

F. J. HALL & P. S. STAUFFER.
COIN CONTROLLED MACHINE.

(Application filed Feb. 1, 1901.)

(No Model.)

2 Sheets—Sheet I.

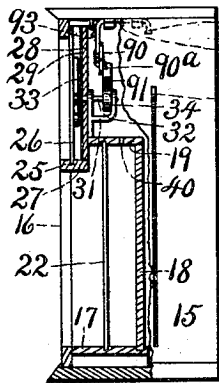


FIG. 1.

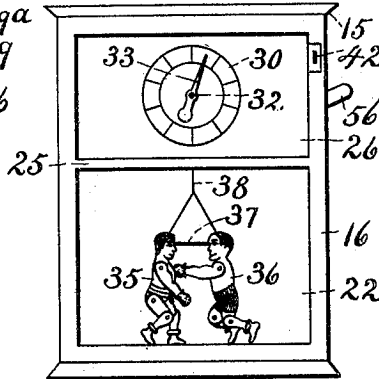


FIG. 2.

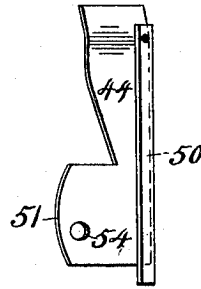


FIG. 3.

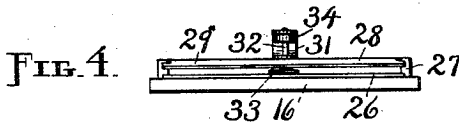


FIG. 4.

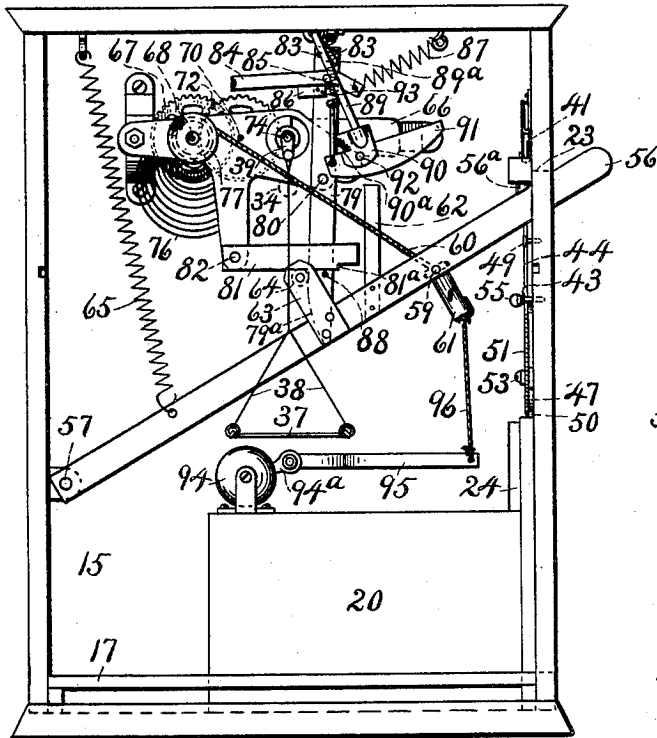


FIG. 5.

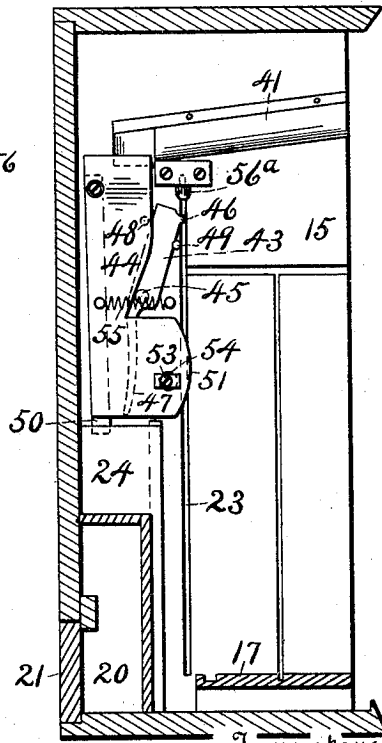


FIG. 6.

