2 Sheets--Sheet 1.

F. A. PRATT.
Drop-Hammer.

No. 164,392. Patented June 15, 1875.

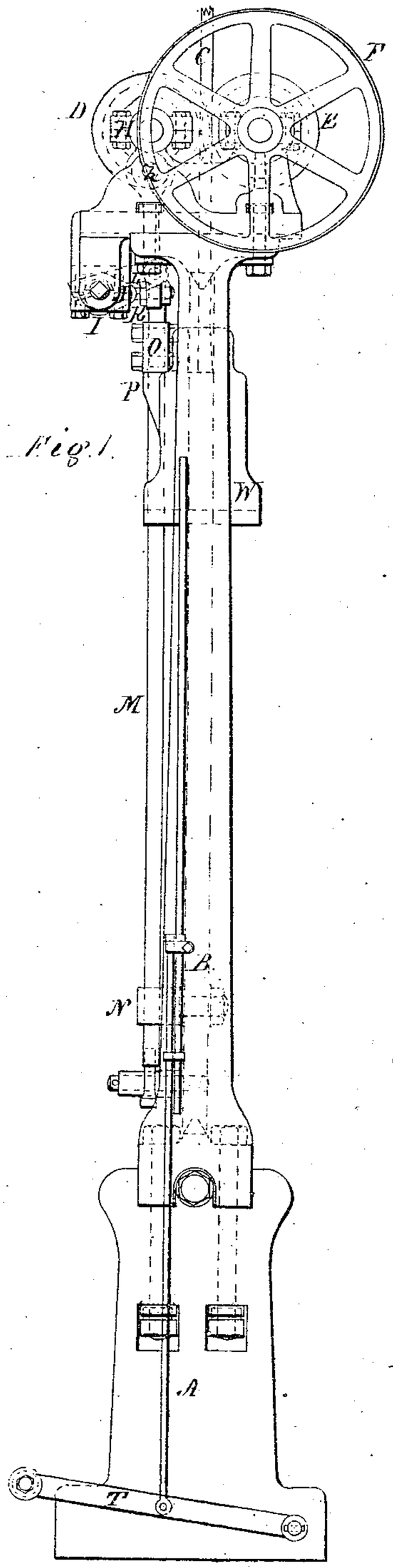

Fig. 1.

