

• New Machines And Gadgets •

☛ **DARNING** will be simplified for the housewife by a plastic device recently patented. Cloth to be mended is stretched over a supporting head of improved design which is illuminated by a small electric lamp. Yarn, needles and thimble are stored inside the handle.

Science News Letter, August 14, 1943

☛ **MOLDED PLASTIC** is being considered as a replacement for metal in corps and service insignia of the armed forces. Soaked, scalded and frozen in laboratory tests, the plastic insignia show promise of taking their place alongside the Army's new plastic buttons.

Science News Letter, August 14, 1943

☛ **MAGNETIC RECORDING** devices, compact and lightweight for Army use, have been developed. Sound is recorded on a thin piece of wire which can be played back immediately. Erasures are made by demagnetizing parts of the wire. The device could be used for combat reporting, intelligence work or as a reconnaissance aid.

Science News Letter, August 14, 1943

☛ **INSULATION** more than two-thirds again as efficient as glass wool or cork is being used to solve many wartime low-temperature refrigeration problems. Made of silica aerogel, the insulation is expected to open up new possibilities in the post-war refrigerating industry.

Science News Letter, August 14, 1943

☛ **FIRST-AID** dressing of war wounds has been improved by use of the pres-

sure sponge and bandage shown in the picture. It compresses the bleeding vessels against the hard underlying bone enough to control hemorrhage without the disadvantages of using a tourniquet. The dressing also provides a splinting effect and can be safely left in place indefinitely until surgical attention is available.

Science News Letter, August 14, 1943

☛ **THE HELPLESS FEELING** of the smoker without an ash tray need be no more, claims the inventor of a patented cigarette holder. The lighted cigarette is placed within a wire mesh cylinder, covered outside by a lightweight shield. No ash tray is needed and the holder can be laid down anywhere without scorching or burning the surface.

Science News Letter, August 14, 1943

☛ **CITRONELLA CANDLES** have been designed to repel mosquito attacks. Special refined paraffin wax of high melting point containing about one-and-a-quarter per cent. of heavy, molasses-like citronella oil give best results, the patent states.

Science News Letter, August 14, 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 169.

CHEMISTRY-PHYSIOLOGY

"Congeners" of Spirits Prolong the Hangover

➤ **CHEMICAL** "congeners", subtle ingredients of distilled spirits, which prolong hangover and slyly increase alcoholic "kick" for the tippler, have been investigated and perhaps disarmed through experiments at Yale University's Laboratory of Applied Physiology by Dr. Howard W. Haggard, Dr. Leon A. Greenberg and Louis H. Cohen.

Extensive research reported in the *Quarterly Journal of Studies in Alcohol* (June) reveals that there are differences in poisonous effects, or toxicity, of the various beverages and that there are corresponding differences in severity of intoxication and after-effect.

But contrary to previous beliefs, the scientists discovered by newly developed test procedures that these differences are not due to the fact that the congeners add directly to toxicity. Instead they are due to the influence of some con-

gener or congeners which slow the rate at which the absorbed alcohol is burned or oxidized in the body.

Chemical treatment of the spirits which the scientists designed to destroy the congeners resulted in speeding the rate at which the alcohol was burned. The same effect was achieved by administering certain substances to the imbiber, such as the chemical glutathione, which affect the enzyme system of the body.

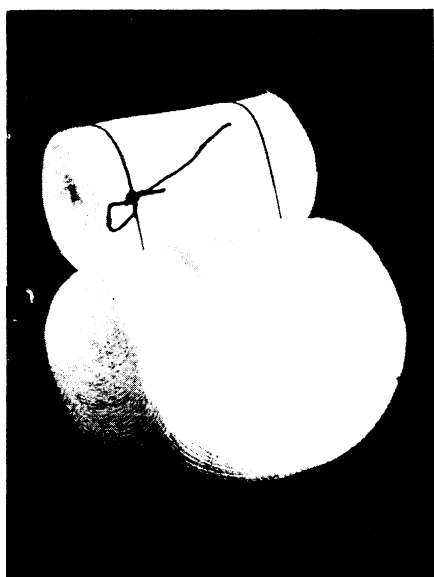
Support is given to the possibility that the action of the congener in slowing alcohol oxidation is exercised through its effect upon some enzyme system of the body, presumably that of the liver.

The experiments "do not support the popular belief that fusel oil is the primary 'toxic' ingredient of 'bad' whiskey," the researchers state. "Rather the physiological congeners are those, as yet not fully identified, which . . . possibly affect liver function and exercise profound physiological action in amounts which are as low as those in which certain vitamins and hormonal substances may act."

Chemical identity of the elusive, much-discussed congeners responsible for the action investigated is not revealed in the current report, except to show that those known to be present in the largest amounts are not guilty. Evidence bearing upon the particular congeners indicted is being assembled through studies now in progress.

Science News Letter, August 14, 1943

Crab shells harden in two days; only those crabs that have molted in the previous 24 hours are true "soft-shells".



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