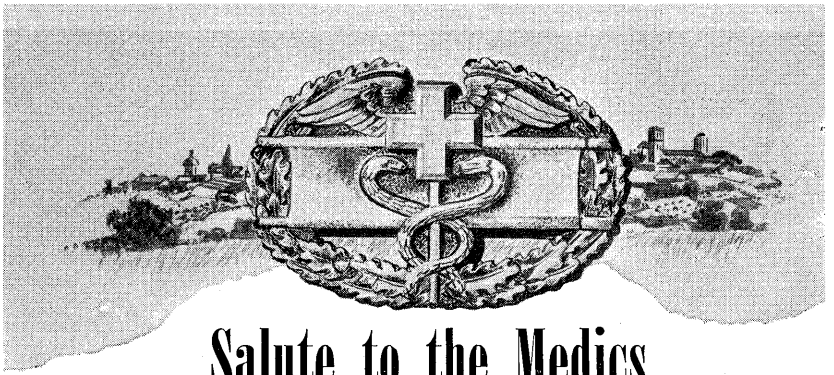
when pressed it completes a circuit through one channel of the cable, lights the flashlight, and attracts the attention of the tank commander. Telephone conversation is then held over another channel of the cable, the telephones being wired for that effect. With this telephone setup, the squad leader has only to carry the handset to be able to communicate readily with the tank commander. The telephone must not be strapped to the rear of the tank, for enemy fire will destroy it."

—By Modified Radio

Reported by the *Executive Officer, 330th Infantry, 3d Battalion:* "Satisfactory infantry-tank communication was achieved by modifying and installing SCR–536's in the tanks. Removal of a bolt from the top of the turret provided a hole for the antenna. A short piece of rubber hose was placed around the aerial to keep it from grounding out. The radio sets were modified so that the tank commander could use a throat microphone and could operate the switch with an improvised extension."

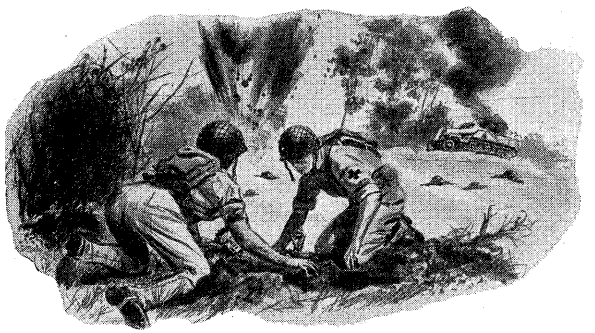
—Prearranged Signal

From a British Infantry source: "When cooperating with tanks, we devise visual signals easily understood by the tankers. Tin hats raised on rifles indicate our positions when tanks are approaching from the rear to join us. A single soldier approaching a tank with his headgear or other distinctive item on a weapon indicates: "Stop, I want to talk to you." A red Very light indicates the presence of antitank guns, and the direction in which it is fired indicates their location. A green Very light fired in the direction of an enemy machine gun indicates its location, and also serves as a request to the tank to knock it out. A white Very light fired at the tank signals: "Cease Fire."



Salute to the Medics

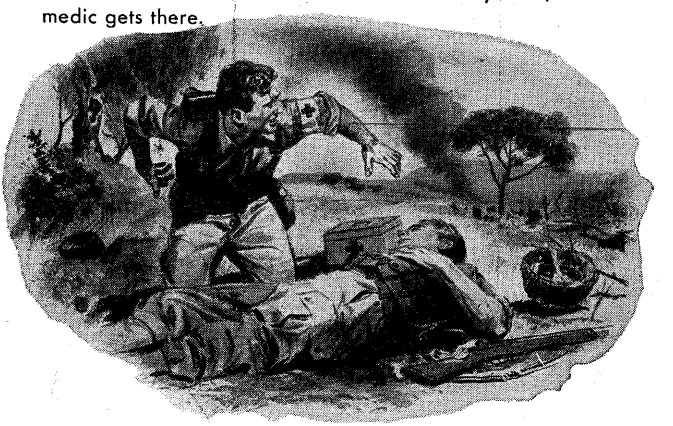
The Medical Badge is awarded "only to those who are daily sharing with the infantry the hazards and hardships of combat." Comparable to the Combat Infantry Badge, it came into being in answer to the doughboy's demand for formal recognition of the medic who stands by when the chips are down — a fighting man's salute for a non-combatant who risks his own life that others may live.



