

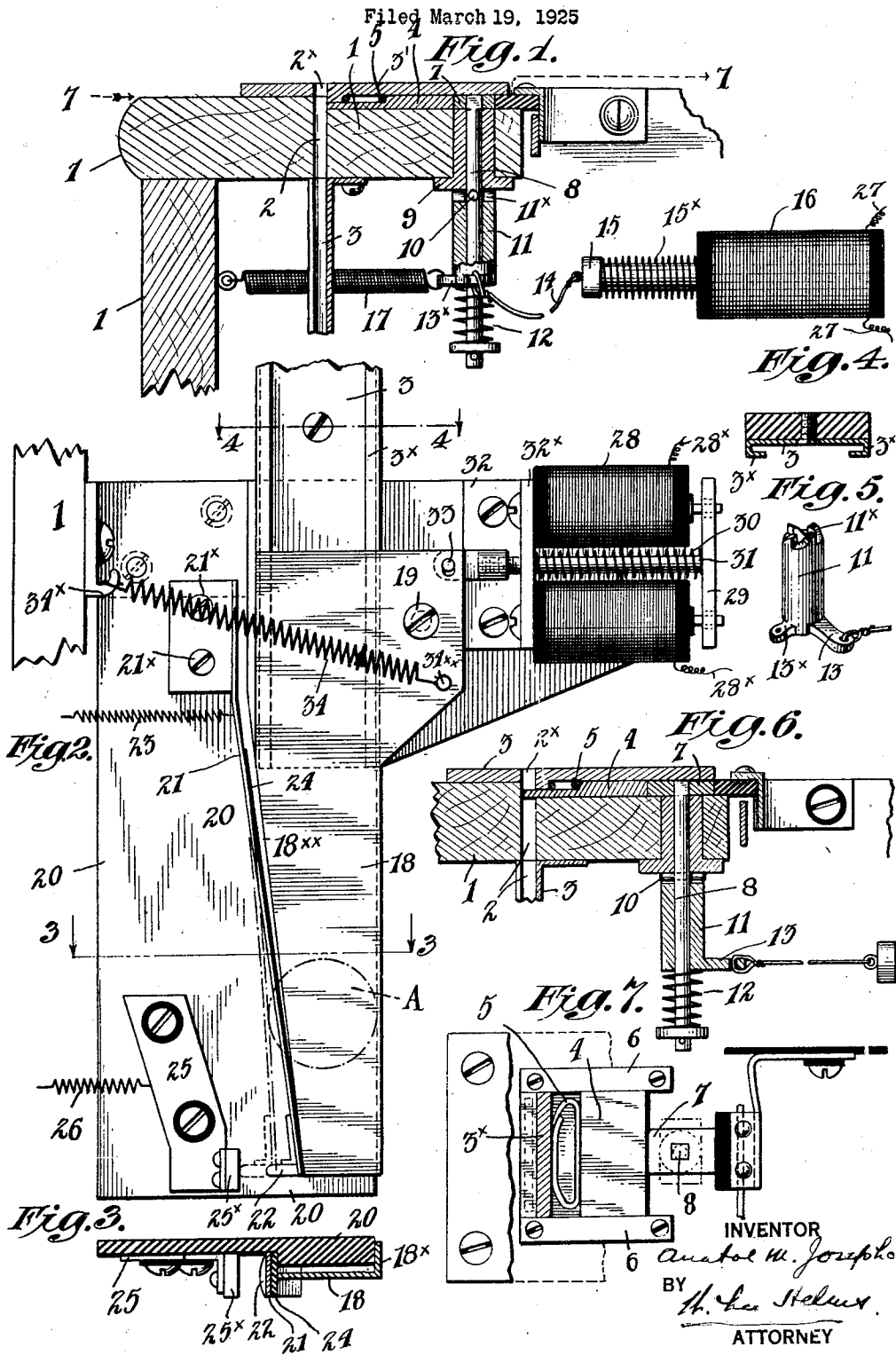
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ELECTRIC COIN CONTROL MECHANISM

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## ELECTRIC COIN-CONTROL MECHANISM.

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The object of the present invention is to provide an electric coin control mechanism of a type in which the coin actuates a switch for closing an electric circuit or circuits leading to operating means for a train or trains of mechanism and in which the coin slot is automatically closed and opened at predetermined times. The invention is particularly applicable to my automatic photograph apparatus forming the subject of certain copending applications filed by me.

The invention will be understood by reference to the accompanying drawings, in which—

Figure 1 is a sectional view in elevation of the coin slot closing mechanism, showing the slot open;

Figure 2 is a view in elevation of the coin guide, primary switch elements and coin release mechanism;

Figure 3 is a transverse section on the line 3—3, Figure 2;

Figure 4 is a transverse section on the line 4—4, Figure 2;

Figure 5 is a detail view of the ratchet device for imparting a clock-wise intermittent movement to the slot covering plate actuating cam;

Figure 6 is a sectional elevation of the coin slot closing mechanism, showing the slot closed;

Figure 7 is a plan view on the line 7—7, Figure 1.

Referring to Figure 1 of the drawings, 1 represents a framework in which is formed the coin slot 2, the latter communicating with a coin chute 3 which will be suitably supported by framework 1. Above the horizontal member of the framework is a plate 3', having a coin passage 2', and movable horizontally below plate 3' is a slot closing plate 4.

