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E. W. LINDGREN.

AUTOMATIC SALE MACHINE FOR BREAD AND BUTTER.

APPLICATION FILED MAR. 26, 1906.

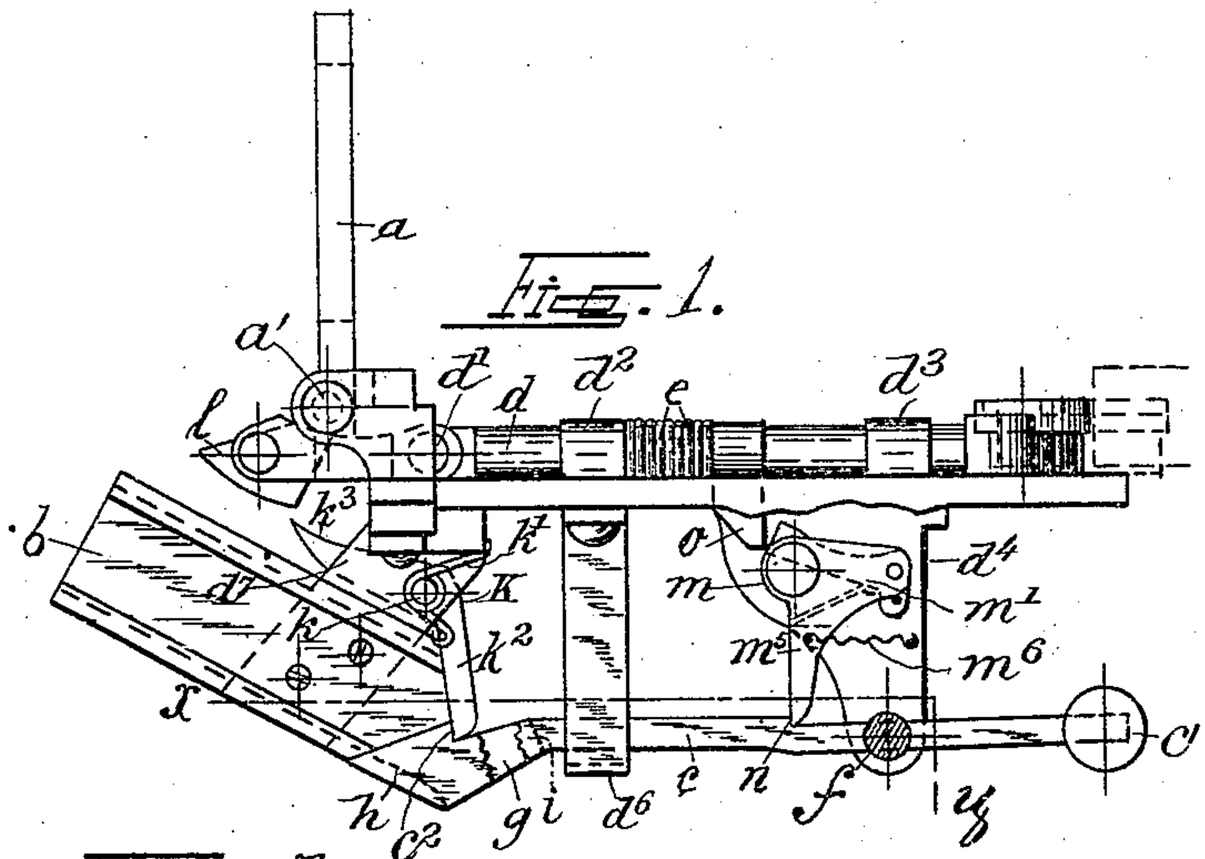

Fig. 1.

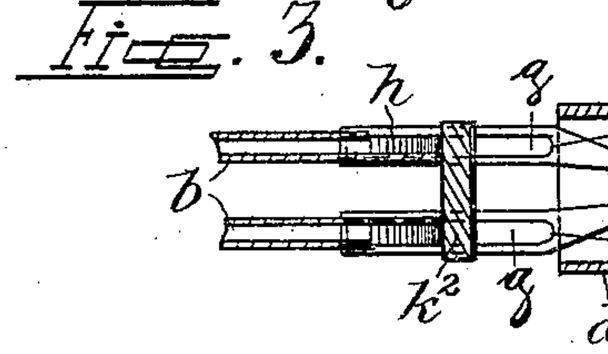

Fig. 3.