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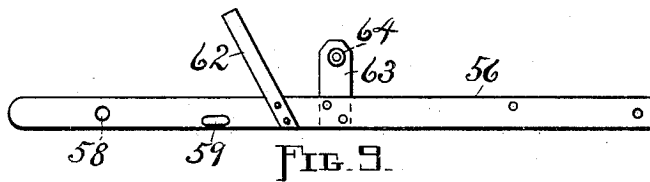
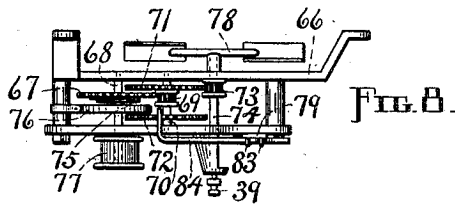
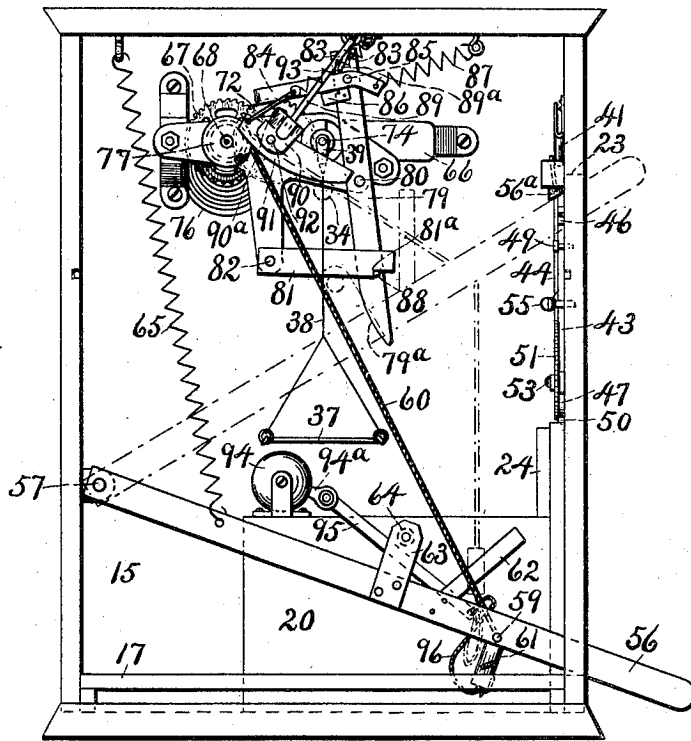
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2 Sheets—Sheet 2.

FIG. 7.



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UNITED STATES PATENT OFFICE.

FRED J. HALL AND PETER S. STAUFFER, OF SPRINGFIELD,
MASSACHUSETTS.

COIN-CONTROLLED MACHINE.

SPECIFICATION forming part of Letters Patent No. 707,773, dated August 26, 1902.

Application filed February 1, 1901. Serial No. 45,620. (No model.)

To all whom it may concern:

Be it known that we, FRED J. HALL and PETER S. STAUFFER, citizens of the United States, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented a certain new and useful Coin-Controlled Machine, of which the following is a specification.

Our invention relates to improvements in machines in which an operating-lever is released by a coin and the actuating mechanism set in motion by manual manipulation of said lever; and the objects of our improvement are, first, to produce a coin-controlled machine for causing automatons to perform and a pointer that may be adapted for fortune-telling purposes to revolve; second, to provide such a device with locking means, so that it can only be operated once by the introduction of a single coin; third, to furnish mechanism for ringing a bell at the end of the act performed by the automatons, and, fourth, to equip the machine with simple but positive appliances for producing the above-specified operations. The automatons may be representations of prize-fighters, as in the present instance, or dancers, or other figures arranged singly or in groups. We attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a reduced side view of the case in partial section; Fig. 2, a reduced front view of said case; Fig. 3, an isometric view of the coin-releaser; Fig. 4, a reduced top view of the front; Fig. 5, an interior view of the contents of the case, the front being removed and the several parts normally disposed; Fig. 6, a sectional view of the case looking toward the coin-handling apparatus; Fig. 7, an interior view showing the several parts in abnormal displacement; Fig. 8, a plan view of the clock-movement, and Fig. 9 a rear side view of the operating-lever.

Similar figures refer to similar parts throughout the several views.

