

No. 694,335.

Patented Feb. 25, 1902.

C. J. THENAN & W. A. NOURSE.
COIN CONTROLLED STRIKING MACHINE.

(Application filed Feb. 4, 1901.)

(No Model.)

2 Sheets—Sheet I.

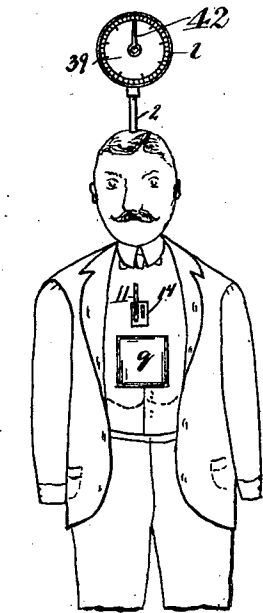


Fig. 1.

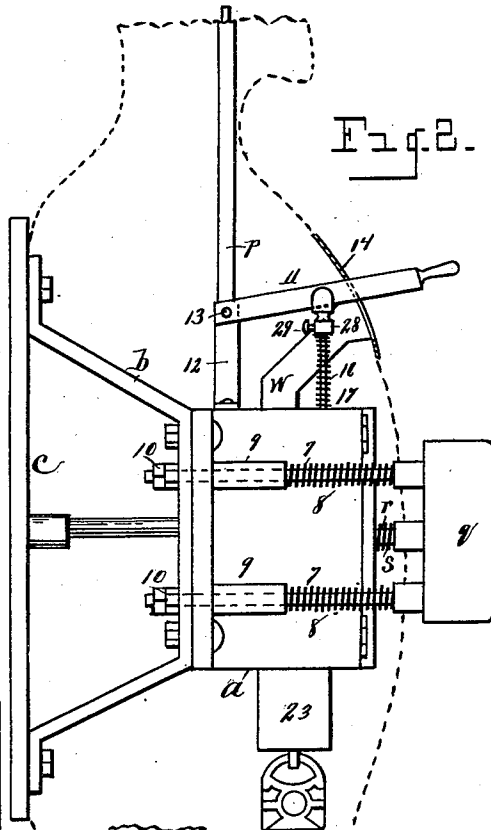


Fig. 2.

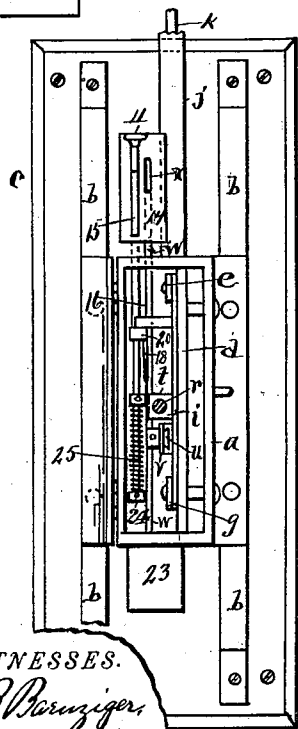


Fig. 3.

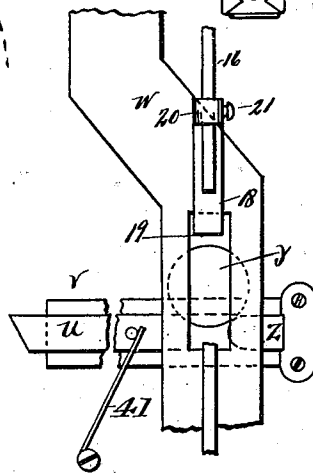


Fig. 4.

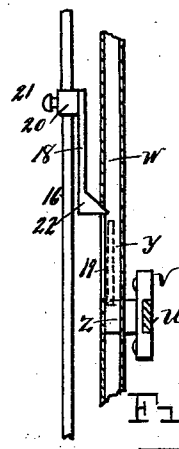


Fig. 5.

WITNESSES.

O. B. Burziger
M. Hickey.

INVENTORS

Charles J. Thenan
Walter A. Nourse
By Newell S. Wright
His Attorneys.

No. 694,335.

