

• New Machines and Gadgets •

⚙️ **TRAILER HOUSES** for war workers will be constructed by 25 trailer makers for the duration. The model to be followed has the better features of present commercial trailers. Standardization down to the smallest screws and nails will permit the interchange of repair parts and make allocation of construction materials easier.

Science News Letter, May 29, 1943

⚙️ **SALT AND PEPPER** shakers and sugar dispensers are now made of a very light transparent plastic especially for use on airplanes. They are not easily broken and are unaffected by changes of temperature.

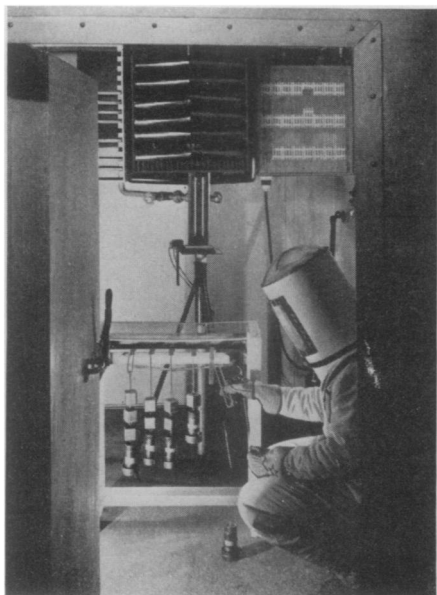
Science News Letter, May 29, 1943

⚙️ **PAPER BAGS** can substitute for traditional Indian jute containers for shipment of Cuban sugar, recent tests show. Six-ply, 200-pound bags were toppled from 25-foot piles without breakage; they were sprayed with water for 20 minutes and moisture did not go beyond the first ply. A test shipment of 500 bags between the United States and Cuba further proved their practical value.

Science News Letter, May 29, 1943

⚙️ **PLASTIC PLANE** parts are shown being tested by an engineer at a temperature of 67 degrees below zero. Stratosphere weather conditions are simulated here to help develop improvements for the Air Forces.

Science News Letter, May 29, 1943



⚙️ **A NEW TELEGRAPH** code tape perforator, compact in design, produces tape as cleanly and as accurately as any complex keyboard perforator, it is claimed. Light touching a dot key, dash key, or spacer bar closes electrical contacts. A die mechanism, driven electrically, perforates and advances the tape through the machine.

Science News Letter, May 29, 1943

⚙️ **A NEW COMPACT** dust-collecting machine sucks dust-laden air from grinding wheels or other tools and separates the dust. The air is forced into a miniature cyclone which throws the heavier particles of dust into a hopper and the lighter dust into a filter chamber. Air returns to the room 97 per cent clean.

Science News Letter, May 29, 1943

⚙️ **A TOBACCO PIPE** with the inside of the bowl threaded as if for a machine screw, received a recent patent. With it is a milling cutter to keep the grooves clean. The smoke is said to be drawn through the grooves instead of the tobacco in the bowl, thus being cooled and leaving the tobacco uncontaminated by smoke.

Science News Letter, May 29, 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, D. C., and ask for Gadget Bulletin 153.

MILITARY SCIENCE

OSRD Head Invents Improved Rifling Method

➤ **THE HEAD** of the principal national organization for coordinating and making effective for war purposes American scientific resources, Dr. Vannevar Bush, director of the Office of Scientific Research and Development, personally contributes a significant technical advance, among the 580 inventions of the week on which patents have been issued by the U. S. Patent Office.

Dr. Bush's invention is an improved method for rifling artillery, which makes practicable a type of gun bore which ordnance men have long regarded as ideal but unattainable in practice.

Gun bores at present are cylindrical or practically so. Much better, for the purposes of obtaining smoothness of starting and movement of the projectile when fired, would be a bore having a cylindrical portion near the breech, a

gradually tapering portion throughout the greater part of the length, and another cylindrical portion near the muzzle. Such a gun might be rifled with existing tools, but the cost in money and time would be prohibitive.

In Dr. Bush's method, the barrel of the gun is bored and reamed to approximately the desired conformation. Then a plug, with its outer dimensions closely corresponding to the desired shape of the finished, rifled interior, is inserted. This plug has a groove along one side, in which two long wedges operate. These wedges press against the smooth interior of the bore a series of cutting tools, linked into an endless chain, which is slowly drawn through the gun while it slowly rotates around the stationary plug. This produces a series of twisted grooves, properly rifling the gun, no matter what the curves of its breech-to-muzzle profile may be. The inventor has assigned rights in his patent, no. 2,319,206, royalty-free to the government.

Science News Letter, May 29, 1943

A million tons of nonferrous metals were supplied by scrap dealers in 1942; mostly copper, lead, tin, aluminum and zinc.

The tuna fish catch for the first three months of 1943 was 40% greater than that of the same period in 1942, but is still below normal.

Nitroparaffins, recently developed for commercial uses, are used as solvents in cellulose acetate and acetobutyrate lacquers and in adhesives used in connection with these products.

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