

MILITARY SCIENCE

Hard Hitters for U. S.

New 155-Millimeter Heavy Field Guns Can "Shoot All Over the County" From One Position; Fast on Road

By DR. FRANK THONE

BLITZKRIEG'S rapid lunges, parries and counterthrusts have thus far so dominated the stage of war that we are in some danger of losing track of the fact that effective fighting can be done with other things than airplanes and tanks. Though much modified by changed conditions, the infantry, the cavalry and above all the artillery are still very much with us.

Nor are War Department heads in Washington forgetting this for a moment. Through all the straining effort to build planes, planes, ever more planes, and to turn out more and bigger and faster tanks, there rings the deeper clang of the forges where the great guns are made. War is like winter in one respect: if you want to get through it in reasonably good shape, you've got to bring your "heavies" along.

Important item in America's defense effort is the production of sufficient numbers of the heavy field piece adopted as standard equipment for the Army after years of experimentation. It is a brand-new design from the ground up, and our ordnance men are entitled to a certain amount of pride in their handiwork.

Two Kinds of Guns Needed

Artillery needs two kinds of guns, for its main work. The great majority of the pieces are supposed to be of the light variety, throwing shells weighing 12 to 25 pounds or so, very rapidly and in large numbers. To back them up, a smaller number of heavier pieces are needed, with projectiles of about 100 pounds' weight. These provide the "Sunday punch," reaching over into back areas, messing up roads, smashing supply accumulations, attacking the enemy's light batteries.

That is the job taken over by our new 155-millimeter rifles. With a caliber of about six inches, they can hurl 95-pound shells to an extreme range of over 15 miles. Set up in the middle of an average Eastern or Midwestern county, one of these weapons could demolish any crossroad, any railroad switch, anything else in it considered worth shooting at, without once moving from the spot.

This length of range is a great advantage in a gun. In the World War, infantry could go forward just as far as the artillery barrage would precede them, and no farther. The limited range of the guns of that day had much to do with the bogging down of many a promising break-through. Modern artillery has double the ranges known in 1918.

Accuracy has been vastly increased, too, due to the establishment of a far steadier firing platform in the new pieces. Instead of standing on a three-point support provided by two wheels and the end of the trail, the new gun carriage is lowered off its wheels until it sits solidly on the ground, with the two halves of its split trail thrust out behind it, bracing it like a pair of spraddled legs.

Thus set up, the gun can swing clear around and fire at any point in a complete circle. If the British had had guns of this type of carriage at the siege of Tobruk, they could have fired either to seaward or at their enemies on land,

merely by pivoting around on their fixed stand. The amount of backbreaking labor thus spared the cannoneers is an important item in itself. Serving a gun is hard enough work, without forever having to pick up its heavy trail to train it on a new target.

But when the big rifle does get ready for the road, it can move fast. With its main weight supported on two massive double-wheeled axles, and a third pair of wheels supporting the end of the trail, it travels on ten thick, bulletproof rubber tires. It can be hauled behind a tractor, or hitched to a heavy truck for more rapid movement. It has air brakes, making it a much more controllable towing load. It has been taken over average roads at speeds up to 55 miles an hour.

The same carriage can be used to mount an even heavier-calibered weapon, an eight-inch howitzer capable of firing 345-pound projectiles to a range of 17,000 yards, or nearly ten miles. When any really heavy smashing is called for, this howitzer would come into play. Anything above this caliber carries one into the domain of railway artillery.



SPEED WITH POWER

"Rollin' Along" on ten huge rubber tires, the new 155-millimeter field piece in march order



INSPECTION

Shells for the 155's, undergoing inspection in an Army ammunition magazine.

One thing ordnance men very carefully took into calculation in designing the new carriage, and weapons that ride into action on it, was highway conditions. This American gun was planned for American roads. Massive as it looks, its total weight is no more than 15 tons, and its width no greater than that of most of the heavy trucks and cross-country busses that now ply our highway system. It can therefore get about on any halfway decent two-lane road, and cross any bridge that a loaded commercial truck can cross.

The only criticism that has been offered against the new heavy rifle is that it rides rather high on its carriage—looks a trifle top-heavy. This was unavoidable, however, in designing for high-angle fire to achieve its tremendously long range, and for its unique ability to swing clear around in a circle without moving its trail. The price seemed worth paying; and thus far there has been very little difficulty in getting the batteries around during maneuvers in the field.

Big problem now, as in all the rest of our defense program, is to get enough of both guns and ammunition. The Army is reticent about the number they already have; they only say they want more. But no commanding officer of artillery has ever yet admitted that he had a sufficiency of heavy pieces.

Science News Letter, June 14, 1941

MEDICINE

Quota System Is Advised For Military Doctors

Plan Would Not Draft Medical Students or Internes, And Would Limit Volunteering So As to Protect Public

A THREE-POINT program to insure enough doctors for the nation's military and civilian needs and to avoid any bottleneck in the production of doctors and a stern warning to nurses that they are losing their place in the community was presented by Dr. Frank H. Lahey, of Boston, president of the American Medical Association, at the meeting in Cleveland.

Point 1 in his program: Medical students and internes should not only not be drafted for army service but, as in England now, should not even be permitted to volunteer.

Point 2: Those definitely committed to the study of medicine and already in the premedical preparation period should not be drafted but permitted to continue through the medical course.

Point 3: Development of a quota system for selection of doctors for military medical service, such as has already been worked out in England.

"There has already been a greater number of volunteers from the South than from the North," Dr. Lahey pointed out in connection with this idea, "and there will probably be areas where, as a result of greater volunteering, the number of doctors available for the community will be too limited. Should the present situation become even more urgent than it is, it is conceivable that many hardships may be worked in communities."

The warning to nurses: Nurses may "educate and legislate themselves out of the important place they have held in medicine and in the community" if the present trend away from service to the patients and toward higher and higher standards of requirements for entrance and graduation in nursing is not checked.

"It is really no exaggeration," Dr. Lahey declared, "to say that, with many of the personal attentions to patients delegated to ward maids, the real art of nursing can be lost to the nursing profession."

The shortage of trained, registered nurses, increased by military demands,

and the relatively high cost of nursing for patients suggests that practical nurses will have to be used to break the impending bottleneck.

Science News Letter, June 14, 1941

Prime Defense Needs

THE PRIMARY need in the present emergency is an increase in the number of physicians and engineers qualified in industrial health and medicine and their further training in the requisites for control of the hazards of war industries," Dr. Irvin Abell, Louisville, Ky., declared. Dr. Abell is chairman of the health and medical committee of the Federal Security Agency as well as of the A. M. A. medical preparedness committee.

Even in peace time new industrial operations generally bring fresh hazards to the workers' health which challenge industrial medical and health facilities. War industries have their special health problems and the great expansion at high speed of industries under the defense program greatly increases the job of caring for the health of the employees so vitally needed in these industries.

Science News Letter, June 14, 1941

Bandage Shortage Threat

A THREATENED shortage of surgical instruments, bandages and medical supplies was revealed by Major

★★★★★★★★★★★★

WYOMING

Fish in its mountain streams. Ride horseback thru its hills and canyons. Find Indian relics and marine fossils in this region of great historical and geologic interest.

The Patons welcome a limited number of guests at their ranch home in the Big Horn country. Cabins are comfortable, food good and horses gentle.

Write for illustrated folder with map

Paton Ranch, Shell, Wyoming