

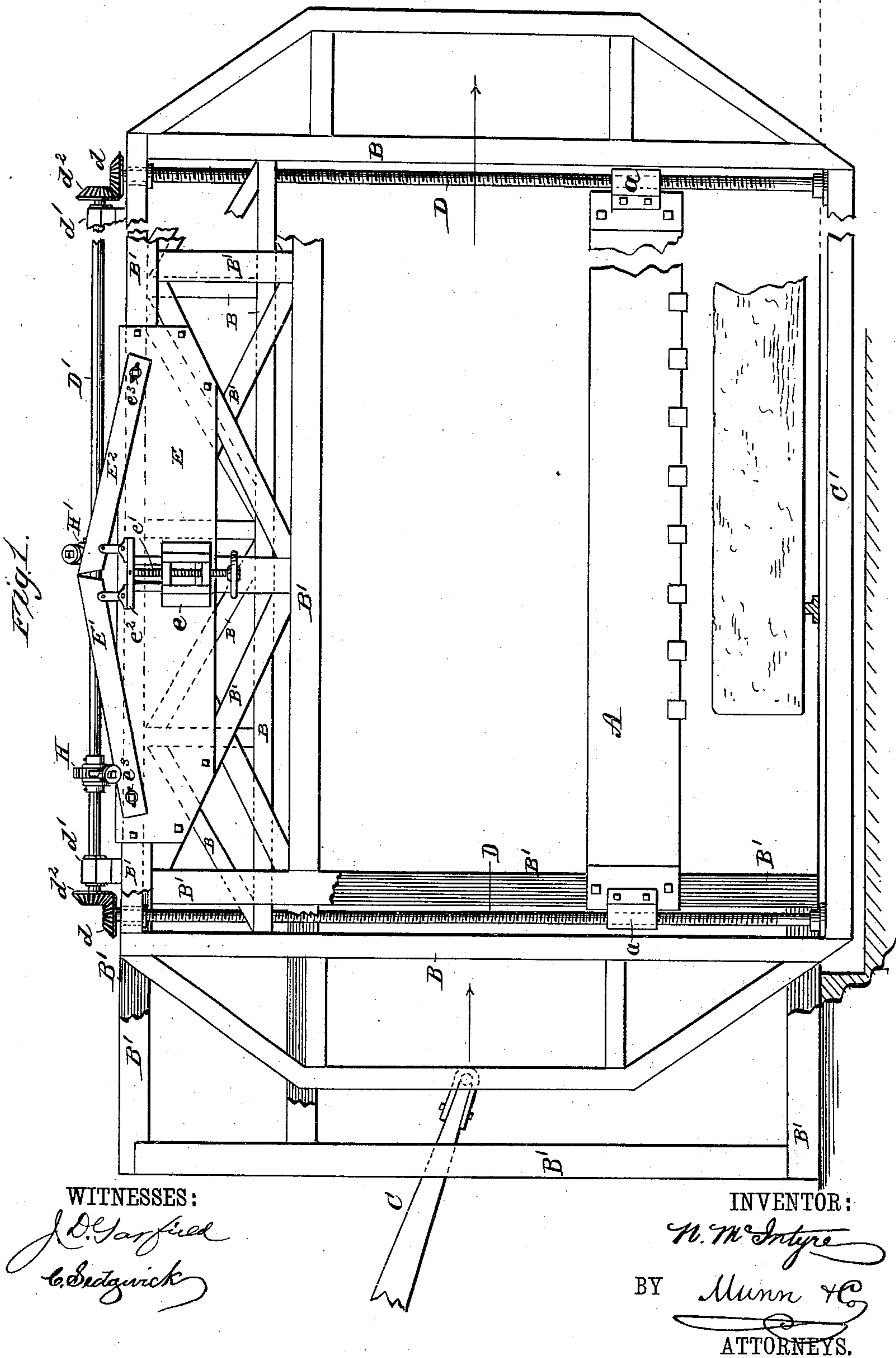
(No Model.)

2 Sheets—Sheet 1.

N. McINTYRE.
FEED FOR STONE SAWS.

No. 376,251.

Patented Jan. 10, 1888.



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2 Sheets—Sheet 2.

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Fig. 3.

