

No. 704,312.

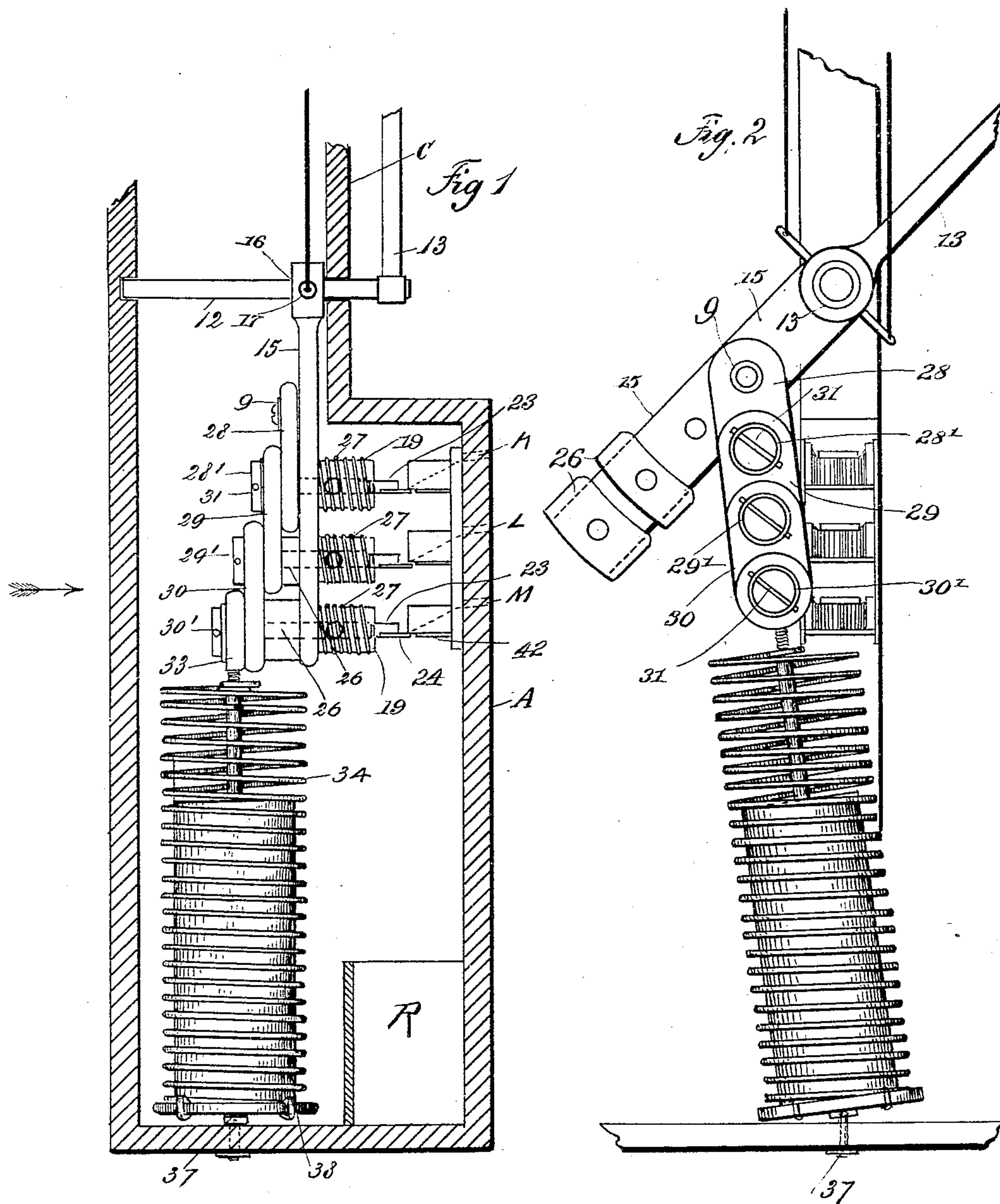
Patented July 8, 1902.

P. S. GATTOLLIAT.
COIN ACTUATED MACHINE.

(Application filed June 24, 1901.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES

L. A. Stewart
J. P. Deller

INVENTOR

Paul S. Gattolliat
BY Edgar Tate & Co
ATTORNEYS

No. 704,312.

