

# Iceland Spar Phlogopite Labradorite

Iceland Spar is a crystalline calcite whose property of double refraction makes it essential in the building of many optical instruments. So that you may see for yourself just what an Iceland Spar crystal looks like, and how it acts, the Mineral Optics Unit of THINGS of science includes a specimen of this crystal.

Another mineral of industrial value is phlogopite, or mica. High grade mica goes into high-compression airplane motors and into a great many electrical appliances. It exhibits the quality of asterism, as you can discover from investigation of the specimen included in this unit.

A third mineral which this THINGS unit brings you a sample of is Labradorite. The included specimen will show a typical play of iridescent colors when held under a light.

Two of these minerals, Iceland Spar and phlogopite, are essential to winning the war. The Mineral Optics Unit brings you a detailed knowledge of them and of why they are vital now.

As in all units of THINGS of science, this unit contains specimens of scientific material to be examined, studied, and enjoyed. Museum-style legend cards are supplied for each science object; a brief, clear explanation of the entire contents is included with suggested experiments. This service is under the sponsorship of Science Service, the non-profit institution for the distribution of scientific information.

Just enclose 50c, sign and send in the coupon below; and we will mail this Unit of THINGS of science to you postpaid.

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## New Machines and Gadgets

⚙️ *SHELL CASES* are now being made of steel instead of the more precious brass by means of the same machinery previously used for the brass cases. This has made it possible to reach the mass production stage at once.

*Science News Letter, September 12, 1942*

⚙️ *PUSH BROOM AND SCRAPER* combined are provided in a recent patent. Just turn the broom over and the scraper will remove that recalcitrant bit that could not be budged by the bristles. Most such brooms have two openings into which the handle can be threaded, so that the broom can be reversed when one side is worn. The device screws into the spare opening and so may be instantly applied to any such broom.

*Science News Letter, September 12, 1942*

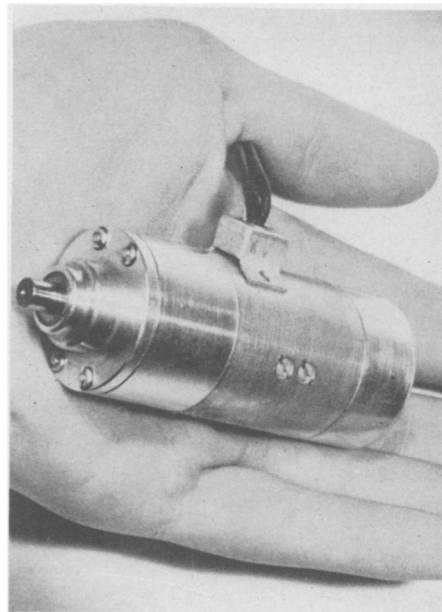
⚙️ *A PAIR OF FLASHLIGHT BULBS* carried by a spectacle frame but worn on the forehead above the eyes, is an invention recently patented. The inventor recommends it for use of surgeons and others who have to work during blackouts with only flashlight illumination. A long downward projecting nose-piece keeps the lamps sitting high. The battery is carried in the pocket or elsewhere on the person.

*Science News Letter, September 12, 1942*

⚙️ *COOLING THE AIR* blown by an electric fan is the object of a recently patented invention. A box-like container above the fan contains dry ice. The cold air and gas in this container is drawn down through a series of vertical tubes behind the fan and returns to the box through an outside horse-shoe-shaped tube. The circulation is maintained by a propeller inside the box. The propeller is driven by a little windmill on the lower end of a shaft that projects downward into the air stream of the fan. The inventor claims that the device can be attached with little difficulty to standard makes of fans.

*Science News Letter, September 12, 1942*

⚙️ *MANY SMALL MOTORS* are required on an airplane, particularly a war-plane, for operating controls, protective devices and other purposes. Weight and space must be reduced to a minimum without sacrificing reliability of operation. The electric motor illustrated weighs only 8 ounces, is less than 4 inches long and 2 inches in diameter.



Included in the case is a gear to reduce the speed to 125 revolutions a minute. Other light-weight gears are provided which may reduce the speed to as low as one revolution per minute, or the motor may be made without gears.

*Science News Letter, September 12, 1942*

If you want the sources of the new things described here, send a three-cent stamp to SCIENCE NEWS LETTER, 1719 N St., N. W., Washington, D. C., and ask for Gadget Bulletin 121.

### CHEMISTRY

## Wool Resembles Rubber In Molecular Structure

➤ WOOL resembles rubber, perhaps not in external appearance, and we may expect no woolen tires. But its molecule resembles that of rubber and it is this circumstance that gives wool its elasticity.

When wool is bent it springs back again. When cotton is bent it stays bent. That is why the crease in all-wool trousers stays put for a time, while a cotton shirt gets wrinkled and stays wrinkled. This elasticity also accounts for the warmth of wool, for the fabric remains porous with innumerable small air spaces. Cotton, on the other hand, packs down and loses the insulating air spaces. These facts were brought out by research associates of the Textile Foundation who have been conducting researches on wool at the National Bureau of Standards.

*Science News Letter, September 12, 1942*