A young private was seriously wounded and completely buried by an artillery burst in the hedge directly over his foxhole. Two medics jumped from their foxholes, ran through the fire-raked field, ignored the shells crashing close around them, dug out the wounded man with their hands, and administered first aid.

In the darkness, a glimmer of white—the aid man's signal for location of wounded. In the deep shell-hole rescuers found an unconscious infantryman and, slumped over him, a medical private, one arm in a bloody sling. The medic had tied back his useless arm, dragged the soldier to cover, applied bandages, and administered plasma. By the light of enemy shell bursts, the medic had done his work.

MG fire turned back the riflemen who tried to reach the wounded men. Then an aid man tried—and was critically wounded. Another medic crawled through 50 yards of MG fire to treat his companion and continued toward the hapless infantrymen. Heavy fire knocked off his helmet, shattered his hip, and splintered his arm, but he dragged the men to cover, administered first aid, and crawled back to find cover for himself . . . When his buddy calls, the medic gets there.



37-mm gun fires on Okinawa caves.

Notes from Okinawa

As our troops approach the Jap mainland, certain phases of combat in the Pacific are undergoing marked change. Most evident is the increased emphasis upon employment of infantry assault teams—a change necessitated by the ineffectiveness of our artillery, air, and naval bombardment against the type of Jap fortifications now being encountered.

The following extracts from a report by *Lieutenant Colonel R. C. Williams, Jr.*, an observer on Okinawa, point out the reasons for this changing emphasis and stress the need for continuation of security measures developed during the jungle phase of the Pacific war.

Jap Defenses on Okinawa

"The Jap defensive positions on Okinawa consisted of caves and tunnels dug into the sides of hill masses. The caves were at varying levels, some at the base, some halfway up, and some at the summits. Some tunnels were 100 or 200 feet in length. Weapons, including AT guns, were fired from camouflaged positions in the entrances. Entrances were protected by wire and mines.

"In addition, the Japs had built pillboxes so that the hills on all sides were dotted with gun positions, well dug-in and camouflaged, often connected and mutually supporting. There was very little dead space in the Japs' defensive fire plan.

"Our tanks usually couldn't rush or approach the entrances because of the mines and AT fire.

"Our air strikes and artillery fire did only minor dam-

age; the Japs holed up during the bombing or shelling, dragging their weapons in after them, and then reappeared when the bombardment stopped.

Small Unit Tactics Succeed

"The only solution was assault by small infantry units who could work up to the entrances by fire and movement and either clear or seal the caves. The latter method was found to be quicker, less dangerous, and more certain.

"The necessity for the assault infantrymen to know demolitions became very evident.

Alertness—More Important Than Ever

"During the approach and assault, alertness on the part of the riflemen paid dividends not only in security but also in the location of targets.

"Riflemen should be alert when moving in the vicinity of graveyards, tombs, crypts, or vaults. They should be acquainted with the types of cemeteries located in the particular operational area. The vaults on Okinawa were formidable defensive positions.

"Riflemen should be alert near graveyards . . ."

Spotting the Pillboxes

"For pillbox locations, the Japs usually select locations at the bases of large trees. Most of the pillboxes are well camouflaged by growing grass and weeds. They are low but the firing slits are quite wide. The rifleman should observe closely the bases of large trees as he advances, so that he can pick out these pillboxes.

Weapon Employment

"During aggressive drives in which our troops had to cut through and around the enemy, our LMG's and BAR's were used well up front while the HMG's were employed for flank protection. In small attacks by platoons and companies, HMG's should provide support whenever possible.

Night Perimeters Always Necessary

"Perimeters were designed primarily for jungle fighting, but it seems that Jap methods of night fighting make the perimeter a desirable feature of our night-defense plans in any sort of terrain. Units on Okinawa use the night perimeter in most situations. All installations back to and including the corps command post were provided with this security, and assault battalions relied upon effective perimeters to prevent infiltration at night.