The mechanism which constitutes our invention is inclosed in the case 15, having the front 16, the raised platform or stage 17, the partition 18, the roof 19 to the performers' apartment, and the money-receptacle 20, access to the latter being had through an open-

ing closed by the door 21 in the back of said case. The front of the performers' apartment is formed by the glass plate 22. A long slot 23 is cut in the right side of the case 15. Between the open end of the money-receptacle 20 and the adjacent side of the case is the chute 24. The front 16 is open below the rail 25 and closed above the same by the glass plate 26, fitted into the frame 27. The frame 27 surrounds three sides of the upper portion of the front 16, being open at the top and having guideways in its sides to receive the shouldered edges of the removable back 28. Printed or otherwise impressed on the face of the back 28 or on the cardboard 29, affixed to said back, is the dial 30. The dial 30 may be divided into as many parts as seems desirable, in each of which should appear fortune-telling words or numbers or characters referring to such words elsewhere conveniently displayed. Directions how to use the machine, advertising, and other matter can also be printed around the dial 30. The bracket 31, which is attached to the rear of the back 28, carries the spindle 32, which pierces the center of the dial 30 and has the pointer 33 fast on its forward end, necessarily in front of said dial, but behind the glass plate 26. The roller 34 is fast to the spindle 32 behind the back 28.

The prize-fighting automatons 35 and 36 occupy the apartment behind the glass plate 22, being supported by the stiff-wire separator 37, which hangs from the thread 38, depending from the crank 39. The automatons are preferably made of heavy cardboard or pasteboard with jointed arms and legs, and they are so suspended that their feet normally touch the stage 17. The thread 38 divides above the separator 37, so as to be attached at each end of the latter, as shown. The separator 37 has the heads of the automatons 35 and 36 loosely hung on its ends, and we find this device, applied as described, very useful and satisfactory, especially in producing the motions and movements of fighting. The thread 38 passes through the opening 40 in the apartment-roof 19.

Against the inside of the right-hand side of the case 15 appears the coin-trough 41, (best shown in Fig. 6,) inclined downward from

front to rear. This trough communicates with the outside of the case through the slot 42 in the front 16. The said trough opens at the rear over the chute 24; but the lever-locking blade 43 and the coin-releaser 44 are interposed between the open ends of said trough and chute to assist in forming an intermediate passage, which is normally closed, however. The locking-blade 43 is pivoted at 45 to the side of the case and is provided with the beak 46 and the tail 47. The stop-pins 48 and 49 are driven into the case each side of the upper portion of the locking-blade 43, and the preponderance of weight of the latter above its pivot 45 causes it to normally bear against said pin 49 with the beak 46 partially across the case-slot 23; but if a coin of the proper weight be introduced behind the tail 47 this preponderance is overcome and said beak removed from said slot until said coin is released, when said locking-blade at once thrusts its beak 46 across the slot 23, as before.

The coin-releaser 44 has the rib 50 secured to its right-hand face at the back and is provided with the rounded nose 51, normally extending across the case-slot 23. The thickness of the rib 50 is substantially the same as that of the locking-blade 43, and both are a little thicker than the coin which is used in this machine, and these, with the plate portion of the coin-releaser and the adjacent side of the case, form the intermediate coin-passage hereinbefore alluded to. The top of the coin-releaser is pivoted at 52 to the case, and its base is held in place by the screw 53 passing through the hole 54 in the nose portion of said coin-releaser. The hole 54 is large enough to permit of the necessary play of the coin-releaser base, and suitable washers are inserted both sides of the plate, through which the screw 53 passes. The spring 55, extending between a post on the coin-releaser and another in the case side, tensions said releaser forward to close the base of the intermediate coin-passage and with the nose 51 across the slot 23. When a coin rests between the rib 50 and the tail 47 of the locking-blade 43, the latter is rocked, as before described, but not sufficiently to release said coin; but if the releaser 44 be actuated against its spring, so that the nose 51 clears the slot 23, the movement is great enough to allow the coin to drop into the receptacle 20 by way of the chute 24.

