

S. F. PAYNE.
Registers for Machinery.

No. 144,861.

Patented Nov. 25, 1873.

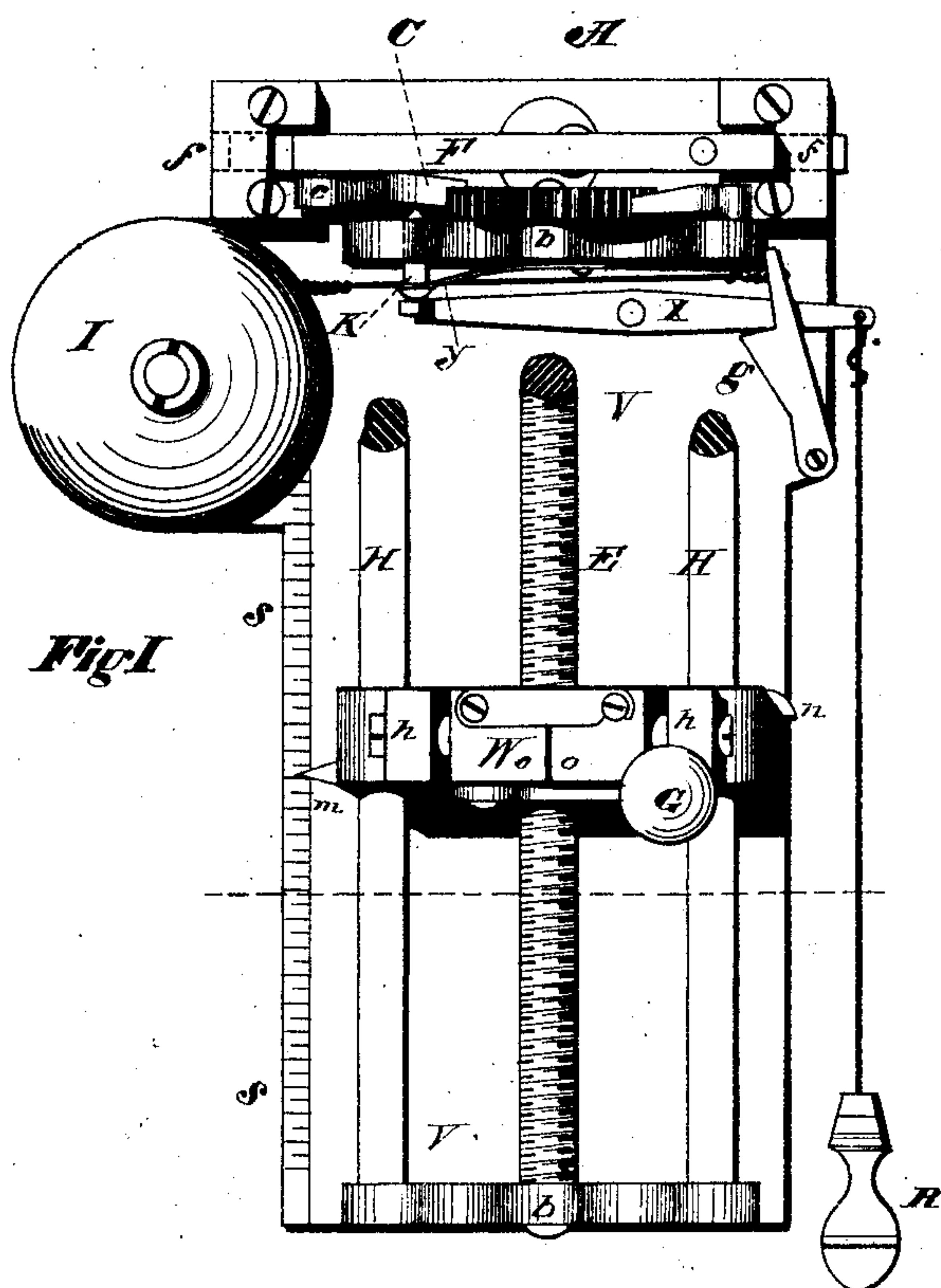


Fig I

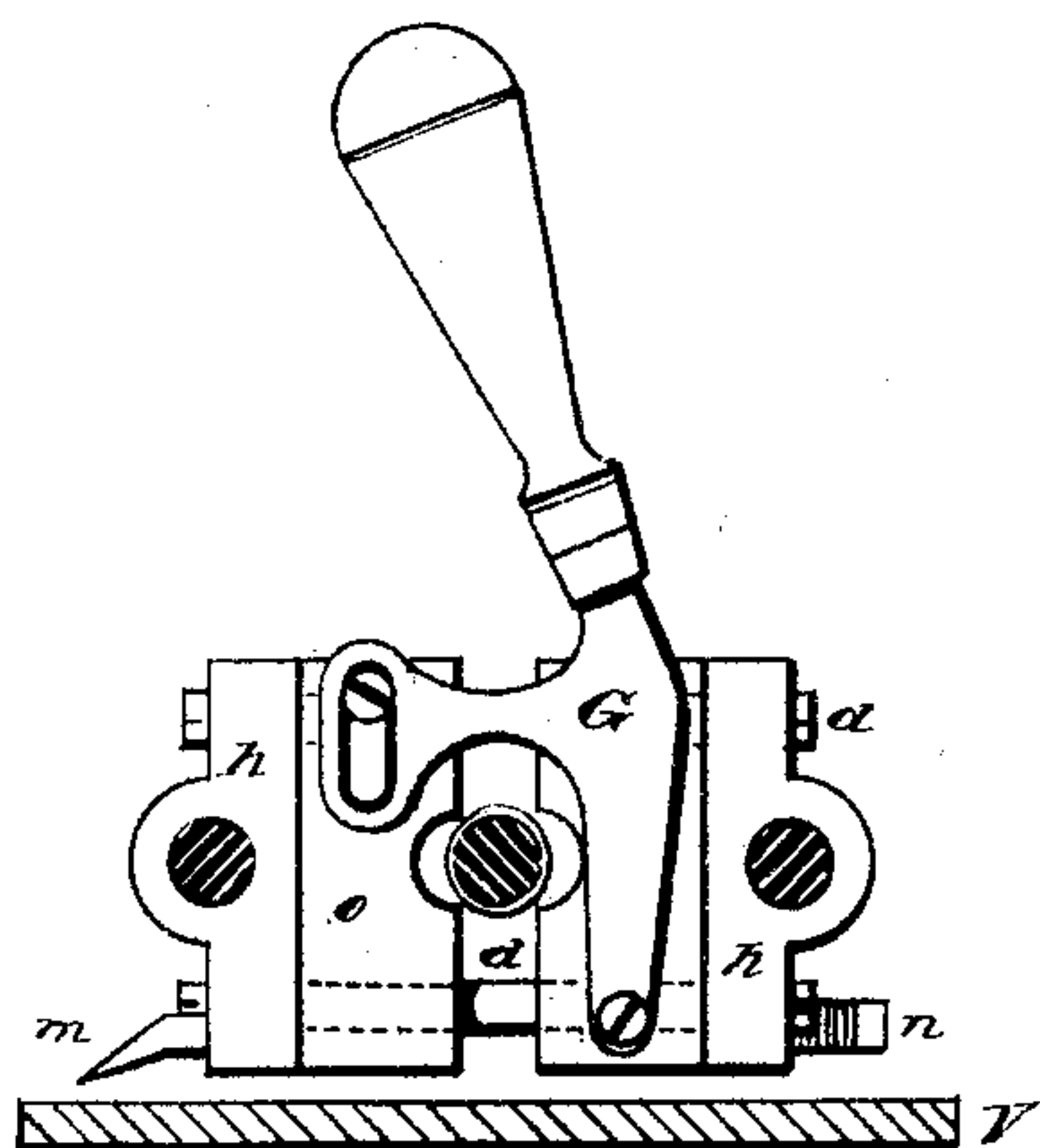


Fig III.

