

M. Peck,

Drop Hammer,

N<sup>o</sup> 17,411.

Patented May 26, 1857.

Fig. 1.

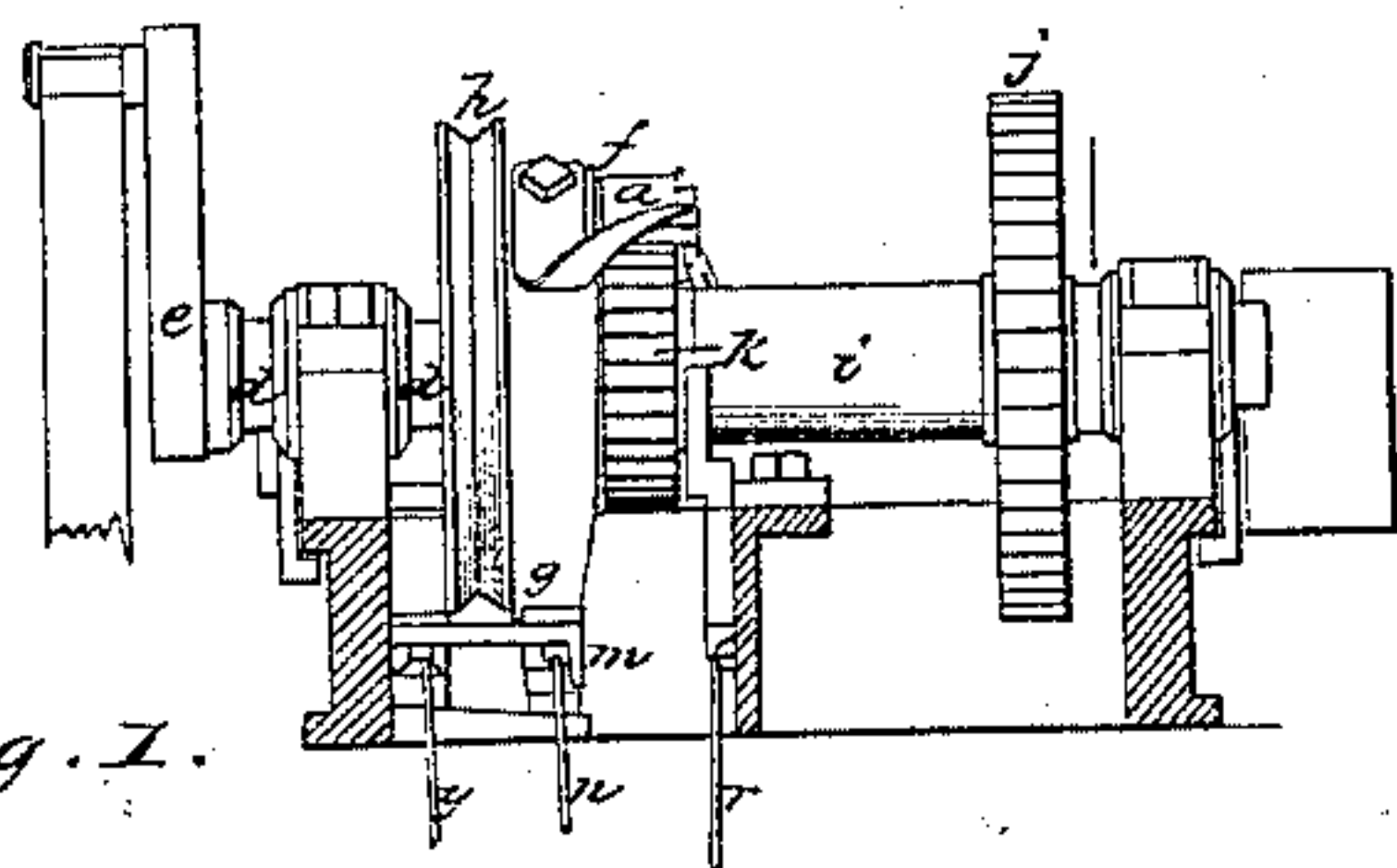


Fig. 2.