The left-hand end of the operating-lever 56 is pivoted at 57 to a lug affixed to the adjacent side of the case, and said lever extends across the interior of said case and out through the slot 23, a sufficient portion protruding from the slotted side to permit the lever to be grasped at all times. In the back of the lever 56 is an indentation 58, so located as to receive the locking-blade beak 46 when said lever is elevated, as shown in Figs. 1 and 5 and by dotted lines in Fig. 7. To the left of the indentation 58 on the lever 56 is the guide and stop staple 59, through which the

cord 60 passes and against which the weight 61 is received. To the left of the staple 59 is the guide-finger 62 for the cord 60 and to the left of said finger the lug 63, having the roller 64 mounted on its upper rear portion, said finger and lug being rigidly attached to said lever. The lever 56 is tensioned upward by means of the spring 65, extending from the lever between its pivot 57 and the lug 63 to a staple in the roof of the case. The free end of the lever is adapted to move substantially the full length of the slot 23.

The bracket 66 is secured against the back of the case 16 and carries a simple clock-movement consisting of the toothed wheel 67, loose on the spindle 68, meshing with the pinion 69, tight on the spindle 70; the toothed wheels 71 and 72, tight on said last-mentioned spindle, the former of said wheels meshing with the pinion 73, fast on the spindle 74; the ratchet-wheel 75, tight on said spindle 68, which is engaged by an ordinary spring-pressed pawl on the side of the wheel 67, and the clock-spring 76, having one end fast to one of the bracket-posts and the other to the spindle 68. In addition to the above the spool 77 is fast on the front end of the spindle 68 and the crank 39 fast on the front end of the spindle 74, and on the rear end of the latter is a fan-regulator 78. Besides the parts just enumerated the bracket 66 carries the lock-arm-actuating lever 79, pivoted thereto at 80, and the detent or dog 81, pivoted at 82. The upper end of the cord 60 is fastened to the spool 77, and the lower end of said cord after passing through the staple 59 is fastened to the weight 61. Near the top of the lever 79 are the pins 83 83. Below these is the lock-arm 84, pivoted to said lever at 85 and having its downward movement limited by the rigid stop 86. The left-hand edge of the lever 79 at its lower terminal is rounded off to form the cam-surface 79^a, which is in the path of the roller 64 during certain portions of the travel of the operating-lever 56, said lever 79 being held with said surface against said roller or tensioned to the left by the spring 87, extending between the right-hand free terminal of the arm 84 and a staple in the roof of the case, the parts being so arranged also as to tension the left-hand end of said arm downward. The left end of the arm 84 is bent back over the wheel 72, as shown more clearly in Fig. 8, and this bent portion is designed to engage the teeth on said wheel at the proper time. The dog 81 has the shoulder 81^a, adapted to engage the pin 88 on the lever 79.

Bracketed to the roof of the case is a rocker-arm formed of the angular rod 89, having the finger 89^a at the rear, extending downward between the pins 83. To the base of the vertical front portion of the rod 89 is attached the carrier 90, to which the shoe 91 is pivoted at 92. The left edge of the carrier 90 is bent backward over the shoe 91 to form the stop 90^a, and the spring 93, extending between the

left end of said shoe and a staple in the roof of the case, normally forces the shoe into contact with said stop. The roller 34 is located in the path of travel of the shoe 91, as shown in Fig. 1 and indicated by dotted lines in Figs. 5 and 6. The flexibility of the shoe mechanism enables the shoe to ride onto the roller 34 during the movement of the former without any very careful adjustment of parts; but the curved under edge of the shoe can be made sufficiently accurate, if desired, to permit the same to be rigidly connected with the rod 89, thus dispensing with the pivot 92 and the spring 93, in which case the curve of the shoe would have to correspond with the arc of travel of the same. One or both of the engaging surfaces of the roller 34 and the shoe 91 may be serrated when deemed expedient.

An ordinary bicycle-bell 94 is rigidly mounted at some convenient point, as on the top of the receptacle 20 at the left, and is provided with the arm 95, rigidly attached to the ear 94^a, this latter being the instrument with which the bell is rung, of course, and consequently tensioned downward by an internal spring. The free end of the arm 95 has one end of the cord 96 fastened thereto, and the opposite end of said cord is attached to the weight 61.

