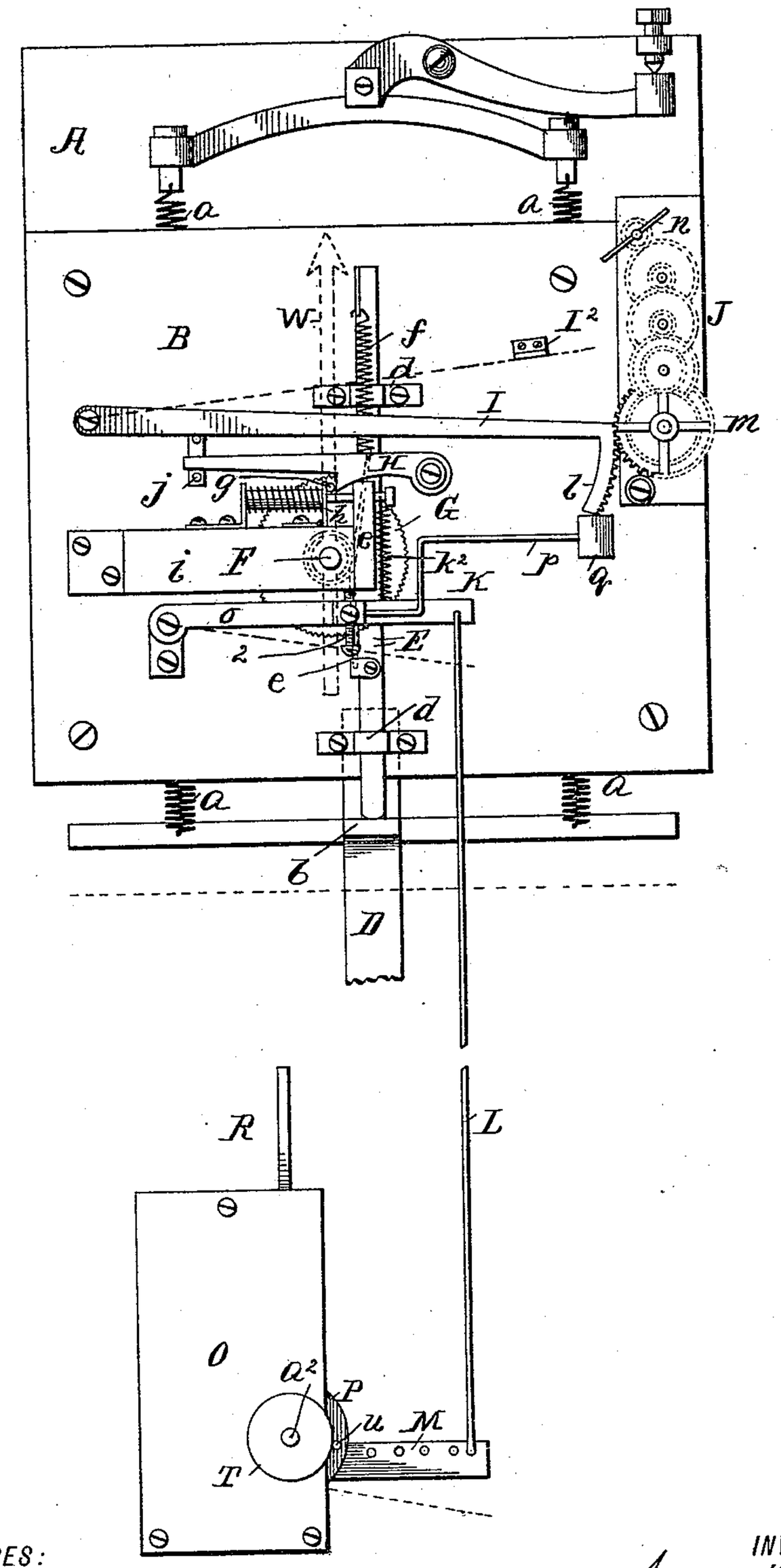
(No Model.) 2 Sheets—Sheet 1.

