

C. R. ELY.  
Head-Block for Saw-Mills.

No. 163,309.

Patented May 18, 1875.

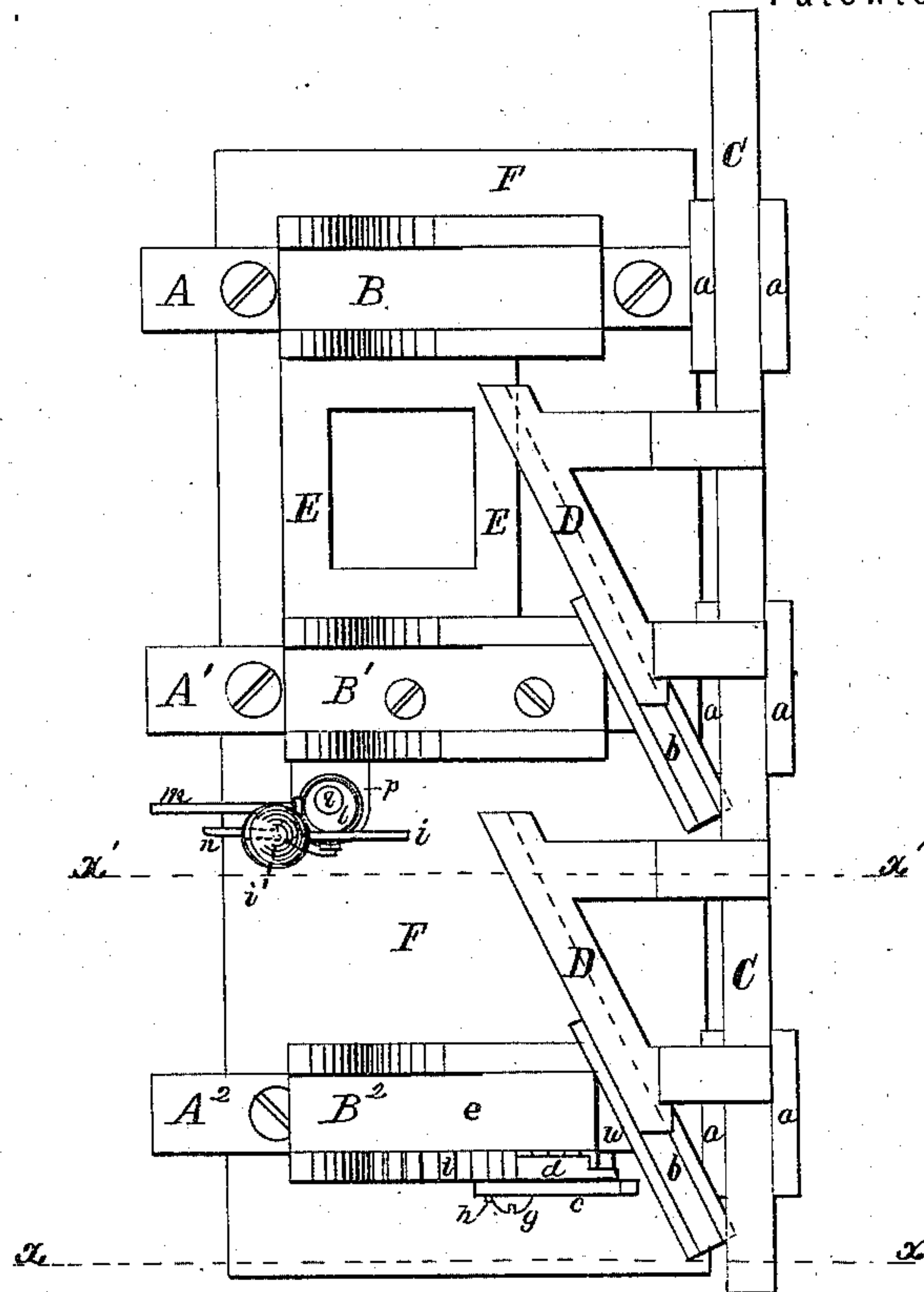


Fig. 1.