Having described the construction of our invention, we will proceed to explain its complete operation. Before doing so, however, it may be well to state that while the coin-handling members are very complete and satisfactory we do not wish to confine ourselves to them specifically, but desire to claim, in addition thereto, any coin-handling means applicable to the invention. Assuming that the several parts are normally disposed as shown in Fig. 5, a description of the operation follows. The manual actions consist, first, in inserting a suitable coin in the slot 42, and, second, in pressing the lever 56 down to the bottom of the slot 23 and returning it again to the top, although this last may be accomplished by the spring 65. The automatic actions and those directly dependent upon the movement of the operating-lever (simultaneous action being here grouped as one) consist, first, in unlocking the lever; second, in depositing the coin in the receptacle 20; third, in locking the clock-movement, setting the shoe 91 in position for its work, winding up the spring 76, and permitting the bell-arm 95 to turn down; fourth, in relocking the operating-lever; fifth, in releasing the clock-movement, which causes the automaton to perform, and rapidly spinning the pointer 33, and, sixth, in ringing the bell when the performance ceases. The lever 56 is unlocked when the coin rolls down the trough 41 and drops between the releaser-rib 50 and the tail 47 of the locking-blade 43, which latter is thereby actuated until its nose 46 clears the lever depression 58. The second action noted above takes place when the lever 56 encounters in its downward sweep the nose 51

and forces back the coin-releaser 44. As the lever 56 goes down the roller 64 actuates the lever 79 against its spring until the dog 81 drops down and receives the pin 88 against the shoulder 81^a, and at the same time the arm 84 engages the wheel 72, thus locking all of the clock-movement except the spindle 68 and the parts fast thereon. Simultaneously with the last-mentioned actions one of the pins 83 causes the shoe 91 to move to the left with its toe bearing on the roller 34. At the instant the clock-movement is locked and the shoe relocated the cord 60 begins to unwind from the spool 77, being carried downward by the lever 56 and the weight 61, and said spool in turn winds up the clock-spring. The downward movement of the cord 96, carried by the weight 61, permits of the depression of the bell-arm. The parts now stand as shown in full lines in Fig. 7. As soon as the lever 56 is elevated far enough for the locking-blade nose 46 to enter the indentation 58 the fourth action is performed, and said lever cannot again be depressed until another coin has been inserted in the machine. This action occurs before any of the desired performance and visible operations take place; otherwise it would be possible after once starting the automaton and the pointer to keep them going indefinitely by working the operating-lever up and down, only being careful not to elevate it high enough to become locked. The size of the indentation 58 is sufficiently large to permit the lever 56 to be raised high enough to release the clock-movement, but not large enough to permit the amount of movement required to operate the clock-movement pawl and ratchet one tooth. At the greatest height where it is received against the stop 56^a the lever 56 causes the fifth action to take place through the medium directly of the roller 64 and the dog 81, which is caused to release the lever 79 to the force of its spring. This action really consists of two separate and distinct operations, (as the third action consists of four operations.) First, the rocking of the lever 79 removes the arm 84 from the wheel 72 and permits the clock-movement to run under the influence of the spring 76, thereby revolving the crank 39, which jerks the thread 38 about and causes the automaton to perform, and, second, the quick return of said lever 79 brushes the shoe 91 rapidly over the roller 34 and spins the pointer 33. The pointer 33 continues to revolve until the momentum imparted to it by the shoe 91 ceases; hence its applicability to fortune-telling purposes. The clock-movement continues to run until the cord 60 has drawn the weight 61 against the staple 59, when all further movement of the parts ceases. The sixth action is preferably timed to occur at the instant the clock-movement stops, the weight 61 drawing the cord 96 and the arm 95 up with it. In Fig. 7 the lever 56 in dotted lines occupies the position attending the fourth action, while the weight 61 with at-

tached cords in dotted lines occupy their proper positions ready for the action of the clock-movement. By shortening the cord 96 the bell 94 may be caused to ring at any time 5 during the performance; but it is preferred to have this action occur near or just at the end of the performance, as before noted.

We do not wish to confine ourselves strictly to the specific construction described and 10 shown in connection herewith, since many minor changes therein may be made without violating the spirit of our invention in the least. It is obvious, too, that either the fortune-telling mechanism or the automaton- 15 actuating mechanism can be set up and employed without the other, and of course the bell may be omitted, if desired.