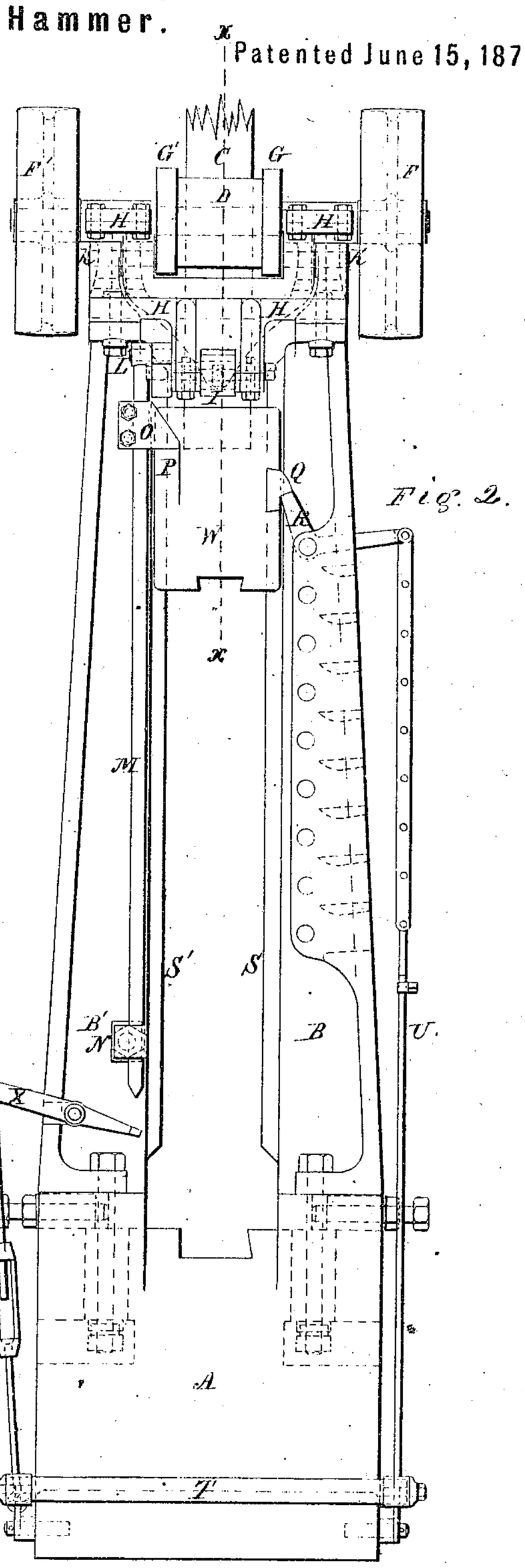

Fig. 2.

Witnesses;
Wm. Dell R. Curtis
J. L. Peters

Inventor;
Francis A. Pratt
by Theo. G. Ellis Attorney

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2 Sheets--Sheet 2.

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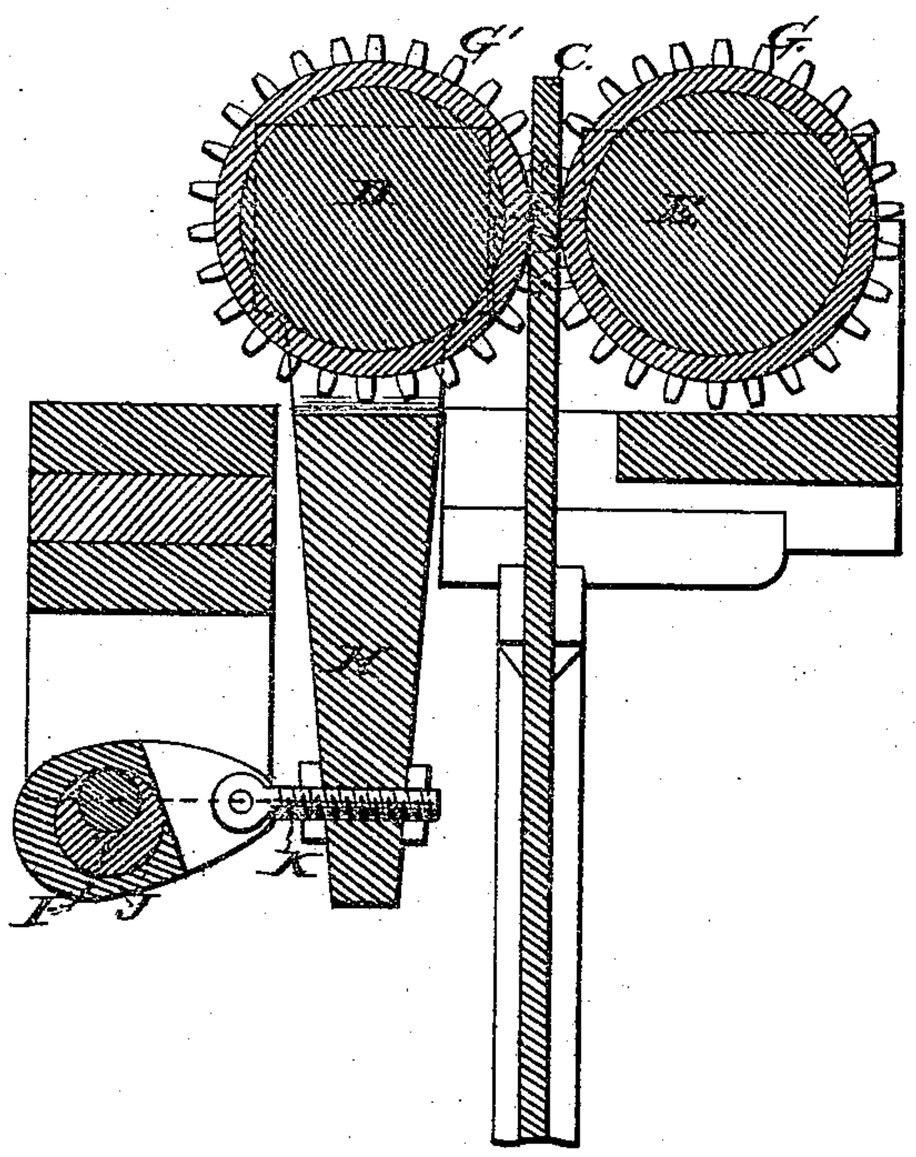
Fig. 3.