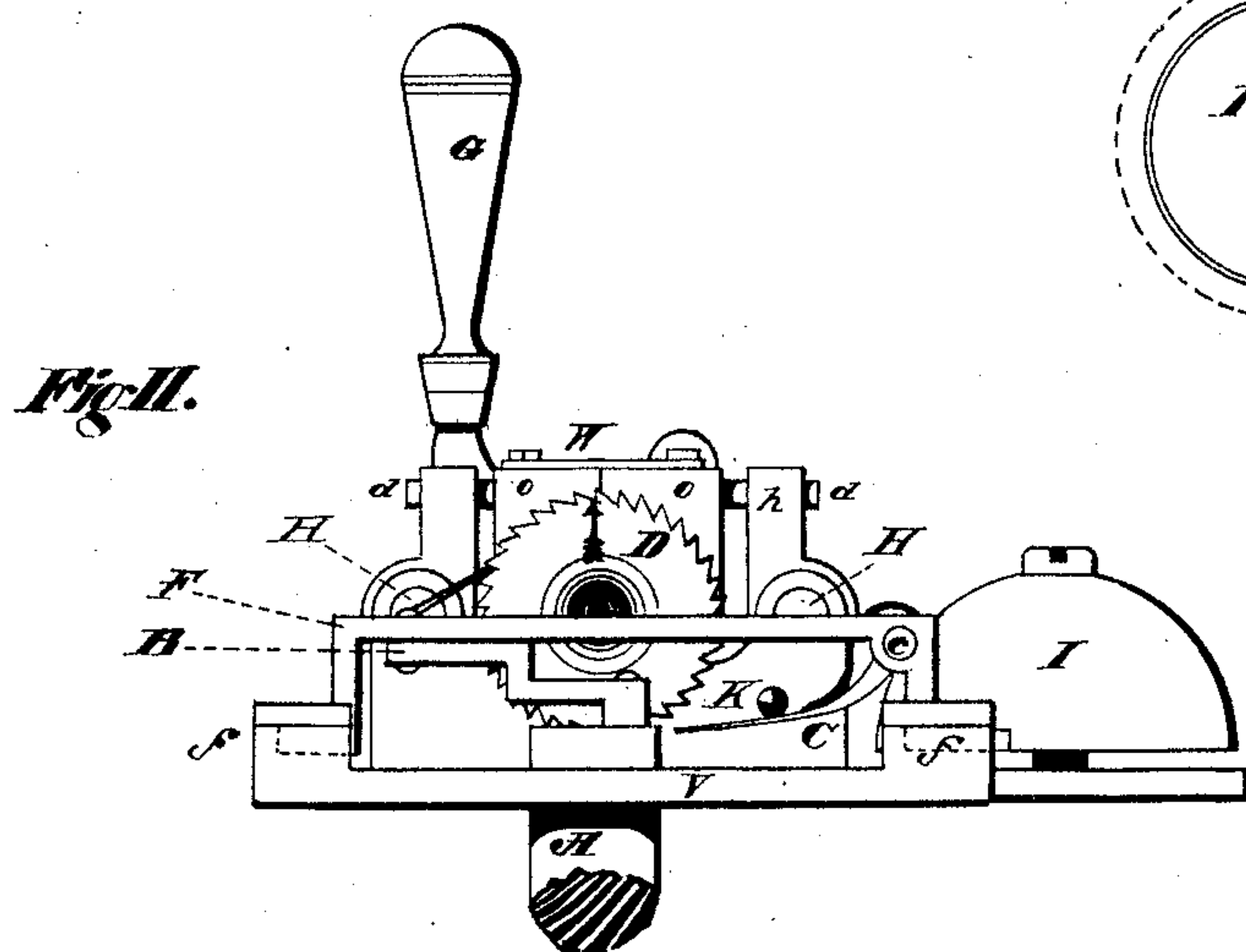


Fig II.

