

UNITED STATES PATENT OFFICE.

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APPARATUS FOR PREVENTING FRAUD IN VENDING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 407,428, dated July 23, 1889.

Application filed October 15, 1888. Serial No. 288,148. (No model.) Patented in England July 16, 1887, No. 10,000; in France April 24, 1888, No. 190,205; in Germany April 27, 1888, No. 45,097, and in Belgium May 1, 1888, No. 81,652.

To all whom it may concern:

Be it known that we, EDWARD PHIPPS APPLEYARD and JAMES JOHNSON, subjects of the Queen of Great Britain, residing at Bolton, England, have invented new and useful Improvements in Apparatus for Detecting or Preventing Fraud in Automatic Machines Operated by the Action of a Coin, (patented in Great Britain July 16, 1887, No. 10,000; in France April 24, 1888, No. 190,205; in Germany April 27, 1888, No. 45,097, and in Belgium May 1, 1888, No. 81,652,) of which the following is a specification.

This invention relates to the construction of improved apparatus for detecting or preventing fraud in what are known as "automatic" machines operated by the action of coin, and the improvements comprise mechanism for preventing disks or pieces of soft material—such as lead or card-board (of about the size or diameter of the coin required to operate the machine)—being passed into or through the money-slot.

The improvements also comprise mechanism for preventing the introduction or admission into automatic machines (where the money-slot is horizontal) of pieces of metal or other material other than circular in shape, but large enough to operate the machine; also for preventing metallic or other washers from operating the machine.

In order to enable our invention to be fully understood, we will describe how the same can be carried into practice by reference to the accompanying drawings, in which—

Figures 1 and 2 represent a plan and a side elevation, respectively, of our arrangement of mechanism for preventing disks or pieces of soft metal or material—such as lead or card-board—being passed into or through the money-slots of automatic machines. Fig. 3 is a plan of the under side of a slight modification of the mechanism, and Fig. 4 a longitudinal section of the same. Figs. 5 and 6 represent a plan and a front elevation, respectively, of our said arrangement of mechanism for preventing the introduction through the money-slot of soft disks, as in Figs. 1 and 2, with the addition of means for preventing the introduction or admission through the money-slot of pieces

of metal or other material other than circular in shape, and also for diverting the course of washers or their equivalents from the coin chute or duct, and thus prevent such washers from operating or unlocking the apparatus. Fig. 7 is a section on the line A B of Fig. 6. Fig. 8 is a vertical section of a modified arrangement for diverting the course of washers.

We will first describe the arrangement shown in Figs. 1 and 2 for preventing disks or pieces of soft metal or material being passed into or through the money-slot of an automatic apparatus. In this arrangement *a* represents the money-slot of an automatic machine. On each side of this slot we apply a catch or clip *b*, such catches or clips pivoting at *c c*. *d* represents an india-rubber spring which tends to bring the points of the catches toward one another. *e e* represent stops, which limit the inward movement of the catches and keep them normally in the position shown in the drawings—that is to say, in a position such that the space between the points of the catches is somewhat less than the diameter of the coin required to operate the apparatus. By this arrangement if a proper coin—say a penny—be passed into the money-slot *a* the hard smooth periphery of the coin coming against the points of the catches *b b* will, by the application of slight pressure, overcome the pressure of the spring *d* and move the catches apart and pass into the apparatus. If, however, a disk of soft metal—such as lead—or of soft material—such as card-board—be passed into the money-slot, the points of the catches *b b* will be pressed against or slightly into the periphery of the soft disk and so hold it and prevent it being forced or passed into the apparatus. *a'* is an opening to allow coins or pieces of metal or other material of smaller size than the proper coin to drop down before reaching the coin-duct.

It will be obvious that instead of each of the catches working on a separate pivot they may both pivot on one stud or center, and that any other suitable spring than that shown may be employed; also that the catches can be constructed so as to form springs; or, instead of the catches or clips being pivoted as

above described, they may be arranged to slide as shown in Figs. 3 and 4, which will be understood without further description, similar letters indicating similar parts to those in Figs. 1 and 2.

We will now describe, by reference to Figs. 5, 6, and 7, our arrangement for preventing pieces of metal or other material, other than circular in shape—say oblong, for example—being passed into the apparatus; also the arrangement for diverting washers from the coin-duct. In these figures, *a* is a horizontal money-slot. *b b* are catches or clips, and *d d* their springs, such catches operating in a manner similar to that hereinbefore described, and shown in Figs. 1 and 2. Immediately behind or in continuation of the money-slot *a* we provide the receiving-chamber with a semicircular shroud or flange, as shown at *f*, which prevents a piece of metal or other material other than of circular or curved shape being passed sufficiently beyond the inlet slot or aperture to drop into the coin-duct *g* leading to the operating part of the mechanism.

To divert the course of washers and the like, we cut away a portion of the sides of the bridge *g'* (see Figs. 5 and 7) of the money-slot, so as to leave a tongue, pin, or projection *h* behind the said bridge, such tongue being inclined so as to correspond with the angle of the duct *g* leading to the operating part of the mechanism.

The bridge *g'*, which forms the bottom of the money-chamber, has a width from front to back, exclusive of the tongue or projection *h*, of less than half the diameter of the coin required to operate the apparatus.

By the use of this tongue or projection *h* it will be seen that if a proper coin be passed into the apparatus through the money-slot the said tongue will guide it into the coin-duct *g*; but if a washer or a piece of material having a hole in the center be passed through the money-slot *a* the hole in the washer will come over the projection *h*, and the washer, being no longer supported, will drop over and pass through the opening *i* into the chamber *j* instead of into the duct *g*; or, if desired, the washer can be caused to pass by means of a suitable channel to the outside of the machine.

k is a shield, which we find it advantageous to provide to prevent the coin being pushed through the slot in an upward direction, and *l* is a slotted plate which we place in front of the money-slot *a*, such plate having a recess *m* in the center, which recess allows the coin to be pushed into the money-slot by the thumb

and finger, but prevents the coin (or counterfeit) being wriggled sidewise with a view to open the catches.

Fig. 8 shows a slightly modified arrangement for diverting washers from the coin-duct. In this case we form the projection *h'* into a kind of hook, onto which the washers *n* drop, as shown.

We would here remark that our improvements can be employed separately or in combination; also, that the mechanism for preventing soft disks being passed into an automatic machine can be used with money-slots which may be vertical, horizontal, or at any angle, whereas the arrangements for preventing irregular pieces of metal or other material being passed into the apparatus and for preventing washers being used to operate the apparatus can only be used with horizontal money-slots.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is—

1. The combination, with a casing having a money-slot, of a pair of similar spring catches or clips operating, substantially as set forth, to grasp a disk at its opposite edges, and whereby while they will allow the passage of genuine coin into the machine between the two clips the ends of both clips will by the spring action indent the periphery of soft disks so as to hold and prevent them being passed into the apparatus, all substantially as shown and described.

2. In a vending apparatus, a coin-receiving chamber made with a semicircular shroud or flange, as set forth, and for the purpose hereinbefore described.

3. In a vending-machine, a money chamber or receptacle the bottom of which is cut away to a width less than half the diameter of the coin required to operate the apparatus, leaving only a tongue or projection for the purpose of preventing washers being used to operate the machine, substantially as described.

4. In combination with the casing having a coin-receiving duct, the projection *h'*, made in the form of a hook, adapted to receive and hold washers which may be passed into this duct.

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Witnesses:

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