Jap-Proofing Night Perimeters

"In night perimeters, wire was always strung 35 to 40 yards in front of the outposts; this prevents the Jap from throwing grenades into the perimeter. Trip flares worked fine, too. Sixty-millimeter mortar flares are also effective but they were often scarce. The entire wire area was booby trapped. Each morning patrols were sent out to

look over the area; invariably they would find dead Japs in trees, holes, and brush inside as well as outside the perimeter."

In moving situations, concertina wire can be carried on organic transportation and used for wiring-in the perimeter each night.

Forestall Jap Infiltration

"Jap infiltration techniques are effective . . ."

"Jap infiltration techniques, in contrast to their night-attack methods, are effective in every type of terrain and regardless of where our troops are located. The enemy infiltration units vary in size from eight or nine men to a full company. Artillery positions are especially favored objectives for Jap infiltrations.

"Platoon and company perimeters are most effective against this danger.

Welcome "Banzai" Attacks

"It has been found by all units in the XIVth Corps that the most efficient and least costly way to kill Japs is to let them attack at night. The 'Banzai' attack is the ulti-

mate in Jap-extermination efficiency. The success of a unit here is measured in terms of how many Japs it has killed, so rather than promote night attacks on our part, it seems better to set up a good perimeter defense and then get the Jap to attack. The Jap seems incapable of making a coordinated attack, and his blind fanatic frenzy apparently prevents him from learning from his own errors. For example, the Japs attempted a night attack against one of our company perimeters and walked into our fire lanes; their dead were heaped one upon the other. A half hour later another group attacked in the same spot and again was wiped out.

Digging in—First Rule of Security

"The men don't have the 'let's dig in for the counter-attack that's sure to come' attitude that was of necessity emphasized in Europe. They should always dig in immediately upon taking the objective."

Unlike the Japanese, the German reacted violently to loss of organized ground and invariably counterattacked immediately with whatever forces he could muster on the spot. Repeated unsuccessful counterattacks against the same position were not infrequent. Future performance of the Japanese may follow the German pattern.

Use Scouts and Flank Guards

"One platoon took the hard way to learn the lesson of security. The outfit was moving forward late in the afternoon along level terrain covered with high grass, preparatory to setting up a night perimeter. The platoon leader had two squads abreast in a V-formation with himself at the point of the V.

"Suddenly two enemy MG's opened up in the rear.

Three or four men were wounded. Another MG opened up on the right front. The platoon leader grenaded its crew and the support squad moved up. The lieutenant was wounded and he ordered the platoon sergeant to move the platoon back. Just then the Japs assaulted; they bayoneted and wounded eight or nine men, including the lieutenant. The platoon got out.

"The next day the platoon returned and found six enemy MG's in that area. If the scouts and flank security had been out, they would have discovered these machine guns.

Security Provisions Always Pay

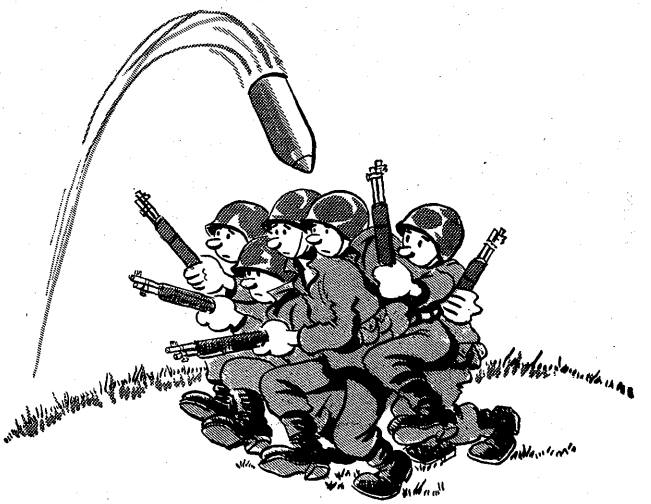
"On another occasion, a lieutenant was moving a reinforced patrol of rifle-platoon strength down a trail. The terrain was fairly open. He knew that one of our outfits had been through here about an hour before, but he still had a good flank security out and had his scouts well forward. The right-flank outfit hit what first appeared to be 2 or 3 Japs. The men moved in, wiped out that small enemy group, and then ran into about 50 dug-in Japs. The lieutenant contacted the rest of his company and eventually all the Japs were cleaned out. This successful and economical accomplishment resulted from sound security practice."