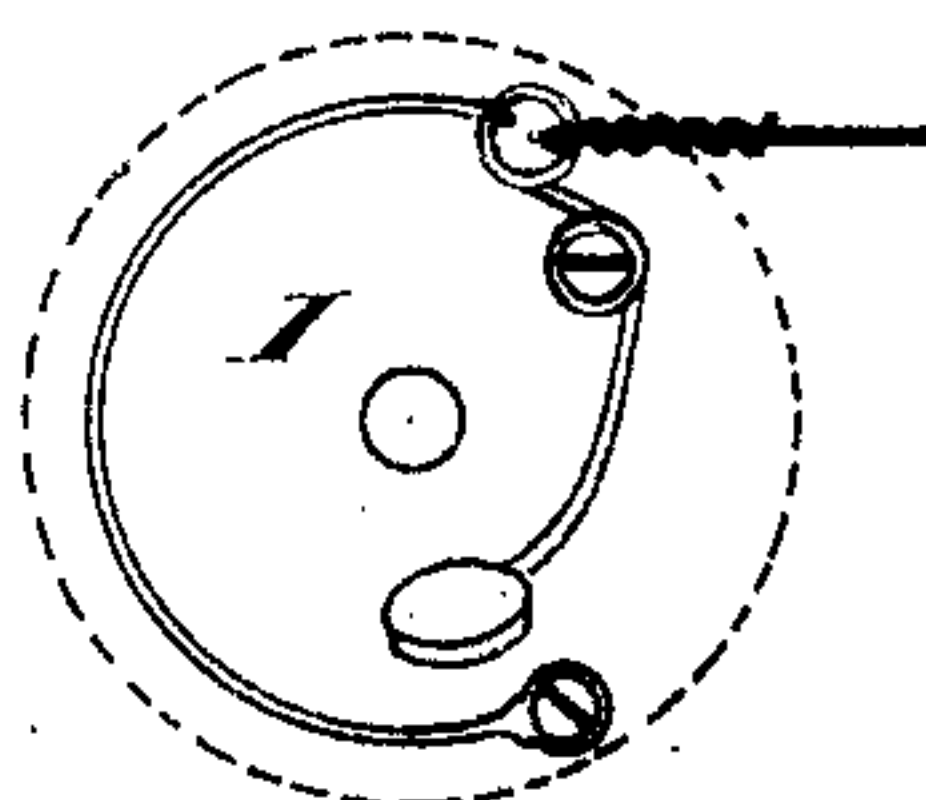


Fig IV.

Witnesses
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UNITED STATES PATENT OFFICE.

SHELDEN F. PAYNE, OF CHICOPEE, MASSACHUSETTS, ASSIGNOR TO GAY-LORD MANUFACTURING COMPANY, OF SAME PLACE.

IMPROVEMENT IN REGISTERS FOR MACHINERY.

Specification forming part of Letters Patent No. **144,861**, dated November 25, 1873; application filed July 23, 1873.

To all whom it may concern:

Be it known that I, SHELDEN F. PAYNE, of Chicopee, Hampden county, State of Massachusetts, have invented an Improved Counting-Machine, of which the following is a specification:

My invention consists of a combination of devices arranged in small space, by which a record of mechanical motions may be automatically kept, and by which a required number may be set off, and upon the completion of the number an alarm may be sounded and the mechanism stopped.

In the drawings, Figure I is a plan view. Fig. II is an end view. Fig. III is a cross-section on line *xy*, Fig. I; and Fig. IV, a detail view.

