

PUBLIC HEALTH

Patients Are Turned Away Because of Nurse Shortage

► **SHORTAGE** of nurses is compelling some hospitals to turn away patients and service standards are going down despite efforts to recruit "women in white." While more and more skilled nurses are being drawn into military service and industry, the number of patients in hospitals is increasing, judging from information based on reports to the U. S. Public Health Service released by the Office of War Information.

Increased war production has jumped industrial accidents to an estimated 2,500,000—more than a third over the 1939 level. Secretary of Labor Frances Perkins states that more than 2,000 workers suffer disabling injuries in manufacturing plants every day. And disease is given new holds by crowded living conditions and relaxed sanitary standards.

To meet growing war needs for nurses America will need 359,000 nurses next year—100,000 more than are now available. Of this number 66,000 would go to the military services, 293,000 to civilian practice.

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OCEANOGRAPHY

Messina Strait Subject to High Winds, Tidal Currents

► **SCYLLA AND CHARYBDIS** made passageway through the Strait of Messina dangerous in the heroic days celebrated in Homer's *Odyssey*. Scylla, once a beautiful maiden, later transformed into a six-headed monster, seized men on passing boats and ate them. She lived on the rock of Scylla on the Italian mainland shore, near the present city of Scilla.

Charybdis was a shapeless monster on the opposite shore near the promontory of Faro, who sucked in huge volumes of sea water and belched it out again, causing whirlpools that devoured the boats. Tidal currents and eddies still exist and must be encountered by Allied forces crossing from Sicily to the mainland. Scylla seems at last to be satisfied, perhaps because of the quantities of beautiful silk and wine produced by her namesake, the city of Scilla.

Because of the mountainous shores on either side of the strait, and the narrowness of the strait itself, it is subject to rather frequent violent winds. Strong tidal currents pass through the

strait every six hours. They produce eddies in several places, particularly off Pezzo north of the city of San Giovanni on the Italian toe, and between it and Scilla.

The strait of Messina connects the Tyrrhenian sea on the north with the Ionian sea on the south. It is approximately 30 miles from north to south, and from two miles wide at the north to some 20 miles where it merges into the Ionian. The least width is off the promontory of Faro. At Messina the strait is three and a half miles wide. Messina's excellent harbor is a circular basin open only on the north.

The narrowness of the Messina strait is probably accountable in part for the severe loss of lives in both Sicily and on the mainland from the well-remembered earthquake in 1908, when over 77,000 died. Italians and Sicilians remember with gratitude the generous help received from America in those terrible days.

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ENGINEERING

High-Speed Test Machine Detects Flaws in Wire

► **A HIGH-SPEED** testing apparatus, that can detect hidden flaws in wires, rods, strips and similar elongate metal shapes as they move through at rates of 40 feet a minute or faster, has just been patented by two Cleveland inventors, D. E. Elmendorf and K. H. Keller. It is calculated to save endless labor involved in visual inspection, as well as to eliminate many failures and rejections due to the unwitting incorporation of defective materials into finished machines, lamps, etc.

The principle involved is simple: it is the well-known fact that the magnetic field surrounding an electric coil is affected by changes in metal objects passed through the hollow center of the coil. In this case, the wire is reeled rapidly through. So long as it is uniform in every respect the field remains steady, but an irregularity or defect, even within the wire, causes a minute "kick" both in the magnetic field and in the flow of the current itself. These current "kicks," suitably amplified by means of a vacuum-tube hookup, signal the operator that something is amiss in the material by winking a neon lamp at him.

Rights in the patent, No. 2,326,344, have been assigned to the General Electric Company.

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IN SCIEN

PHYSICS

Physicists To Study Atom On High Mount Evans

► **NEW KNOWLEDGE** of the force that hold together the heart of an atom may result from studies now being conducted at a mountain-top laboratory in Colorado by a group of physicists from the University of Chicago led by Dr. Marcel Schein.

At the high altitude of the cosmic ray station on Mt. Evans the scientists will study the production of mesotrons, the electrical particles in cosmic radiation coming from the upper atmosphere which are probably 150 times as heavy as an electron.

Besides the problems of mesotron formation and distribution, the scientists will continue studies of giant cosmic ray showers. As primary cosmic rays come to earth from outer space they assume changing forms due to the increasing density of the atmosphere nearer the earth. Scientists therefore go to high altitudes where they can study cosmic ray showers, and the mesotrons which produce them, a little closer to their source.

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NUTRITION

Vitamin Pills Make Workers More Nutrition Conscious

► **DESPITE** oft-repeated claims that vitamins given to workers as an everyday nutrition aid cause reliance on pills instead of proper food, practical experience suggests that just the reverse is true, maintains Dr. K. Hickman, director of research for Distillation Products, Inc. (*See SNL*, July 31)

His firm has distributed a poly-vitamin supplement daily to its workers producing a good effect on morale and arousing an interest in the science of nutrition among those who were previously careless and ignorant of the nutritive value of food.

"We find," Dr. Hickman declared, "that persons who have never given a thought to the nutrition value of their diet become nutrition conscious when taking vitamin pills."

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