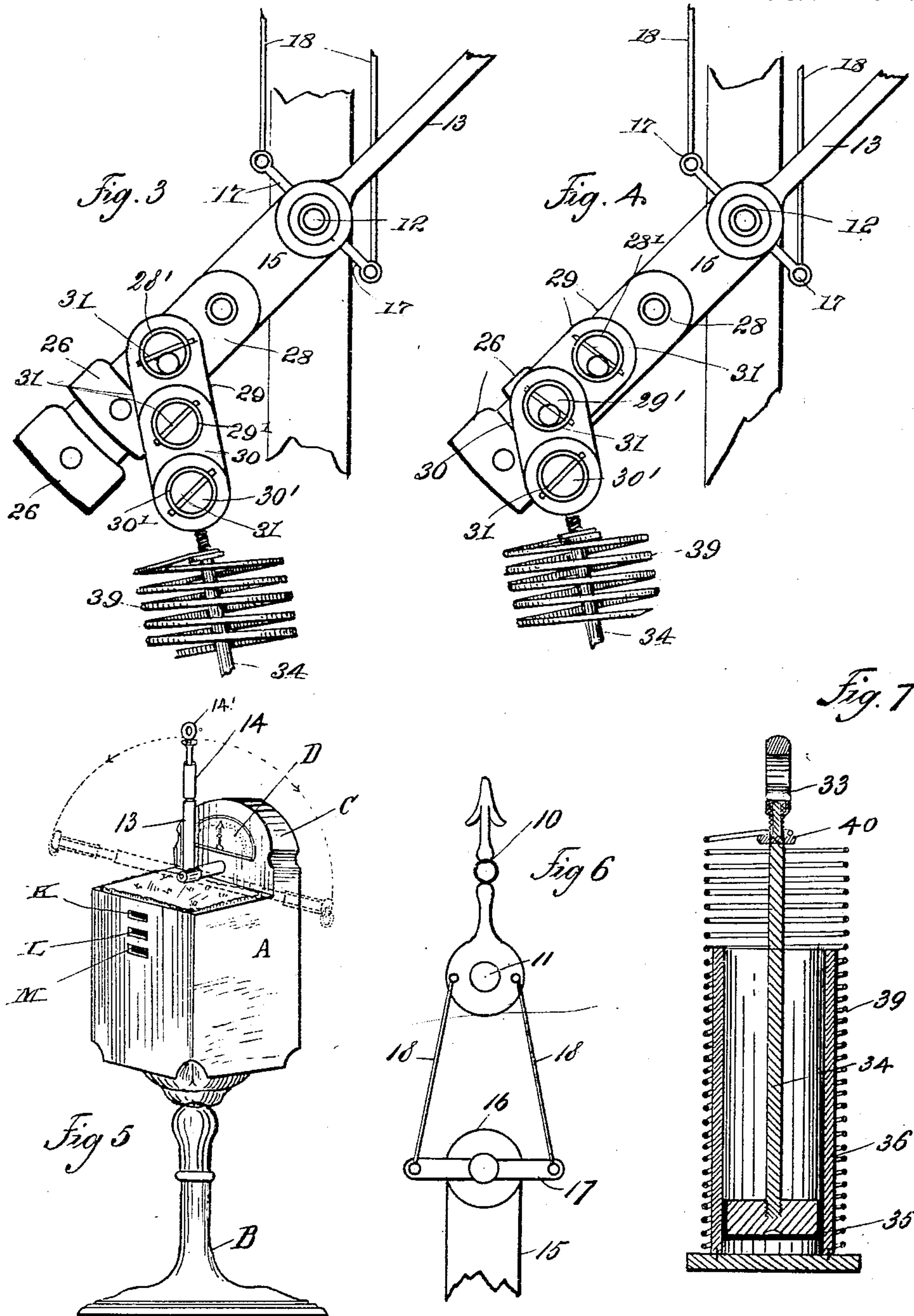
Patented July 8, 1902.

P. S. GATTOLLIAT.
COIN ACTUATED MACHINE.

(Application filed June 24, 1901.)