J. M. S. BLAUVELT.

COIN CONTROLLED WEIGHING MACHINE.

No. 457,981. Patented Aug. 18, 1891.

Fig. 1.



WITNESSES:

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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

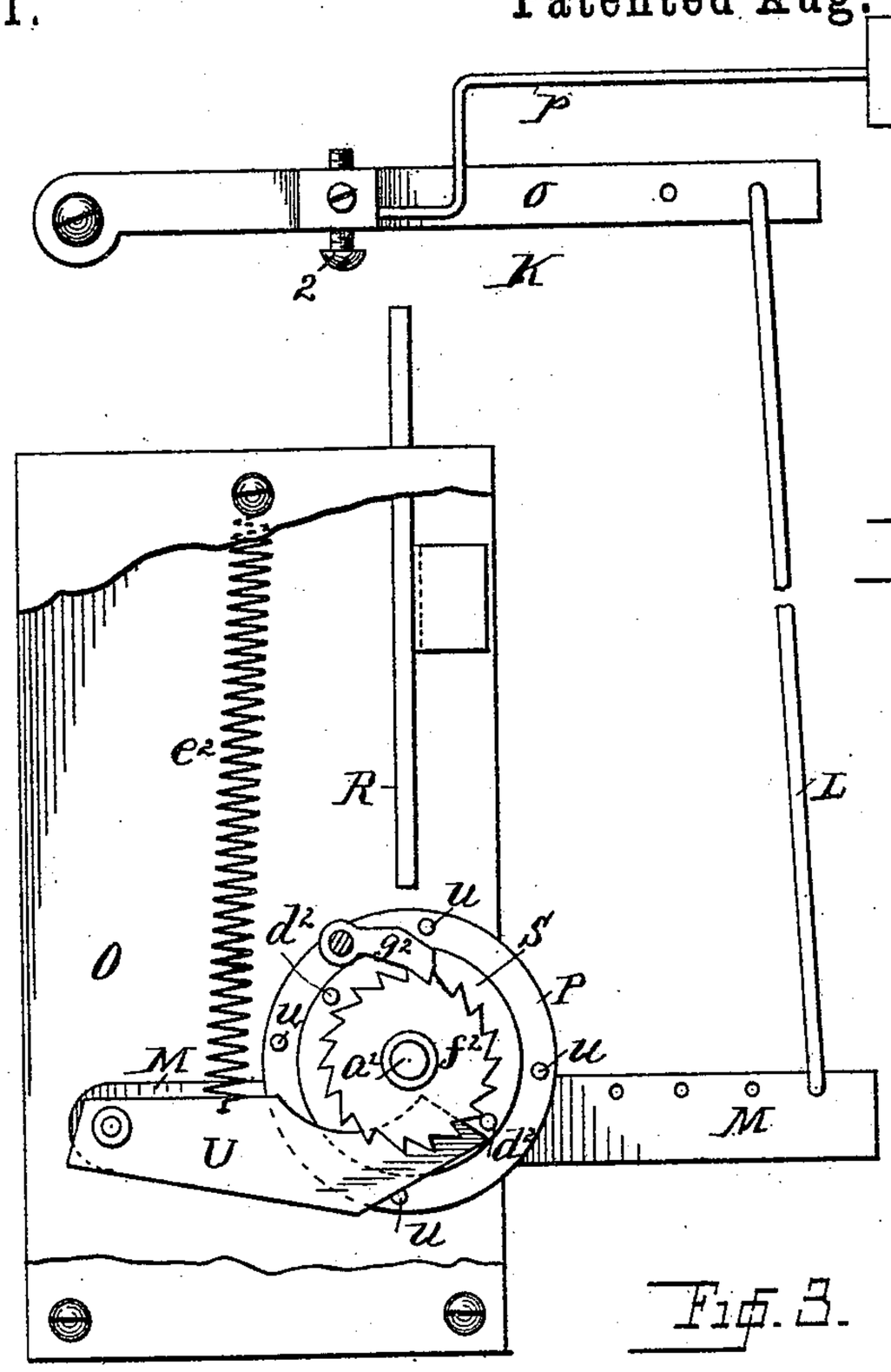


Fig. 6.