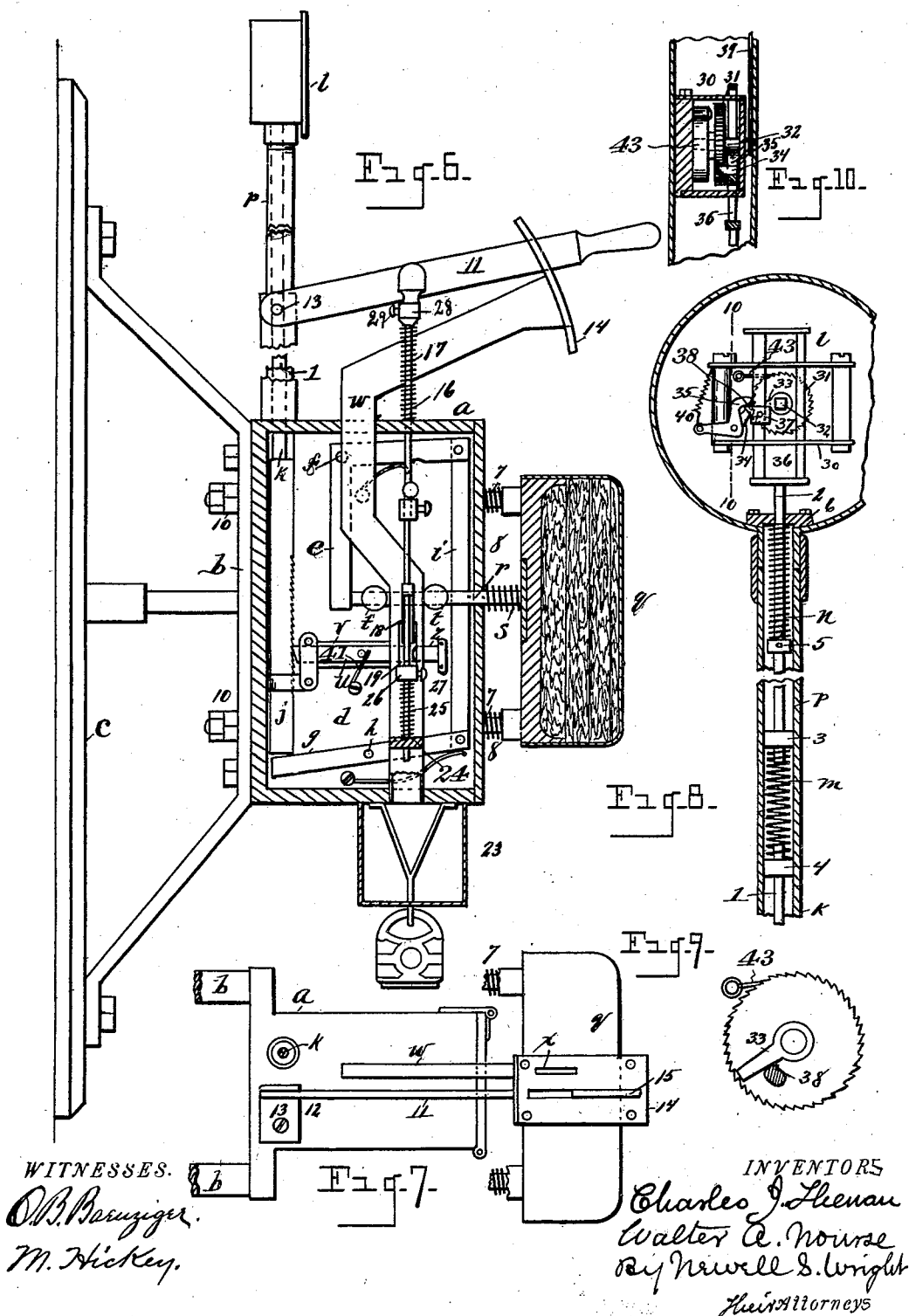
Patented Feb. 25, 1902.

C. J. THENAN & W. A. NOURSE.
COIN CONTROLLED STRIKING MACHINE.

(Application filed Feb. 4, 1901.)

(No Model.)

2 Sheets—Sheet 2.



UNITED STATES PATENT OFFICE.

