

Sheet 2 of 2 Sheets.

B. Klahr,

Circular Sawing Machine,

No. 46,113.

Patented Jan. 31, 1865.

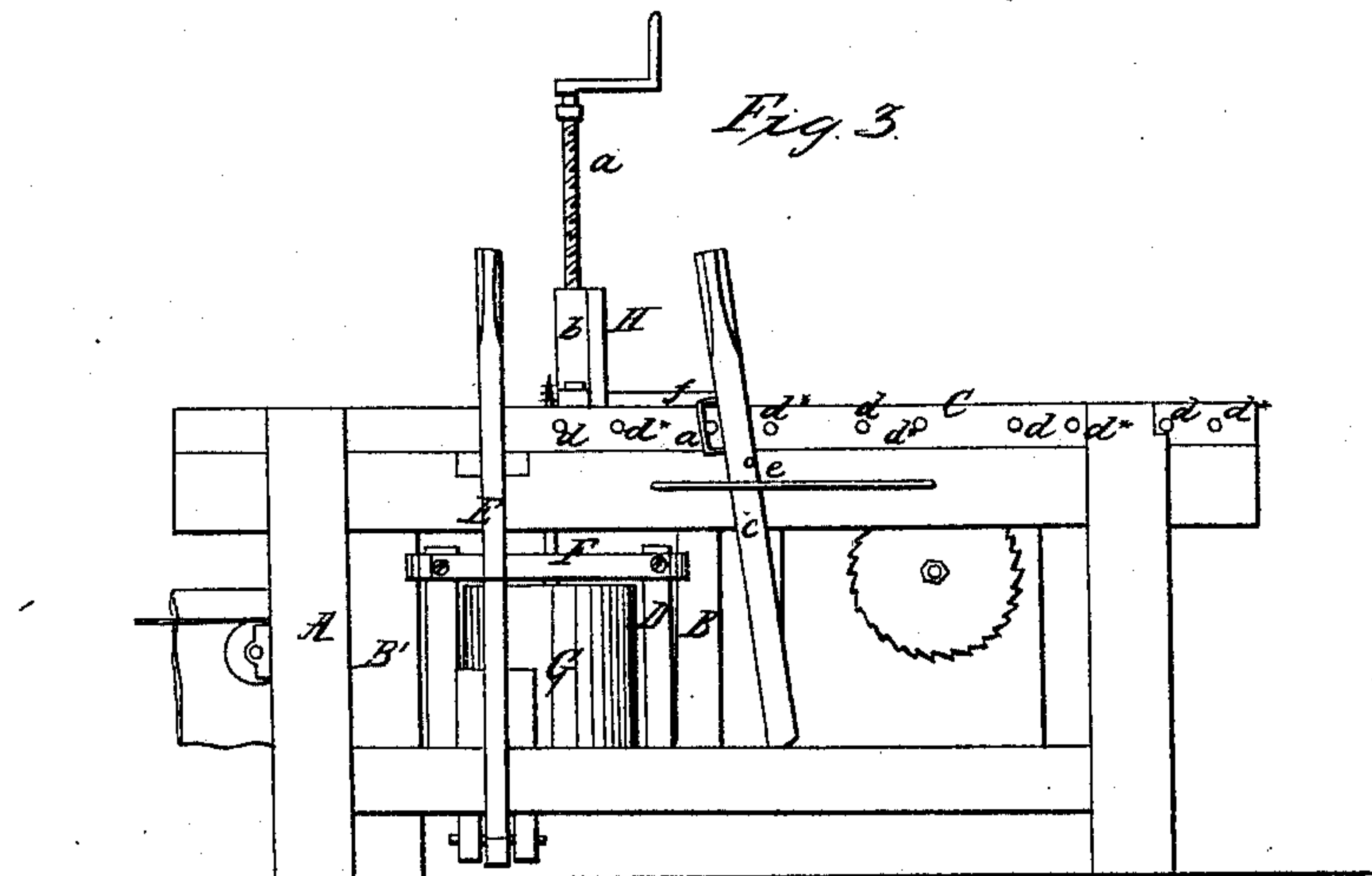


Fig. 4.