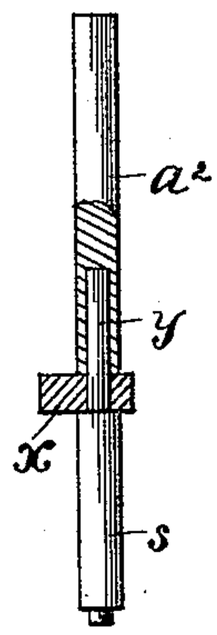


Fig. 3.

Fig. 4.

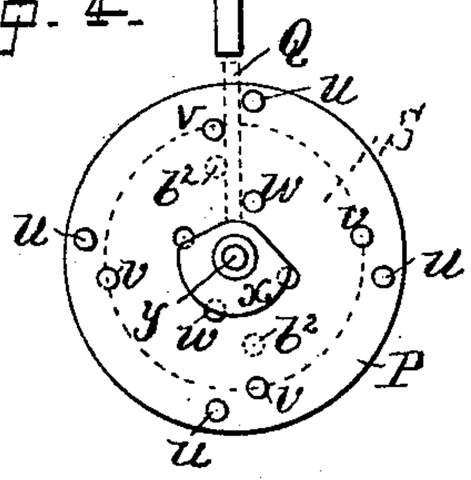
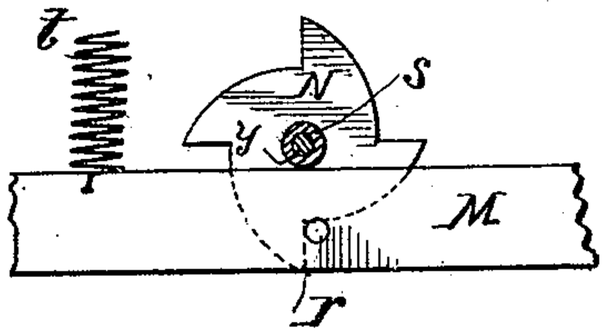
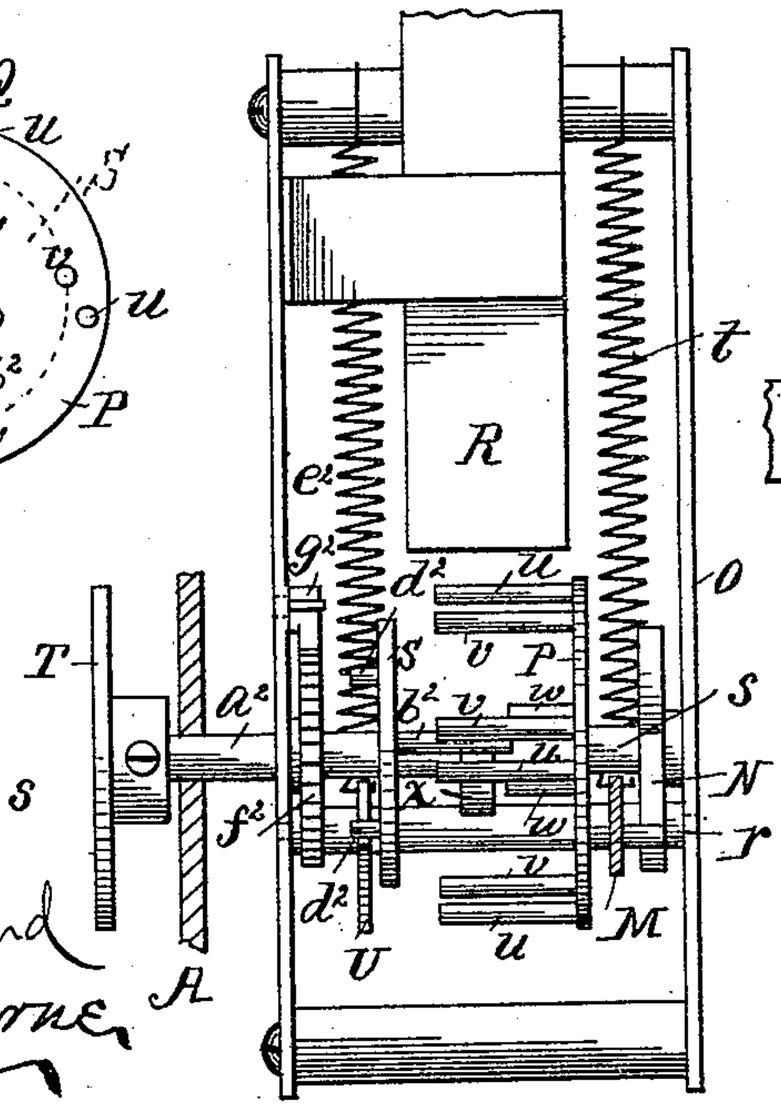