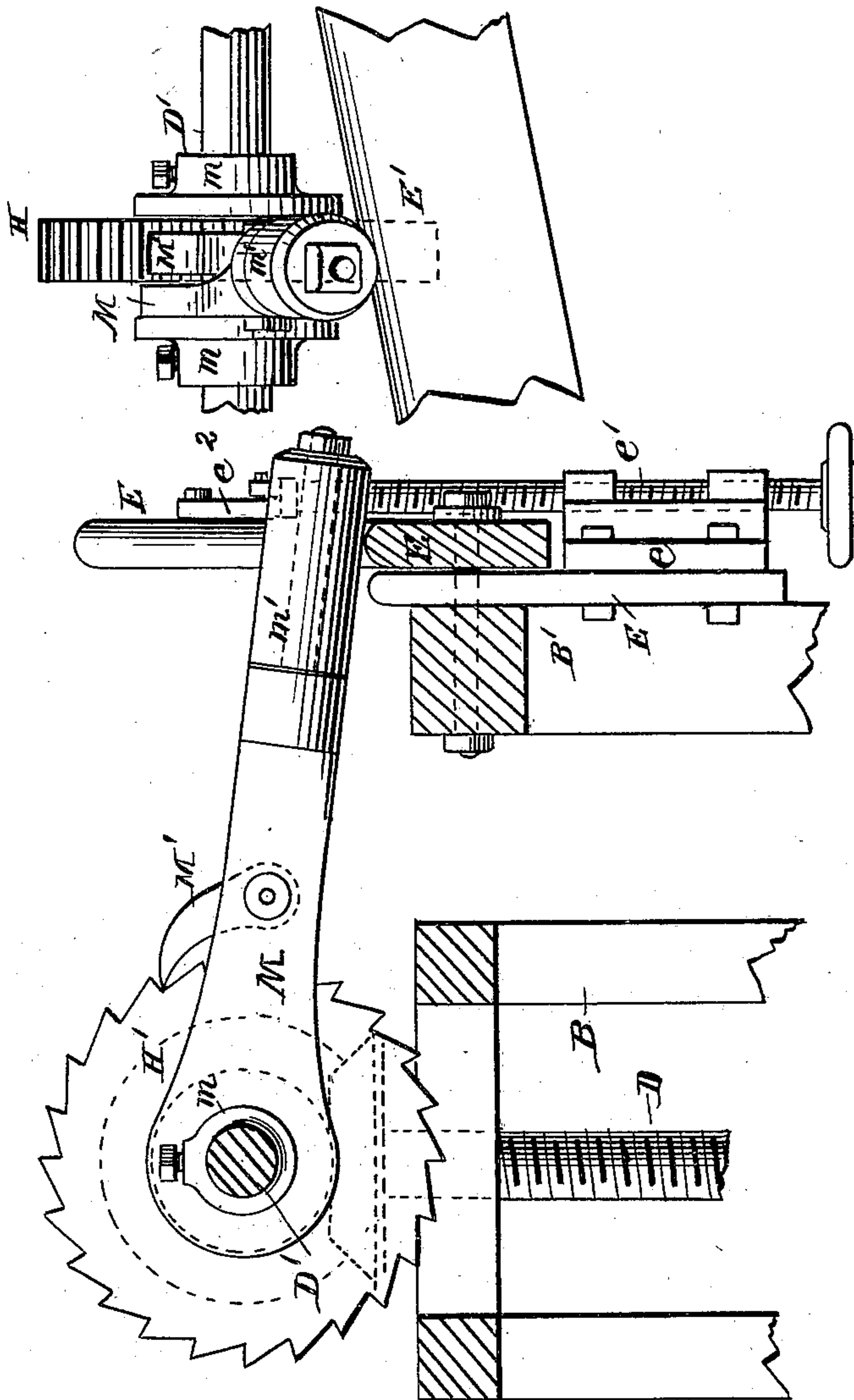


Fig. 2.

WITNESSES:

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UNITED STATES PATENT OFFICE.

NEIL MCINTYRE, OF BROOKLYN, NEW YORK.

FEED FOR STONE-SAWS.

SPECIFICATION forming part of Letters Patent No. 376,251, dated January 10, 1888.

Application filed April 13, 1887. Serial No. 231,599. (No model.)

To all whom it may concern:

Be it known that I, NEIL MCINTYRE, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Feed for Stone-Saws, of which the following is a full, clear, and exact description.

My invention relates to a feed for saws used in cutting stone in which the saws are armed with diamonds or other hard stones used as cutting-tools; and the object of the invention is to provide a continuous feed whereby the saw will cut equally well upon both the forward and back stroke.