The plate 3' is provided with a downwardly extending flange affording a shoulder against which presses a spring 5 and slot closing plate at that end extending toward the coin slot is reduced in thickness thus affording a space for the reception of and a shoulder for engagement by the spring 5. This spring serves to normally maintain the slot closing plate to the right and out of register with the slot. The said plate is guided at its side edges by the walls of removable bars 6.

The slot closing plate is directly operated

by a cam 7 which is shown in plan view in Figure 7. The cam in this instance is formed as a rectangular block and it is given uni-directional intermittent motion through its carrying shaft 8. Shaft 8 rotates in a bushing 9, and below said bushing it carries a pin 10. A ratchet 11, formed as a sleeve and with bevelled ratchet teeth 11\* on its upper annular surface, is mounted on shaft 8, in such manner that ratchet teeth 11\* engage pin 10.

Ratchet sleeve 11 is longitudinally movable on shaft 8 and it is spring-pressed upwardly into engagement with pin 10 by a spring 12. The sleeve is provided with a laterally projecting arm 13 connected by cable 14 with core-rod 15 actuated by magnet 16. Rod 15 is normally maintained in outer position, as shown in Figure 1, by a spring 15\*. The ratchet sleeve 11 is also provided with a short arm 13\* engaged by a coiled spring 17 which serves to return the sleeve to its position as shown in Figure 1, after each operative movement. Coin chute 3 is formed at its sides with the flanged and inturned walls 3\* which serve to hold the coin against displacement in its downward movement.

Near the base of the coin chute the latter is covered by a coin release plate 18, the latter being pivoted at 19 upon a support 20. Coin release plate 18 is spaced from support 20 a distance somewhat greater than the thickness of the coin, and it is also formed with a guide-wall 18\*, the whole forming a passageway for the coin which passageway is closed on three sides, and which passageway is a continuation of the coin chute.

Secured at 21\* upon support 20 is a flat spring 21 which is normally inclined toward the inclined open face 18\*\* of coin release plate 18, as shown in full lines Figure 2.

When a coin passes downwardly into the continuation of the coin chute, it is checked in the position A, Figure 2, although in its passage to such position it has, by its weight and pressure, moved flat spring 21 to its dotted line position as shown in said figure.

At its lower end flat spring 21 carries a contact 22 to which current is led via the flat spring from any suitable connection as that shown at 23, for example. The flat spring is insulated from the coin and coin release plate by suitable insulation, part of this

insulation being indicated at 24. When desired the support 20 itself may be made of non-conducting material.

On support 20 and suitably insulated from flat spring 21 is a contact member 25 having a contact face 25\* and having a connection, such as 26, in the same circuit as connection 23, which circuit is normally broken by the separation of contacts 22 and 25\*. In the said circuit also are the connections 27 of magnet 16.

When the coin moves to position A and brings contacts 22, 25\* together, the circuit is closed through magnet 16, core-rod is drawn inwardly thereby carrying ratchet sleeve to the position shown in Figure 6, its teeth 11\* acting to impart a quarter turn to cam 7, the latter moving coin closing plate to closed position, as shown in said figure. The closing of the circuit will also throw into action devices to which the coin control is applied, as for example my automatic photographic machine. It will be assumed for the purposes of the present application that a moving member of the said devices will, in a given interval of time, throw a switch which will close a circuit leading to the connections 28\* of a solenoid 28 which is arranged to operate the coin-release plate 18.

Solenoid 28 is provided with a field plate 29 normally held open by a spring 30 on a rod 31, which latter connects the field plate with the coin-release plate 18. At one end spring 30 bears against a wall 32\* of a bracket 32 which serves to support the solenoid and to guide rod 31 in its movements. The immediate connection between rod 31 and coin-release plate 18 is a stud 33 which passes through a slot in the said plate, thus allowing a small relative movement between the rod and the plate to compensate for the pivotal or swinging movement of the latter.

In the operation of the solenoid 28, plate 29 will initially be drawn to the left from its

position shown in Figure 2, carrying with it rod 31, and the latter will act to swing coin-release plate on its pivotal connection 19. The coin will then be released. The circuit to solenoid 28 is to be closed only for an instant, and, when broken, spring 30 will return the plate 29 and rod 31 to initial position. This return movement will be assisted by spring 34 which is connected at 34\* to the framework and at 34\*\* to the coin-release plate below the pivotal point of the latter so that it is put under tension in the coin-releasing movement of the parts.

Immediately after the coin-releasing action the circuit through magnet 16 may be momentarily closed to give a quarter turn to cam 7, bringing it to the position shown in dotted lines Figure 7 and full lines Figure 1, whereupon spring 5 will move plate 4 to open the coin slot.

It will be understood that various modifications may be made in the form and arrangement of the elements illustrated in the drawings without departing from the spirit of the invention, what I claim and desire to secure by Letters Patent being as follows:—

In electrical coin control mechanism, a frame, a coin passageway, a coin release plate pivoted on said frame and having an open side, the plate being of gradually decreased width toward its discharge end, a spring arm adjacent said open side, the plate and the arm being adapted to hold a coin between them after the coin has by its weight imparted a movement to the arm, a switch element on the arm, a second switch element in the path of movement of the arm, for normally holding the coin release plate in a given position, a solenoid, and means operatively connecting the solenoid and the coin release plate.

In testimony whereof, I have signed my name to this specification.

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