(No Model.)

3 Sheets—Sheet 2.



WITNESSES
L. A. Stewart
J. H. Keller

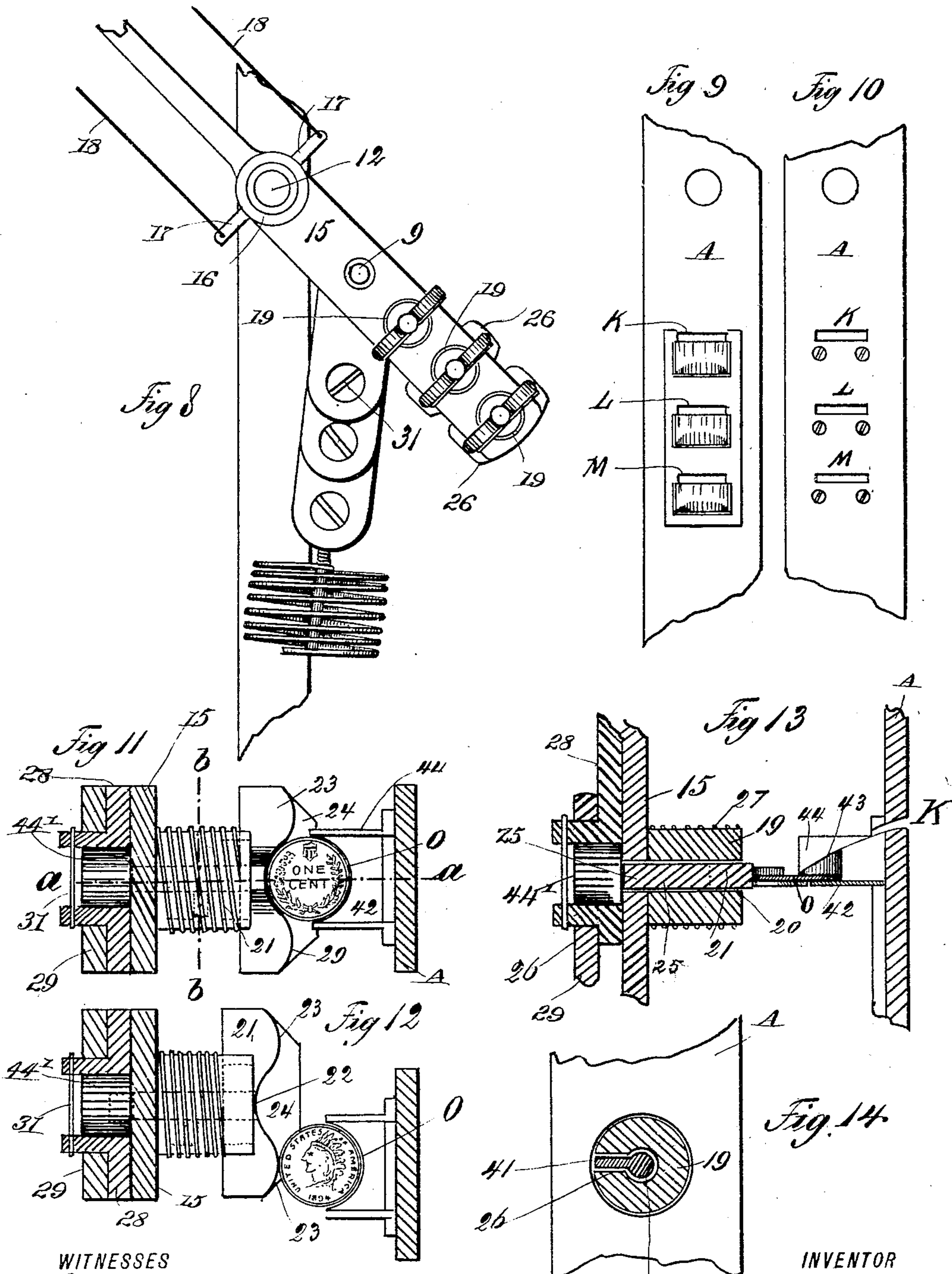
INVENTOR
Paul S. Gattolliat
BY *Edgar & Tate & Co*
ATTORNEYS

P. S. GATTOLLIAT.
COIN ACTUATED MACHINE.

(Application filed June 24, 1901.)

