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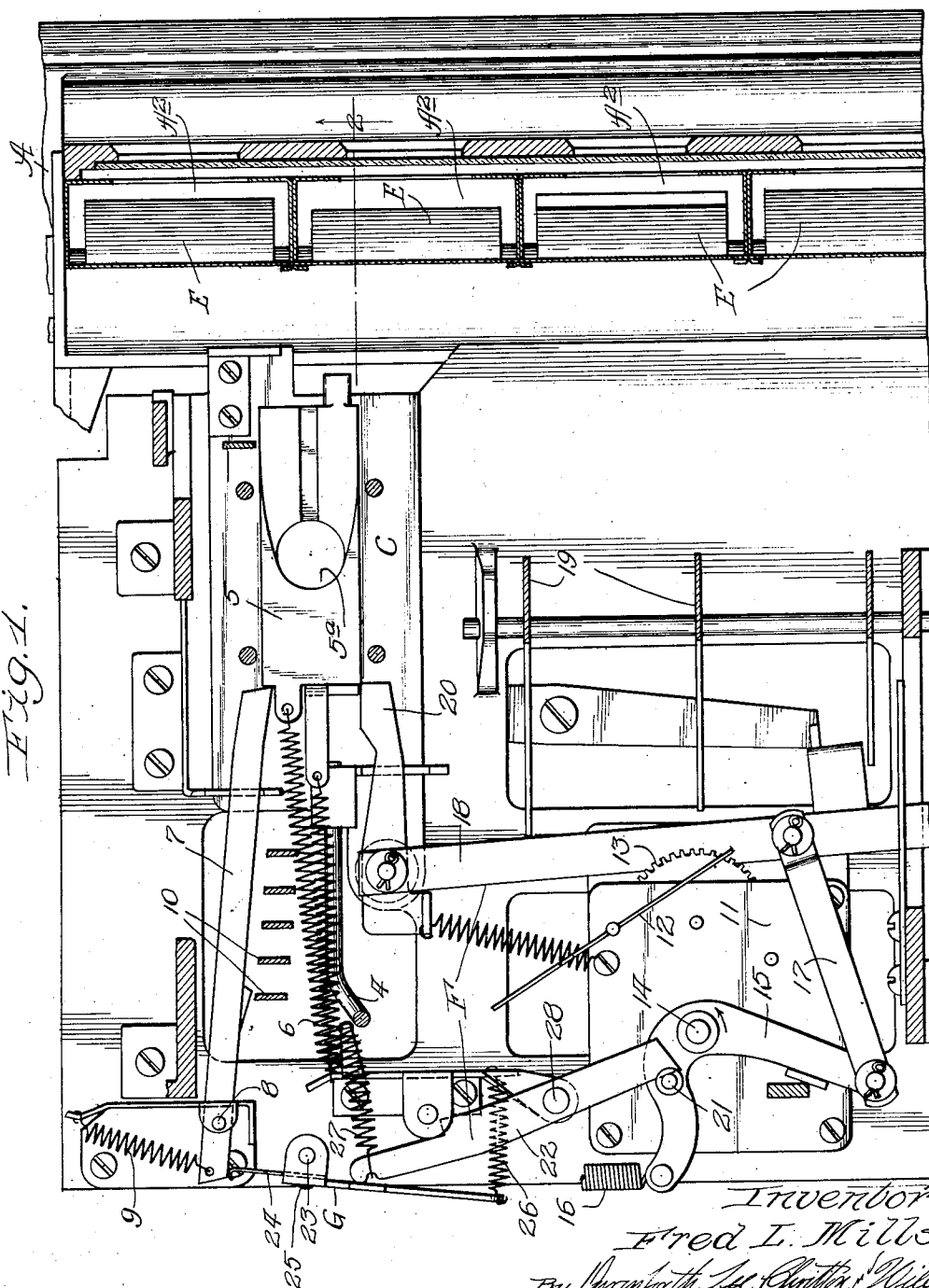
1,570,910