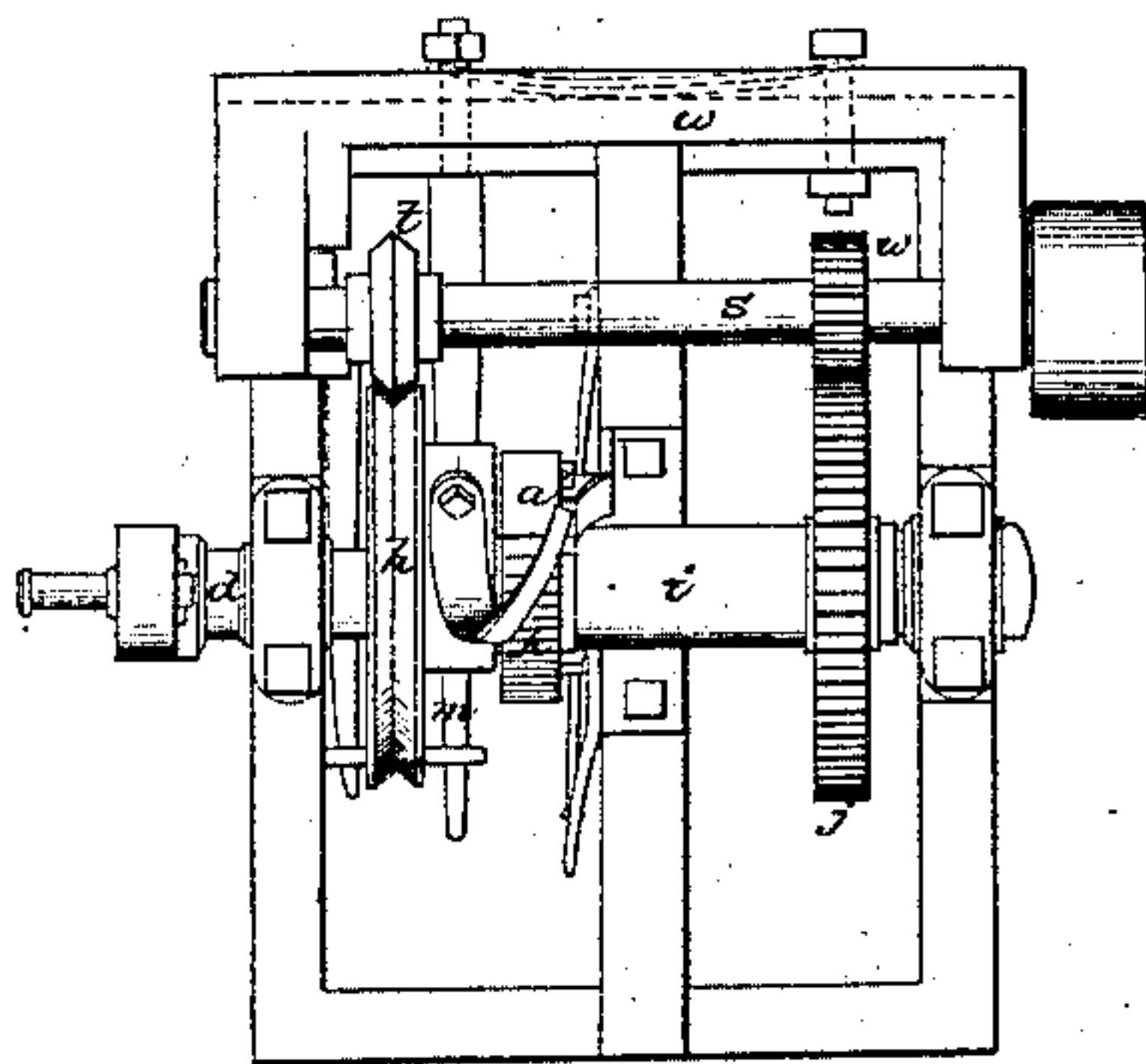


Fig. 3.

