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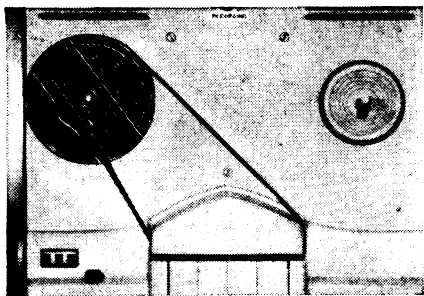
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INVENTION

**Patents of the Week**

**Airline passengers and unopened luggage can be automatically screened for smuggled explosives by a new device based on nuclear engineering techniques.**

➤ A DEVICE for detecting bombs hidden in airplane-bound luggage, which was successfully tested in Washington, D.C., at Dulles International Airport last year, has been granted a patent by the U.S. Patent Office.

The device uses nuclear engineering techniques and is claimed to make detection of smuggled explosives safe, automatic and inexpensive. It can be used for passengers as well as for luggage.

Sabotage or threat of sabotage of commercial airplanes is a recurring problem causing major concern to airlines and the public. Several fatal crashes have been blamed on bombs smuggled aboard airliners. The Federal Aviation Agency has tested various methods aimed at spotting bombs hidden in luggage.

The most successful to date is the one for which Dr. Edward D. Jordan, a Catholic University of America, Washington, D. C., physicist, earned patent 3,146,349. He assigned rights to the Government through the Atomic Energy Commission, which partly financed the research, with the Federal Aviation Industry.

The device screens unopened luggage by picking up radiation from explosives inside the suitcase or other container. The radiation comes from nitrogen in the explosive or from boron that is "seeded" in the explosive during manufacture.

When bombs are spotted, the device triggers an alarm, such as a bell or flashing light. The detector consists of a large plastic or liquid scintillator that registers gamma rays given off by the radioactive material.

**Synthetic Speech Maker**

As if there were not enough speeches being made in this election year, Genung L. Clapper of International Business

Machines Corporation's Glendale Laboratories, Binghamton, N.Y., has devised a machine that synthesizes the human voice.

The sound that the machine makes is governed by a "word code generator," Mr. Clapper said. The device, on command, can recite the digits or say "Mary had a little lamb." It works "quite well," he said, but the sounds cannot be mistaken for a human voice.

The sounds are a little "muddy," or hard to understand. This trouble is due to the "word code" that governs the vibrations within the sound-producing cavity.

Mr. Clapper is now working to improve the word code generator. He hopes to complete this work within a year. Then, with the improved input, the machine's synthetic speech should be considerably more intelligible.

Mr. Clapper assigned rights to patent 3,146,309 to IBM.

**Other Interesting Patents**

Two devices for delivering newspapers undamaged, even in inclement weather. Charles N. Hannon and Warren W. Hannon developed an apparatus that automatically folds and packages newspapers for rapid delivery, for which they were awarded patent 3,145,516. Ronald G. Puckett's device, which earned patent 3,145,390, not only folds and ties the newspaper, but also throws it toward the doorstep. All three inventors are from Olathe, Kans.

• Science News Letter, 86:174 Sept. 12, 1964

*Nature Note*

**Bats**

➤ "Keep the bats out of your belfry (or attic)" is the advice given to vacationers by Dr. Philip J. Spear, technical director of the National Pest Control Association.

Although bats help man by eating hundreds of insects, Dr. Spear warns that they have no place in a summer home.

"They may carry the deadly rabies virus, and must be controlled," he says.

Because of their nocturnal habits and weird dartings here and there on summer nights, bats have been associated with witchcraft and demons throughout history.

However, the "flight pattern" of a bat is actually guided by the echoes from its ultrasonic screams that "bounce" off objects in its way.

Dr. Spear believes that when the urge to chase a bat with a broom strikes you, you should think twice and leave it alone. But he says bats can become serious pests if allowed to make their residence in your summer home or attic.

• Science News Letter, 86:174 Sept. 12, 1964

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