

MEDICINE

Pill-Making Machine

➤ A PILL-MAKING MACHINE that is foolproof and can turn out 1,000 compression-coated tablets per minute may lead to major changes in the industry. It is being developed by scientists at the University of Michigan College of Pharmacy.

The machine uses a process called compression coating, introduced on a large scale about five years ago with machines

that could stamp out 400 pills a minute. In the process, the active ingredient core of the pill is put between two dies that press the coating around it. It then becomes a pill within a pill.

However, up to now there has been one serious drawback to the process, the lack of a foolproof way to tell if there is actually a core inside the coating.

Two methods of inspection tried are adding either iron or a material opaque to X-rays to the core. Then the finished products could be inspected with either an X-ray machine or a magnet.

Both of these methods have run into opposition and it was found that some people could not tolerate the iron, Dr. Albert Mattocks, professor of pharmacy, reported.

The new machine uses suction tubes to pick up the cores and transfer them to the compression chamber. If the tube fails to pick up a core, no outside coating is compressed and therefore there is no need for inspection, he said.

The older and most common technique for pill making is called pan rolling. The pills are revolved in deep pans and covered with a wet mixture of their outside coatings. This method insures adequate coating, but is a long process and wastes considerable material, Dr. Mattocks reported.

Another drawback is that some drugs are damaged by the amount of heat needed in pan rolling. Penicillin is one of these and was one of the first of the newer drugs to be compression coated, he said.

The pill-making machine was built by the Colton Company of Detroit, Mich.

Science News Letter, March 30, 1957

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ENGINEERING

Lifetime Nuclear Battery Uses Isotopes

➤ DESIGN of a practical "lifetime" power source for electronic equipment that uses the heat from radioactive isotopes to generate electric current was reported by J. L. Briggs, Rome Air Development Center, Griffiss Air Force Base, N. Y., to the Institute of Radio Engineers meeting in New York.

The heat generated as the radioactive isotope decays, or loses its radioactivity, is used to drive a semiconductor "thermopile," Mr. Briggs reported. This is a transistor-like device that can produce electrical energy when heated by the isotope's decay.

The thermoelectric generator is a rugged and stable sealed-in power source that can last up to 30 years, Mr. Briggs said.

Science News Letter, March 30, 1957

Do You Know?

In a special kitchen exhibit, the kitchen floor is cleaned by a mobile floor cleaner functioning automatically; dispatched by remote control, the "mechanical maid" disappears into a base cabinet recess when the scrubbing job is done.

Sugar production increases since the Second World War have outpaced increases in production of all other major food crops.

A new and revolutionary automatic *astro compass* automatically tracks celestial bodies and computes precise aircraft direction.