(No Model.)

3 Sheets—Sheet 3.



WITNESSES

L. A. Stewart
G. F. Peller

INVENTOR

BY *Paul S. Gattolliat*
Edgar Tate & Co
ATTORNEYS

UNITED STATES PATENT OFFICE.

PAUL S. GATTOLLIAT, OF JERSEY CITY, NEW JERSEY, ASSIGNOR OF TWO-FIFTHS TO WILLIAM H. BORNAND, OF JERSEY CITY, NEW JERSEY.

COIN-ACTUATED MACHINE.

SPECIFICATION forming part of Letters Patent No. 704,312, dated July 8, 1902.

Application filed June 24, 1901. Serial No. 65,769. (No model.)

To all whom it may concern:

Be it known that I, PAUL S. GATTOLLIAT, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Coin-Actuated Machines, of which following is a full and complete specification, such as will enable those skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide a coin-in-the-slot machine of a new and improved form of construction wherein instead of, as is usually the case, the coin by its weight actuating certain mechanism such coin when inserted merely forms an actuating connection between certain parts of the mechanism and the hand-lever or other like device through which the mechanism is put into operation by the intervention of such coin, and the same is more particularly designed and adapted for use in strength-testing machines, upon which the force of a push, pull, or blow is registered by a suitable indicating-hand mounted upon a dial.

To such ends my invention consists, in substance, of a suitable casing, a distensible coiled spring secured at one end within the casing, an air recoil-cylinder located within the spring, a piston within the cylinder secured to a rod the upper end of which is secured to the upper end of the distensible spring, a hand-lever having a handle-piece sliding up and down thereon, so as to shift the point at which the power is applied thereto, a shaft vibratorily mounted in the casing secured to such handle or lever, an actuating bar or lever within the casing rigidly secured to such shaft, so as to vibrate therewith, provided with a plurality of spring-actuated coin-receiving piston-pieces provided with pins the ends of which are normally just within such bar or lever, mechanism connecting the actuating-bar with the spring piston-rod consisting of a plurality of connecting rods or links pivoted together, the upper of which is pivoted to said bar, each of such bars or links being provided with a suitable hole or perforation adapted to receive the securing and locking pin of the piston-piece upon the insertion of the coin, so as to in-

crease or decrease the leverage exerted by the handle-bar upon the spring, according to which piston-piece the coin is delivered to, a cross-bar lever or wheel rigidly secured upon the shaft vibrated by the handle, a dial, an indicating-hand adjacent to the dial, and means for connecting such cross-bar lever or wheel with the dial, so as to vibrate the hand, the dial being provided with a double index, so that the vibration of the hand in either direction indicates the pressure exerted upon the handle-bar.

Although it is not to be understood that the invention is limited to a machine or device necessarily comprising at once all of the devices or mechanisms before mentioned, for my invention consists in certain various combinations or arrangements of the devices and parts and the construction of certain devices and parts, all of which are substantially and fully described in the specification and fully pointed out in the claims.

In the accompanying drawings, forming part of this invention, in which like characters of reference designate corresponding parts in the several views, Figure 1 is a side view of the actuating mechanism of my improved strength-testing coin-actuated machine, the casing being shown in section. Fig. 2 is a view of the mechanism thereof in the position when the hand-lever is actuated when no coin has been inserted looking from the left to the right of Fig. 1 in the direction of the arrow. Fig. 3 is a view of the upper portion of the mechanism, showing the position of the parts when the pressure is exerted upon the lever and the coin has been inserted in the uppermost slot. Fig. 4 is a like view of the parts in the same position when the coin has been inserted in the middle slot. Fig. 5 is a view in perspective of the device, the hand-lever being shown in dotted lines in both the right and left positions. Fig. 6 is a view in detail, on an enlarged scale, of the dial-hand, the main shaft, and the mechanism connecting the two together. Fig. 7 is a like detail view, in central vertical section, of the tension-spring, recoil air-cushion, piston-rod, and journal-ring by which the same is connected to the lever. Fig. 8 is a view similar to Fig. 3, save only that the le-

