

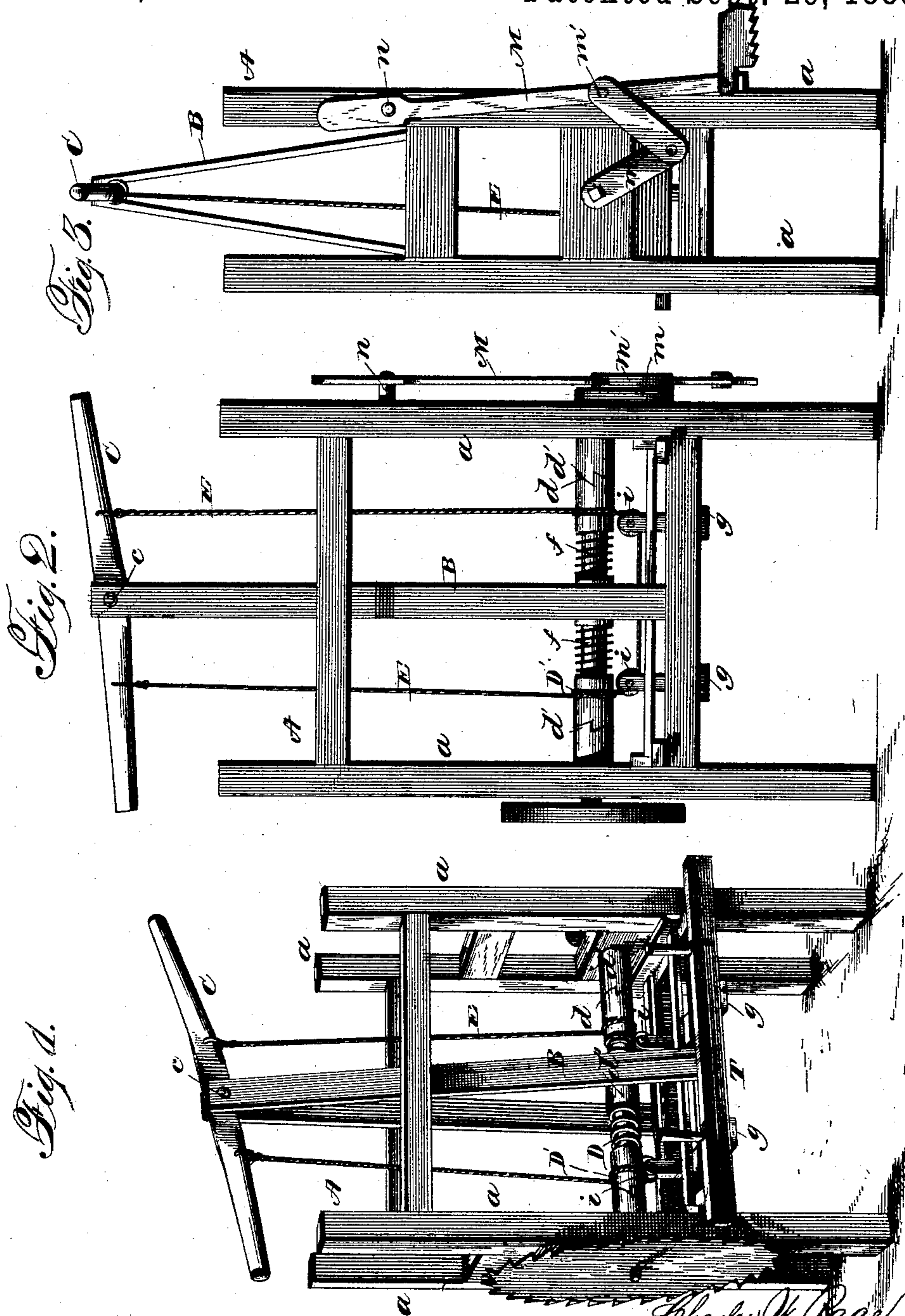
(No Model.)

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DEVICE FOR OPERATING VERTICAL RECIPROCATING SAWS.

No. 327,303.

Patented Sept. 29, 1885.



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DEVICE FOR OPERATING VERTICAL RECIPROCATING SAWS.

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To all whom it may concern:

Be it known that I, CHARLES W. PAGE, a citizen of the United States of America, residing at Cathlamet, in the county of Wahkium and Territory of Washington, have invented certain new and useful Improvements in Devices for Operating Vertical Reciprocating Saws; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in mechanical devices for converting or changing a vertical reciprocating motion into a continuous rotary motion, and in the means of applying the same so as to operate either rotary or reciprocating saws.