Native Shacks Are Sniper Hangouts

"Enemy snipers often dug in under the native shacks frequently found on high ground between rice paddies. Fire from shacks that had been ignored or carelessly approached caused several casualties before the men learned to spray thoroughly the lower portions of all the suspected huts.

Bunching—a Costly Error

"Officers admit that even experienced combat troops bunch up and crowd their bivouacs, gun positions, and defensive positions. This tendency results from the Japs' failure to mass their artillery in previous campaigns. In the Okinawa operation, the persistence of the 'bunching' habit and the Japs' employment of battery fire in mass have sometimes been costly to us.



Bunching has sometimes been costly.

Suggestions from the Medics

Notes on Medicine and Sanitation

From the *First Infantry*, SWPA: "Officers should carry morphine syrettes into action.

"Every man in the regiment should know how to administer blood plasma.

"A patrol with the mission of evacuating casualties for

some distance over rugged terrain should include 12 litter bearers for each litter case. The 2 spare teams of 4 men should follow immediately to the rear of the litter.

"Medical personnel going ashore during the assault phase of an amphibious landing should not attempt to carry much equipment, because it will usually be lost or destroyed if left on the beach while the medics are tending the wounded.

"Empty cardboard mortar-shell cases are a good solution to the problem of defecation and urination in pillboxes and fox holes at night. The cases are leakproof, odorproof, and easily disposed of on the following morning."

Lesson for Ambo-Jeep Drivers

From *Captain Mark W. Hughes,* a *Division Artillery Surgeon*: "We have jeeps equipped to carry a litter, but it is a very rough ride and in cold weather the patient cannot be kept warm as is necessary in most cases. I require all my drivers to ride on a litter strapped to a jeep just to be sure that they know how uncomfortable it is."

Smoke Screen for Evacuation

Reported by the *303d Medical Battalion:* "The use of smoke to screen an evacuation route for litter bearers was successfully employed at Ruhrberg during operations on the Roer River bank."

Ammunition Boxes for Medical Supplies

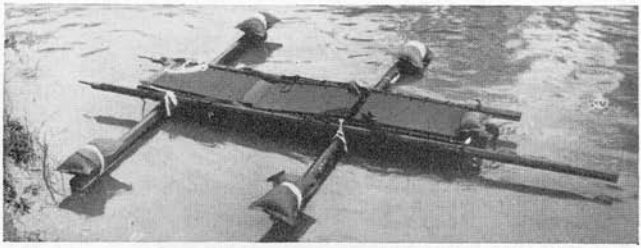
From a *XIV Corps* report: "It is recommended that medical supplies be divided and placed in small boxes of a size easily carried by one man. These can be empty .30- or .50-caliber ammunition cases. The boxes should be distinctly painted to avoid confusion and to insure quick identification.

"Break-down into small packages not only permits easy transportation but also avoids excessive spoilage when medical supplies are opened during a downpour of rain."

A similar suggestion comes from a regimental surgeon: "Empty .30-caliber ammunition boxes make excellent waterproof containers for first aid dressings."

Packboard Litter

At BOUGAINVILLE, the Medical Battalion of the *Americal Division* improvised a buoyant packboard litter to carry patients through the jungle by way of streams.



The packboard is made buoyant by the use of outrigger poles with flotation pillows attached.

A patient is strapped to the packboard litter with three quick-release bindings.

Commo Comments

Ingenuity has always been the stock in trade of communications personnel. In Europe and in the Pacific the commos have displayed their talent by constantly adapting their equipment and their technique to meet a variety of unpredictable situations.

Keeping the Phones in

Protecting the Wireman

The *Commanding Officer* of the *2d Battalion, 415th Infantry* has solved the problem of wire-team protection by having the wire team move in the center of each assault unit: "This plan has several advantages: it insures continuous communication with the assault unit; it insures ample protection for the wiremen; in night operations it prevents wiremen from getting lost. Since inaugurating this practice, we have never lost a wireman to enemy small-arms fire."

The *116th Infantry* has worked out a formation which enables the wiremen to provide their own protection: "Our wire teams use a diamond-shaped formation for maximum protection on the job. The corporal stays out front, reconnoitering and making frequent halts to look for signs of the enemy. The wire-laying unit follows next. It consists of a driver and jeep and one man to lay wire, or of two men equipped with an RL–27 reel when use of a jeep is impractical. A fourth man, following at about 100 yards, polices, ties, tags, and tests the

wire and acts as get-away man. When available, two additional men are posted as flank guards."