ver is shown thrown to the left in the opposite direction. Fig. 9 is a face view from the inside of the three coin-receiving shelves. Fig. 10 is a view from the exterior of the casing adjacent to such shelves, showing the slots through which the coins are inserted and the screws by which the shelves are secured upon the interior casing adjacent thereto. Fig. 11 is a top plan view, partially in section, showing one of the coin-shelves with the coins in position therein at the moment that it is inserted. Fig. 12 is a view similar to Fig. 11, showing the position assumed by the parts upon the first movement of the lever, whereby the action of the coin upon the piston serves to lock the same at that point to the actuating-lever. Fig. 13 is a view of the mechanism shown in Fig. 11 in central section on the line *a a* thereof; and Fig. 14 is a view of the piston plunger and pin looking in either direction taken on the line *b b* of Fig. 11.

To form my invention, I provide a casing A of any suitable material, usually metal, which may be of any suitable form, usually that shown in Fig. 5, in which such casing A is mounted upon a suitable base B and is provided with an upward side extension C, in the forward side of which is a semicircular dial D, the markings of which are from zero at the center to any desired number at the end, in the front of which dial is an indicating-hand 10, mounted upon a shaft 11, carried in suitable bearings (not shown) mounted in the casing. Journaled in the upper portion C of the casing is a vibrating shaft 12, to the outer end of which is secured a hand-actuating lever or bar 13, which bar is provided at its upper or working end with a sliding handle-piece 14, which may be slid up and down thereon, so as to increase or decrease the leverage. Rigidly secured to the vibrating shaft 12 within the casing, so as to vibrate therewith, is a downwardly-extending actuating lever or bar 15, from the securing-boss 16 of which project on opposite sides at right angles to the lever 15 two short levers 17, from the end of which extend upward to the hand 10 connecting rods, bars, or wires 18, secured thereto as shown in detail in Fig. 6, whereby a vibration of the shaft 17 will cause a consequent vibration of the indicating-hand 10. Upon the lower end of the actuating-bar 15 upon the side adjacent to the casing are rigidly secured a plurality of bosses or studs 19, usually located at equal distances apart and provided each with a horizontal slot 20, as shown in Fig. 3, adapted to receive a sliding coin-plate 21, which reciprocates back and forth in said slot, and the forward edge of such coin-plate being provided with a central hollow 22, merging gently on either side into an outwardly-projecting curved end projection 23, and below this forward edge of the coin-plate 21 is located a coin-receiving plate 24, formed integral therewith or rigidly secured thereto, and extending backward from the center of

the coin-plate 21 in each case is a pin 25, which is in the case of the top stud normally at its outward end resting just within the lever 15, and in the case of each of the other studs such end rests just within the end of a corresponding stud 26, two of which are employed and rigidly secured in any desired manner to such bar 15. Surrounding the studs 19 and interposed between the wings of the coin-plates 23 and the bar 15 are spiral springs 27, which serve to normally keep such pins withdrawn, so as to be out of contact with the links 28, 29, and 30 upon the opposite sides of the lever or bar 15, the first link 28, as shown in Fig. 1, being provided with a hollow projecting pivot-stud 28', at the bottom of which is pivoted the upper end of the link 29, a pin 31 passing through such hollow stud, so as to hold the link 29 thereon, and such link 29 is provided at the bottom with a like hollow stud or pivot 29', upon which is pivoted in a like manner the link 30, having a like stud 30', upon which is secured in like manner the securing-ring 33 at the upper end of the piston-rod 34, to the bottom of which is secured a piston 35, moving in the air-recoiling piston-cylinder 36, open at the top and closed at the bottom, which piston-cylinder is secured to the bottom of the casing by a pivot-joint 37, and to the base of which is secured, as shown at 38, the tension-spring 39, which is secured at the top to the ring 33, as shown at 40. Secured in the sides of the pins 25 and sliding in the slot 26 and abutting against the forward shoulder of such slot, as shown in Fig. 11, so as to prevent the forcing of the coin-plates 23 too far outward, is a stop-pin 41, as shown in Fig. 4, and formed in and over the side wall of the casing adjacent to the normal position of the coin-plates 23 are coin-slots K, L, and M, and supported upon the interior of the casing immediately below each of such slots is a coin-shelf 42, having a semicircular hollow 43, flanked by the side wing-walls 44, such semicircular hollow 43 being in registry with the like semicircular hollow 22 of the coin-plates 21, the two together forming a circular cavity of exactly the proper size to receive the coin (designated by the letter O) when dropped through the slot, which is so situated that the coin will be carried to such cavity by gravity. By this construction it will be seen that without the insertion of a coin, while the lever 15 may be freely turned by the actuation of the hand-lever 13 into the position shown in Figs. 2 and 8, by reason of the short distance between the shaft 12 and the pivot-pin 9, which pivots the link 28 to the actuating-bar 15, comparatively slight power will be necessarily exerted upon the lever to draw out the spring as such lever is turned into the position shown in Figs. 2 and 8. If, however, a coin of the proper size be inserted in one of the slots—say the middle slot L—it dropping down into the cavity formed to receive it between the semicircular hollow 43 and the like hollow 22 of the coin-plate 21 will