Fig. 5.





Witnesses

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UNITED STATES PATENT OFFICE.

JAMES M. S. BLAUVELT, OF BROOKLYN, NEW YORK.

COIN-CONTROLLED WEIGHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 457,981, dated August 18, 1891.

Application filed November 8, 1890. Serial No. 370,722. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. S. BLAUVELT, a resident of Brooklyn, Kings county, New York, have invented certain new and useful Improvements in Coin-Controlled Weighing-Machines, of which the following is a specification.

The object of my invention is to permit a weight to be indicated only after a coin has been inserted in the machine; and it consists in the novel details of improvement and the combination of parts that will be more fully hereinafter set forth, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part hereof, wherein—

Figure 1 is a front elevation of the mechanism, the machine-casing being removed. Fig. 2 is a partly-broken front elevation, enlarged, of the coin-actuated mechanism. Fig. 3 is a partly-broken side elevation thereof. Fig. 4 is a detail face view of the disk and pins that are operated only when a coin is present, and Figs. 5 and 6 are detail views hereinafter explained.

In the accompanying drawings, the letter A indicates a portion of a machine-casing within which a suitable plate B is suitably carried, which latter supports the index-actuating mechanism.

D indicates a vertically-movable rod, which is to be connected with a suitable scale-platform (not shown) upon which the person to be weighed stands, in a manner well known. The rod D is connected with springs *a*, suitably supported in the machine, whereby the movement of the rod D is regulated. The rod D carries a shelf or support *b*, upon which a rod E is adapted to rest, said latter rod being guided in bearings *d* on the plate B.

F is an index-spindle journaled in suitable bearings on the plate B and adapted to be turned by the longitudinal movement of the rod E. The rod E may be suitably connected with the spindle F for turning the latter, in the example shown *e* being a cord that is connected at one end to the rod E, passing thence around the spindle F and being connected to a spring *f*, carried by the rod E, whereby as the rod E rises and falls the spindle F will be turned. The spindle F also carries a disk G, or the like which carries a pin *g*, that is adapted to come against a stop *h* on the spindle-support *i*, which limits its backward movement, and also against a dog H, pivoted on the plate B, which dog prevents forward movement of the disk G, and thereby the spindle, until after a coin has been placed in the machine. The dog H is lifted to release the pin *g* by a lever I, pivoted on the plate B, which lever carries a suitable pin *j* to lift the dog H. The lever I carries a toothed rack *l* at its free end, which gears with a wheel *m* of a suitable train of gearing J, having a fan or regulator *n*, which train may be substantially like that shown and described in my application Serial No. 353,796, filed May 31, 1890, whereby the lever I is free to be lifted, but in its descent is retarded to give the spindle F time to turn to indicate a weight, as well known.

Any suitable mechanism may be used to prevent the spindle F from turning to indicate more than one weight for one coin. One such mechanism will be found in the application for a patent filed by me in the United States Patent Office May 31, 1890, Serial No. 353,796, wherein also a more detailed description of the foregoing mechanism will be found.