CHARLES J. THENAN AND WALTER A. NOURSE, OF LANSING, MICHIGAN.

COIN-CONTROLLED STRIKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 694,335, dated February 25, 1902.

Application filed February 4, 1901. Serial No. 45,870. (No model.)

To all whom it may concern:

Be it known that we, CHARLES J. THENAN and WALTER A. NOURSE, citizens of the United States, residing at Lansing, county of Ingham, State of Michigan, have invented a certain new and useful Improvement in Coin-Controlled Striking-Machines; and we declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Our invention has for its object a coin-controlled striking-machine; and it consists of the construction, combination, and arrangement of devices hereinafter described and claimed, and illustrated in the accompanying drawings, in which—

Figure 1 is a view in front elevation. Fig. 2 is a view of portions of the mechanism in side elevation. Fig. 3 is a view of portions of the mechanism in front elevation showing the case open and the punching-bar in cross-section. Fig. 4 is a detail view of features of the runway and related parts in side elevation. Fig. 5 is a view of the same in front elevation showing portions in vertical section. Fig. 6 is a view of features of the mechanism in vertical section and in side elevation. Fig. 7 is a view in plan showing the dial-rod in horizontal section. Fig. 8 is a view of the dial in rear elevation, parts being shown also in vertical section. Fig. 9 is a view of details of the dial mechanism in front elevation, showing the dial-plate removed. Fig. 10 is a view of the dial in vertical section.

Our invention has in view more particularly a coin-controlled striking-machine provided with a striking-pad to receive a blow and whereby the force of the blow will be indicated upon a dial. While we do not limit ourselves to any particular housing of the striking mechanism, we have shown in Fig. 1 a housing for said mechanism in a representation of a human form or figure.

We carry out our invention as follows:

An inclosing case is shown at *a* for certain portions of the mechanism, the same being supported in any suitable manner, as upon supporting-brackets *b b*, engaged upon a rear

upright support *c*. Within the case is engaged a supporting-plate *d*, to which is fulcrumed a bell-crank lever *e*, as indicated at *f*. Toward the base of the supporting-plate is fulcrumed a lever *g*, as indicated at *h*, the levers *e* and *g* being connected by a connecting-rod *i*. A rack-bar *j* is elevated by the operation of the lever *g*, said rack-bar being engaged with a dial-rod *k*. The dial-rod for actuating the dial *l* is preferably made in two parts 1 and 2, having an intervening spring *m* between their adjacent ends, the adjacent ends of the two portions of the dial-rod provided with collars or nuts 3 and 4 to engage the extremities of the spring *m*. An additional spring *n* may also be engaged with one of the portions of the dial-rod, as upon the portion 2, the spring *m* being employed to cushion the blow, while the spring *n* is employed to restore the dial-rod to normal position. The springs *m n*, with the adjacent ends of the two portions of the dial-rods 1 and 2, may be housed in a casing *p*. The portion 2 of the dial-rod is provided with a collar 5, the upper portion of the casing *p* being also formed with a cap 6, the spring *n* being located between the collar 5 and the cap 6, as shown.

A punching-pad of any suitable construction is shown at *q*, said pad having a yielding engagement with the case *a*. To this end the pad may be supported upon cushioned rods 7 of any suitable number, four such rods being indicated in the accompanying drawings, two at each side of the case *a*, said rods being cushioned by springs 8, the rods being shown passed through corresponding sleeves 9 and held in engagement with the case *a* by nuts, (indicated at 10,) and by means of which nuts also the springs 8 may be given any desired tension. The pad is also engaged with a cushioned rod, preferably at the center of the pad, (indicated at *r*,) provided with a spring *s*, the rod *r* being preferably sleeved through guide-brackets *t t*, engaged with the plate *d*. The rear end of the rod *r* is arranged to actuate the bell-crank lever *e* and to throw the lower end of said lever rearward, rocking said lever on its fulcrum *f*, throwing downward the connecting-rod *i* and the adjacent end of the lever *g* upon its fulcrum *h* and elevating the rack-bar *j* with a dial-rod *k*.