occupy the position shown in Fig. 11, and if now the hand-lever 13 be moved in either direction as the coin is held tightly in place by the semicircular wall of the hollow 43 and the curved end portion 23 of the coin-plate 21 such coin-plate, and consequently the pin 25, will be forced back into the position shown in Fig. 12, whereby the pin 25 will be forced back into the holes 44' of the link adjacent thereto, but in the case of the coin-slot L it will be held in the pivot-boss 29', in the case of the coin-slot K it will be held in the pivot-boss 28', and in the case of the coin-slot M it will be held in the pivot-boss 30', and it will be seen that the moment such pin is forced into said hole the point of leverage will be changed, and the coin when it has been inserted in the middle coin-slot L changing the leverage to 29', as shown in Fig. 4, when it has been inserted in the coin-slot K to 28', as shown in Fig. 3, and in like manner to the point 30', whenever the coin shall have been inserted into the coin-slot M, and it is evident that the frictional force will serve to maintain this contact so long as pressure is exerted upon the lever and that the force of the push, pull, or blow will be accurately indicated upon the scale, which may be triple to indicate the force exerted at each point of leverage, and it is also evident that when the hand-lever is released from pressure and is allowed to return to its normal upright central position the pin will be withdrawn from the hole in the stud of the link and by the action of the spring 27, and another coin must be inserted in like manner to again arrange the leverage-point, which leverage may in each case be increased or diminished by sliding the handle 14 up or down on the lever B. As shown in Fig. 13, the coin-shelf 42 extends under the cavity 43 a distance equal only to about one-fourth of the diameter of the coin O, and by this construction it is evident that when the curved end projections 23 have passed by the coin gravity will instantly cause the same to drop from the cavity 43 in a coin-receptacle R, located in the bottom of the casing, as shown in Fig. 11. As shown in Fig. 13, the holes 44' in the link-studs are made much larger in diameter than the locking-pins 25, so that only just before the coin is allowed to fall does the pin come in contact with the side wall thereof, whereby from the first compression of the coin only the friction of the pin in its slot and the power of the spring 27 have to be overcome.

Secured upon the top of the handle bar or lever 13 is a ring or annular handle-piece 14, by which the lever may be vibrated by passing a finger or fingers therethrough in testing the finger strength.

While I have shown this coin-actuated device as adapted particularly to strength-testing machines, it is evident that the main actuating parts thereof may be applied to weighing, vending, and other machines of the coin-in-the-slot character without materially alter-

ing the construction, and I do not intend to limit myself to the particular construction of the whole or any of the parts thereof herein shown, as many modifications may be made without departing from the scope of my invention.