Having described our invention, what we claim therefore, and desire to secure by Letters Patent, is—

1. In combination, a dial and a spindle carrying a pointer and a roller, a spring-actuated shoe adapted to sweep over said roller and whirl said pointer, a clock-movement having 25 an eccentric member, one or more automatons connected with said eccentric member, an operating-lever, and means dependent for action on said lever for locking, winding and releasing said clock-movement, actuating said 30 shoe against its spring simultaneously with the locking of the clock-movement, and releasing said shoe to the action of its spring simultaneously with the releasing of the clock-movement, substantially as set forth.

2. In combination, a clock-movement provided with an eccentric member and a spool, one or more automatons connected with said eccentric member, a bell having a lever, an operating-lever, and a cord extending between said spool and bell-lever and so connected to said operating-lever as to leave a portion of said cord slack when the operating-lever is depressed, adapted to ring said bell when wound upon the spool, substantially 45 as set forth.

3. In combination with a lever, a second lever and a detent therefor both dependent for action upon the first lever, a rocker-arm operatively connected with said second lever, 50 a shoe on said rocker-arm, and a spindle carrying a roller and pointer, said roller being in the path of said shoe, substantially as set forth.

4. In combination, an operating-lever 56, a lever 79, a detent for said lever 79, the two latter operated by the former, a rocker-arm operatively connected with said lever 79, a spring-actuated shoe pivotally attached to said rocker-arm, a stop on the lever 79 to limit the rocking movement of said shoe in one direction, and a spindle carrying a roller and a pointer, said roller being in the path of the shoe, substantially as set forth.

5. In combination with a clock-movement as shown, a spring-actuated lever 79, a detent 65 81, a lock-arm pivoted to said lever and adapted to engage and release a toothed wheel

of said clock-movement, and an operating-lever arranged to actuate the first lever against its spring and permit the detent to engage 70 this lever, and to force the detent out of such engagement again, substantially as set forth.

6. In combination with a clock-movement as shown having a spool, a spring-actuated lever 79, a detent 81, a lock-arm 84 pivoted 75 to said lever and adapted to engage and release a toothed wheel of said clock-movement, an operating-lever 56 adapted on its downward travel to engage the lower terminal of the lever 79 and actuate it against its spring 80 and permit said detent to engage this lever, and on its upward travel to force the detent out of such engagement again, and a cord between said operating-lever and spool to wind up the clock-movement while held by said 85 lock-arm, substantially as set forth.

7. In combination with a clock-movement as shown having a spool and an eccentric member, a spring-actuated lever 79, a detent 81, a lock-arm 84 pivoted to said lever and adapted to engage and release a toothed wheel 90 of said clock-movement, an operating-lever 56 adapted in its downward travel to engage the lower terminal of the lever 79 and actuate it against its spring and permit said detent to engage this lever, and on its upward 95 travel to force the detent out of such engagement again, a cord between said operating-lever and spool to wind up the clock-movement while held by said lock-arm, and 100 one or more automatons operatively connected with the aforesaid eccentric member, substantially as set forth.

8. In combination, a spring-actuated lever and a detent therefor, a clock-movement having a spool, a lock-arm pivotally attached to said lever, an operating-lever adapted to actuate the first lever against its spring to cause said lock-arm to engage said clock-movement, and to release said first lever from said 110 detent to release the clock-movement, a bell provided with a lever, cord connections between said spool and bell-lever, loosely attached to said operating-lever, and a weight fastened to the same below the operating-lever, whereby the clock-movement spring is wound up by the movement in one direction of the cord connections and the bell 115 sounded by the movement in the other direction of said connections, substantially as set forth. 120

9. In combination, a spring-actuated lever and a detent therefor, a clock-movement having a spool and an eccentric member, a lock-arm pivotally attached to said lever, an operating-lever adapted to actuate the first lever against its spring to cause said lock-arm to engage said clock-movement, and to release said first lever from said detent to release the clock-movement, one or more automatons operatively connected with said eccentric member, a bell provided with a lever, cord connections between said spool and bell-lever, loosely attached to said operating-le- 125 130

ver, and a weight fastened to the same below the operating-lever, whereby the clock-movement spring is wound up by the movement in one direction of the cord connections and the bell sounded by movement in the other direction of said connections, substantially as set forth.