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LATCH CONTROLLING DEVICE FOR COIN CONTROLLED MACHINES

Filed Jan. 29, 1925

2 Sheets-Sheet 1



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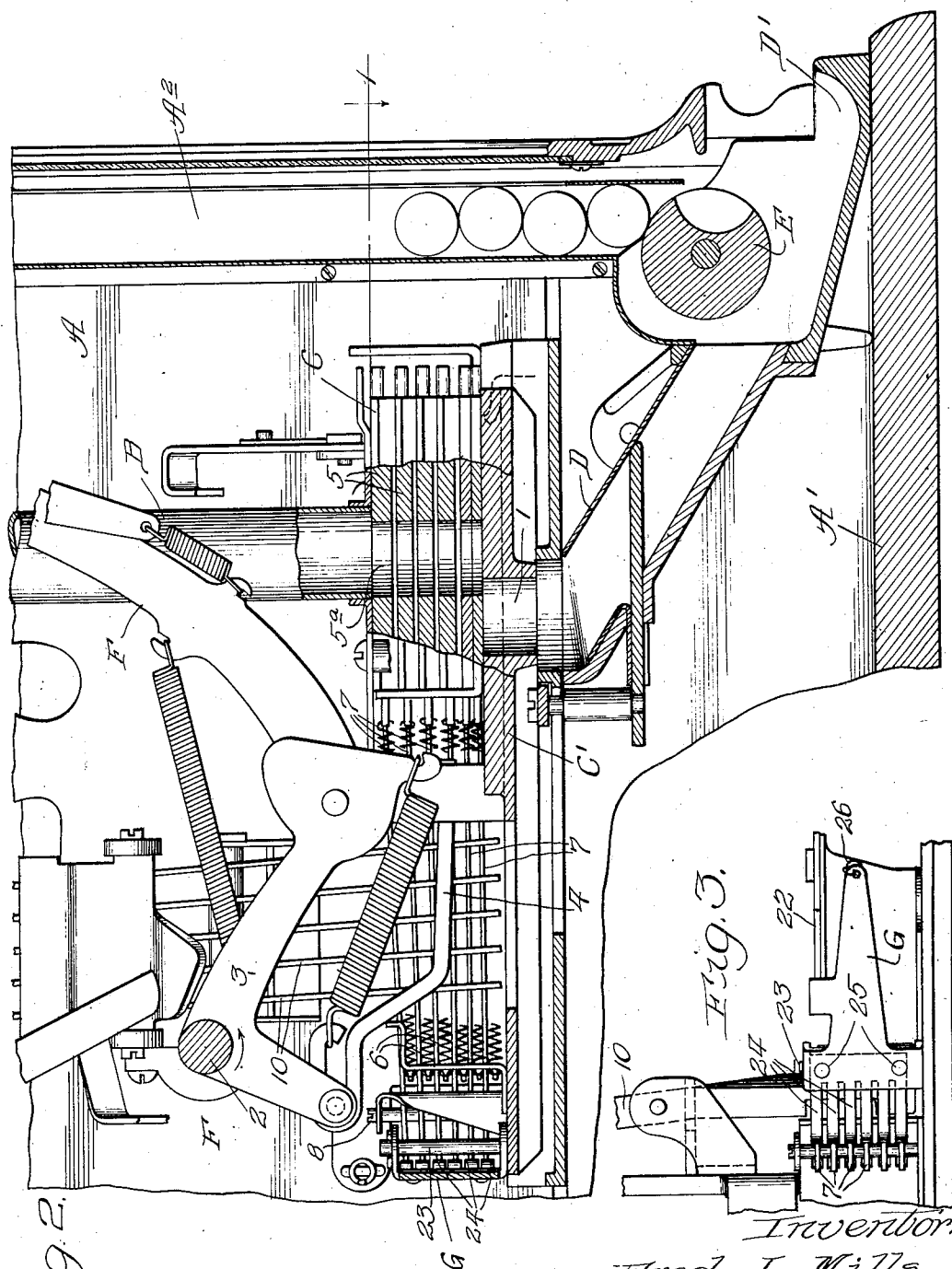


Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

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LATCH-CONTROLLING DEVICE FOR COIN-CONTROLLED MACHINES.