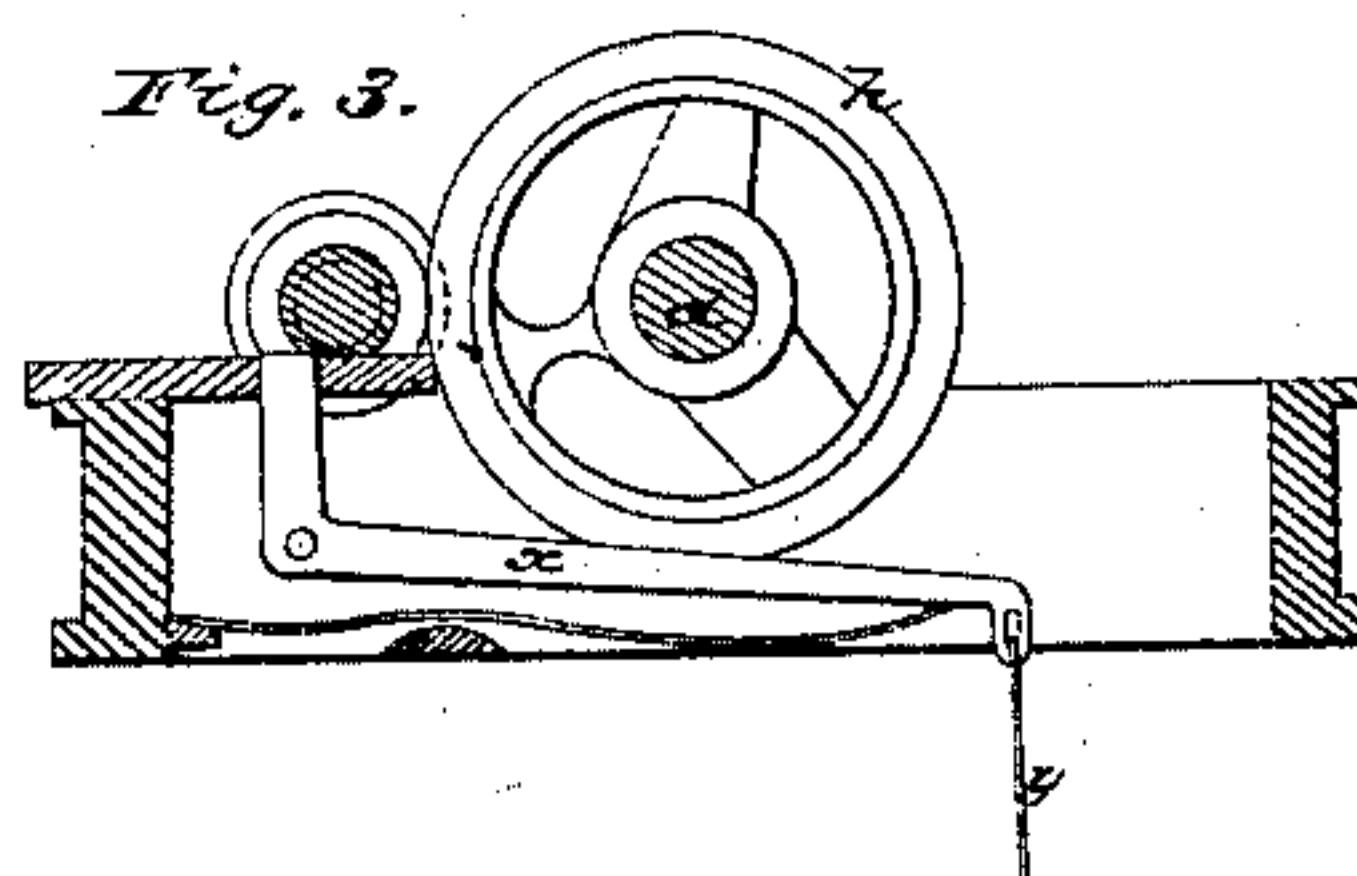


Fig. 4.

