

2 Sheets. Sheet 1.

C. Ketcham,

Reciprocating Saw Mill.

N^o 8,581.

Patented Dec. 9, 1851.

Fig. 1.

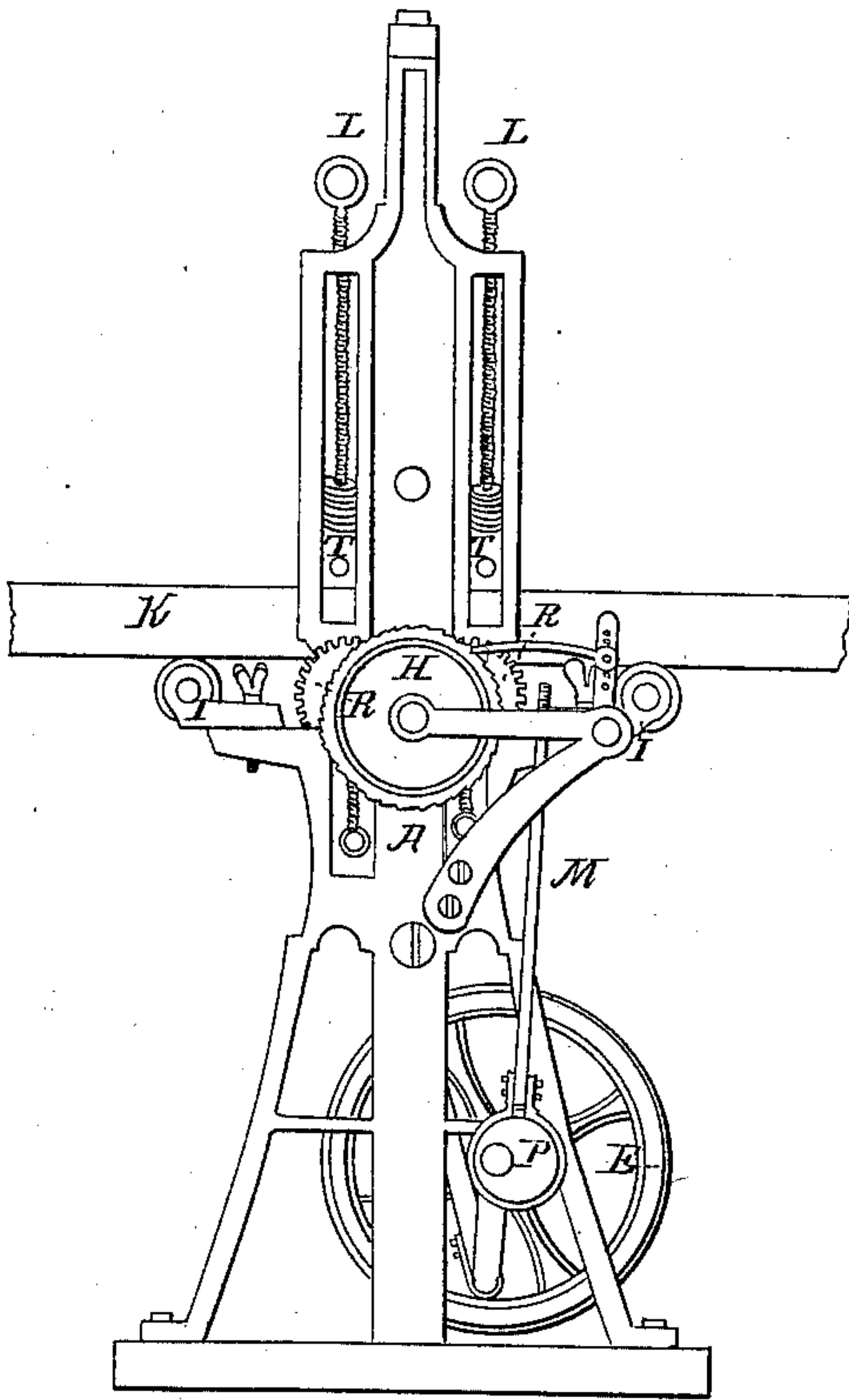


Fig. 2.