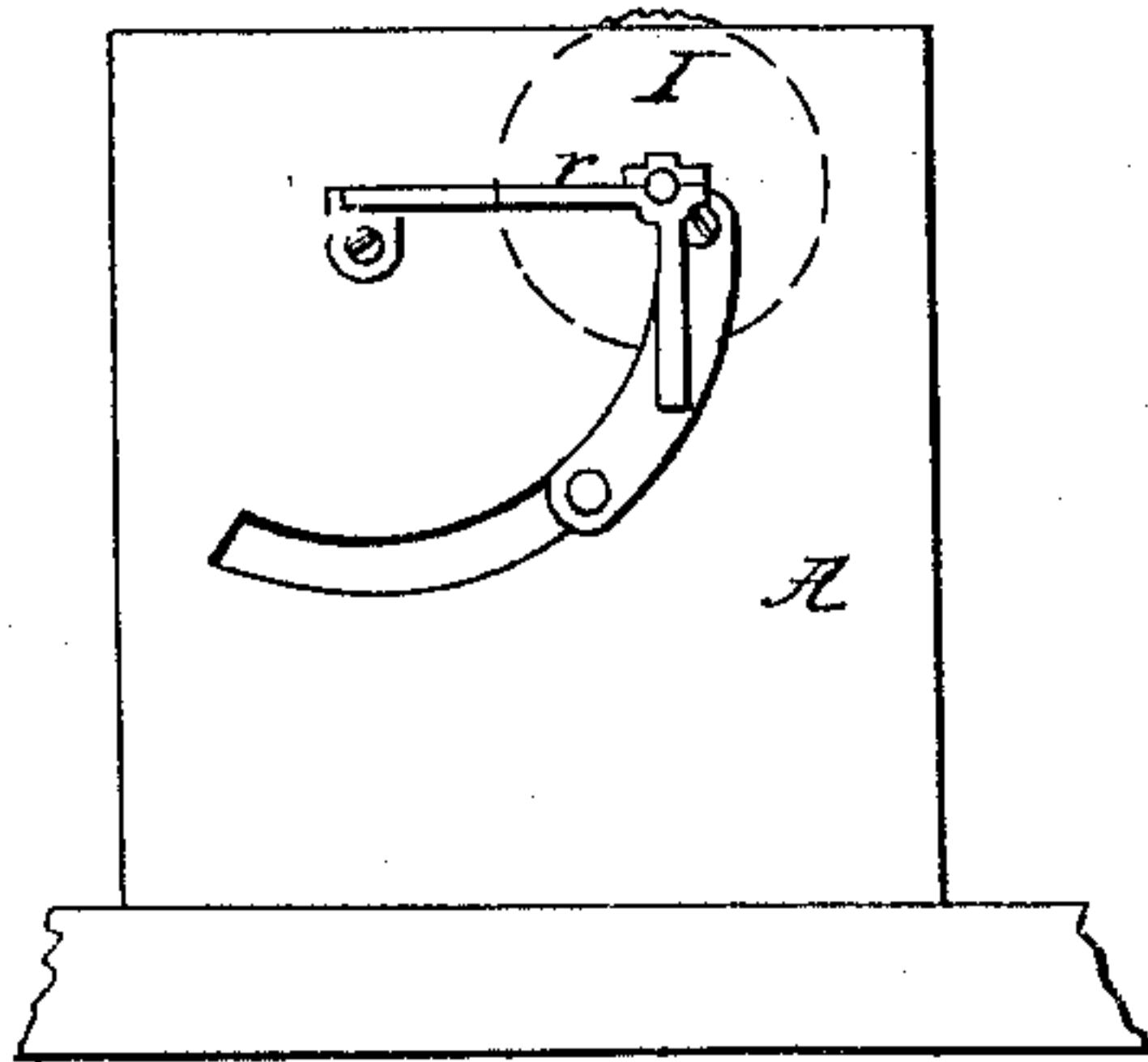
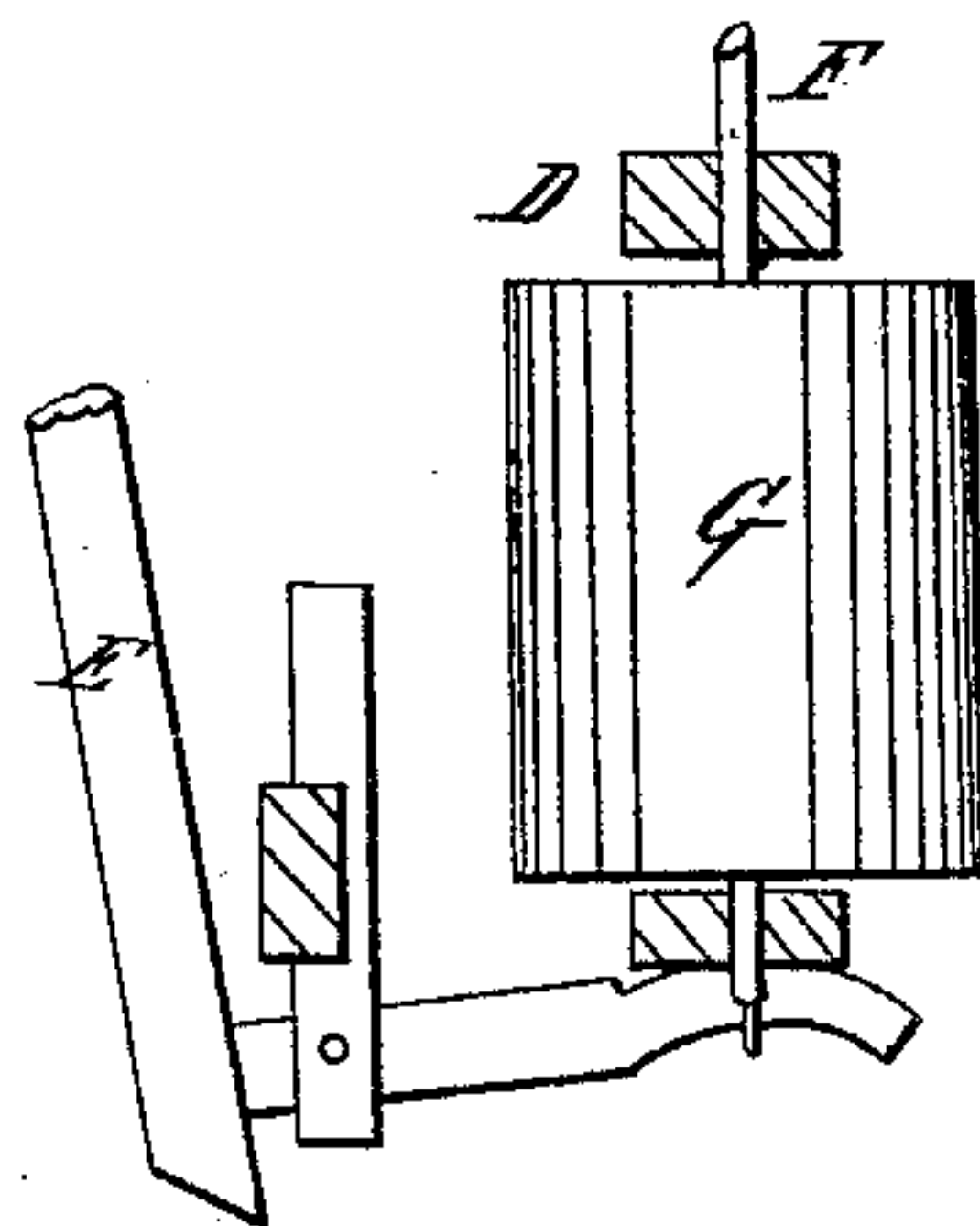