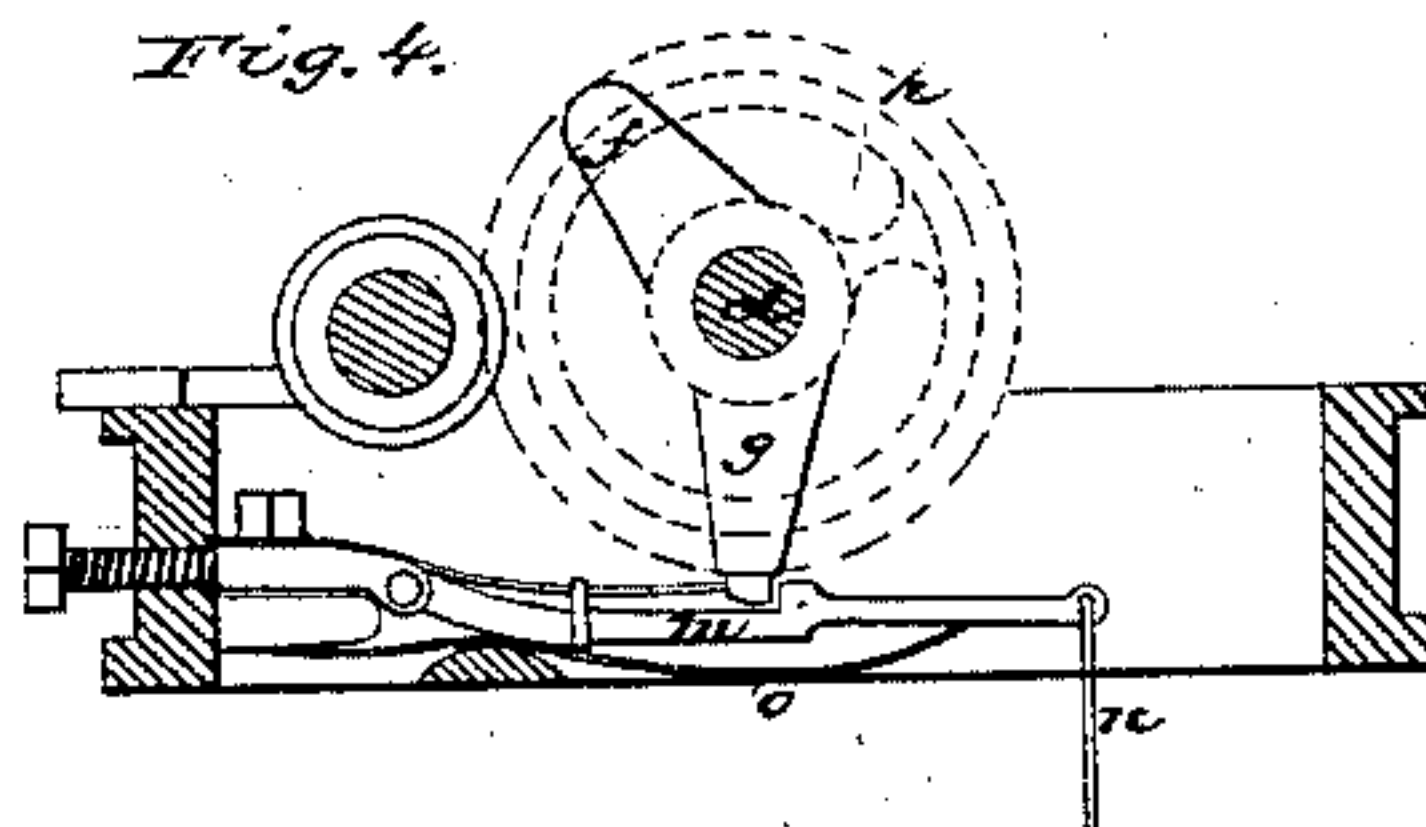


Fig. 5.