In order to lift the lever I to permit the spindle F to be turned the proper distance to indicate a weight, I have provided a hammer K, which is shown pivoted on the plate B and adapted to strike the lever I or its rack *l*. The hammer K is shown composed of a lever *o* and spring-rod *p*, carried by it, which rod *p* carries a head *q*, that strikes the rack *l*. *q* is a set-screw on the hammer K to engage the support *i* to regulate the blow of the hammer K against the lever I. The hammer K connects by a rod L with a lever M, that is actuated only after a coin is inserted in the machine. The lever M carries a pin *r*, that is adapted to be engaged by a cam N, carried by a suitable shaft or tube *s* in a frame O within the machine-casing. The cam N is arranged so that when it is turned it will press down the lever M a certain distance, and thereby draw down the hammer K, as in dotted lines, Fig. 1, and when the indent part of the cam N has passed the pin *r* the lever M will be drawn upward quickly, (see Fig. 5,) thereby causing the hammer K to strike the lever I

or its rack l and throw the lever I upward to release the index-spindle, the lever I being limited in its upward movement by a stop I^2. The lever M is moved upward by a spring t, connecting it with the frame O, while the hammer K may have a spring K^2, connecting it with a stationary part, to lift the hammer.

Connected with the cam N—say to its shaft s—is a disk or plate P, which carries one or more (say four) series of pins $u\ v\ w$, said series of pins corresponding in number to the projections on the cam N. The pins $u\ w$ of each series are on one side of a radial line, while the pin v of each series is on the opposite side of said line, so that a coin Q can pass between v and $u\ w$, as shown in dotted lines in Fig. 4. The space between the pins $v\ u$ of a series is normally held in line with a coin-chute R, which leads from the exterior of the casing to a point above the disk P. The coin Q when in position between the pins $u\ v\ w$ rests upon a support x, carried by a shaft y in the frame O, that passes through and supports the shaft or sleeve s. (See Fig. 6.) The support x is preferably cam-shaped, so as to move the coin outward as the disk P is turned to free the coin from the pin w.

S is a disk carried by a shaft a^2 in the frame O, which latter is in axial line with the shaft s and supported on the shaft y. (See Fig. 6.) The disk or plate S carries one or more pins b^2, (two being shown in dotted lines, Fig. 4,) the pins b^2 being adapted to pass between the pins u and w on the disk P when the disk S is turned and to encounter a coin Q when it is in position between the pins $u\ v\ w$, and to thereby turn the disk P. (See dotted lines, Fig. 4.) The shaft a^2 is provided with a handle or knob T, which is to project in front of the main casing A in position to be turned by the person desirous of being weighed. The disk S also carries two pins d^2 on the side opposite to the pins b^2, (see Figs. 2 and 3,) which pins d^2 are adapted to engage a lever U, pivoted in the frame O. The lever U is held in its normal position by a spring e^2 connecting said lever with the frame O. (See Fig. 2.) The outer end of the lever U is beveled, so that the pin d^2 can ride on it, and thus depress the lever U. The upper edge of the lever U is also beveled or curved, the relative arrangement of these parts being such that the lever U normally holds the disk S by means of the pins $d^2\ d^2$ in such position that the pins $b^2\ b^2$ will be normally held to one side of the passage-way of the coin. The shaft a^2 also carries a ratchet-wheel f^2, which engages a dog g^2 on the frame O to prevent the disk S from being turned backward. Of course it is understood that the spindle F carries a pointer W to sweep over a suitable dial to indicate the weight in manner well known.