Fig. 5.



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UNITED STATES PATENT OFFICE.

B. KLAHR, OF BERNVILLE, PENNSYLVANIA.

IMPROVED SAWING AND BORING MACHINE.

Specification forming part of Letters Patent No. 46,113, dated January 31, 1865.

To all whom it may concern:

Be it known that I, B. KLAHR, of Bernville, in the county of Berks and State of Pennsylvania, have invented a new and Improved Machine for Sawing, Boring, and Mortising; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a longitudinal vertical section of this invention, taken in the plane indicated by the line *x x*, Fig. 2. Fig. 2 is a plan or top view of the same. Fig. 3 is a side elevation of the same. Figs. 4 and 5 are elevations of certain parts of the machine detached.

Similar letters of reference indicate corresponding parts.

This invention is particularly intended for preparing fence-posts and fence-rails; but it can also be used with advantage for boring, mortising, sawing, and cross-cutting pieces of wood of any other description.

The invention consists, first, in the arrangement of an open carriage provided with gage-pins, and applied, in combination with a suitable hand lever, stop, and bore-spindle, in such a manner that the holes in the post can be properly distanced, and by running the borer up three times at suitable points the desired mortise is produced. The post is held in position during the operation of boring by a yoke fastened in the proper position on the table or carriage, and the holes are bored from below, so that the post can be readily centered. For the purpose of cutting the wood crosswise a transverse rest is secured in the yoke, and when the machine is to be used for sawing the yoke is placed in a horizontal position, and a movable gage is dropped over it, which can be readily adjusted according to the thickness to which the stuff is to be sawed. For the purpose of pointing rails or fence-posts a slotted bracket, with an adjustable forked rest, is attached to the rear end of the carriage to steady the rear end of such rail or other piece while its front end is being pointed.