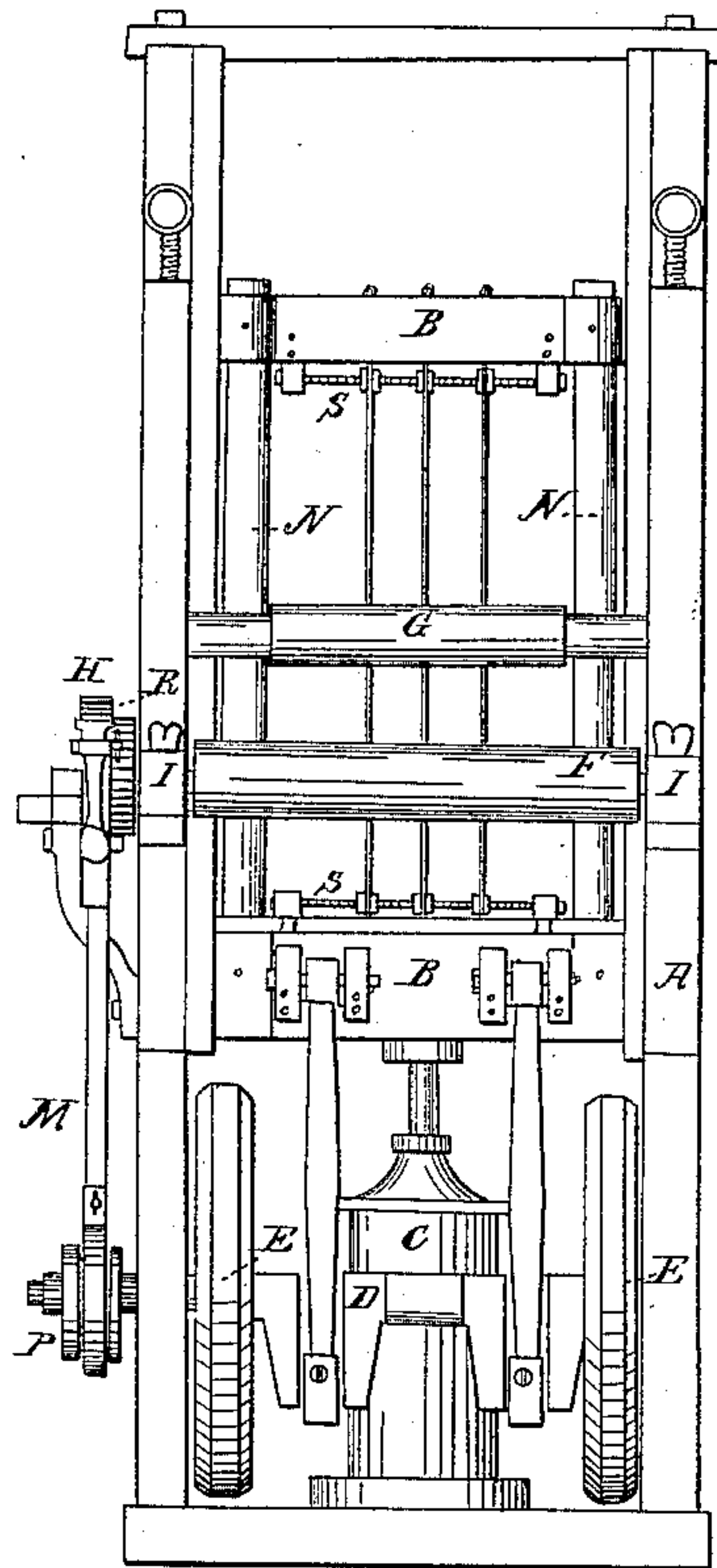
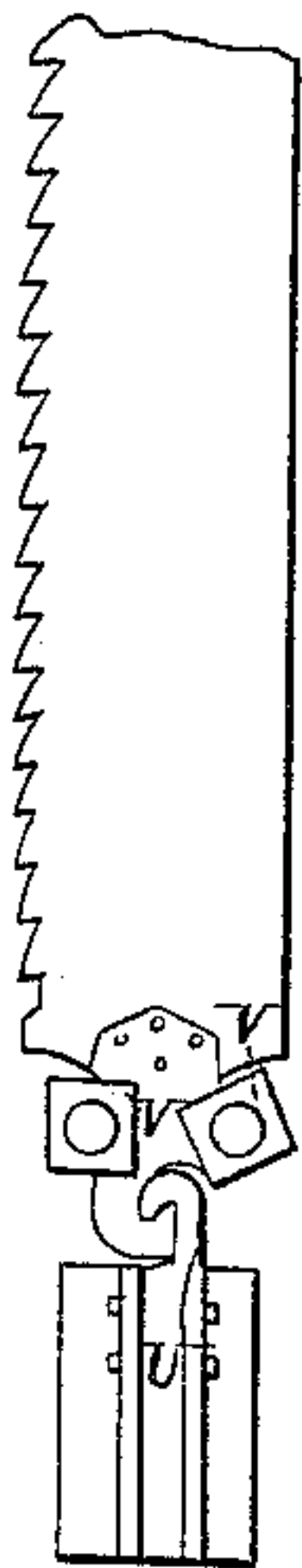


Fig. 3.



