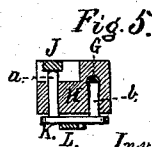
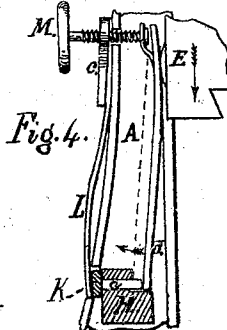
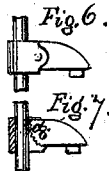
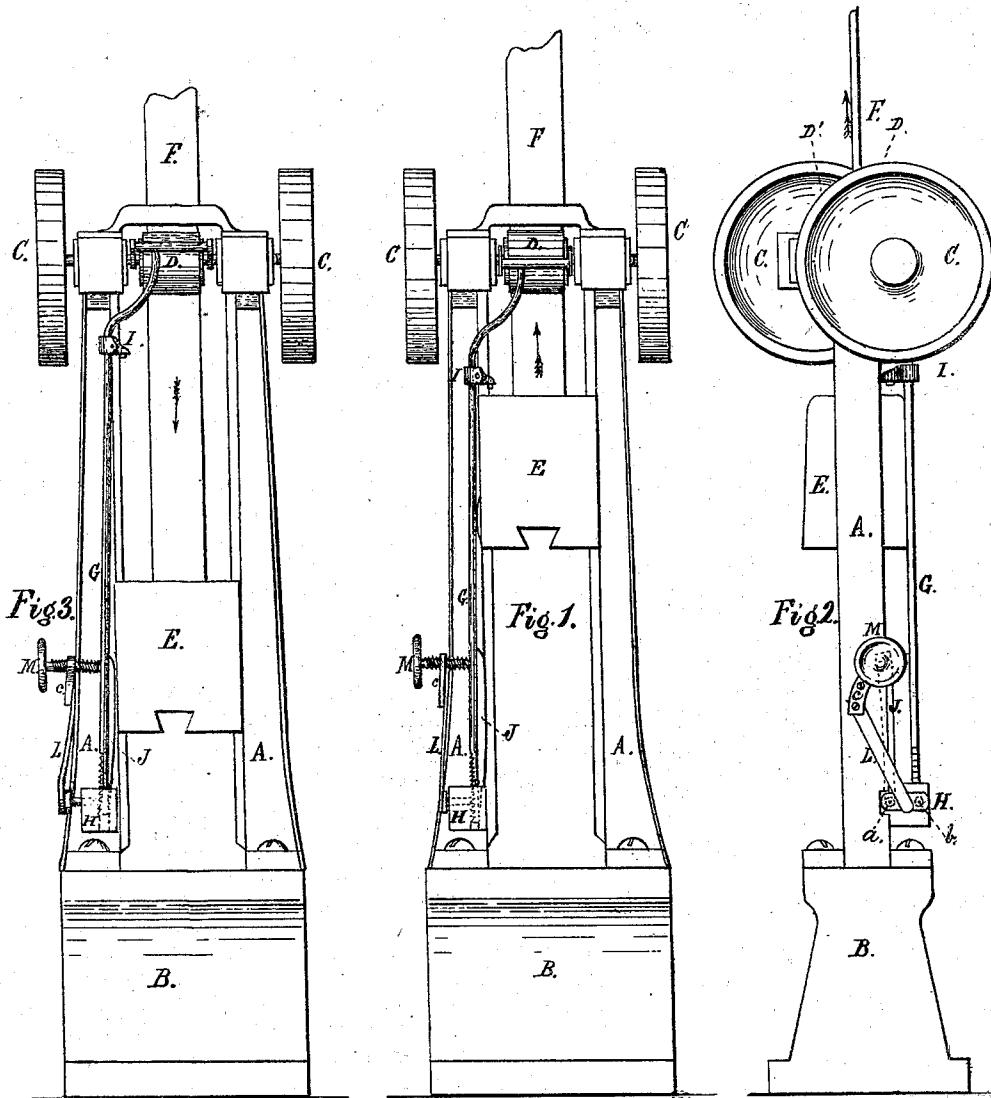


T. GAILLARD.

Improvement in Drop Presses.

No. 125,386.

Patented April 9, 1872.



Witnesses.
Edward H. Johnson
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UNITED STATES PATENT OFFICE.

TACITUS GAILLARD, OF BROOKLYN, ASSIGNOR TO EDWARD W. MERRILL
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IMPROVEMENT IN DROP-PRESSES.

Specification forming part of Letters Patent No. 125,386, dated April 9, 1872.

Specification describing Improvements in Drop-Presses, invented by TACITUS GAILLARD, of Brooklyn, in the county of Kings and State of New York.