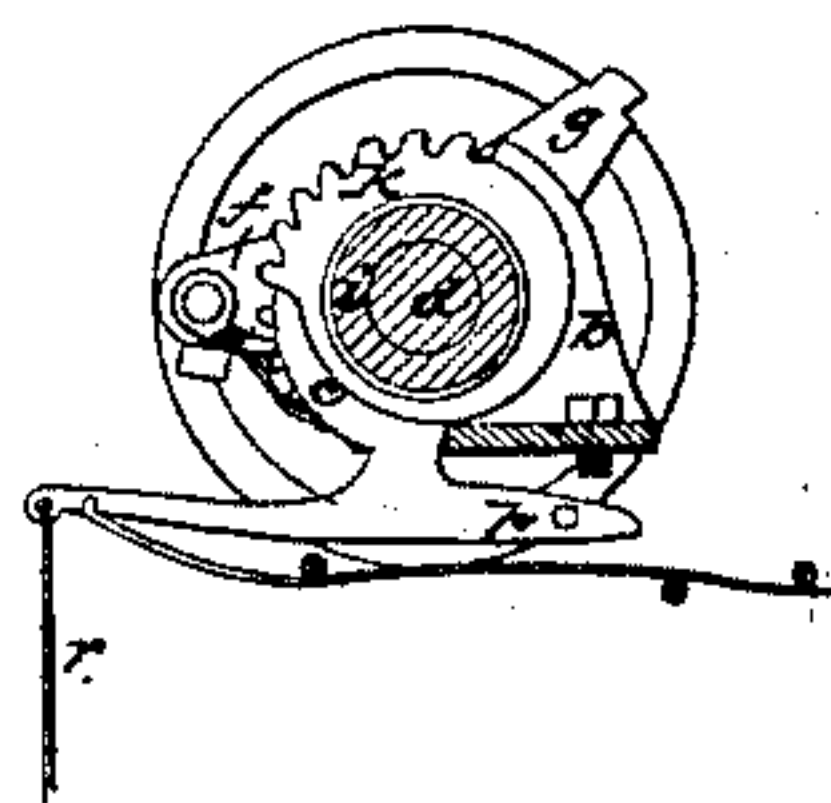
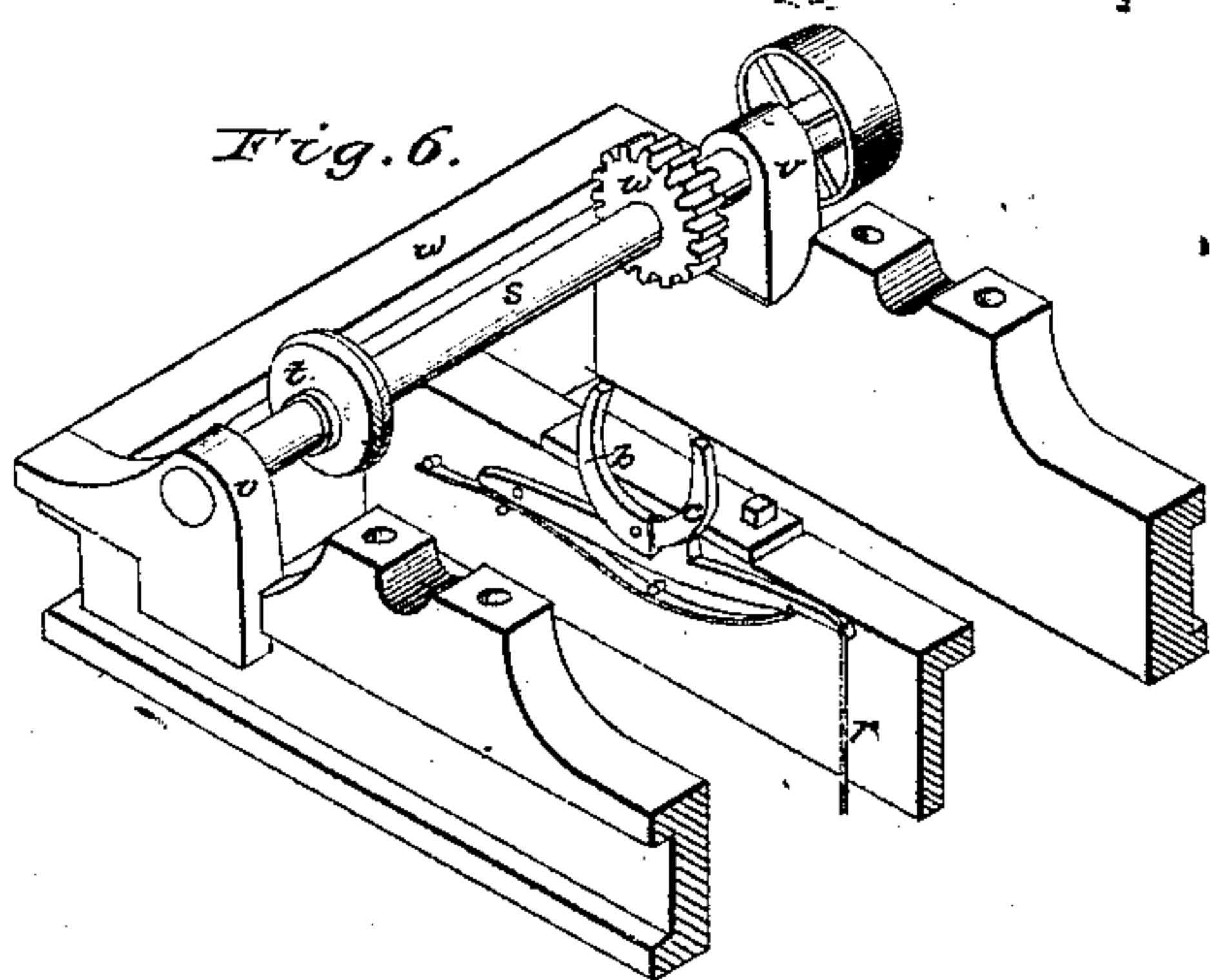