10. The combination, of an operating-lever, a second lever and a detent therefor both dependent for action upon the first lever, a clock-movement, a rocker-arm operatively connected with and a lock-arm pivotally attached to said second lever, a shoe on said rocker-arm, a spindle carrying a roller and pointer the former being in the path of said shoe, said lock-arm adapted to engage and release said clock-movement, one or more automatons operatively connected with the latter, and a cord between said first lever and a spool on the same, the actuating movement of said shoe occurring simultaneously with the initial operation of the clock-movement, substantially as described.

11. The combination, of an operating-lever, a second lever and a detent therefor both dependent for action upon the first lever, a clock-movement, a rocker-arm operatively connected with and a lock-arm pivotally attached to said second lever, a shoe on said rocker-arm, a spindle carrying a roller and pointer the former being in the path of said shoe, said lock-arm adapted to engage and release said clock-movement, one or more automatons operatively connected with the latter, a bell having a lever, and a cord or cords connecting the bell-lever and a spool on the clock-movement with said first lever and weighted below the latter, the actuating movement of said shoe occurring simultaneously with the initial operation of the clock-movement and the ringing of said bell occurring at or near the end of said operation, substantially as described.

12. A lever-controlled mechanism comprising a spring-actuated lever 79 having a cam-surface 79^a at its free terminal and provided with a pivoted lock-arm 84 and stop 86 below the same, a shouldered dog 81 adapted to engage and release said lever, and an operating-lever 56 provided with a member to engage said cam-surface during the first part of the downward travel of said operating-lever, and actuate the lever 79 until locked by said dog, and to engage and force said dog out of locking engagement with the lever 79, at the end of the upward travel of the operating-lever, substantially as shown.

13. A lever-controlled mechanism comprising a spring-actuated lever 79 having a cam-surface 79^a at its free terminal and provided with a pivoted lock-arm 84 and stop 86 below the same, a shouldered dog 81 adapted to engage and release said lever, an operating-lever 56 provided with a member to engage said cam-surface during the first part of the down-

ward travel of said operating-lever, and actuate the lever 79 until locked by said dog, and to engage and force said dog out of locking engagement with the lever 79, at the end of the upward travel of the operating-lever, and a shoe-carrying rod 89 having a downwardly-extending terminal in operative connection with the lever 79, substantially as shown.

14. In combination with a clock-movement, a lever-controlled mechanism comprising a spring-actuated lever 79 having a cam-surface 79^a at its free terminal and provided with a pivoted lock-arm 84 and stop 86 below the same, a shouldered dog 81 adapted to engage and release said lever, and an operating-lever 56 provided with a member to engage said cam-surface during the first part of the downward travel of said operating-lever, and actuate the lever 79 until locked by said dog, and to engage and force said dog out of locking engagement with the lever 79, at the end of the upward travel of the operating-lever, substantially as shown.

15. In combination with a clock-movement, a lever-controlled mechanism comprising a spring-actuated lever 79 having a cam-surface 79^a at its free terminal and provided with a pivoted lock-arm 84 and stop 86 below the same, a shouldered dog 81 adapted to engage and release said lever, an operating-lever 56 provided with a member to engage said cam-surface during the first part of the downward travel of said operating-lever, and actuate the lever 79 until locked by said dog, and to engage and force said dog out of locking engagement with the lever 79, at the end of the upward travel of the operating-lever, and a shoe-carrying rod 89 having a downwardly-extending terminal in operative connection with the lever 79, substantially as shown.

16. A clock-spring-winding mechanism consisting of a spool on the clock-movement, an operating-lever 56, a cord fastened at one end to said spool and at the other end operatively connected with said lever, a spring-actuated lever 79 having a cam-surface 79^a at its free lower terminal and provided with a pivoted lock-arm 84 adapted to engage a toothed wheel of said clock-movement, a detent 81 for said lever 79, and a projection on said operating-lever to engage said cam-surface and actuate the lever 79 to cause the locking of the clock-movement while the descent of the operating-lever winds up the clock-spring, and to force said detent out of locking engagement with the lever 79 when the operating-lever ascends, substantially as shown.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

FRED J. HALL.
PETER S. STAUFFER.

Witnesses:

S. S. TAFT,
F. A. CUTTER.