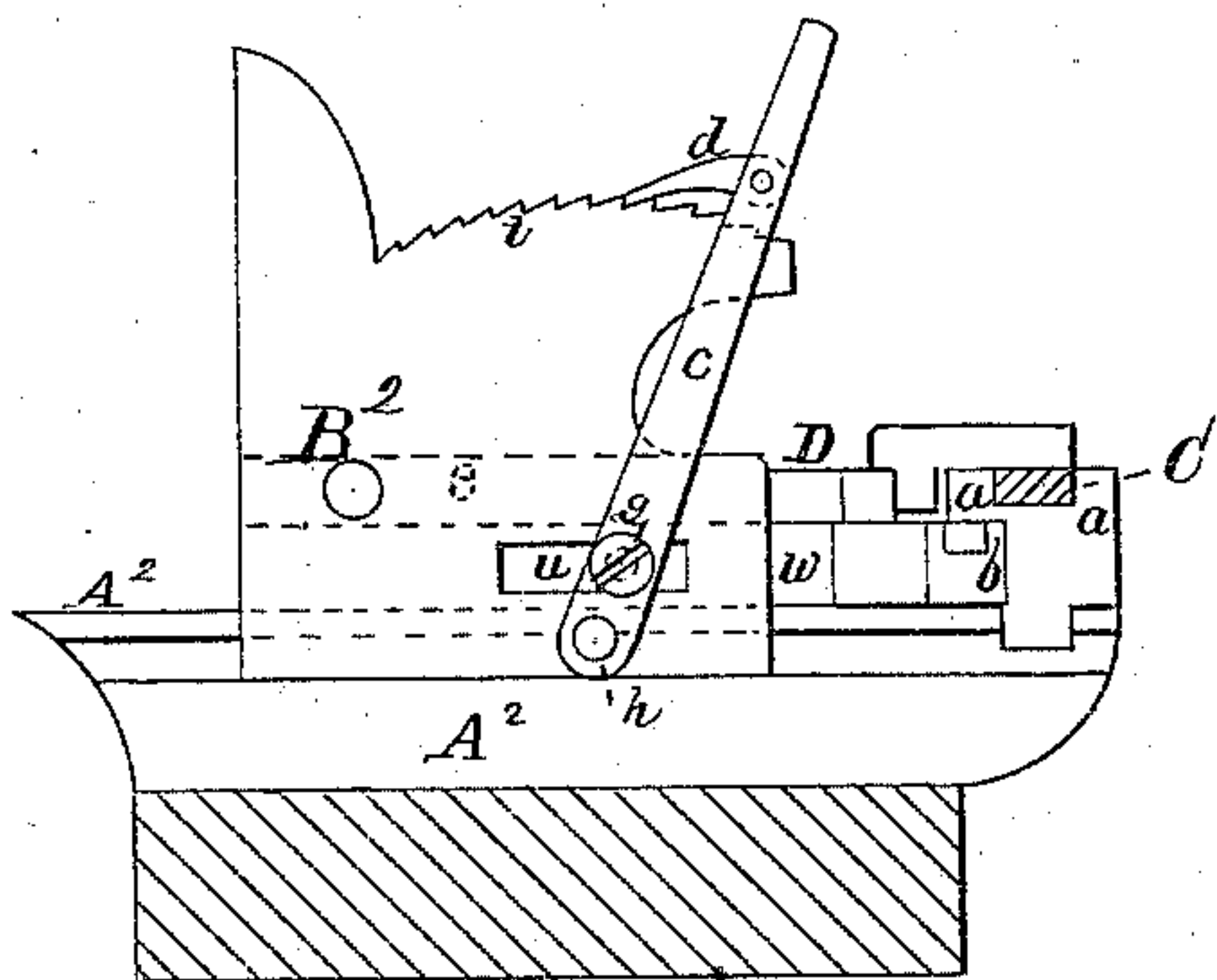


Fig. 2.