Company D, 20th Infantry cut down casualties among wiremen by adopting this practice: "Our wire-laying parties play safe by stopping to make wire splices between reels while still in defiladed areas, even though all the wire on the reel has not yet been used."

Sergeant Jack Found, Company G, 407th Infantry, figured out a safer method of laying sound-powered telephone lines from gun position to observation post: "Leaving the reel at the gun position and tying the wire to the wireman's belt allow him to move freely and use his weapon instantly if he has to."

And a report from OKINAWA, stressing the need for increasing wire-team protection when the situation is uncertain, includes this comment: "When a unit has set up a perimeter defense at night and a telephone line goes out, sending only one or two men out to check the break is a costly and foolish move. Wire teams should always be provided with adequate protection."

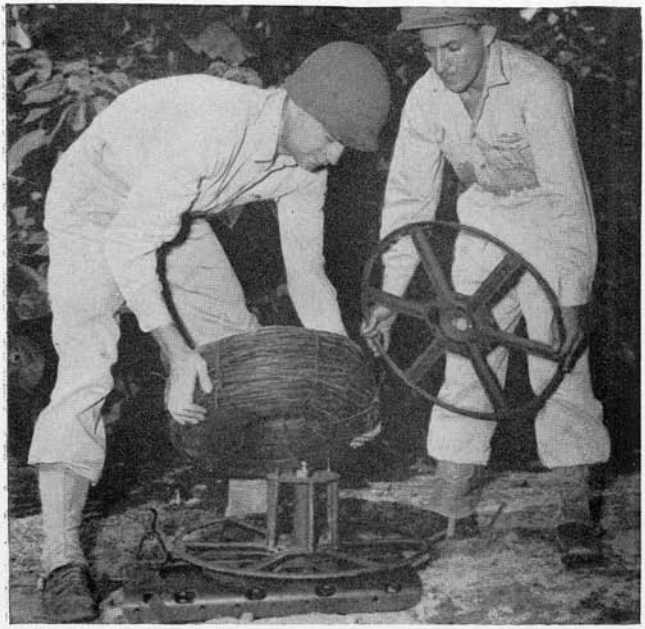
Protecting the Wire

The *Commanding General, 29th Infantry Division* suggests this remedy for an ancient ill: "Traffic and heavy enemy shellfire frequently tore out the wires that we had laid through streets. This difficulty was eliminated when we brought the wires together at a point 200 or 300 yards outside of town and cabled them before bringing them in to the switchboards."

The *116th Infantry* digs its lines in. "We lay wire in furrows made with an improvised wire plow. The plow is pulled by a jeep and makes a furrow 2 inches wide and 6 inches deep."

Packboard Wire-Laying

Narrow trails, deep gullies, steep hills, and swamps make hand-laying of W–110 wire a difficult, slow, and exhausting operation. To assist the harassed wireman, three infantry divisions (37th, 41st, and 36th) have developed a modified DR–4 reel, mounted on a packboard. This arrangement permits one man to lay wire rapidly and with both hands free. The 37th Infantry Division describes it as follows: "Weld a bearing housing to strap-iron braces bolted to a plywood packboard. Cut an RL–27–B axle and fit it into the bearing housing. Then place a modified DR–4 reel (made 10 pounds lighter by



The wire slips onto modified DR–4 Reel.

Second man carries a prewound coil of wire.

cutting the metal from between the spokes) on the axle. At the bottom of the packboard, mount a pike-pole roller on a swivel.

"A coil of W–110 wire, wound to fit the modified reel, is slipped onto the wire carrier (see fig. 1) and the end is threaded through the pike-pole roller. A second man may carry a prewound coil of wire on another packboard to be used when the first reel is expended."

A new standard wire-dispenser for laying assault wire without reels or equipment will be issued soon by the Signal Corps. The dispenser weighs about 25 pounds when loaded with approximately 3,300 feet of W–130C wire. The wire is wound on the dispenser so that it can be laid from vehicles moving at speeds up to 50 miles per hour, from liaison-type aircraft in flight, from packs borne by mountain, ski, or ground troops, or by bazooka rockets or rifle grenades. Conversation over the wire is possible while it is being laid by pack or vehicle methods. Preconnection of two or more dispensers in tandem makes it unnecessary to stop for splicing when more than 3,300 feet of wire are being laid in one operation.

