

## New Machines And Gadgets

### Novel Things for Better Living

Some of the advantages of an automatic stoker can be yours if you install in your chimney a thermostatically controlled damper that has just been patented. When the fire is too hot, it closes, and vice versa. It saves coal, as well as attention to the fire.

No more pounding out of blackboard erasers for Johnny when he wants to help teacher. No more choking chalk dust in the classroom. If teacher is up-to-the-minute, she will have her blackboard erasers cleaned with a new vacuum cleaner attachment just invented and patented. It plugs in to the regular installed vacuum cleaner system. A series of bars, acting as a washboard, would loosen the chalk which is at the same time whisked away by the suction.

Tight garters interfere with circulation and leave an ugly mark—or so they say. A garter that is not tight, that leaves no mark, yet does not slip, has recently been patented. It is not worn on the stocking but above it, and the stocking is suspended from the garter by straps. The secret is that the garter is made of three layers of material, the two inner ones being of a porous rubber. The innermost layer is perforated with a number of holes. The nonslip quality is due, the inventor thinks, to the protrusion of the flesh into these holes. More likely, these holes, backed by the next outer continuous layer, act as vacuum cups.

How would you like a typewriter with a carriage 12 feet long and several inches in diameter? Such a monster is very useful for some purposes. It was developed for putting the specifications, dimensions and other data on engineering and architectural drawings — an otherwise long and tedious hand job. It has several styles of type that can be used at will.

Contact microphones now enable airplane pilots to listen in on each of their engines in succession and detect any trouble developing before it becomes serious. Each mike is placed in direct contact with the engine and, like the doctor's stethoscope, hears the noises inside, undisturbed by any external sounds such as the rush of the wind. Mikes placed in the wing tips also warn of "wing flutter" during a power dive and give notice to the pilot that he must pull out before the flutter becomes dangerous.

This graceful hand of clear, transparent plastic makes an excellent eye-catcher for displaying sheer hosiery, transparent gloves, chiffon fabrics and sparkling jewelry, especially when il-



luminated. It may also be used as an intriguing source of light for some nook in the home.

The conventional icepack, consisting of a rubber sack filled with cracked ice, is a sloppy and inconvenient affair. A better device is now available. It is a rubber pad, smooth on one side but having hollow blocks on the other, looking much like the tread of a non-skid tire. The blocks are filled with water hermetically sealed in. The thing is simply placed in the freezing compartment of a refrigerator. When frozen, it can be wrapped around the head, smooth side inside, or applied to any other part. It fits nicely and never leaks.

*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 85.*

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#### PLANT PATHOLOGY

### Chemical May Control Deadly Elm Disease

CHEMICAL injections may some day conquer the deadly Dutch elm disease, now extensively ravaging the elm of the northern Atlantic coast states. Hope of bringing this to pass is held out by experiments performed by Dr. George Zentmyer of the Connecticut Agricultural Experiment Station.

Wilting of leaves, first noticeable symptom of Dutch elm disease, had long been believed due to simple drought,

provoked by the choking up of the sap ducts. Dr. Zentmyer suspected that the wilting might possibly be caused by a toxin secreted by the fungus. This is known to be the case in certain other plant diseases, like tomato and cotton wilts.

He grew a quantity of the elm disease fungus under laboratory conditions and made a filtered extract from it. He dipped cuttings of various plants—snapdragon, tomato, elm, etc.—into the extract. The characteristic wilt developed. The same reaction, as well as the staining of the wood which is another symptom of the elm disease, was observed when injections of the filtrate were made into small trees growing outdoors. These tests demonstrated rather definitely that the wilting is due to a toxin, rather than to simple mechanical clogging of the sap channels.

Preliminary tests have been made with a number of counteracting chemicals, and some signs of benefit have been obtained with a few of them, including benzoic acid, hydroquinone and 8-hydroxyquinoline benzoate. Dr. Zentmyer is not satisfied, however, that he has found the real "cure" for Dutch elm disease. Much further research is considered necessary before recommendations for general use can be safely made.

*Science News Letter, January 3, 1942*

#### INVENTION

### New Type of Flying Boat Can Land on Rough Sea

A NEW kind of flying boat that can make a forced landing on rough sea without upsetting has been designed by Claude Dornier, famous German aeronautical expert. It has been awarded U. S. patent 2,259,625, and is among 846 inventions granted patents recently.

The body of the novel boat just above the water line is wider than the rest of the fuselage above it, so that two bulges are formed on either side of the fuselage that extend a good part of its length. The bottom of the boat has a curved V shape such as is found on many motor boats.

This design, the inventor claims, is more buoyant, resists side to side rolling (which might dip the wing tips into the water), and replaced the air-resisting horizontal fins or floats on either side of the fuselage or other means provided for stability. It is more seaworthy and offers less resistance both to the air and to the water.

The side bulges can also be filled with water ballast when the boat load is light, which further reduces rolling.

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