The spring 39, the cylinder 36, the piston 35, mounted therein, and the piston-rod 34 constitute a tensional or resistance device against which the power applied to the hand-lever 13 is exerted, and this form of device may be used in a strength-testing machine, scale, or other machine of this class, and by employing the separate coin-slots in the casing, the separate links 28, 29, and 30, and providing means for connecting the said links at different points longitudinally of the lever or bar 15 I increase or decrease the power of said lever, as will be readily understood, and the force necessary to operate the same.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In an apparatus of the class described, the combination with a resistance or tensional device, of a lever suitably fulcrumed adjacent thereto and in connection with said resistance or tensional device, and coin-actuated devices for changing the point of the connection of said lever with said resistance or tensional device longitudinally of said lever, substantially as shown and described.

2. In an apparatus of the class described, a casing, a tensional or resistance device in the bottom of said casing, a lever supported over said device and projecting from the top of said casing, a plurality of pivotal connected links pivotally connected at one end with said lever and at the opposite end with said resistance or tensional device and coin-actuated devices for connecting each of said links with said lever so as to increase the distance between the pivotal support of the lever and its connection with said resistance or tensional device, substantially as shown and described.

3. In an apparatus of the class described, a casing, a tensional or resistance device in the bottom of said casing, a lever pivoted in the top portion of said casing, a plurality of pivotally-connected links, said links being connected at one end to said lever and at the opposite end to said tensional or resistance device, and coin-actuated devices for connecting the separate links with said lever at different distances from its pivotal support, said casing being also provided in the front thereof with slots corresponding with said links and with said coin-actuated devices and through which a coin may be passed, substantially as shown and described.

4. In an apparatus of the class described, a casing, a tensional or resistance device secured in the bottom of said casing, a lever pivoted in the top portion of said casing, a link pivoted to said lever, a second link pivoted to the first-named link, and in operative connection with the tensional or resistance

device, a hollow pivoted stud at the bottom of the first link and coin-actuated devices adapted to be operated by the vibration of the lever, so as to connect the second link with the lever, said devices comprising a pin adapted to lock the second link to the lever by passing into said stud, a spring normally forcing such pin into the unlocking position, a coin-plate having a semicircular cavity in the side of one-half of the diameter of the actuating-coin, a like coin-cavity formed in a coin-shelf secured to the casing, and a slot in the casing through which a coin may be passed, substantially as shown and described.

5. In a device of the class described, the combination with a casing, of a plurality of adjacent coin-slots, a plate having a semicircular coin-receiving cavity with a coin-receiving shelf of less width than one-half the diameter of the coin fitting such cavity located below each of the coin-slots, a pivoted hand-actuated lever carrying a plurality of coin-shelves adapted to coact with the coin-shelves secured to the casing adjacent to the slot so as to receive a coin between them, means carried by such coin-shelves for causing the shelves to be forced backward by the pressure exerted thereon by the coin upon the first movement of the lever, and a plurality of devices each having a different action from the other and adapted to be locked to the lever separately accordingly as the coin is inserted in one slot or the other, substantially as shown and described.

6. In a device of the class described, the combination with a casing, of a shaft vibratorily mounted in the casing, a hand-lever located without the casing secured to the shaft in such manner as to vibrate the same, an actuating-lever secured to the shaft so as to vibrate therewith located within the casing, an air recoil-cylinder closed at the bottom and open at the top located within the casing and secured thereto at the bottom by a pivot-joint, a spiral spring surrounding the cylinder secured to such cylinder at the bottom, a piston within the cylinder, a piston-rod secured to the piston secured to the upper end of the spring, a link pivoted to the upper end of the piston-rod in pivotal connection with the actuating-lever, a coin-slot in the casing having a coin-shelf in the inner side of the casing adjacent thereto to receive the coin, and mechanism carried by the actuating-lever adapted to receive a portion of the coin dropped through the slot upon the coin-shelf in such manner that the first movement of the lever will by the pressure exerted upon the coin lock the link to the lever so as to vibrate the same in unison with the lever, substantially as shown and described.