My improvements operate as follows: When a person steps on the scale-platform, his weight draws down the rod D and shelf b a certain distance, but the rod E remains elevated because the dog H is in the path of the pin g. A person now inserts a coin into the chute R, which passes thence between the pins $u\ v\ w$ on the disk P and rests on the support x. He now turns the handle T, which brings a pin b^2 on the disk S against said coin, (see dotted lines, Fig. 4,) which causes the disk S and shaft a^2 to be connected with the disk P and shaft s, the shafts $s\ a^2$ being normally disconnected and independently movable. As the shaft a^2 is now turned farther the disk P and cam N will be turned also, the cam N acting on the pin r to depress the lever M, which latter then draws down the hammer K. When the wide part of the cam N rides past the pin r, the lever M will be drawn up quickly by the spring t, thereby causing the hammer K to rise and strike the lever I a blow which lifts the said lever and carries the dog H away from the pin g, thereby releasing the spindle F. The rod E will now descend till it rests on the shaft b, whereupon the spindle F will turn a proper distance to cause the pointer W to indicate the weight of the person on the scale-platform. When the person steps off of the scale-platform, the rod D rises and pushes up the rod E, and thus turns the pointer W back to zero, at the same time carrying the pin g between the stop h and dog H to prevent another forward movement of the index until another coin is inserted. As the disks S and P are turned by the interposition of the coin Q, the cam-support x pushes the coin outward to free it from the pins $u\ v\ w$. If the handle or knob T should be turned when a coin is not between the pins $u\ v\ w$, the lever M will not be moved, because the disk P and cam N cannot be moved unless a coin is in position. Each time the disk P is turned the pin r, acting on cam N, causes the pins $u\ v\ w$ to align with the chute R and holds them in this position ready to receive a coin.

From the foregoing description it will be seen that a weight cannot be indicated unless a coin is passed between the pins $u\ v\ w$, as the lever M, hammer K, and lever I cannot be operated when a coin is absent from the pins $u\ v\ w$.

Having now described my invention, what I claim is—

1. In a weighing-machine, an index-spindle, and a rod for turning it, combined with the lever I and connections between it and said spindle, a hammer to raise said lever I, and coin-controlled mechanism connected with said hammer, substantially as described.

2. In a weighing-machine, the combination of an index-spindle, a rod for turning it, lever I, and connections between the spindle and lever, a hammer to raise said lever, a set-screw to regulate the blow of the hammer, and coin-controlled mechanism connected with said hammer, substantially as described.

3. In a weighing-machine, the combination of a spindle, a rod for turning it, lever I, and connections between it and said spindle, a hammer to lift the lever I, lever M, connected

to lever I, cam N to actuate lever *m*, and coin-controlled mechanism for turning said cam, substantially as described.

4. The disk P, having pins *u v w* to receive a coin, combined with the independent disk S, having pin b^2 to engage the coin that enters between pins *u*, *v*, and *w* to move the disk P, substantially as described.

5. The disk P, having pins *u v w* to receive a coin between them, and a cam-support *x* for a coin to rest on, combined with an independent disk S, having pin b^2 to pass between the pins *u w* and adapted to engage a coin held between pins *u*, *v*, and *w*, substantially as described.

6. The lever M, cam N, disk P, connected thereto, and pins *u v w* on said disk to receive a coin, combined with disk S, having pin b^2 to engage a coin held between pins *u v w*, substantially as described.

7. The disk P, having pins *u v w*, and a coin-chute normally held in line therewith, combined with the disk S, having pin b^2, pins d^2, and lever U to hold the pin b^2 normally out of line with the coin-chute, substantially as described.

8. The spring-actuated lever U, having its end beveled and its upper edge also beveled, and the disk S, having pins d^2 d^2 to engage the lever U and the pin b^2 to engage a coin, combined with the disk P, having pins to receive a coin, the pin b^2 being in position to pass between the pins on the disk P when b^2 is turned, substantially as described.

9. The shaft *s* and disk P, carried thereby, and pins *u v w* on said disk, combined with the shaft a^2 in line with the shaft *s*, disk S, having pin b^2, and handle T on the shaft a^2, substantially as described.

10. The shaft *s*, disk P, carried thereby, and pins *u v w* on said disk, combined with the support *x* in line with said shaft, shaft a^2, also in line with said shaft *s*, disk S on the shaft a^2, pin b^2 on disk S, pins d^2 d^2 on disk S, and spring-actuated lever U to hold the disk S in its proper position, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 7th day of November, 1890.

JAMES M. S. BLAUVELT.

Witnesses:
T. F. BOURNE,
J. N. BLAUVELT.