

PUBLIC HEALTH

DDT May Control Malaria

Public Health Service tests show it is successful as mosquito control weapon in rural areas of the South. Spraying inside houses effective.

► DDT may solve the problem of malaria control in rural areas of the South, it appears from a test conducted by the U. S. Public Health Service in Arkansas. Results of the test, called "striking," were reported by Dr. F. L. Knowles, senior biophysicist of the office of malaria investigation, U. S. Public Health Service, at the meeting of the American Association of Economic Entomologists in New York.

A widespread Federal campaign, to combat the threat of malarial flare-ups resulting from the return of service men who have contracted malaria overseas, is expected to get under way as soon as sufficient DDT becomes available.

DDT supplies "will remain very tight through March and possibly April," John A. R. Rodda, in charge of insecticide allocations in the War Production Board, told the entomologists. "We are still working on military needs, which are consuming practically the entire production. Besides, the raw materials for manufacturing DDT have become critical and are granted only because of the military needs for DDT."

Describing the Arkansas DDT tryout in malaria control, Dr. Knowles pointed out that malaria is an unsolved problem in the southern states because regular control methods are too expensive.

"Spraying the insides of the houses is more effective. The unique residual toxicity of DDT should make it still less expensive and more practical.

"We picked 36 square miles in Arkansas near Helena. This is cotton country. Ninety-five per cent of the houses are of tenant or sharecropper type, shotgun-construction, newspaper-lined, inhabited by Negroes making only a marginal living. With two high school boys we sprayed the insides of these last summer, leaving every 25th house unsprayed as a check.

"Daily inspections of the sprayed houses throughout two months after spraying showed that for that long a period, there was a 94 per cent average reduction in the number of mosquitoes resting, alive, on the indoor walls."

What happened, he said, was that the mosquitoes came indoors at night, alight-

ed on walls and ceilings bearing an invisible residue of DDT, and were fatally poisoned. This effect takes several hours, but is rapid enough so that "there was an average 80 per cent reduction in number of living, resting mosquitoes from early morning to afternoon."

This technique, it was added, hits the mosquitoes at the strategic time: the night, when they are lying in wait indoors to bite sleeping victims.

The job used an average of .82 of a gallon per house of five per cent DDT solution. Per house it consumed 10 minutes, took .73 of a man-hour, and cost 74 cents for material and labor.

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ORDNANCE

Three Military Inventions Recently Patented

► INVENTORS of warlike devices have been active, as is evidenced by several patents. Two are by civilian employees of

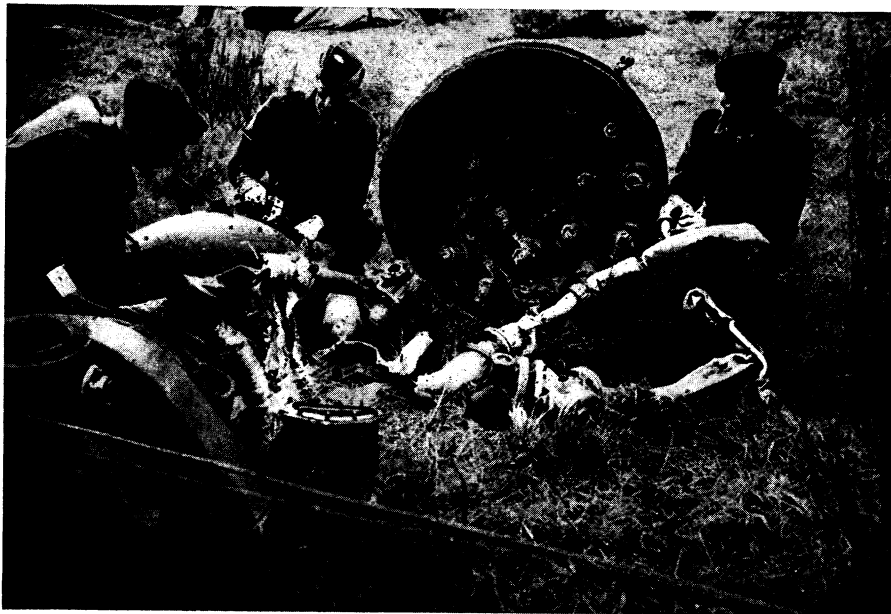
the Army's great arsenal at Springfield, Mass. The first, by Vail W. Grant, is on a rear sight for rifles that is essentially a U-shaped spring, lying flat on the weapon, with the sight aperture at the end of the free arm. A rotatable block under this provides means for elevation, and the spring action keeps the sight snugly in correct position. This patent is numbered 2,364,067.

The second patent is numbered 2,364,103, and is on an improved spring-hydraulic recoil mechanism for firearms, the invention of C. E. Simpson. He states that it will make possible the shoulder-firing of weapons of .60 caliber and larger. A backward-projecting rod attached to the mechanism also provides means for making the breech mechanism automatic or semi-automatic in operation.

Another invention in the military field is by an Army officer, Maj. Robert Van Roo; it is covered by patent 2,364,113. Maj. Van Roo's invention is a machine for stacking the large, cylindrical "grains" of cannon powder (which are often as big as a man's thumb) in straight, even rows, insuring more uniform burning and hence better ballistic performance by the guns in which the charges are used.

Rights in all three of these patents are of course assigned royalty-free to the government.

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JETS EXPOSED—The 18 jets through which the propellant mixture in the V-2 rocket is sprayed into the combustion chamber are shown here. These RAF pictures (see also cover and facing page) were made of a rocket which fell in Belgium.