This machine, as illustrated in the drawings, is more particularly adapted for use in connection with a punching-press, and for the purpose of indicating when a certain number of pieces shall have been punched out, and, as shown in Fig. I, it would be attached to the side of the frame of the press, and *A* would represent one end of the crank-shaft. From the end of shaft *A* the crank-arm *B* connects with the sliding bar *F*, the ends of which are suitably guided at *f f*, so that the revolution of shaft *A* imparts a reciprocating movement to the bar *F*. Hung on bar *F* at *c* is the spring-pawl *C*, which engages, when not thrown out from the ratchet-wheel *D*, upon the end of the feed-screw *E*, so that one revolution of the shaft *A* and one reciprocating movement of bar *F* through the pawl *C* revolves the wheel *D* the distance represented by one of its ratchet-teeth. The feed-screw *E* is supported from the plate *V* at both ends in the bearings *b b*, and parallel bars *H H* on each side of it assist in guiding and supporting the feed-nut *W*. The nut *W* is constructed in four parts, its sides *h h* being sleeved upon the rods *H H*, and the halves *o o* of the nut proper being held and moving upon the pins *d d* extending through the nut *W*, parallel to each other, above and below the feed-screw *E*. The angle-lever *G* has one arm hinged to one section, *o*, and the other provided with a slot, in which a pin of the other section *o* plays, so that on opening or closing the nut, one section, in finding a bearing either against the side *h*

or screw *E*, affords a fulcrum to enable the lever to move the other. The nut *W* when opened and the screw released can be slid upon the rods *H H* to any desired point. Upon one side of the nut is arranged the pointer *m*, and upon the other the spur *n*.

Now it is evident that the rotation of the ratchet *D*, by the reciprocating pawl *C*, will cause the nut *W* to be moved upon the feed-screw *E*, and the pointer *m* to record such movement upon the scale *s*; and also that the proportion existing between the number of teeth upon the ratchet and the pitch of the feed-screw determines the degree of movement of the pointer, to which, of course, the scale must be proportioned. The number of ratchet-teeth upon the wheel, and the pitch of the screw, may bear such relation to each other that a fine scale occupying small space will be sufficient to keep the account.

That it may be known when so many revolutions of the shaft *A*, or reciprocations of bar *F* have been made, as has been set off on the scale, I connect with the spring-striker of the bell *I* the hinged piece *g*, which presents an inclined surface, as seen at Fig. I, in the track of the spur *n* for the latter to come in contact with and push back until the movement of the nut shall carry the spur past its shoulder when it is released and the alarm sounded, and the pointer *m* will stand at *o* on the scale. Should the revolution of shaft *A* be continued, a further movement of the feed-nut will bring its face against the pin *K* supported in an upright from the plate *V*, and push it so that its point will pass over the spring-pawl *C* to disengage and hold it from the ratchet-wheel *D*, and consequently prevent the motion of the reciprocating bar from being communicated to the wheel. A spring, *y*, returns this pin to the position shown in Fig. I when pressure is removed from it; and, that this pin may be projected at any time over the pawl to stop the feed, I hinge upon the plate *V* the lever *X*, and provide one end with a pull-handle, *R*, and bring the other against the head of the screw. This I find very convenient when an imperfect piece of work is punched out, which it is not desirable to count with the rest, as the handle *R* may be then pulled until one piece shall have been punched by the press without

having been counted, to compensate for the imperfect piece counted but thrown aside.

Now, having described my invention, what I claim is—

1. In combination with shaft H with its crank-arm B, the sliding reciprocating bar F, for the purpose of diverting the rotation of the shaft A in either direction through pawl and ratchet C D to screw E, substantially as shown and described.

2. In combination with feed-screw E and with rods H H, the feed-nut W having the sides *h h*, sections *o o*, supports *d d*, and operating-lever G, substantially as shown and described.

3. In combination with the feed-nut W, the pointer *m* and spur *n*, as shown and described.

4. In combination with the feed-nut W having a suitable spur or projection, *n*, the hinged lever *g*, and alarm-bell I, when constructed and arranged substantially in the manner and for the purpose as set forth.

5. In combination with the feed-nut W and with the pawl C, the pin K with its spring *y*, substantially as shown and described.

6. In combination with the pin K, the lever X with suitable handle R, substantially as shown and described.

SHELDEN F. PAYNE.

Witnesses:

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