A represents a frame, made of wood or any other suitable material, and provided with a central flanged post, B, which forms the

guide for the movable carriage C. The post B and a corresponding post, B', of the frame A form the guides for the rising and falling gate D, which is raised and lowered at the will of the operator by a hand-lever, E, acting on it, as plainly shown in Fig. 5. The top and bottom rails of the gate D form the bearings for the bore-spindle F, to which rotary motion is imparted by a suitable belt running over the pulley G. The auger is secured in the upper end of the bore-spindle in any suitable manner, and the post to be bored is fastened on the carriage by means of a hand-screw, *a*, which screws in the top bar of a yoke, *b*. This yoke may be secured to the table in various positions—either vertical, as shown in Figs. 1 and 3, or horizontal, as shown in Fig. 2. The post is thus held down at one point, and its end can be readily adjusted one way or the other in order to bring the holes always in the middle even if the post should be crooked. For the purpose of properly distancing the holes in the posts a hand-lever, *c*, is provided, which catches over a series of pins, *d*, projecting from the side of the carriage, as clearly shown in Fig. 3 of the drawings. For each mortise in the post three holes are required, the position of which is determined by the pins *d d** and stop *e*. The hand-lever *c* is provided with a staple, *f*, which catches over the pins, and these pins are arranged in pairs, as shown. To determine the correct position for the three different holes or mortises, the staple of the hand-lever is first made to catch over the pin *d** and the hand-lever carried back until its rear edge strikes the stop *e*. The first hole is then bored. The staple of the hand-lever is then made to catch over the pin *d* and the hand-lever carried back until its rear edge strikes the stop *e*, and the second hole is bored. In order to remove that portion of the wood remaining between the two holes, the staple of the hand-lever is made to catch again over the pin *d**, and the hand-lever is moved forward until its front edge strikes the stop, and the third hole is bored. The hand-lever is then moved to the next pair of pins, and the same process is again gone through with, and so on until all the mortises required in the post are formed.

In order to effect this purpose, it is obvious the carriage must be open from below to ad-

mit the auger, and it is therefore provided with a sectional top, $f f'$. If both sections of the top are in their places, the carriage cannot be moved, but when the section f or both sections $f f'$ are taken out the carriage can be moved in either direction, and its motions are limited only by the flanged post B. For crosscut-sawing the transverse rest H is fastened in the yoke b , as shown in Fig. 1. The wood to be cut is placed against this rest, and by pushing the carriage against the saw I the cutting is effected. The spindle of the saw has its bearings in an oscillating frame, r , which can be turned down when the saw is not to be used. (See Fig. 4.)

For the purpose of cutting wood in a longitudinal direction the yoke b is secured to the top of the carriage in a horizontal direction, as shown in Fig. 2, and a gage, g , is dropped in between it. This gage is provided with a forked arm, h , that catches in a neck in the set-screw a , so that by turning this set-screw in either direction the gage is moved toward or from the center of the table. In this case both sections $f f'$ of the top are placed in the carriage to render the same stationary.

For the purpose of pointing rails, posts, or other pieces of wood, but particularly fence-rails, I attach to the end of the carriage a slotted bracket, J, with a forked rest, i , which is adjustable in the slot of the bracket according to the desired bevel at the point. The

rail to be pointed is placed into the forked rest, and in order to keep it in the proper position it is pressed with one side against a pin, j , inserted in the top f , and by pushing it up against the saw the end is beveled off. The forked rest is then shifted to the opposite end of the slotted bracket, and by repeating the operation of cutting the point is finished.

This machine is intended to be operated by a horse-power or by any other suitable motor, and it is of great value for making rail fences, and also in the manufacture of other kinds of wood-work.

I claim as new and desire to secure by Letters Patent—

1. The combination of the parts by which the post is secured in position and moved to the tool, consisting of the carriage C, the yoke b , and clamping-screw a , with the stapled lever c , acting in connection with the pins $d d^*$ and stop e , substantially as described.

2. The movable bracket J and forked rest i , in combination with the pin j , carriage C, and saw I, constructed and operating substantially as and for the purpose set forth.

3. The oscillating frame r , in combination with saw I, carriage C, and frame A, constructed and operating substantially as and for the purpose described.

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Witnesses:

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