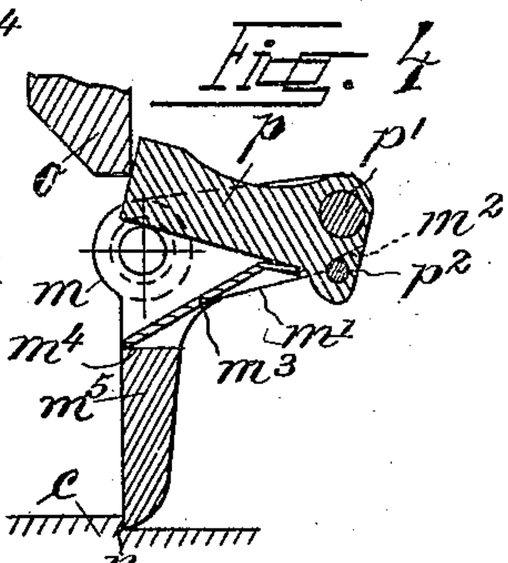

Fig. 4.

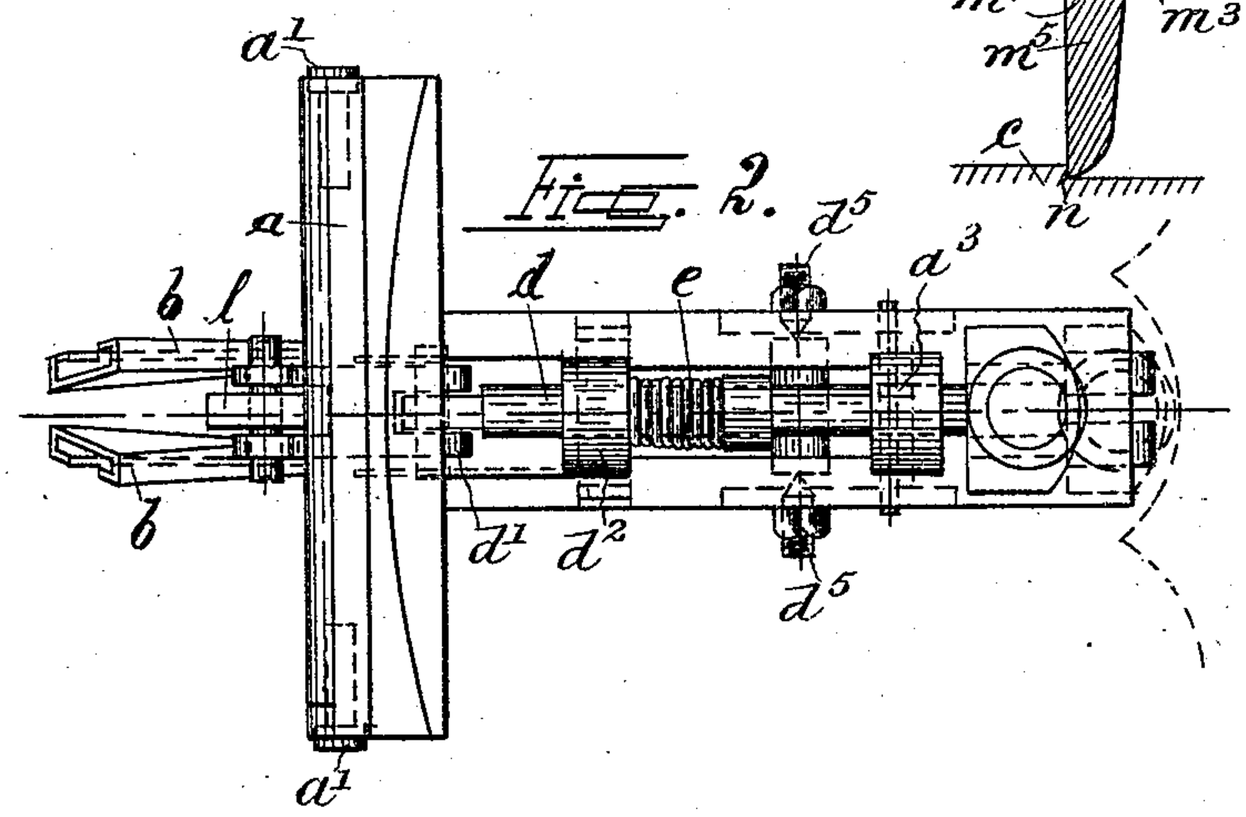

Fig. 2.

