terrestrial heat plays a part in setting these foldings in motion. The harder, firmer rocky strata bend, perhaps break, but do not crumble. The folding and bending cause severe local heating, just as a strip of sheet metal can be heated by rapid bending.

At some point beneath the fold, soft rock crumbles, is melted by the heat, and partly dissolves in the presence of intensely hot steam, sulfurous gases and other vapors. This becomes the magma or lava. It may flow quietly out through cracks in the rock, as at Etna and Kilauea, or the access of more water from the surface may cause the flash generation of more steam and a destructive boiler-like explosion, like the classic one of Vesuvius that destroyed Pompeii or the gigantic one in our own time that blew the top off Mt. Katmai in Alaska.

Science News Letter, September 4, 1943

GENERAL SCIENCE

Research Grants Permit Important Work to Continue

➤ RESEARCH GRANTS to 11 scientists were announced by the Society of the Sigma Xi, national honorary fraternity for the promotion of research. Totaling $2,240, the grants will allow the continuation or completion of important researches which otherwise might have to be abandoned; other projects of scientific importance will be reinforced by the grants.

Funds came from small contributions made by thousands of Sigma Xi members throughout the country.

Scientists receiving the grants were Dr. R. H. Alden of the University of Tennessee, Dr. T. T. Chen of the University of California, Dr. E. E. Dale of Union College, Dr. E. S. Deevey, Jr., of Rice Institute, Dr. R. R. Humphrey of the University of Buffalo, Dr. A. T. Miller, Jr., of the University of North Carolina Medical School, Dr. E. H. Myers of Stanford University, Dr. C. A. Neuberg of New York University, Dr. H. H. Nininger of the American Meteorite Laboratory in Denver, and Dr. R. A. Studhalter and Dr. W. S. Glock of Texas Technological College.

The committee making the awards consisted of Dr. Harlow Shapley of Harvard College Observatory, president of the Society of the Sigma Xi; Dr. Hugh S. Taylor of Princeton University; and Dr. L. C. Dunn of Columbia University.

Science News Letter, September 4, 1943

• New Machines and Gadgets •

⚙ *MEDICINE SPOONS with tightly fitting covers may soon be available for the parent who must give medicine to an unwilling youngster. The loaded spoon is inverted, put into the mouth and a discharge valve opened by pulling a slide.*

Science News Letter, September 4, 1943

⚙ *AVIATOR PADS, made of animal hair mixed with a small amount of reclaimed rubber, are used for pilot seats, parachute seats, and bombardier pads. Since the product costs only a fourth as much as the spongy rubber formerly used, economies are also expected by its use in post-war civilian products.*

Science News Letter, September 4, 1943

⚙ *SAFETY SIPHONS for transferring acids and other dangerous liquids from large to small containers are now available made of flexible thermosetting plastic tubing. Free flow and easy control are claimed. The tubing is acid and corrosion resistant.*

Science News Letter, September 4, 1943

⚙ *PLASTIC PELLETS for bullets, and compressed air instead of powder, are used in electric guns which produce all the racket and recoil vibrations of anti-aircraft weapons. These guns are used effectively in training soldiers at considerable saving in cost.*

Science News Letter, September 4, 1943

⚙ *ROBOT AIMING devices, known as gyro-stabilizers, increase by several hundred per cent the shooting accuracy of new Army tanks while in motion, even if racing at full speed. The stabilizer keeps the gun barrel at a fixed elevation and the target within focus of the gunner's telescopic sight. The gunner can fire quickly and effectively, making only slight manual adjustments when necessary.*

Science News Letter, September 4, 1943

⚙ *SPIN-TEST machines for inspecting shell fuses simulate the action of shells in flight, practically eliminating the possibility of "duds" reaching gunners. The testing machine looks like a table-size radio. It has a high-speed motor. By placing a fuse on an adapter attached to the motor shaft, it is possible to tell at a glance if the mechanism is properly adjusted. Millions of fuses are tested each month.*

Science News Letter, September 4, 1943

⚙ *SOUND FREQUENCY analyzers, electrical instruments used to measure current frequencies, are now used experimentally by physicians. Combined with the electric cardiograph it shows what part of the heart cycle is responsible for an abnormal heart action. The device also has many industrial uses.*

Science News Letter, September 4, 1943

If you want more information on the new things described here, send a three-cent stamp to SCIENCE NEWS LETTER, *1719 N St., N. W., Washington 6, D. C., and ask for Gadget Bulletin 172.*