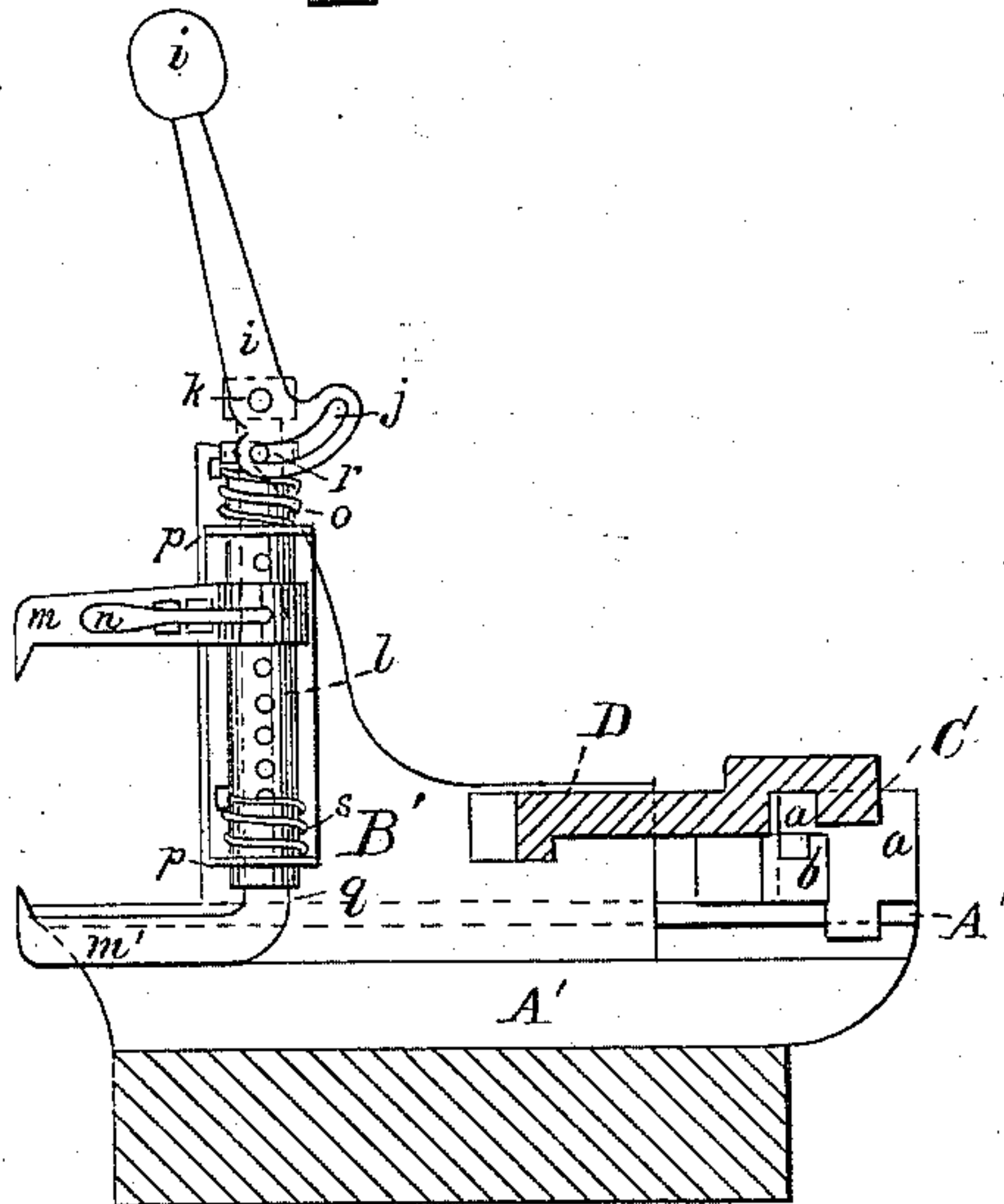


Fig. 3.

WITNESSES.

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# UNITED STATES PATENT OFFICE.

CHARLES R. ELY, OF NORTHFIELD, VERMONT.

## IMPROVEMENT IN HEAD-BLOCKS FOR SAW-MILLS.

Specification forming part of Letters Patent No. 163,309, dated May 18, 1875; application filed August 26, 1874.

*To all whom it may concern:*

Be it known that I, CHARLES R. ELY, of Northfield, in the State of Vermont, have invented certain new and useful Improvements in Head-Blocks for Saw-Mills, of which the following is a specification:

My invention relates to that class of saw-mill carriages in which inclined planes attached to a rack-bar are employed for a setting mechanism; and consists, first, in connecting the separate uprights or knees directly with the inclines, thus doing away with a set-bar; second, in causing the upright at the forward end of the carriage to take its motion from the next inside upright, for the purpose of saving room at that end of the carriage. A third part of the invention consists in a novel dogging device.