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AUTOMATIC SALE-MACHINE FOR BREAD AND BUTTER.

No. 855,516. Specification of Letters Patent. Patented June 4, 1907.

Application filed March 26, 1906. Serial No. 308,065.

To all whom it may concern:

Be it known that I, ERICK WALDEMAR LINDGREN, mechanician, a subject of the King of Sweden, residing at Hagalund, near Stockholm, Sweden, (and whose post-office address is Järfvagatan 6, Hagalund, near Stockholm, Sweden,) have invented certain new and useful Improvements in and Connected with Automatic Sale-Machines for Bread and Butter; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing.

This invention relates to an improved coin-controlled apparatus for vending machines and has for its object the provision of such an apparatus adapted for use in connection with a vending machine provided with a door or the like adapted to be opened and closed to enable the operator to obtain the article purchased, such machines being used in vending articles such as sandwiches and the like.

The apparatus embodying the present invention is designed to maintain the door closed and upon insertion of a coin to automatically open the same.

The invention will be more fully described in connection with the accompanying drawing and will be more fully ascertained in and by the appended claims.

In the drawings: Figure 1 is a side elevation of the device embodying the main features of my invention. Fig. 2 is a plan view thereof. Fig. 3 is a sectional view on line x—y of Fig. 1. Fig. 4 is a detail sectional view of an improved trigger locking mechanism.

Like numerals of reference designate similar parts throughout the different figures of the drawing.

As shown, the device of my invention is associated with the door a of a vending machine, the remainder of the machine being omitted since it forms no part of the invention. Said door a is pivoted at a' to any suitable stationary part and carries a cam or like operating device l. Said door a is connected with a plunger in the form of a cylindrical rod d which is pivotally mounted to said door at d' as clearly shown in Figs. 1 and 2. Said plunger d is mounted in bearings d^2 and d^3 secured to any suitable stationary part and carries a dog or lug o. A spring e is interposed between the bearing d^2 and lug o and tends to normally thrust the plunger rearwardly to open the door a.

Depending hangers d^4 carry an improved trigger mechanism which, as shown, comprises two elements, one element m being mounted in conical bearings d^5 secured in said hangers d^4. The element m, which will hereinafter be termed the "trigger," is bifurcated at its upper end and is provided with rearwardly extending lugs m'. The element p, which will hereinafter be termed a "catch," is pivotally mounted upon the lugs m' at p'. Said catch is provided with a stop pin p^2 adapted for engagement with a recess m^2 formed in said lugs limiting movement of said catch p, with respect to the trigger m, in one direction. The trigger m is bifurcated to a sufficient depth to permit movement of the catch p in an opposite or downward direction, as clearly shown in Fig. 4 and such movement is opposed by a spring m^3 which bears against the lower face of the catch p at one end and at its other end upon the base m^4 of said bifurcated portion. The front or end face of said catch p is normally held in the path of the lug o and is adapted for engagement therewith to prevent rearward reciprocation of the plunger d under the influence of spring e. Said spring m^3, however, permits depression of the catch p when the plunger e is reciprocated forwardly and permits passage of the lug o as will be hereinafter more fully described.

The trigger m is provided with a depending arm m^5 adapted for engagement with shoulders n of a coin member which, as shown, is in the form of two levers c. The trigger m is held in a normal position by a spring m^6 which is secured to the hangers d^4 and the depending arm m^5. The levers c are pivotally mounted at f in the hangers d^4 and are provided on their outer ends with counterweights c'. A depending loop d^6 extends below the lever c and limits downward movement thereof. The forward ends of said levers c are provided with coin receiving and

discharging portions, the former being adapted to register with the discharging end of a coin chute *b*. Each of said levers *c* is bifurcated at *i*, the bifurcated portions extending forwardly and being connected at their forward ends by walls *h* to form the coin discharging portions *g*. Preferably the coin slot *b* is provided at its discharging end with oppositely and rearwardly inclined scarfed portions, the lower portion being engaged by the forked ends of the levers *c* and wall *h* which latter, as shown, forms a continuation of the lower wall of the coin chute. A retaining device in the form of a bell crank lever K is pivotally mounted at *k* upon a hanger d^7 which likewise supports a coin chute *b*. Said retaining or bell crank lever K is held in a normal position by a spring *k'* and is provided with an extension k^2 which abuts the upper scarfed portion of the coin chute *b* and preferably extends beyond the same and seats against a shoulder c^2 of the lever *c*. An extension k^3 projects into the path of the cam *l* and is adapted to be actuated thereby.