Fig. 6.





# UNITED STATES PATENT OFFICE.

MILO PECK, OF NEW HAVEN, CONNECTICUT.

## DROP-PRESS.

Specification of Letters Patent No. 17,411, dated May 26, 1857.

*To all whom it may concern:*

Be it known that I, MILO PECK, of the town and county of New Haven, in the State of Connecticut, have invented a new and useful Improvement in Drop-Presses; and I do hereby declare that the following is a clear, full, and exact description of the construction and mode of operation thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents the working portion of the machine complete without the frame, and with the drop raised. Fig. 2 is a vertical view of the machinery for raising and controlling the drop—the dotted lines showing the position of the spring operating on the catch by which the drop is locked up. Fig. 3 shows the operation of the male and female V wheels by which the force of the drop is controlled. Fig. 4 shows the trip or lock by which the drop is held when lifted to its greatest extent. Fig. 5 shows the operation of the front guard ring *c* preventing the dog *a* from lifting the drop, also the back guard ring *b* over which the dog *a* runs as the drop falls. Fig. 6 shows the portion of the male V wheel and of the guard rings *b* and *c* regulating the action of the dog *a*.

I will now describe the construction and mode of operation of my improvement referring to the Letters Patent granted to me November 25, A. D. 1851, No. 8548, for a further description of my mode of raising and letting fall the drop.

The whole machinery is placed in a frame sufficiently heavy to prevent jarring and trembling, and the following is the manner of operating the same. Upon the sweep shaft *d* the lifting crank *e*, ratchet sweep *f*, locking sweep *g* and female V wheel *h* are firmly fastened. The hub *i* carrying the driving gear wheel and the ratchet wheel *k*, runs loose upon the sweep shaft *d*. To the ratchet sweep *f* the dog *a* is attached, as shown, playing upon the ratchet wheel *k*, on the loose hub *i*. Directly under the locking sweep *g* the lock or catch *m* is placed as shown in Fig. 4. The lock *m* is operated by the foot of the workman by the rod *n* and the treadle to which it is attached, and is pressed toward the locking sweep *g* by the spring *o*. The back guard ring *b*, Fig. 5, is fastened to the frame in such a manner and position as to trip the dog *a* out of the

ratchet wheel *k* as soon as the drop is fully raised and the lifting crank *e* just past its center.

