

MEDICINE

Anesthetic Has War Use

New method of making childbirth painless and safe may prove boon to war wounded. Men might be transported comfortably from battlefield to base hospital.

► THE NEW safe method of making childbirth painless and comfortable, called continuous caudal anesthesia, may prove a great boon to the war wounded, it appears from a report by Dr. James L. Southworth, Dr. Waldo B. Edwards, and Dr. Robert A. Hingson, of the U. S. Public Health Service. (*Annals of Surgery*.)

The new anesthesia has now been used in 255 cases in general surgery with only three failures, the doctors report. The cases included operations for femoral and inguinal hernia; Cesarean delivery of a baby; setting of broken bones, other orthopedic operations and amputations of legs and feet; and surgical treatment of varicose veins. It also shows promise as a method of treating thrombophlebitis in the legs.

"It would seem," the doctors state, "that this method is adaptable for use in the treatment of casualties both in civilian and military practice where it

would be desirable to have a safe, prolonged analgesia (absence of sensibility to pain) during the transportation and the physical and roentgenologic examinations of the injured."

One anesthetist with several trained corpsmen or medical attendants could handle a large number of patients at one time, they point out. It might be possible to give this anesthetic to some of the war wounded on the field and transport them painlessly to a base for treatment, thus perhaps reducing the instances of shock. The method might also be valuable in preventing the delayed shock condition usually referred to as "crush syndrome."

The new anesthetic method consists of continuous injection near the base of the spine of a pain-killing chemical, metycaïne. The drug temporarily blocks the nerve pathways for pain below the level of the umbilicus but does not cause unconsciousness. Its chief disadvantage for surgical operations is the time consumed,

30 to 40 minutes, to give the anesthetic and allow it to become complete. A skilled anesthetist, however, can have the patient ready for certain types of operations in 10 minutes.

Science News Letter, April 3, 1943

MEDICINE

Killing Virus With Light Depends on Hitting Spot

► DESTRUCTION by ultraviolet light of the virus type of disease germ depends on hitting a certain vital spot or "Achilles heel" of the virus, Dr. Harvey C. Rentschler, director of research at the Westinghouse Lamp Division, declared.

His statement was based on thousands of tests made with the aid of Miss Galina Mouromseff, staff bacteriologist, in which bacteriophage, a virus that destroys bacteria, was subjected to ultraviolet light barrage.

"This ability of ultraviolet to inactivate virus," Dr. Rentschler said, "means that science now has an effective weapon to use in the battle against influenza, infantile paralysis and the common cold among other diseases thought to be caused by virus."

Science News Letter, April 3, 1943

ENGINEERING

New Welding Method Aids In Upkeep of Railroads

► BY WELDING railroad rails together in thousand-foot lengths through a new technique, then skidding them along the old rails into the famed Moffat Tunnel, over 17,000 feet of old track has been replaced without holding up heavy war traffic for a single moment.

At the east portal of the tunnel, the rails were clamped together in a long line with molding boxes surrounding each of 23 joints.

Rails were heated at the joints to welding temperature. Evenness of heat in rail ends was measured by an instrument called an optical pyrometer.

Then a funnel-shaped crucible with chemicals spewing thermite fire, moved up to heat the welding material to correct temperature, as shown in the photograph. The molten material flowed down through the molding box to fill the crack between rails.

After cooling, the welded joint was radiographed, emanations from radium shining through the metal from the side opposite a camera. When the developed photograph showed a perfect weld, the



SPEED WELDING—This funnel-shaped crucible spewing thermite fire is welding rails for a quick replacement job.