

• New Machines and Gadgets •

⚙️ **WOOD CELLULOSE** fiber pipes are now being used, not only for electrical conduits, but for inside drain pipes, as a protective jacket around metal pipes exposed to corrosive substances, and experimentally as soil pipes and oil well casings. The wood fibers are formed into rugged tubes by a heat process, then impregnated. The resultant pipe is chemically inert, light weight, with high mechanical strength and water resistance.

Science News Letter, January 23, 1943

⚙️ **A SPATTERPROOF LAMP** for welding and rough industrial service, made of special glass which resists penetration of hot metal particles, is said to give longer service than the usual lamp of this type.

Science News Letter, January 23, 1943

⚙️ **A SMALL TENSILE** tester recently developed will test any material up to 10,000 pounds, although the instrument is only 32 inches tall. It will determine elastic limit, stress, strain, stiffness, resilience and other factors. The device is the smallest of its kind having such wide usage and adaptability, the manufacturer asserts.

Science News Letter, January 23, 1943

⚙️ **AN AIR-TIGHT** pocket tobacco container has been patented which has a compartment for both storing and loading a pipe. The device discharges tobacco into the bowl of the pipe and tamps it properly ready for smoking.

Science News Letter, January 23, 1943

⚙️ **IMPROVED WATER-COOLED**, rapidly adjustable clamps have been developed to hold the arc electrodes in spectrographic analysis. For inspection of war materials and other important uses, this method is replacing older chemical tests. Work is speeded by the new clamps and the improvement is expected to be adopted by industry. Controls are operated from outside a grounded safety housing which protects the operator against harmful radiations, fumes and shock. This is important, since potentials as high as 40,000 volts may be needed to obtain satisfactory spectra from volatilized metallic vapors.

Science News Letter, January 23, 1943

⚙️ **PORTABLE** water carriers, such as the one shown in the picture, are being extensively used on war construction jobs. It provides fresh, cool water in clean



paper cups to the workers. Loss of man-power hours is said to be materially reduced

Science News Letter, January 23, 1943

⚙️ **A NEW RESIN** waterproof glue, similar to that used to make plywood aircraft, is now to be used in the shoe industry. The powdered glue requires only the addition of water. No heat or solvent is necessary as with glues and cements now being used, the manufacturer states.

Science News Letter, January 23, 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 140.

MEDICINE

Part Played by Injury In Cancer Is Explained

➤ **A GREAT MANY** people have long had the idea that an injury such as you might get from being hit by a heavy object or from falling and striking hard against a heavy object, can cause cancer. This is a mistaken idea.

"It is now universally conceded by pathologists that a single mechanical trauma (injury) never produces cancer in previously normal tissues," Dr. James Ewing, one of the nation's great cancer experts, and former director of Memorial Hospital, in New York, declared at the officers training school for the Women's Field Army of the American Society for the Control of Cancer.

"The causes of cancer," he explained, "are chiefly found in the intrinsic qualities of tissue cells. However, when

trauma (injury) is associated with delayed wound healing, or infection, or is repeated, or carries into the tissues irritating chemicals or other foreign bodies, cancer sometimes follows which would not have occurred without the trauma. Injury thus becomes an indirect exciting cause of some malignant tumors."

Surprisingly few tumors have been proved beyond reasonable doubt to be the result of injury, he continued. Only 37 cancers possibly due to injury were found among 26,389 injured persons in one year's experience at the Workmen's Compensation Bureau in New York State. French authorities estimate about five or six tumors occur among each 100,000 injured persons. Another authority quoted by Dr. Ewing states that in the German hospitals among 3,710,370 war wounds only 3.7% of malignant tumors were observed. These rates are very close to the rate of cancer occurrence that would normally be expected among people in the same age groups as those in the surveys.

Science News Letter, January 23, 1943

A female toad of the American (*Bufo americanus*) species was found containing more than 15,000 eggs.

Giant steel "sky chambers" now make it possible to study the effects on men and materials of altitudes as high as eight miles.

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