Witnesses:

Wendell R. Curtis.
J. J. Peters.

Inventor:

Francis A. Pratt
by Theo. G. Ellis Attorney.

UNITED STATES PATENT OFFICE.

FRANCIS A. PRATT, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE PRATT AND WHITNEY COMPANY, OF SAME PLACE.

IMPROVEMENT IN DROP-HAMMERS.

Specification forming part of Letters Patent No. **164,392**, dated June 15, 1875; application filed March 10, 1875.

To all whom it may concern:

Be it known that I, FRANCIS A. PRATT, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Drop-Hammers; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My invention relates to those drop-hammers in which the weight is raised by a belt or strip, usually of wood, which passes between rollers which gripe it to raise the weight or plunger, and release it to allow it to fall. This is usually done by placing one of the rollers upon an ecentric shaft, which is turned when the weight has been sufficiently raised.

My invention consists in placing the roller which is to be moved upon a rocking frame, and moving it back and forth by means of an independent eccentric acting upon the lower part of the rocking frame. This eccentric is turned by the rising weight, or by the treadle, when desired, in the manner that will be hereinafter specified.

Figure 1 is a side view of a drop-press having my improvements. Fig. 2 is a front view of the same. Fig. 3 is a section on the line *x x* of Fig. 2.

A is the anvil-block, which holds the die or object struck. B B′ are the posts, which support the working parts of the machine, and are furnished with ways S S′ upon their inner sides, upon which the weight W moves up and down. C is a flat wooden lifting-band, which is attached to the weight W, and passes between the rollers D and E, by which it is clasped when lifted. F F′ are driving-pulleys upon the shaft of the roller E, to give motion to the machine. The roller D is carried upon a rocking frame, H, and is connected with the roller E by means of the geared wheels G G′. The rocking frame H turns upon the pivots *h h′*, and has an arm extending downward which is acted upon by the eccentric I, which is connected with the lower end of the rocking frame by means of the connecting rod or strap J. This connecting-rod passes around the eccentric I at one end, and at the other is attached to a screw adjusting-bolt, K, which passes through the end of the rocking frame with a set-nut on each side. Upon the outer end of the shaft, which carries the eccentric I, is a lever or crank, L, to the outer end of which is attached the upright operating rod M. This rod is retained in a vertical position by passing through a slide, N, at the bottom. An adjustable dog, O, which can be set at any height and clamped to the rod, is secured in such a position that the lug P upon the weight strikes it in rising, and, by lifting it slightly, turns the eccentric I, swings the rocking frame H, draws back the roller D, and releases the weight, which is then free to fall. This it would do were it not for the lug Q, which catches upon the arm of the bent lever R, which serves as a pawl, and retains the weight in place. The longer arm of the bent lever R is connected to the treadle T by the rod U, so that by depressing the treadle the lever is withdrawn, and the weight is released and falls.

The rod U and post B of the frame are made with a series of holes for the pins of the lever R, so that this lever, as well as the dog O, can be set to release the weight at different heights.

The treadle T is also provided with the rod V and lever X for operating the vertical rod M, and releasing the weight at any height in its progress upward. The rod is raised and the roller D released by depressing the treadle in the same manner as when the lug P strikes the dog O. The weight W can be thus released at any height desired by depressing the treadle at the proper time. The depression of the treadle T sustains the rod M, and holds back the roller D, so that the weight falls freely when released from the lever R, or from any other point, by means of the treadle.

What I claim as my invention is—

1. The combination of the eccentric I, adjustable connecting device J K, rocking frame H, and roller D, as herein shown and described.

2. The combination of the rod and dog M O with the eccentric I and the adjustable connecting device J K, for the purpose of operating the rocking frame, substantially in the manner described.

3. The combination of the treadle T with the rod M and the devices O I J K, for turning the rocking frame H and releasing the weight, substantially as described.

FRANCIS A. PRATT.

Witnesses:
THEO. G. ELLIS,
WENDELL R. CURTIS.