In the drawings, Figure 1 is a plan of a carriage embodying my improvements. Fig. 2 is a section on the line  $x x$  of Fig. 1. Fig. 3 is a section on the line  $x' x'$  of Fig. 1.

A A<sup>1</sup> A<sup>2</sup> are the head-blocks. B B<sup>1</sup> B<sup>2</sup> are the knees or uprights, resting and sliding upon the head-blocks, and being secured thereto by flanges, in the ordinary way. These knees are cast double—that is, each head-block is ridden by two iron knees, united by an iron plate across the head-block. C is the rack-bar, sliding in grooves in the head-block attachments  $a a a$ . D D are inclined planes, firmly connected with the bar C, and sliding in grooves in inclined planes  $b b$ , causing the latter, and the knees B<sup>1</sup> and B<sup>2</sup>, to which they are attached, to slide along the head-blocks A<sup>1</sup> A<sup>2</sup>. These second inclines  $b b$  give to their knees B<sup>1</sup> B<sup>2</sup> a considerably larger range of movement than the knees would have if operated directly by the inclines D D taking into grooves across their rear ends. To obtain the same range of movement from the inclines D D it would be necessary to lengthen them, and thus increase the width of the carriage. E is a bar or platform connecting the outer knee B with the inner knee B<sup>1</sup>, so that any motion given to the knee B<sup>1</sup> will be communicated to the knee B. The inclines are made to work with the inner knee, in order that they may not run beyond the end of

the carriage. F is the foundation upon which the head-blocks rest. The base of the knee B<sup>2</sup> is divided into two parts,  $e$  and  $w$ , the part  $w$  being that to which the incline  $b$  is attached, and the part  $e$  sliding over the part  $w$ . This motion it obtains from a lever,  $c$ , and slot  $u$ , the lever being pivoted to the knee proper at  $h$ , and to the part  $w$  by a pin,  $g$ , passing through the slot, as shown.

One of the castings of the knee has a ratchet,  $t$ , as shown, and the lever has a catch,  $d$ . Pushing the lever back brings the knee forward, and raising the catch and pulling the lever forward sends the knee back, both movements being independent of the inclines. The knee B<sup>1</sup> is shown in the drawings as also made with a base in two parts; but two screws, as shown, keep the parts rigidly together.

$i$ , Figs. 1 and 3, is a weighted lever, having a cam,  $j$ , and attached at  $k$  to the rod  $q$  of the lower dog  $m'$ , and at  $r$  to the cylinder  $l$ . The cylinder  $l$  is held in position by the spiral spring  $o$ . The upper dog  $m$  slides up and down upon this cylinder, an eye at the rear end of the dog fitting the cylinder. The upper dog is held in position by the spring-catch  $n$  acting in holes or notches cut in the cylinder  $l$ .  $s$  is a spiral spring attached to the knee B<sup>1</sup> at one end, and at the other to the cylinder  $l$ . This spring throws the dogs  $m$  and  $m'$  out of the way of the saw when not in use.

In order to operate this part of my invention, the log being in position in the head-blocks, press on the handle of the spring-catch  $n$ , and allow the dog  $m$  to slide along the cylinder  $l$  until its point rests on the log; then throw the weighted lever to the right. This raises the dog  $m'$  until it finds a bearing on the log, and then presses down the cylinder  $l$  until the point of the upper dog  $m$  enters the log.

The whole of this part of my invention turns freely in the sockets  $p$ , by which it is attached to the knee, and, when not in use, is, as before stated, thrown out of the way of the saw by the spring  $s$ .

I claim—

1. The upright B at the forward end of



the carriage, combined with the inner upright  $B^2$  by the bar or platform  $E$ , for the purpose described.

2. The combination of the weighted lever  $i$  with the cam  $j$ , spiral spring  $o$ , cylinder  $l$ , dogs  $m$  and  $m'$ , and spring-catch  $n$ , substantially as described, for the purpose specified.

3. The spiral spring  $s$ , in combination with swinging dogs, substantially as described, for the purpose specified.

CHARLES REDINGTON ELY.

Witnesses:

HENRY G. ELY,  
PERLEY BELKNAP.