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Fig. 4.

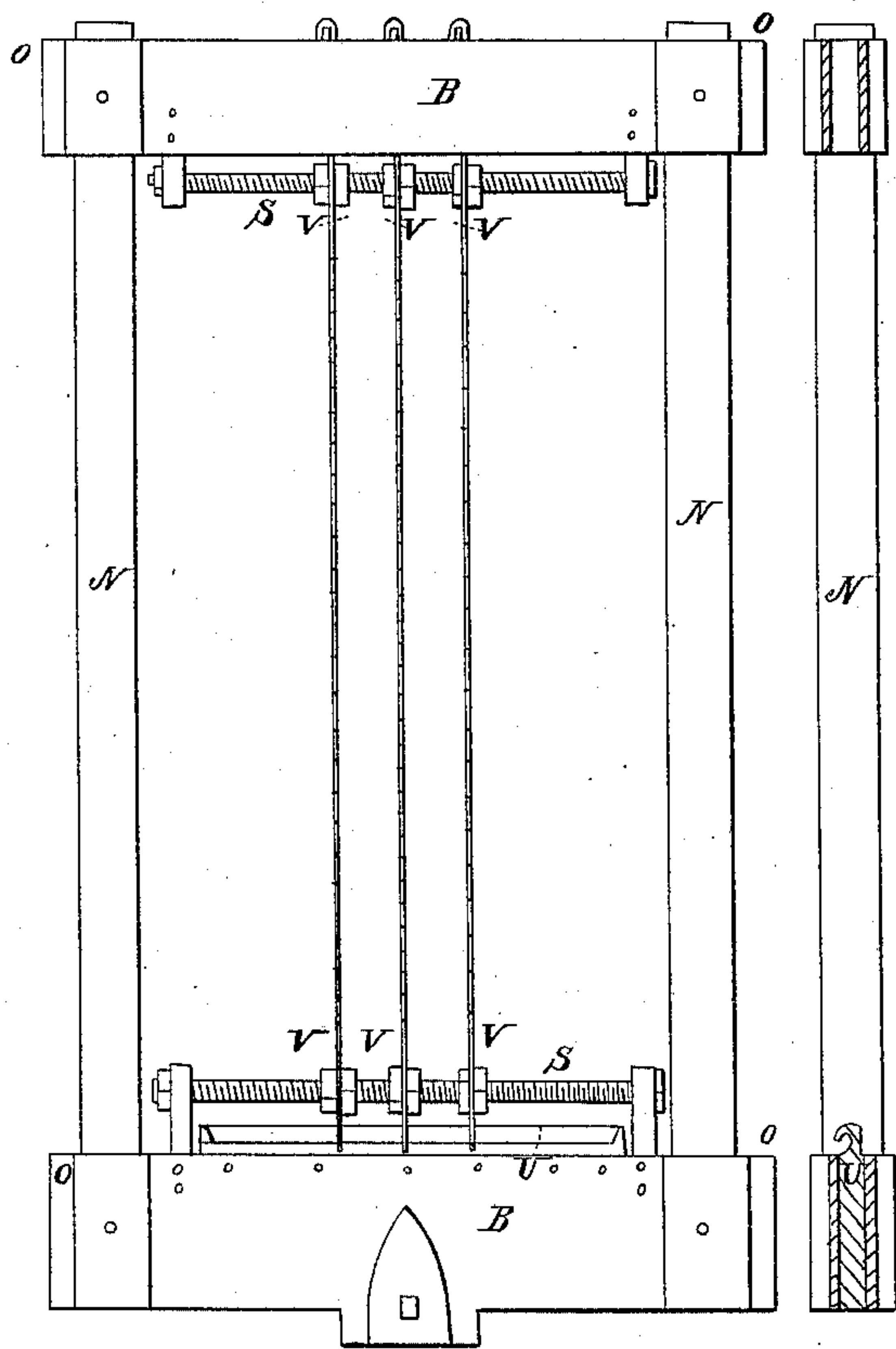


Fig. 6.

