

that it can be used aboard ship, or in order to make it susceptible to modern shop methods of production. The Naval Research Laboratory not only furnishes consulting advice to the contractors in the case of its models, but for practically all models produced elsewhere.

After production, installation difficulties arise in the case of radically new and complicated installations. In this case we not only furnish consultation and do installation work, but also train installation engineers. We have had to educate and train operators and maintenance engineers. We assist in the formulation of new tactics which may have to be developed to meet realistic changes required to best embody new equipment in operation. These scientists fly in planes, cruise in surface ships, and dive in submarines.

The Naval Research Laboratory in its work has always enjoyed support from the Congress. The Naval Appropriations Committee of the House under the able chairmanship of the Honorable James G. Scrugham, has enthusiastically supported the Laboratory and supplemented its hearings by frequent and detailed inspections of the problems under way. This encouragement has been invaluable.

The work of the Army and Navy in research and inventions has lately been supplemented by the efforts of the National Defense Research Committee and the National Inventors Council. The work of the National Defense Research Committee has been widely commented on in the magazines and press and there is no necessity for further reference to it here.

The National Inventors Council handles inventions for the Army and Navy, doing in this respect for both services what the Edison (Consulting) Board did for the Navy in the last war. Its work is also well known.

The Navy has been alive to all new ideas down through the years. Of course,

if one could be definitely sure that a certain thing would happen in the future, that would permit different dispositions. No nation has ever been completely prepared for war—not even Germany, and wars are fought with what you've got, not something you wished you had.

Pancake engines, extraordinarily economical machinery, radio detectors, etc. are not pulled out of a hat. It takes a lot of work and a lot of time, and if you aren't well along with them when war breaks out—why, they don't fight in the current war.

You can be assured that this country is today by far better off technologically than it has ever been in any other war.

Science News Letter, July 25, 1942

New Machines And Gadgets

Novel Things for Wartime Living

Transportation of glassware and other fragile objects can be made safe by an ingenious new wrapping material. It is made by cutting a system of slits in stiff wrapping paper and then stretching it out into an open network. This causes the paper between slits to stand on edge, and is exactly the process by which expanded metal lath for plastering is made. One advantage over old newspapers is that the objects can be seen through the open network without unwrapping.

Blackout buttons, small nickel-sized disks of methyl methacrylate resin of high reflecting power, have a multitude of uses during blackouts. They reflect the dimmest light, showing up as though illuminated from behind. They can be worn on a belt or used to make directional signs or to indicate danger spots such as stairs, elevator shafts and the like. Each disk has a hole in the center so that it can be nailed, screwed or wired in place. Six hundred of them weight only a pound.

Dry electrically conductive paper has been invented for the purpose of telegraphically transmitting facsimiles. This was previously done with wet paper. The new paper is prepared by dipping it in an electrolyte such as ammonium nitrate dissolved in one of the higher alcohols. The paper is then dried and subjected to heat and pressure. The solvent and the electrolyte melt and form a solid solution within the paper, which is then conductive even when dry.

To reduce spoilage of war machine parts by moisture, an electronic "weatherman" has been developed which keeps continuous watch over the furnace gases used to heat-harden tough steel airplane, tank and gun parts, and detects as little as four-thousandths of one per cent water vapor in the gases. The new recorder is said to be more accurate than the long tests previously made by a skilled technician. Anyone can use it who can read a meter.

Wooden pipe replaces steel culvert. It is made of prefabricated pieces of short lengths of wood, sizes that ordinarily would be discarded. They are light, easily transported, and require no special skill to put together. Used in army camps and cantonments, the wooden pipe is expected to last the life of these projects. For permanent drainage, the usual corrugated steel pipe can be simply threaded through the wooden culvert after the war.

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 114.

Science News Letter, July 25, 1942

Bossy herself may soon supply the lining for *milk cans*—a U. S. Department of Agriculture chemist has invented a lacquer made largely from lactic acid, an ingredient of milk.

Fiber from a common *mallow* species that grows wild in the West Indies, Central and South America, is being substituted in large quantities for East Indian jute in making bags and cord.

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