7. In a device of the class described the combination with a casing, of a shaft vibratorily mounted in the casing, a hand-lever located without the casing secured to the shaft in such manner as to vibrate the same, an ac-

tuating-lever secured to the shaft so as to vibrate therewith located within the casing, an air recoil-cylinder closed at the bottom and open at the top located within the casing and secured thereto at the bottom by a pivot-joint, a spiral spring surrounding the cylinder secured to such cylinder at the bottom, a piston within the cylinder, a piston-rod secured to the piston secured to the upper end of the spring, a plurality of links pivoted together, the ends of the chain so formed being pivoted at one end to the piston-rod and at the other to the actuating-lever, a like plurality of coin-slots formed in the casing provided on the inner side of the casing with coin-receiving shelves located below the same provided with coin-cavities in the side walls, a like plurality of coin-receiving shelf-plates provided with semicircular cavities merging by gentle curves into outward projections on either side carried by the lever normally pressed away therefrom by suitable springs, and a locking-pin carried by each of said coin-shelves adapted to be forced backward through the actuating-lever so as to lock the lower end of the link adjacent thereto to the lever by the pressure caused by the contact of the outer projections of the coin-shelf against the coin in the vibration of the lever, substantially as shown and described.

8. In a device of the class described, the combination with a casing, of a shaft vibratorily mounted in the casing, a hand-lever located without the casing secured to the shaft in such manner as to vibrate the same, an actuating-lever secured to the shaft so as to vibrate therewith located within the casing, an air recoil-cylinder closed at the bottom and open at the top located within the casing, and secured thereto at the bottom by a pivot-joint, a spiral spring surrounding the cylinder secured to such cylinder at the bottom, a piston within the cylinder, a piston-rod secured to the piston secured to the upper end of the spring, a plurality of links pivoted together, the ends of the chain so formed being pivoted at one end to the piston-rod and at the other to the actuating-lever, a like plurality of coin-slots formed in the casing provided on the inner side of the casing with coin-receiving shelves located below the same provided with coin-cavities in the side walls, a like plurality of coin-receiving shelf-plates provided with semicircular cavities merging by gentle curves into outward projections on either side carried by the lever normally pressed away therefrom by suitable springs, a locking-pin carried by each of said coin-shelves adapted to be forced backward through the actuating-lever so as to lock the lower end of the link adjacent thereto to the lever by the pressure caused by the contact of the outer projections of the coin-shelf against the coin in the vibration of the lever, an indicating-dial, an indicating-hand pivoted to the dial, and means connecting the hand with the vibrating shaft

whereby such hand is vibrated upon the vibration of the handle, substantially as shown and described.

5 9. In a device of the class described, the combination with a casing, of a recoil air-cylinder closed at the bottom and open at the top secured at the bottom to the casing by a flexible joint, a spiral spring secured to the bottom cylinder and surrounding the same, a
10 piston located within the same, a piston-rod secured to the piston, a shaft vibratorily mounted in the casing, a hand-lever vibrating such shaft secured thereto without the casing, an actuating-lever secured to such
15 shaft within the casing, a link 28 pivoted to the lever, a link 29 pivoted to the link 28 upon a pivot-stud having an axle-hole, a like link 30 pivoted in like manner to the link 29 provided with a like stud pivotally secured
20 to the top of the piston-rod, studs 19 secured upon the opposite sides of the actuating-lever, coin-plates 21 provided with a central circular cavity merging at the sides into outward projections 23 reciprocating in the slot
25 and in the studs 19, a locking-pin carried by the coin-plates passing through the actuating-lever and adapted to be forced back into the link adjacent thereto, one of such studs and plates being provided for each of the

links, springs located between the coin-shelf 30 and the actuating-lever normally forcing the bolts into the unlocking position, a coin-slot in the casing for each of the links, and a coin-shelf located below each of the slots adapted to coact with each of the coin-shelves carried 35 by the studs upon the lever to receive the coins, substantially as shown and described.

10. In an apparatus of the class described, a casing, a resistance or tensional device mounted in the bottom thereof, a lever suit- 40 ably fulcrumed adjacent thereto and in connection with said resistance or tensional device and passing through the top of the casing and coin-actuated devices for changing the point of connection of said lever and said 45 resistance or tensional device longitudinally of said lever, said lever being also provided at the upper or outer end thereof with a finger hole or piece, substantially as shown and described. 50

In testimony that I claim the foregoing as my invention I have signed my name, in presence of the subscribing witnesses, this 21st day of June, 1901.

PAUL S. GATTOLIAT.

Witnesses:

F. A. STEWART,
F. F. TELLER.