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

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side elevation of a saw and frame having my improvement applied, the said frame and saw being partly broken away. Fig. 2 is a side elevation of the pawl-and-ratchet attachment, and Fig. 3 is an end view of the same.

In carrying out the invention, A represents a saw-blade which is supported by the sash B, as heretofore, the saw-blade A being mounted with a number of teeth having diamonds inserted therein, as usual.

The sash B is given a reciprocating motion within the ordinary double frame, B', by means of a pitman, C, receiving power from any suitable motor, the sash B being guided in and supported from the frame B' in any approved manner.

In the ordinary construction of the sash B the side pieces are extended downward and connected at their lower ends by a longitudinal beam or stiffening piece, C', which is adapted to extend transversely below the track on which the stone-supporting carriage is placed, which serves to impart greater rigidity to the sash and give a better support for the saw-blade and diminish the longitudinal vibration of the same.

The saw-blade A is provided with attached threaded eyes *a* at its ends, through which eyes screw-rods D are made to pass. The said rods, being journaled in bearings upon the up-

per edge of the stiffening-piece C', are projected upward at each end of the sash through suitable collars inserted in the top beyond the same, where they are provided with a bevel-gear, *d*. Parallel with and longitudinally the sash at the top a shaft, D', is held to turn in bearings *d'*, the said shaft having attached at each end bevel-gears *d''*, adapted to mesh with the aforesaid bevel-gear *d*.

Centrally the frame B', at one upper side, a plate, E, is bolted, having adjustably held thereto two upwardly-inclined beams, E' E'', whose opposing ends are brought in substantial contact centrally and above the frame, as shown in Fig. 1, the said beams or inclined planes being so attached as to project above the frame nearly or quite their entire length. A frame, *e*, is centrally attached to the plate E, carrying a vertical screw, *e'*, fitted with a suitable hand-wheel, and provided at the upper end with a bar, *e''*, one end of which bar is respectively secured to the bottom edge of each incline plane. As the said incline planes are attached at one end only to the plate, and then by means of a bolt passing through an elongated slot, *e''*, it is evident that by means of the screw *e'* the said incline planes may be adjusted as desired.

Upon the shaft D' ratchets H H' are keyed, so positioned and at such a distance apart as that when the sash is carried to its limit in either direction one ratchet will be opposite the lower end of one incline plane and the other opposite the upper end of the opposing incline plane.

An arm, M, is loosely mounted upon the shaft D' in contact with each ratchet, which arm is held in position by a suitable collar, *m*, and provided with a pawl, M', pivoted upon one side, adapted to engage the teeth of the corresponding ratchet-wheel, as shown in Figs. 2 and 3. The free ends of the arms M are each provided with a loose collar or sleeve, *m'*, which sleeves rest upon the upper edge of the inclined planes, as illustrated in Figs. 2 and 3.

In operation, as the sash is reciprocated upon the forward motion one arm M will travel up its incline plane, and thereby cause the pawl to turn to move the ratchet-wheel, which in turn will, by means of the screw-rods, carry the saw downward, causing it to cut, and upon the backward stroke the other arm M, coming

into play again, feeds the saw downward, whereby a cut is effected each way.

It will thus be seen that the saw is fed forward and down continuously both during the forward and return stroke.

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

1. With a stone-saw having its ends supported by screws, the combination of the screws, a horizontal shaft, gears connecting said shaft and screws, ratchets secured upon said shaft, inclined planes attached to the saw-frame, and pawl-carrying arms loosely mounted upon said shaft and resting upon said inclined planes, substantially as shown and described, and for the purpose herein set forth.

2. With a stone-saw having its ends supported by screws, the combination of the screws D, a horizontal shaft, D', gears d d^2 , connecting said shaft and screws, the ratchets H H', keyed to said shaft, inclined planes E E', adjustably attached to the saw-frame and pro-

jected above the same, and pawl-carrying arms M, loosely mounted upon said shaft, each provided with a loose sleeve, m' , upon their free ends, said sleeves adapted to rest and travel upon said inclined planes, substantially as herein set forth.

3. In a stone-sawing machine, the combination, with the supporting-frame, of the inclined beams E' E², pivoted at one end to the frame, and means for adjusting the said beams, substantially as described.

4. In a stone-sawing machine, the combination, with the supporting frame, of the pivoted inclined beams E' E², having slots e^3 in their ends for the passage of the pivot bolts, and the screw e' , provided with a bar, e^2 , at its upper end, secured to the inclined beams, substantially as herein shown and described.

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Witnesses:

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