Application filed January 29, 1925. Serial No. 5,509.

To all whom it may concern:

Be it known that I, FRED L. MILLS, a citizen of the United States, residing at Oak Park, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Latch-Controlling Devices for Coin-Controlled Machines, of which the following is a specification.

This invention relates particularly to coin-controlled vending machines of the general construction illustrated in Fred L. Mills's application Number 738,831, filed in the United States Patent Office, September 20, 1924.

In a machine of the kind referred to, a coupon magazine, or check magazine, is provided; and associated with said magazines is a pay-out mechanism comprising a stack of pay-out slides. Each of said pay-out slides is equipped with a spring which tends to move the slide from the receiving position to the discharging position. Such movement normally is prevented by latching levers associated with the pay-out slides.

The primary object of the present invention is to provide a device which will serve to prevent accidental unlatching of the pay-out slides. Such accidental unlatching might occur, for example, when a person is engaged in an effort to defraud the machine, as by seeking to cause a penny to pass the guard devices with which the coin chute is equipped, where, properly, a coin of larger denomination is required.

The invention is illustrated in the accompanying drawings, in which—

Fig. 1 represents a broken plan sectional view of a coin-controlled vending machine equipped with the improvement, the section being taken approximately as indicated at line 1 of Fig. 2; Fig. 2 represents a broken vertical sectional view taken approximately as indicated at line 2 of Fig. 1; and Fig. 3 represents a broken rear elevational view showing the device which appears at the upper left hand corner of Fig. 1.

In the illustration given, A designates the casing of a coin-controlled vending machine which is provided with a bottom A' and which is equipped at its front with vertical compartments A² for articles to be vended; B designates a coupon magazine, or a check magazine, which serves as a storage for coupons which are to be delivered to customers; C designates pay-out mechanism

with which the machine is equipped, said pay-out mechanism being mounted on a bottom C' which is provided with a discharge passage 1; D designates a discharge chute which leads to a tray D' disposed at the lower front portion of the case; E designates an ejector interposed between said tray and the compartments A²; F designates, generally, the coin-controlled mechanism of a machine of the character referred to, which controls also the operation of the pay-out mechanism C; and G designates the improved device which serves to prevent the latching levers which are associated with the slides of the pay-out mechanism from being improperly actuated to release the pay-out slides.

The mechanism F which is adapted to be actuated by a suitable lever, after first inserting a coin in the machine in the usual way, comprises a rock shaft 2 which is actuated in a known manner in the operation of the machine. This rock shaft is disposed horizontally parallel with and near the rear side of the machine and is equipped with a bell-crank lever 3 with which is connected a push rod 4 which serves the purpose of moving the slides of the pay-out mechanism C forwardly to the position shown in Fig. 2.

The pay-out mechanism C comprises a stack of slides 5 which are provided with vertical perforations 5^a adapted to register with the lower end of the coupon magazine B. A series of coil springs 6 tend to retract the slides 5 to the discharging position. The slides are held releasably in the advanced position by latching levers 7 which are mounted on a vertical pivot 8 and are yieldingly held in the latching position by springs 9.

The latching levers 7 may be disengaged from their respective pay-out slides 5 by means of vertical levers 10 which are controlled by the mechanism F in a well known manner. The slides are so controlled that one or more of the slides from the bottom up may be moved by their springs 6 to the discharging position when the corresponding latching levers 7 are disengaged from the slides.

As shown in Fig. 1, the machine is provided with a regulator 11 equipped with a fan, or vane, 12 which is actuated by a gear-train 13 through the medium of a shaft 14 whose upper end is fixed to a bell-

crank lever 15 which normally is held in the position shown in Fig. 1 by a heavy coil spring 16. The rock shaft 2 carries an arm 17 which is shown in section in Fig. 1. This arm serves to swing the bell-crank lever 15 against the force of the spring 16 when the rock shaft 2 is turned in the direction indicated by the arrow in Fig. 2, which action occurs when the machine is operated after first releasing the coin-controlled mechanism by the introduction of a coin and the manipulation of a lever, in a well known manner.