The pawl *u* is preferably reciprocatory in a guideway *v*, normally engaging with the rack *j* to hold the rack-bar in a given position. A spring 41 normally holds said pawl in engagement with the rack-bar. To permit the actuation of the pawl *u*, we employ coin-controlling mechanism embodying a coin-runway *w*, constructed to admit a coin, as at *x*, a coin being indicated at *y*, Fig. 4. The pawl *u* is provided with an arm *z*, projecting into the runway *w* and normally into the path of the coin *y*, the coin when first dropped into the runway descending to the point of contact with the arm *z*. Mechanism is provided whereby pressure may then be applied upon the coin contacting with the arm *z* to force said arm out of the path of the coin-runway, permitting the coin to descend thereby, the retraction of the arm *z* obviously retracting the pawl *u* from its engagement with the rack-bar *j*. To accomplish this end, the lever 11 is provided, which may conveniently be fulcrumed to a bracket 12, as indicated at 13, the forward end of the lever being extended through a guide-plate 14, constructed with a guide-slot 15, in which plate is formed the opening *x* for the admission of a coin into the runway. With said lever 11 is connected a rod 16, provided with a retracting-spring 17, said rod provided with a spring-arm 18, projecting at its lower end into an elongated slot 19 in the coin-runway. The spring-arm 18 may be united with the rod 16 by a collar 20 and set-screw 21, so that it may be readily adjusted upon the rod, as may be desired. The lower end of the spring 18 is formed with a foot 22, beveled on its upper surface, as indicated in Fig. 5, and whereby when the rod 16 is elevated the beveled face of the spring contacting with the upper wall of the slot 19 will be retracted out of the path of the coin *y*. When, however, the rod 16 is forced downward by the operation of the lever 11, the foot of the spring by the tension of the spring will be projected into the path of the runway and upon the top of the coin *y*, so that upon the further descent of the rod 16 the spring-arm 18 will force the coin downward, thereby retracting the pawl *u*, permitting the coin to descend past the arm *z* and dropping into a coin-receptacle 23. When the pawl has been retracted from the rack-bar *j*, a blow upon the pad *q* will elevate the rack-bar, together with the dial-rod *k*, as hereinbefore described. The rod 16 may be guided in its reciprocation by being sleeved through the case *a* and through a bracket 24, toward the lower end thereof, and an additional retracting-spring 25 may also be preferably employed, with means for adjusting the tension of the spring 23, as a collar 26 and set-screw 27. The spring 17 may have its tension adjusted also by means of a collar 28 and set-screw 29.

The dial may be of any suitable construction. As shown, it embodies a frame 30, in which is journaled a ratchet-wheel 31, as

upon a shaft 32. Engaged upon said shaft is an arm 33. A pawl 34 engages the ratchet-wheel 31, upon the shaft of which is a releasing-pawl 35. With the upper end of the dial-rod is engaged a yoke 36, reciprocatory through the framework 30 and provided with a dog 37, arranged to strike the releasing-pawl 35 to release the pawl 34 from the ratchet-wheel. The yoke 36 is provided with a shoulder 38 to contact with the arm 33 to oscillate the shaft 32, said shaft extending through the dial-plate 39 and provided with a customary indicator 42, to traverse the dial-plate, and with a customary spring 43. A spring 40 retracts the pawl 34 into engagement with the ratchet-wheel 31. The actuation of the indicator will now be understood. A coin being inserted into the runway and the lever 11 being actuated, the pawl *u* is withdrawn from engagement with the rack-bar *j*. A blow upon the pad *b* operates the bell-crank *e* and mechanism related therewith, as above described, to elevate the rack-bar *j* and the dial-rod, the elevation of the dial-rod releasing the pawl 34 by contact with the pawl 35, and contacting with the arm 33 rotates the shaft 32 of the dial, causing the indicator to traverse the dial-plate to indicate the force of the blow struck upon the pad.

Instead of a dial any other registering or indicating device may be employed.

It will be seen that the levers *e* and *g*, with their connecting-rods *i*, form a train of levers for the accomplishment of the desired end.

What we claim as our invention is—

1. In a striking-machine, an indicating device, a rod to actuate said device, a locking device to lock said rod, mechanism to disengage said locking device, a bell-crank lever, an additional lever to actuate said rod, a connecting-rod connecting said levers, and means for actuating said levers.