Picking Up Wire by Vehicle

The *81st Chemical Mortar Battalion* reports a field expedient for picking up wire: "One man and a driver can pick up wire more easily if a small metal loop is welded to the top of the wire-cutter on the front bumper of the vehicle. Field wire to be picked up is threaded through the loop and thence back over the vehicle to the wire reel. This causes the wire to approach the reel straight on instead of at an unwieldy angle."

The wire-cutter is a device adopted in ETO to prevent injury to the occupants of a vehicle running under a low-hanging wire while the windshield is down. It consists usually of an angle iron extending above head-level of the occupants and bent at the tip so that a hook is formed to snag and snap the wire.

A similar device could be improvised for the sole purpose of holding the metal ring mentioned above.

No. 3 wireman in the Philippines is a carabao.

Antenna Technique

"When operating in heavy brush or in woods, we remove the antenna from the SCR–300 radio to prevent breakage. As a substitute we use a 3- to 4-foot piece of wire leading from the antenna socket to the strap on the operator's helmet. This expedient affords excellent reception and transmission."—*CO, Co A, 393d Inf.*

"When setting up SCR–300's in buildings, we improve reception by putting the aerial of the SCR–300 out of a second-story window and running W–130 wire from the base of the aerial to the aerial socket in the radio. The radio can then be placed anywhere in the building."—*Comm Sgt, Co D, 393d Inf.*

Commenting on similar reports concerning improvised antennas for SCR–300 radios, the ETO Signal Section points out that the SCR–300 has a tuned antenna, and that variation in length, while not affecting reception, may reduce the transmission range of the set.

Save Those Batteries

"New but defective BA–70 and BA–80 radio batteries sometimes can be made to work by this simple practice: "Remove the battery from the radio, cut around the terminal base with a knife, lift up the base, and reconnect any of the wires broken loose. These loose wires are the cause of much trouble."—*116th Inf.*

Lend an Ear

"A throat microphone and a headset that covers one ear are handier for the SCR–300 operator than the regular handset. This equipment enables him to hear normally with one ear and to move as necessary for his personal

safety without being hindered by a handset and without interrupting radio reception."—*405th Inf.*

This suggestion should be followed only when the headset is of a type that permits comfortable wearing of the helmet.

Keep It Dry

"Radio failures due to moisture may be prevented by these simple precautions: Tape the section joints of the antenna to prevent leakage losses there. Keep the switch door on the SCR–284 dynamotor closed; cover the dynamotor with salvaged shelter halves. Cover the microphone and phone-jack cords of the SCR–300 with spark-plug-type covers that fit over them and prevent leakage into the jack holes."—*Tech Sgt Bailey, 29th Inf. Div.*

Keep it dry.

Odds and Ends

Off the Chest

Brigadier General Joseph P. Sullivan, Quartermaster, Fifth Army, ITALY, remarks: "We were concerned about the number of dead who did not have identification tags. This was true especially at the beachhead. The bell-like noise made by the tags and the discomfort caused by the metal, particularly when the men were trying to sleep, are probable reasons why these important items were not being worn. To meet the problem, a close-fitting cover for each tag was provided."

Private Edward A. Rosenbaum describes one such cover: "Make a cloth cover, sewn to fit the dog tag. Punch a hole in the cover to allow the chain to be drawn through and leave the bottom of the cover open to permit inspection of the dog tag."

Infantryman T/4 Thomas E. Keane offers this ingenious solution to the dog-tag problem: "Rubber rings cut from an old gas-mask hose can be stretched and fitted around the edges of the dog tags. These 'rubber bumpers' stop the tags from rattling and keep the cold metal away from the body but leave the tag uncovered."

Quick Cover for Fox Holes

Says a report from the *78th Infantry Division:* "When fighting for limited objectives in woods, we cut and pile a stack of logs near the line of departure. These can be brought forward quickly to provide overhead cover for newly dug fox holes."

