



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

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WYOMING

Fish in its mountain streams. Ride horseback through 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

General James C. Magee, Surgeon General of the U. S. Army.

Probably the greatest problem has been in the procurement of stainless steel surgical instruments, he said. Manufacture of sterilizers and X-ray equipment has been handicapped because of the present shortage of basic materials and the necessity for priority ratings. In the rulings on aluminum and nickel, however, items required for the health of the nation have been given a moderately high preference rating.

Studies have been made of the use of substitutes for drugs and chemicals previously imported and in some instances stocks have been built up, notably of opium, mercury and quinine. The Agriculture Department is introducing and cultivating some of the botanicals domestically, he reported.

There are difficulties in the manufacture of surgical dressings, General Magee revealed, as a result of the heavy demands of the British government and the American Red Cross in addition to the increased requirement of our own forces.

"There are sufficient looms for the manufacture of the grey goods, but due to the fact that these same looms may be used in the manufacturing of more costly and lucrative textiles, the production has not reached the adequacy we desire," he said. "Bleachery capacity has also been one of the bottlenecks adversely affecting this production."

Science News Letter, June 14, 1941

Plasma at Lower Cost

TWO new methods of drying the hundred million quarts of blood plasma for treating shock, said to be vitally needed for national defense, were announced.

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FOR AIR RAIDS

This "blackout light" for street illumination was recently demonstrated to a group of public utility experts. The reflector, shaped like an admiral's hat, prevents upward strays of light, so that it will be invisible to bombing planes. The lamp itself is a 3-watt argon lamp which gives off both visible and invisible light. The former is only about one candlepower, but the latter may be used in conjunction with signposts, etc., painted with fluorescent materials that glow under the ultraviolet rays. The glow would not, however, be bright enough to be visible at a distance, from an enemy plane, for example. (General Electric.)

Cellophane sausage casings, the kind used in preparing "skinless" frankfurters and other sausages, feature the blood plasma drying method of Dr. Frank Hartman of the Henry Ford Hospital, Detroit. The blood is collected directly into these casings, which have previously been steam sterilized. After the red blood cells have settled to the bottom this part of the casing is tied off.

The rest, containing the plasma, is attached to the spokes of two wheels and revolved in an air-conditioned cabinet. The water from the plasma seeps through the cellophane casing and evaporates, leaving the light brown, flaky dried plasma, which can be redissolved in five minutes when the doctor is ready to give it to a patient in shock.

This method is said to be only about half as expensive as other methods of

collecting and drying blood plasma. Between 45 and 50 liters (48 to 52 quarts) can be dried in 24 hours in any large hospital. For mass production, this amount could be greatly increased by using an air-conditioned room instead of the small cabinets.

With this method, the red blood cells can be saved and used, as the British are now doing, to prepare anemic patients for operation. This gives double usefulness to every pint of blood collected and cuts the price of the dried plasma in half, Dr. Hartman estimates.

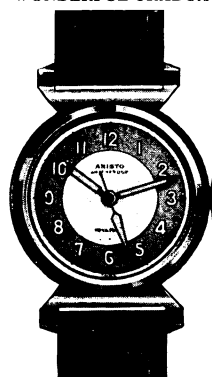
Even simpler and less expensive, and well adapted to small hospitals, is the plasma drying method developed by Dr. Samuel B. Harper and A. E. Osterberg of the Mayo Clinic. With \$25 worth of ordinary laboratory equipment and the part time services of a technician, their method can be used to produce instantly soluble dried blood plasma. Their method consists simply of distilling the plasma in vacuum at a temperature slightly above normal body temperature.

For large scale production of dried blood plasma, Dr. Harper investigated the process used commercially by manufacturers of dried milk. He found that this method of spraying large quantities of milk into a big room to dry it could be easily and satisfactorily adapted to blood plasma drying.

Science News Letter, June 14, 1941

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