2. In a striking-machine, an indicating device, a reciprocatory rack-bar connected with said device, a pawl to engage the rack-bar, mechanism to disengage the pawl from the rack-bar, a bell-crank lever, an additional lever to actuate the rack-bar, a connecting-rod connecting said levers, and means for actuating said levers.

3. In a striking-machine, an indicating device, a rod to actuate said device, a locking device to lock said rod, mechanism to disengage the locking device, a bell-crank lever, an additional lever to actuate said rod, a connecting-rod connecting said levers, and a striking-pad to actuate said levers.

4. In a striking-machine, an indicating device, a rod to actuate said device, a locking device to lock said rod, mechanism to disengage the locking device, a bell-crank lever, an additional lever to actuate said rod, a connecting-rod connecting said levers, a striking-pad, means engaging said pad with said levers to actuate the levers, and means to retract said pad.

5. In a striking-machine, an indicating device, mechanism for actuating said device, a locking device to lock said mechanism, levers to actuate said mechanism, mechanism to disengage the locking device, a striking-pad, spring-actuated rods supporting said pad, and an additional spring-actuated rod to actuate said levers when a blow is struck upon the pad.

6. In a striking-machine, an indicating device, a rod to actuate said device, a locking device to lock said rod, mechanism to disengage said locking device, a bell-crank lever, an additional lever to actuate said rod when the locking device is released therefrom, a connecting-rod connecting said levers, and means for actuating said levers.

7. In a striking-machine, an indicating device, a rack-bar, a rod connecting the rack-bar with the indicating device, means to cushion said rod, a locking-pawl to engage the rack-bar, levers to actuate the rack-bar, mechanism to retract the pawl, and a yielding pad to actuate said levers.

8. In a striking-machine, an indicating device, a rack-bar, a rod connecting the rack-bar with the indicating device, means to cushion said rod, a locking-pawl to engage the rack-bar, a bell-crank lever, an additional lever to actuate the rack-bar, a connecting-rod connecting said levers, mechanism to retract the pawl, and a yielding device to actuate said levers.

9. In a striking-machine, the combination of a case, an upright supporting-plate, a train of levers engaged with said plate, an indicating device, a rack-bar to actuate said device actuated by said levers, means to actuate said levers, a locking device to engage the rack-bar, and mechanism to retract the locking device.

10. In a striking-machine, an indicating device, a rack-bar, an indicator-actuating rod carried by said bar, means to cushion the said rod, a pawl to engage the rack-bar, mechanism to retract said pawl, a train of levers to

actuate the rack-bar, and a striking-pad to actuate said levers.

11. In a striking-machine, an indicating device, a rack-bar, an indicator-actuating rod carried by said rack-bar made in two parts, a spring intervening between the adjacent ends of said rod, a housing for the adjacent ends of said rods and the intervening spring, a locking device, mechanism to actuate the locking device, a striking-pad, and means actuated by said pad to elevate the rack-bar.

12. In a striking-machine, the combination of a case, an indicating device, a bell-crank lever, an additional lever to actuate said device, a supporting-plate within the case with which said levers are engaged, a striking-pad having a yielding engagement with said case to actuate said levers, a locking device, and mechanism to actuate the locking device.

13. In a striking mechanism, the combination of a case, an indicating device, a rack-bar, an indicator-actuating rod carried by said bar, a locking device to engage the rack-bar, mechanism to actuate the locking device, a lever to actuate the rack-bar, a bell-crank lever to actuate the first-named lever, and a striking-pad to actuate said bell-crank lever.

14. In a striking-machine, the combination of a case, a supporting-plate, a train of levers engaged with said plate, an indicating device, a rack-bar to actuate said device actuated by said levers, means to actuate said levers, a locking device to engage the rack-bar, mechanism to retract the locking device, said indicating device provided with a dial, a ratchet-wheel, and an arm upon the shaft of the ratchet-wheel actuated by the elevation of the rack-bar.

In testimony whereof we sign this specification in the presence of two witnesses.

CHARLES J. THENAN.
WALTER A. NOURSE.

Witnesses:

D. J. GILLAM,
W. G. TITUS.