

Centuries of thought have gone into developing the foolproof vending device, but larceny has its geniuses, too

were not restrained by fear of Zeus when in 1888 Thomas Adams put the first American machines on station platforms to dispense chewing gum. Relentlessly, they jammed old washers and beer checks into the slots.

In its first year in business, the Automatic Canteen Corporation of America took in more than \$30,000 in worthless slugs. Nathaniel Leverone, chairman of the board, groaned. "Whenever a budding inventive genius goes wrong, he wants to beat a vending machine!"

By then, machines were dispensing candy bars, peanuts, chewing gum, and even cigarettes. Engineers set out to teach these mechanical salesmen not to take wooden nickels or anything else but honest United States coinage. They installed a contrivance with three fingers, which felt both sides of every object inserted, and rejected many phonies.

But "Three-finger Jack" did not keep a man from slipping in a smooth slug the dimension of a nickel. Engineers inserted a magnet which seized all iron slugs and tossed them out the coin return.

Some customers thrust lead, aluminum, and alloy slugs into the slots. The machines defended themselves. The counterfeit dropped through the device's insides and fell on an anvil. Above it were three openings.

A heavy slug of lead would bounce low and drop through the lower opening. Then it would dribble out the coin return. A light slug made of aluminum or alloy would bounce high and flip through the upper opening. Only a nickel would bounce just right and pass through the proper one.

THE BATTLE to outwit the vending machine raged on. In machine shops where brass, bronze, and copper were available, workers punched out disks. Vending machines gobbled these up and handed over everything they had. Engineers countered by setting up a magnetic field around the inserted coin. Only silver and nickel could get through.

But workers in a Connecticut factory resorted to slugs of precisely those metals! Their company made coins for a number of South American countries. The machines retreated from the plant, never to return.

Elsewhere, it seemed machines were winning the battle against slugs. Congress came to their aid in 1942, making it illegal to market slugs suitable for cheating vending machines. Until then some companies had turned out disks which they coyly advertised as "not for use in vending machines."

This does not mean that the vending machine had won once and for all. At the Chicago World's fair in 1933, cleanup men mastered the art of timing the fall of the nickel just so. At the proper split second,

they tapped the machine lightly, and it handed back both the nickel and the goods.

This art has not been lost. It was passed on from friend to friend, but the newest models won't tumble to it.

There still are mysterious lootings every now and then. In a Midwestern plant, maintenance men always found one machine emptied of merchandise and not a coin in the receptacle. The culprit had drilled a hole in the rim of a nickel. To this he soldered a piece of thin piano wire. It was a simple matter for him to drop the coin in the slot, activate the machine, and pull the coin back out. From then on, a pair of snippers was put on machines to shear off any mischievous wires or strings.

SNIIPPERS, magnet, anvil, Three-finger Jack, and all the rest of the devices now have more of a treasure to guard than ever. Last year 3,750,000 machines sold Americans \$2 billion worth of merchandise ranging from soft drinks, cigarettes, and candy bars to such items as baby rattles, playing cards, and toys.

In just about any rail or air terminal a machine will issue an insurance policy. And for lunch, a worker can buy sandwiches, hot beef stew, pie, and a steaming cup of coffee.

Some housewives need not go into the crowded supermarkets. Out in front of the neighborhood store are machines that sell milk, bread, canned goods, and frozen foods. All they have to do is put in the right coins.

In Chicago, a woman stepped up to such a machine and selected a canned ham priced at \$1.05. She carefully folded a nickel in a dollar bill and jammed the wad into the coin slot. It fouled it up.

Actually, the Chicago woman was merely jumping the gun. There are now machines in test locations at Chicago's Midway Airport and Illinois Central suburban stations which will take a dollar bill, deliver the goods, and return correct change. This invention of William A. Patzer of Chicago is expected to mushroom the variety of sales.

But before anybody gets the idea that a well-shaped piece of high-quality paper will jackpot this machine, he ought to know that it has handled nearly a million pieces of currency without error or breakdown. It refuses foreign money and counterfeits.

On the other hand, if a man has folding money as issued by Uncle Sam, the machine will gladly take it regardless of how wrinkled, torn, or dirty it may be.

Be assured, however, that somewhere a spiritual descendant of the ancient Alexandrian who put slugs in Heron's machine is considering ways to outwit even this newest vending device.

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DeWITT'S PILLS

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