

ORDNANCE

# Russian Weapons Good

► THE Red Army's weapons often look rough and unfinished, even crude, but they should never be underestimated on that account, warns Capt. B. H. Liddell Hart, well-known English military analyst, in the technical journal, *ORDNANCE* (May-June). The Germans made that error—and had to unlearn it the hard way.

When the Nazi forces attacked Russia in 1941 they soon discovered that the rifles and machine guns in the hands of their Soviet opponents were more modern than their own, with better fire rates.

The Russian mortars, states Capt. Hart, "were so simple in construction and roughly finished that they looked like the product of a village blacksmith, yet they were most efficient. Their apparent crudeness was far outweighed by the advantage of rapid output."

The Red Army's great weapon-superiority over the German foe, however, lay in their tanks, declares the English writer. This was not true at the outset, for the Russians were caught in a transition period between an

obsolescent model which they possessed in numbers and a newer type not yet in mass production. So in the initial campaign the Nazis "cleaned up" on the Russians.

However, by the time the second phase of the war set in, the newer tanks were ready, and after that the advantage remained with the Soviet forces. The newer Russian tanks were low-built, presenting more difficult targets. They had wide treads, enabling them to maneuver on soft ground, particularly in spring, when the sandy soil of the Russian plain became a miry mud that bogged down the ponderous German "Tiger" tanks. These newer tanks were modifications of an American model, the Christie tank, which the inventor sold to the USSR after he had been repeatedly turned down by U. S. Army authorities, Capt. Hart adds.

Like much of the rest of the Russian equipment, their tanks had a rough and unfinished appearance. They were not even painted. They were cramped and uncomfortable inside, exceedingly tiring to any crews less tough than the Red soldiers, and they were lacking in most of the radio and optical aids considered essential by Western tank commanders. But they had good guns, they could be depended on to keep going, and they could be produced rapidly in the hard-pressed Soviet factories. Most important of all, they could fight.

Science News Letter, May 7, 1949

RADIO

## Ease License Process for Two-Way Radio System

► IT WILL be easy to get a government license to operate a short-range radio station after June 1, the Federal Communications Commission revealed. The license is the type needed to operate a so-called Citizen Radio Station, for two-way communication with nearby points such as from a rancher's home to an outlying cattle-feeding barn.

The application will be sent on a single card form, which will be available soon at the Commission's field offices and the Washington office. Applicants must be at least 18 years old. Their equipment must be approved as to type and must operate in the 460-470 megacycle band previously allocated to this service. Two types of stations may be authorized, including input power of 10 watts for one and 50 watts for the other.

The Citizens Radio Service is designed primarily to afford a two-way short-range private communication service between fixed or mobile stations. The possible uses are many and varied. The service may be used for communication on farms, from headquarters to field crews on construction

projects, and from a factory office to outlying buildings. It may be used also to communicate with moving vehicles within a limited range.

The Commission has established a procedure for approving equipment to be used in this service. Transmitters or transmitter-receivers tested and found by the commission to conform to certain technical standards will receive a certificate of type approval. One transceiver has already been approved and it is expected others will be later.

Science News Letter, May 7, 1949

MEDICINE

## New Center To Supply Blood for 168 Hospitals

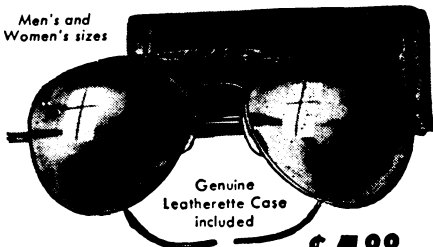
► TO SUPPLY 168 hospitals with human blood needed for the sick, the 23rd regional blood center and the largest of the American Red Cross blood units has begun operation in Philadelphia. With the cooperation of 15 Red Cross chapters in Pennsylvania and New Jersey, this latest center has the job of collecting 155,000 pints of blood a year.

Science News Letter, May 7, 1949

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## Words in Science— DOLORIMETRY

► A NEW method for measuring pain by comparing the spontaneous pain of disease or childbirth with that induced by a measured amount of heat rays shining on the forehead is called dolorimetry. It is pronounced *dole-o-rim-e-try*, with the stress on *dole* and *rim*.

Units of pain in the new scale are called *dols*. Top of the scale is the point where a further increase in the intensity of the heat rays fails to add any to the pain felt. This is given a rating of 10 *dols*. Bottom of the scale, one *dol*, corresponds with the amount of heat which produces a just barely perceptible prick.

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