The operation is as follows: When the parts are in the position shown in Fig. 1, the door *a* is closed and when a coin is introduced in the chute *b* it travels downwardly beyond the scarfed portion thereof resting upon the wall *h* of the receiving portion of the coin levers and against the retaining lever k^2. The weight of the coin depresses the lever *c* sufficiently to release the depending arm m^5 of the trigger mechanism but it will be understood that the downward movement of the lever *c* is not sufficient to release the coin since it is still held by the lever k^2 upon the inclined wall *h*. After the trigger mechanism has been released the spring *e* forces the plunger *d* rearwardly to open the door *a*, the lug *o* swinging the trigger mechanism rearwardly on its axis d^5 against the action of spring m^6, which is weaker than spring *e*, until the catch *p* has been swung below the lug *o*. As soon as the lug *o* is free from the catch *p* the plunger *d* completes its rearward movement and the spring m^6 swings the trigger mechanism back to a normal position. In opening the door *a* the cam *l* engages the extension k^3 and swings the part k^2 out of engagement with the coin permitting the latter to travel downwardly on the inclined wall *h* and through the discharging or open portion *g* of the coin lever. When the door is closed and the plunger *d* is reciprocated forwardly the spring m^3 allows the lug *o* to depress the catch *p* and ride over the latter to the position shown in Fig. 1 and the weight *c'* overcoming the now empty coin receiving portion of the lever *c* returns the latter into engagement with the chute *b* locking the trigger m^5 by means of the shoulder *m*. The cam *l* having released the retaining lever the latter is returned to the normal position by the spring *k'*.

I claim:

1. In an apparatus of the class described, the combination with a door, of a spring actuated plunger for operating said door, a pivotally mounted trigger, a spring actuated catch for said trigger adapted for engagement with said plunger, a coin lever adapted to engage said trigger to retain the catch in locking engagement with the plunger, said lever having a coin receiving and discharging portion, a coin chute delivering to the coin receiving portion of said lever, a coin retaining lever co-operating with a chute and the coin receiving portion of said coin lever, and a cam for said door adapted to swing said retaining lever to release said coin.

2. In an apparatus of the class described, the combination with a door, of a spring actuated plunger for operating said door, trigger mechanism comprising two elements one of which is adapted for engagement with said plunger, a coin lever adapted to lock the other element of said trigger mechanism and retain said first mentioned element in locking engagement with the plunger, said coin lever having a coin receiving and discharging portion, a coin chute delivering to said receiving portion, a retaining lever coöperating with the chute and with said coin receiving portion, and means associated with said door for swinging said retaining lever to release said coin.

3. In an apparatus of the class described, the combination of a door, of a spring actuated plunger for operating said door, trigger mechanism comprising two elements one of which is adapted for engagement with said plunger, a coin lever adapted for engagement with the remaining element of said mechanism, said lever having a coin receiving and discharging portion, a coin chute delivering to said receiving portion, retaining means co-operating with said chute and receiving portion, and a device associated with said door and actuating said retaining means to release the coin.

4. In an apparatus of the class described, the combination with a door, means normally tending to open said door, trigger mechanism comprising two elements one of which engages said means to lock said door in a closed position, a coin member adapted for engagement with the remaining element of said trigger mechanism, said coin member having a coin receiving portion, a chute delivering to said coin receiving portion, retaining means co-operating with said chute and receiving portion, and a device carried by said door for operating said retaining means to release the coin.

5. In an apparatus of the class described, the combination with a door, means adapted to normally hold the door in an open position, a coin member, trigger mechanism coöperating with said coin member and said means, a coin chute delivering to said coin member, a retaining device coöperating with said chute and coin member, and a device adapted to operate said coin member subsequent to the release of said trigger mechanism.

In testimony whereof I affix my signature in presence of two witnesses.

ERICK WALDEMAR LINDGREN.

Witnesses:

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