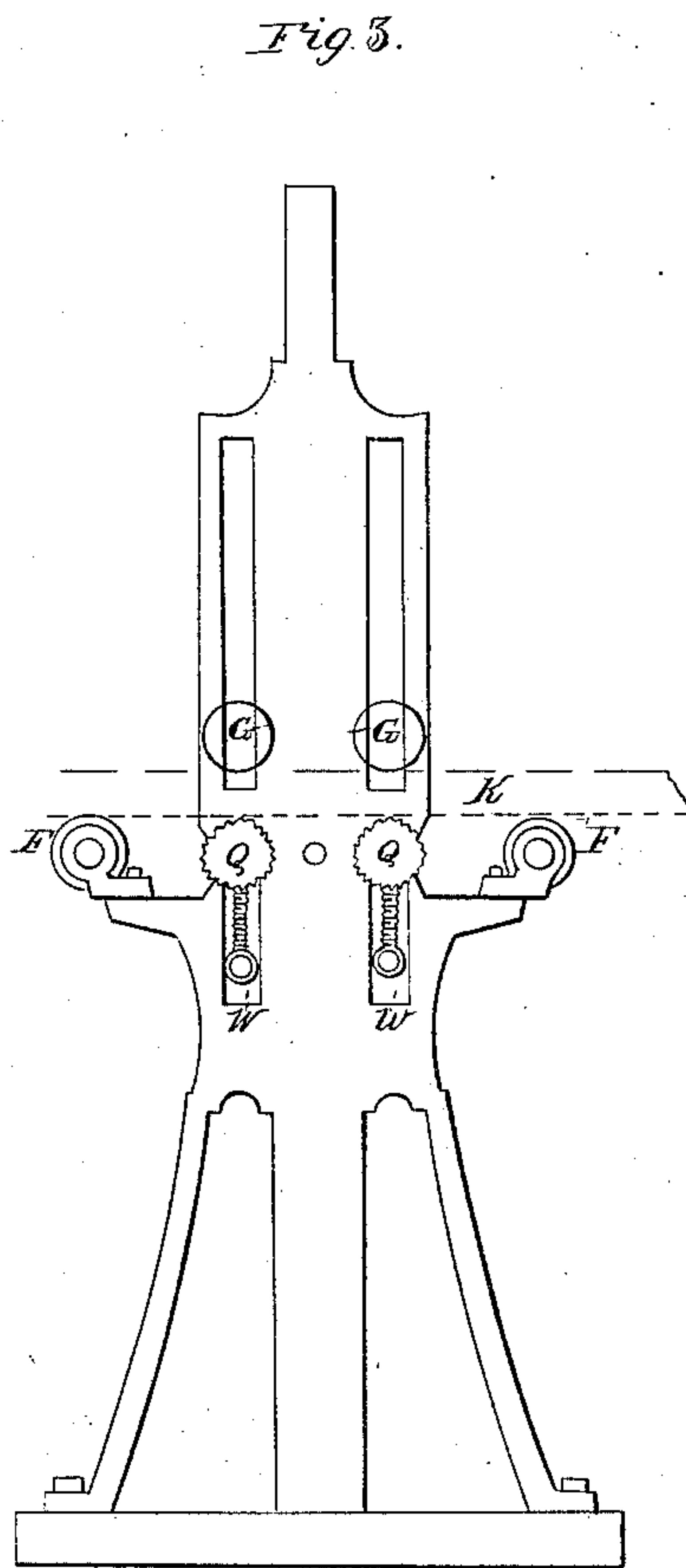
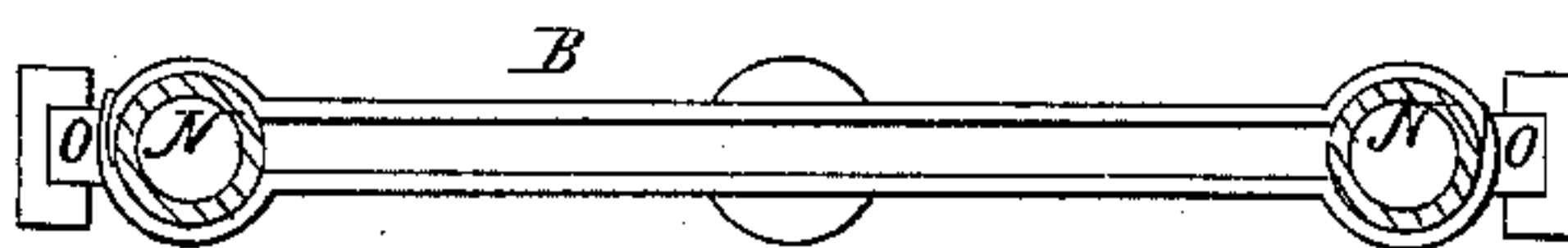


Fig. 3.

Fig. 5.



UNITED STATES PATENT OFFICE.

CHARLES KETCHAM, OF NEW YORK, N. Y.