The member 15 is connected by means of a link 17 with a bar 18 which controls the operation of reel-latching device 19, in a well known manner. The bar 18 carries a latch 20 which is associated with the pay-out slides 5 and which operates, in a well known manner.

The bell-crank lever 15 is equipped with a cam or cam stud 21 which engages one end of a lever 22, which, in turn, engages the latch-locking device G when the parts are in the position shown in Fig. 1.

The device G comprises a lever supported on a vertical pivot 23 and a series of spring fingers 24 which project from said lever and engage the rear ends of the latch bars 7. The fingers 24 are preferably provided by stamping a piece of resilient sheet-metal in such a manner as to form the fingers and provide an attaching shank which is secured to the lever by means of rivets 25. The lever is equipped at its free end with a spring 26 which is adapted to swing the lever in such a manner as to cause the spring finger 24 to become disengaged from the rear ends of the latch levers 7. This action occurs when the bell-crank lever 15 is swung in the direction indicated by the arrow in Fig. 1 by the arm 17 carried by the rock shaft 2. When this action occurs, the cam stud 21 is carried away from the lever 22 and a spring 27 turns the lever 22 on its pivot 28, thus drawing the lever away from the locking lever G and permitting the spring 26 to function to withdraw the fingers 24 of the locking lever out of the path of the rear ends of the latch levers 7. The vane 12 is turned in one direction by the gear-train 13 when the shaft 14 is actuated through the medium of the bell-crank lever 15 when it is acted upon by the arm 17; and when the rock shaft is permitted to return to its normal position, the spring 16, in turn, actuates the bell-crank lever 15 to restore it to its initial position, during which action the vane 12 acts as a regulating device causing the parts to return slowly to their normal position.

It will be noted that the latch-lever locking-device G serves to prevent accidental un-

latching of any of the latching levers 7, due to jarring of the machine in an effort to cheat the machine. However, when the machine is operated, the locking lever G is automatically withdrawn from the latching levers 7, leaving the latter free to be actuated by the levers 10, as may occur in the operation of the machine.

The foregoing detailed description has been given for clearness of understanding only, and no unnecessary limitations should be understood therefrom, but the appended claims should be construed as broadly as permissible, in view of the prior art.

What I regard as new, and desire to secure by Letters Patent, is:

1. In a coin-controlled machine of the character set forth, the combination with a coupon magazine, a stack of pay-out slides associated therewith, springs tending to move said slides to the discharging position, and latch levers engaging said slides, of a locking-device normally preventing accidental releasing movement of said latch levers, and means actuated by the coin-controlled mechanism of the machine serving to retract said locking-device.

2. In a coin-controlled machine of the character set forth, the combination with a coupon magazine, a stack of pay-out slides associated therewith, and latch levers engaging said slides, of a locking-device normally preventing accidental releasing movement of said latch levers, said locking-device comprising a lever equipped with a plurality of spring fingers engaging the several latch levers, and means actuated by the coin-controlled mechanism of the machine serving to retract said locking-device.

3. In a coin-controlled machine of the character set forth, the combination with a coupon magazine, a stack of pay-out slides equipped with actuating springs, latch levers engaging said slides, and levers adapted to effect release of said latch levers controlled by the coin-controlled mechanism of the machine, of a locking-device normally preventing accidental releasing movement of said latch levers and comprising a locking lever equipped with spring fingers engaging said latch levers, a spring-equipped lever adapted to be actuated by the coin-controlled mechanism of the machine in one direction and to be returned by the force of its spring, said last-named lever being equipped with a cam, a lever engaging said locking lever and said cam and serving normally to hold the locking lever in the locking position, and a spring serving to retract the locking lever when the pressure of said cam upon the associated lever is released.

FRED L. MILLS.