My invention consists in the construction and combination of the parts, as will be hereinafter fully set forth, and specifically pointed out in the claims.

In the accompanying drawings, which illustrate my invention, Figure 1 is a perspective view of my improvement, showing the same in connection with a rotary saw. Fig. 2 is a side view showing the same with additions, whereby a reciprocating saw can be operated; and Fig. 3 is an end view.

A represents a frame, which consists of vertical corner-posts *a a*, which are connected to each other by rigid beams.

To the cross-beams *b b* are rigidly secured two converging uprights, B B, the upper ends of which are connected to each other by a pivot-bolt, *c*, which also serves as a support for the lever C.

At a suitable point between the uprights *a a* are secured cross-bars having bearings for a horizontal shaft, D, which rotates therein, said shaft having rigidly secured or mounted thereon sleeves *d d*, the inner faces of which are provided with ratchet-teeth *d'*, those on the opposite sleeves being inclined in opposite directions, as shown. The central portion of the shaft is also provided with a rigid sleeve, *d''*, which projects above the main body por-

tion of the shaft. The shaft D has loosely mounted thereon, between the sleeves *d d''*, sleeves D', which are provided with ratchet-faces *e*, which engage with the ratchet-faces *d'* of the rigid sleeves *d*, and these sliding sleeves D' are held normally against the sleeve *d* by spiral springs *f f*, which bear against the outer edges of the sleeve *d''* and the inner edges of the sleeves D'.

To the end of the shaft D which projects beyond the frame A is secured, as shown in Fig. 1, a circular saw, while its opposite end is provided with a balance or fly wheel.

Near the bottom of the frame are secured cross-beams *g g*, which are at right angles with the horizontal shaft D, and to said beams are secured vertical bearings for the pulleys *i i*, which are located to one side under the shaft D.

E represents a cord or rope, the ends of which are attached to the lever C and pass around the loose sleeve D', from whence it passes under the pulleys *i i*. The pulleys *i i* may be attached to the beams *g g* by bolts, so that they can be tightened when the arm E slackens.

It will be readily seen that when the lever is reciprocated the upper ends of the cords will be moved in opposite directions, and one of the sliding sleeves forming a portion of the clutch will engage with the stationary sleeve, so as to impart its rotary movement to the shaft, the opposite sleeve sliding freely. As soon as the movement of the cord is reversed the opposite clutch will engage and cause the rotation of the shaft in the same direction.

By the device hereinbefore described the vertical reciprocating movement of the lever C can be transferred and changed, so as to be utilized as a continuous rotary movement.

The frame A is provided with a sliding support or table, T, which is located below the shaft D, and wood may be placed upon the same, so as to feed it to the saw.

If desirable, a reciprocating saw can be operated by the device hereinbefore described by attaching to the shaft D a crank-arm, *m*, which is pivotally connected to a bar, *m'*, which is pivotally secured to the bar M, which is attached to the frame by the bolt *n*, the lower end of said bar carrying the saw, as

fully shown in Fig. 2. When the shaft D is rotated, as hereinbefore described, the crank-arm will be turned, so as to oscillate the pivoted arm M, and thus reciprocate the saw.

5 If desirable, a rotary saw may be attached to one end of the shaft, while a reciprocating saw may be attached at the opposite end, in which case the fly-wheel will be provided with a projecting pin, to which the bar *m'* will be detachably connected. When this construction is employed, the reciprocating saw is used for cutting large logs which could not be cut by the rotary saw.

15 The lever C may be either operated by manual power or said lever may be connected to the vertical reciprocating rod of a windmill or other motor.

If desirable, when a circular saw is used, the same may be mounted on an independent shaft and connected to the shaft D by a train of gearing, the end of the shaft having a fly-wheel attached thereto.

I claim—

1. In a device for converting motion, the

combination, with a reciprocating lever, of a shaft having clutches with opposite-inclined ratchet-faces, sliding sleeves which are held against the stationary clutches by spiral springs, as shown, and an operating cord, the ends of which are attached to the reciprocating lever and passed around the sliding sleeves of the clutches and under guide-pulleys, substantially as shown, and for the purpose set forth.

2. In a device for converting motion, the pivoted lever C, having attached thereto a cord which passes over sliding clutches mounted on a horizontal shaft, said shaft having secured at its outer end a saw, whereby, when the lever is reciprocated, the shaft will be given a continuous rotary motion, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES W. PAGE.

Witnesses:

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