IMPROVEMENT IN FEEDING LOGS IN SAW-MILLS.

Specification forming part of Letters Patent No. 8,581, dated December 9, 1851.

To all whom it may concern:

Be it known that I, CHARLES KETCHAM, of Penn Yan, Yates county, State of New York, have invented a new and useful Improvement in Saw-Mills, by which they are made portable and otherwise rendered more economical and useful; and I hereby declare that the following is a full and exact description.

To enable others to make and use my improvement, I proceed to describe its construction and operation, reference being had to the annexed drawings, which make part of this specification.

Figure 1 is an elevation of one side of the mill; Fig. 2, the front of the same in elevation; Fig. 3, vertical section; Fig. 4, the gate, drawn enlarged to twice the scale of the elevations; Fig. 5, transverse section of the same; Fig. 6, vertical section of the same; Fig. 7, diagram showing how the saw is adjusted. It is hooked upon the continuous hook U, and held in place by the nuts V, two on each side of it at top and the same number at bottom.

In the construction of this mill I have aimed to render it compact and portable, simple and durable.

My improvement in the frame and general arrangement is that the motive power is brought in direct connection with the work to be done, being placed directly beneath the gate, and this renders a portable mill less likely to vibrate.

The feeding-rollers Q are moved by the eccentric P on the main shaft, or may be moved by cone-pulleys. The adjustable rollers F are to aid in sawing curved sticks of timber. They are set in movable boxes I on the arms of the frame and can be set at any angle, so as to convey a curved piece in an appropriate track, to be sawed with the grain. Other adjustable rollers of a similar character may be used, placed at a greater distance from the mill.

When it is required to gig back in this mill, I add a pulley to the main shaft, which will be connected by a belt to a rim on the ratchet-wheel or cone-pulleys and used at will by a tightening-pulley.

My construction of the gate B is peculiar. (See Figs. 4, 5, and 6.) The lower girt or cross-head is made of two plates of boiler-iron riveted together at top and containing

between them a continuous hook U, extending across between the rails N. The ends of the lower and upper girt B are made to clasp the rails N, which are made hollow and circular, of wrought-iron, generally of the wrought-tube iron of commerce. On the ends of the girts there are metallic boxes O, which move in the ways. On the back of the lower girt (or the cross-head of the piston-rod, which is the same) there may be an extra slide and box to enable the gate to move perpendicularly while cutting the log K. I attach adjusting-screws S to the girts by means of proper fastenings beneath the upper girt and above the cross-head or lower girt for the purpose of adjusting the saws and keeping them in a line with the work. To put in a saw I catch it upon the continuous hook U at the bottom and pass it up between the plates of the top girt and secure it by a key on the top of the girt. Then I adjust them by movable nuts V on the rods or continuous screws S, placed on each side of the saw, which nuts also fasten the saws in place and hold them perpendicular and parallel.

The binding-rollers G are made to move in a sliding box T, which is held by the screw L, which in certain cases may have a spiral or other spring which will allow the roller to yield when the surface of the log is irregular. The bed consists of two fluted rollers Q, immediately beneath the binding-rollers, and upon these the log is caused to move by means of the cog-wheels R, which are connected with a pinion on the shaft of the ratchet H. A carriage may also be placed upon the bed at pleasure, on which the log may be laid when it is required for special purposes.

It is intended to operate this mill by the aid of a railway, temporary or permanent, which has upon it cars (the top of which are on a level with the bed or fluted rollers Q) which convey the logs to and lumber from the mill. To drive this for ordinary use I apply a steam-cylinder C—eight inches diameter and two feet stroke—directly under the gate, the lower girt of which becomes the cross-head. If other power be applied, a band may be run upon a pulley on the shaft D, or instead of a pulley water-power or other power may be applied direct to the shaft D.

This mill does not require a building, be-

ing perfect in itself. A solid foundation is requisite, which may be of timber or stone. It is adapted to be taken into the forest, and to all circumstances and conditions, and will execute all kinds of work that is done with one or more perpendicular saws, whether curved work or straight, and it will cut angular work by raising or lowering one end of the rollers.

It should be observed that this mill can be used without the saw-frame (consisting of the rails N and the upper girt) as easily as any other mill, but generally a quicker motion is required.

Having thus fully described the nature of my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

The combination of any number of adjustable rollers F, which may be set at any angle with the feed-rollers Q, or with each other, for the purpose of feeding up the log, so that it may be cut with the curve or grain of the wood, substantially in the manner herein set forth and described.

CHARLES KETCHAM.

Witnesses:

P. W. LOTHURST,
JOHN O'NEIL.