BALLISTICS

U. S. Research on Rocket

Scientists are developing a better missile than the V-2. Smaller rockets are being tested to give data. Guiding missile is big problem.

➤ THE GREAT American rocket, a "made in the U. S." missile superior to the famous German V-2, is being developed step-by-step by the U. S. Army.

The rocket is not yet under construction. It is not even completed on the drawing board. Plans for the rocket will come from a mass of scientific data and observations collected from perhaps thousands of rocket firings with other missiles.

Stepping stones toward America's postwar answer to the V-2 are the smaller missiles being built and tested by the Army. These incorporate new designs and specialized parts. If some of these innovations stand up under tests they may be incorporated into future rockets.

More experiments aimed at the development of the all-American rocket are being conducted with V-2's fired at White Sands, N. Mex.

Army rocket experts are not talking about the end-product of these experiments. One guess is that an American super-V-2 may be unveiled within a year from now. If it is ready by next spring, the new rocket will have to be tested at a new shooting ground.

The V-2 firing site at White Sands, with a 90-mile range, is even a bit small for the V-2, as the Army found out a few weeks ago when a Nazi missile strayed into Mexico. This means that a new and untested rocket, as large or larger than the V-2, will probably not make its debut on the famous sands near El Paso.

One of the biggest problems in building a better rocket than the V-2 is in the gyroscope, which steers the missile. The Germans had trouble making the rocket go where they wanted it to. The V-2 that landed in Mexico also revealed the difficulty in keeping the weapon under control once it is fired.

An American-built device for tilting the gyroscope in flight is the first step toward control of the rocket by radio from the ground, the dream of all missiles designers.

Another step ahead of the V-2 has been achieved by the Army. This is a simplified fuel piping system, planned to do the job of the complicated mass of pipes on the Nazi rocket.

Newest of the smaller missiles being tested by the Army are the WAC-B and the Corporal E.

The WAC-B is a new version of the WAC Corporal rocket, built in this country during World War II. A feature of the new rocket is a light-weight sheet steel motor construction, compared with the forgings and castings of other rockets.

Less is known of the Corporal E, which is reported to have been fired successfully at White Sands. The Army just isn't talking about this one yet, but it is believed to be another of the small experimental rockets which will help develop the great American rocket.

Science News Letter, June 28, 1947

ASTRONOMY

New Comet Discovered Near Sagittarius and Libra

➤ A NEW COMET, barely visible through a five-inch telescope, has been discovered in the southern evening sky by a Russian observer and reported to the Harvard College Observatory.

The comet has been named Jakovin Junior, after its discoverer. It was first spotted near the constellations Sagittarius, the archer, and Libra, the scales. The comet was north of the star, Antares, in the constellation Scorpius, the scorpion. The new comet was reported moving northward.

Science News Letter, June 28, 1947

ENGINEERING

Char from Coal Suitable For Powder Burner Use

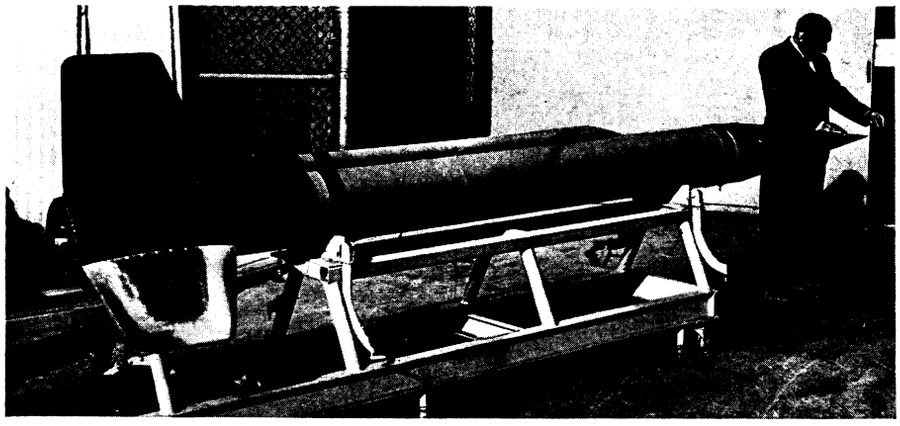
➤ A PRODUCT of coal called char can be pulverized finer than raw coal and is therefore suitable for fuel in powdered fuel burner installations, the American Society of Mechanical Engineers was told by A. D. Singh of Chicago and L. J. Kane of the U. S. Bureau of Mines.

Both these men were formerly associated with the Institute of Gas Technology in Chicago, and reported on work done at the institution. Char is made from coal by driving off part of the volatile contents in the form of gases and vapor. It is not a new product but relatively new processes now make it obtainable at reasonable cost. Processes were described.

A method of pulverizing coal, char and other solids, developed at the Institute of Gas Technology, was also described. It is known as flash pulverization. In it, powdered char, mixed with hot combustion gases, escapes from a compression chamber through a nozzle, and explodes with the removal of pressure into very fine particles.

Advantages of powdered char over raw coal include its higher rates of combustion with a considerably shorter flame, resulting in increased furnace capacity. Saving of four to five percent in fuel can be effected because of its lower hydrogen content and reduced surface moisture.

Science News Letter, June 28, 1947



WAC-B—American built, this rocket is a predecessor of the superior missile to be developed.