The operation of the machine as far as described, is as follows. The driving gear wheel being set in motion in the direction shown in Fig. 1, with the drop resting on the anvil, the dog *a* catches into the ratchet wheel *k*, thus locking the loose hub *i* and the sweep shaft *d* together, and as the driving wheel revolves the sweep shaft is carried with it until the drop is raised to its highest point where just as the lifting crank passes its center, the locking sweep *g* is caught and held by the lock *m*. At the same time, the dog *a* is tripped out of the ratchet by the back guard ring *b*, so that the drop is at this instant held suspended, the hub ratchet wheel and driving gear revolving on the sweep shaft. As soon as the foot of the workman is applied to the treadle, operating upon the lock, the dog runs loose over the back guard ring, the drop falls with its whole force, and as soon as it drops the ratchet is again caught by the dog, and the operation repeated. It will be seen that if the lock is held back so as not to catch, the blows of the drop will be repeated as fast as the shaft can be carried.

The machinery, the operation of which has so far been described has already been secured to me by the Letters Patent alluded to, and I now proceed to describe the improvements for which I now claim Letters Patent.

Directly in front of the back guard ring *b* is the movable guard ring *c* plainly shown in Figs. 5 and 6. This guard ring is movable on the pivot *p* by means of the rod *r* and the treadle attached thereto. When not operated upon, it lies within the teeth of the ratchet wheel *k* but when the guard ring *c* is drawn outward by the treadle, operating by the rod *r* upon it, the dog is thrown out of the ratchet at the bottom, and as the lifting crank revolves the drop remains upon the anvil. This power of the machine is very important in all cases where it is desirable that the drop should rest for a time on the work before being raised, and by means of the movable guard ring, the time for which the drop may rest upon the work is regulated at pleasure.

I have described a female V wheel *h* fastened upon the sweep shaft *d*. Nearly parallel with the sweep shaft *d* is the driving



shaft *s* on which is fastened the male V wheel *t*, Fig. 6, and the driving wheel *u*. This shaft revolves in boxes *v v* placed in the frame *w* which frame is movable in a working machine about a quarter of an inch by means of the lever *x*, Fig. 3, and operated by the rod *y* and treadle thereto attached. The operation of these V wheels in this machine is as follows. When the male wheel is pressed against the female wheel, the two shafts *d* and *s* are locked together by the friction and the fall of the drop regulated so that it is made to descend as slowly as the lifting sweep revolves. The effect of the V wheels upon the machine is thus to control entirely the force of the drop, which may be permitted to fall with the full force of its gravity or so held back as to descend only as the sweep revolves, or it may be permitted to fall at any intermediate point.

I am aware that the V wheels by themselves are common property, and that a patent has been granted to Henry Bushnell for operating a drop by means of V wheels with a section of one wheel removed so as to lift

the drop by means of the V wheels and permit it to fall with its full force, and I do not claim them when used in any such manner.

What I do claim as my invention and desire to secure by Letters Patent is—

1. The combination of the male and female V wheels with the sweep shaft *d*, the ratchet wheel *k*, the dog *a* and the guard ring *b*, or their equivalents, so that the fall of the drop can be regulated and controlled, substantially in the manner and for the purpose herein set forth.

2. I also claim the movable guard ring *c* in combination with the sweep shaft *d*, the ratchet wheel *k* and the dog *a*, or their equivalents by means of which the time the drop shall remain upon the anvil can be regulated and controlled, substantially in the manner and for the purpose herein set forth.

MILO PECK.

In presence of—

R. P. MEADE,  
LUCIUS G. PECK.