

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.

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