Nature and Objects of the Invention.

My invention relates to improvements in the construction of drop-presses; and consists in certain combinations and arrangements of parts whereby the operation of the press is placed more completely under the control of the workman, and the force of the blows governed and regulated in a perfect manner, as will be fully set forth hereafter.

Description of the Drawing.

Figure 1 is a front elevation of a drop-press with my improvements applied thereto, showing the drop as ascending. Fig. 2 is a side elevation of the same. Fig. 3 is a front elevation, showing the drop in the act of descending. Fig. 4 is an enlarged view in detail. Fig. 5 is a horizontal sectional view through the line *xy*, Fig. 4. Figs. 6 and 7 are views in detail of the adjustable stop I.

General Description.

The press shown in the drawing is the same as those now in general use constructed under the Letters Patent to W. H. Waters dated September 1, 1867, with the addition of my improvement. The drop E slides between the guides A and is lifted by the action of the lifting-rollers D D' on the rod or bar F secured to the drop. The rollers are actuated by the pulleys C, and revolve in opposite directions and in contact with the bar F between them. One of these rollers D is held in eccentric bearings connected with and operated by the vertical rod G. The drop E, in rising, strikes against the adjustable stop I, lifts the rod G, and causes it to draw the roller D away from the bar F, so that the drop is allowed to fall. The distance of the fall of the drop is regulated by the stop I. The higher the drop rises before striking against the stop the greater will be the velocity and the force of the blow. In using these presses, however, it is often necessary to graduate the blows of the drop, and for this purpose the attachment represented in detail in Figs. 4 and 5 is arranged

and operated as follows: A small block, H, is secured to the side of the upright A, under the lower end of the rod G, and has a vertical hole or slot through it in which the end of the rod slides. It has also two horizontal holes or slots, in which the pins *a b* of the catch K work. The lower end of the rod G has a series of ratchet-teeth or notches cut in it, with which the pin *b* engages, so that when the catch K is pressed in the pin *b* will arrest the motion of the rod and hold it up by engaging with the ratchet-teeth on its end. The catch K is held in against the block H, and caused to hold the rod G by the spring L, and the movement of the catch outward to release the rod is produced by the action of the curved lever J. The upper end of this curved lever is attached by a swivel-joint or other means to the horizontal screw M, held in the bearing *c* upon the side of the upright frame A, and the lower end rests against the end of the pin *a* of the catch K. Any pressure, therefore, against this lever J, which turns upon the end of the screw M as a fulcrum, will throw the catch K outward, and release the rod G and allow it to drop. The required pressure upon the curved lever is produced by the projecting cam-surface upon the side of the drop E. As the drop falls this surface strikes against the lever and releases the catch K. As the lever J is made of a curved shape the drop in its descent comes in contact with the side of the lever only at one point; but as its fulcrum or the end on which it turns is adjustable by means of the screw *m* the point of contact can be varied by changing the position of the curved lever with reference to the line of motion of the cam-surface on the side of the drop, thus causing the drop to strike against the lever at any given point in its length. The catch K can, therefore, be released, and the descent of the drop arrested sooner or later by moving the upper end of the curved lever in or out by the screw *m*, and changing the position of the touching point of the curve with the drop E either higher or lower. The force of the blows by this means is quickly and accurately adjusted. The adjustable stop I is shown in detail in Figs. 6 and 7. It is held in place on the rod G by virtue of the shape of its inner face *d*, which bites upon the rod as the outer

end of the stop is struck upward and grips the rod all the firmer by the action of the drop in striking against the stop. This is a great advantage over the ordinary stop held on the rod by a set-screw, as the drop in striking against it to lift the rod gradually causes the screw to work loose and the stop to slip on the rod.

The parts thus arranged operate in the following manner: The action of the rollers D D' upon the bar F lifts the drop E and causes it to strike against the stop I. This raises the rod G and allows the drop to fall by drawing the roller D away from the surface of the bar F. The rod G, after being raised, is held up during the time the drop is falling by the pin b of the catch K, which continues to act until the cam-surface on the side of the drop comes in contact with the curved lever J and presses it in against the pin a of the catch. This movement of the lever releases the catch and allows

the rod to drop and throw the roller D again in contact with the bar F and cause the rollers to lift the drop for the next blow.

Claims.

I claim as my invention—

1. The improvement in drop-presses herein described, consisting of the curved lever J, catch K, and screw M, combined and operating with the rod G, substantially in the manner described and specified.

2. The combination, with the hammer E, lifting-rollers D D' and rod G', of the friction-stop I, for tripping the hammer, constructed and operating substantially as described and specified.

TACITUS GAILLARD.

Witnesses:

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