They Can Be Too Deep

From a report of the *1140th Engineer Combat Group:* "We found during the LEYTE operation that fox holes dug in sand on the beach must not be over 3 feet deep unless they are revetted. Initially, some men dug in 4 or 5 feet and when the beach was bombed some of the fox holes caved in. Some of the trapped men were dug out immediately and saved, but others died before they could be located in the dark."

Luminous Markings for Blown-out Bridges

Warning from the *1st Engineer Combat Battalion:* "Blown-out bridges must be barricaded on both sides to prevent night drivers from running off the road and into the gap. Such barricades or roadblocks should be marked with luminous tape or buttons."

A barricade would have prevented this.

Outsmarting the "Smarties"

"In the battle for Kwajalein, the enemy pulled out the fuzes in our satchel charges and threw the charges out of the pillboxes, nullifying the labor required to obtain the vantage points for placing the charges. To combat this, a system was devised to shorten the time of detonation after the charge had been thrown into the embrasure. A V-slot was cut into the fuze about one-half inch in front of the primer cap. The demolition man would hold the charge until the powder burned up to the slot. He then had about 4 seconds to place the charge in the embrasure and get away."—*WO J. C. Meehan Engr Bn (C).*

TNT for Every Man

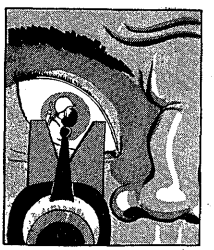
From the *Regimental Commander, 331st Infantry,* FRANCE: "We issue a half-stick of TNT with fuze and detonator to every officer and enlisted man. The explosive is taped to the trench-knife sheath, pistol, holster, or other convenient appendage. Most men carry the fuze and detonator in the canteen cover. We have found the explosive to be most useful when fox holes are needed in a hurry, as, for example, when we have just taken a position and are expecting a counterattack or shelling. The ground can be shattered sufficiently with TNT so that a man can dig a hole in 10 minutes. If two blocks are used, a hole that will provide protection from a tank can be dug in 15 minutes. Best results are obtained in medium or chalky soil. This distribution also makes explosives readily available for emergency demolitions."

The Navy Yells "Bravo"

A smart piece of tactical work by our soldiers was observed by a Navy crew in a salvage-fitted LCM on D-Day at Omaha Beach: "The soldiers were chasing

some Germans up a hill through a minefield. As our infantry moved forward, carefully following the same route used by the Germans, they unrolled a white tape behind them. The Germans were presumably following a path through the mines and it was well worth marking for use by following troops."

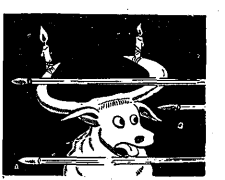
They Can See You



The old myth of poor Japanese eyesight is laid to rest by a report from *Headquarters, U. S. Army Forces, POA*, which documents the results of eyesight tests given recently to a group of 80 Japanese prisoners of war. Selected at random and believed to be a representative group, the prisoners turned up with an average visual acuity equal to that of the U. S. Army. Over 50 percent had normal vision without glasses.

The report concludes: "It is believed that tactical reasons rather than defective vision account for the Japanese soldier's habit of holding his fire until our troops are close in."

Lights in the Night



Outposts of the *1st Battalion, 108th Infantry*, saw strange lights moving across their front and called for artillery fire. "Next morning," the battalion reports, "we found our artillery fire had killed a carabao which had had lighted candles fixed on its back. It was a unique Jap attempt to confuse our troops, and presumably, to draw fire."

SWITCH 'EM . . . Not your feet—that's rather painful. And not your right and left shoes—that looks ridiculous. Switch your ***two pairs*** of shoes—wear each pair on alternate days whenever you can. Then ***both*** pairs will feel comfortable to your dogs—and wear longer.

DRY 'EM . . . But that doesn't mean ***fry*** 'em. In fact, keep your shoes away from the stove or hot sun—which can burn out the leather, kill the life of your shoes, and murder your poor dogs.

DUB 'EM . . . And don't think that giving them a neon shine is just as good. Only a dub forgets to dub his shoes—apply a little at least once a week. Makes shoes more waterproof, pliable, softer, kinder to your dogs—for a longer time.

"WE GET OUR STUFF FROM THE WORLD'S LONGEST SUPPLY LINES, SOLDIER. —STUFF YOU WASTE MAKES THE WAR LAST LONGER!" SAVE

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