2 Sheets—Sheet 1

J. W. & W. EBERT.

HEAD BLOCK FOR SAWMILLS.

No. 61,178. Patented Jan. 15, 1867.

Fig. 1.

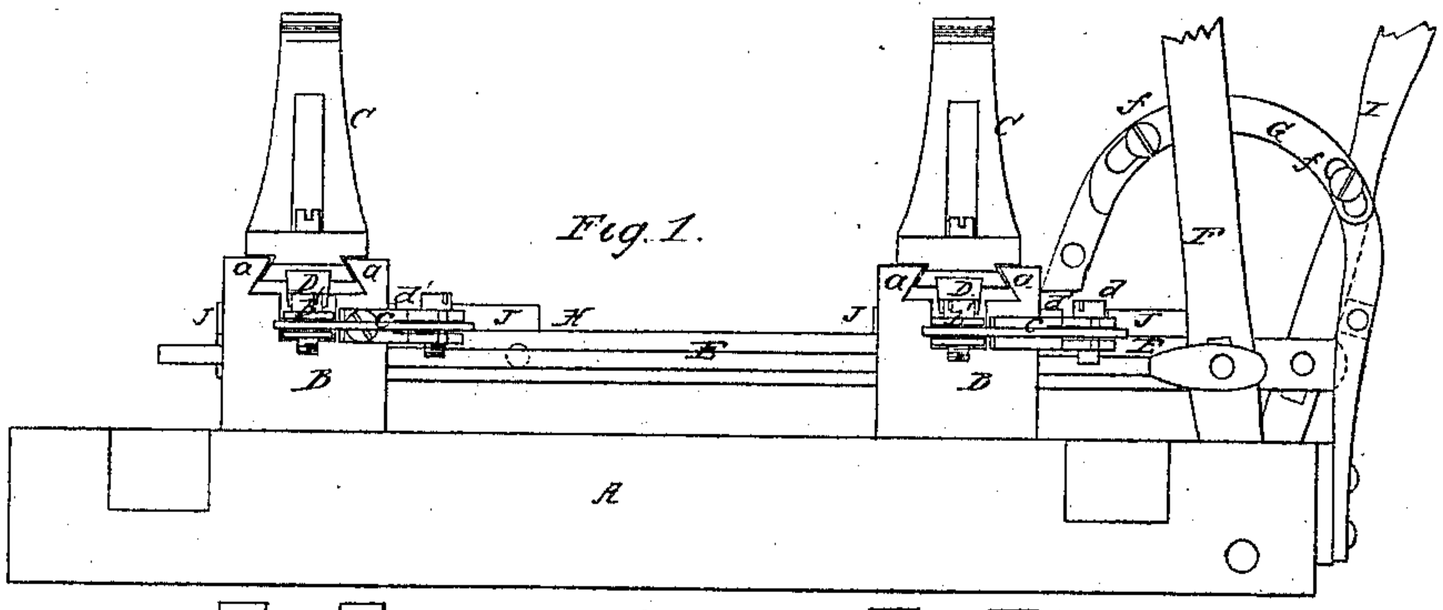


Fig. 2

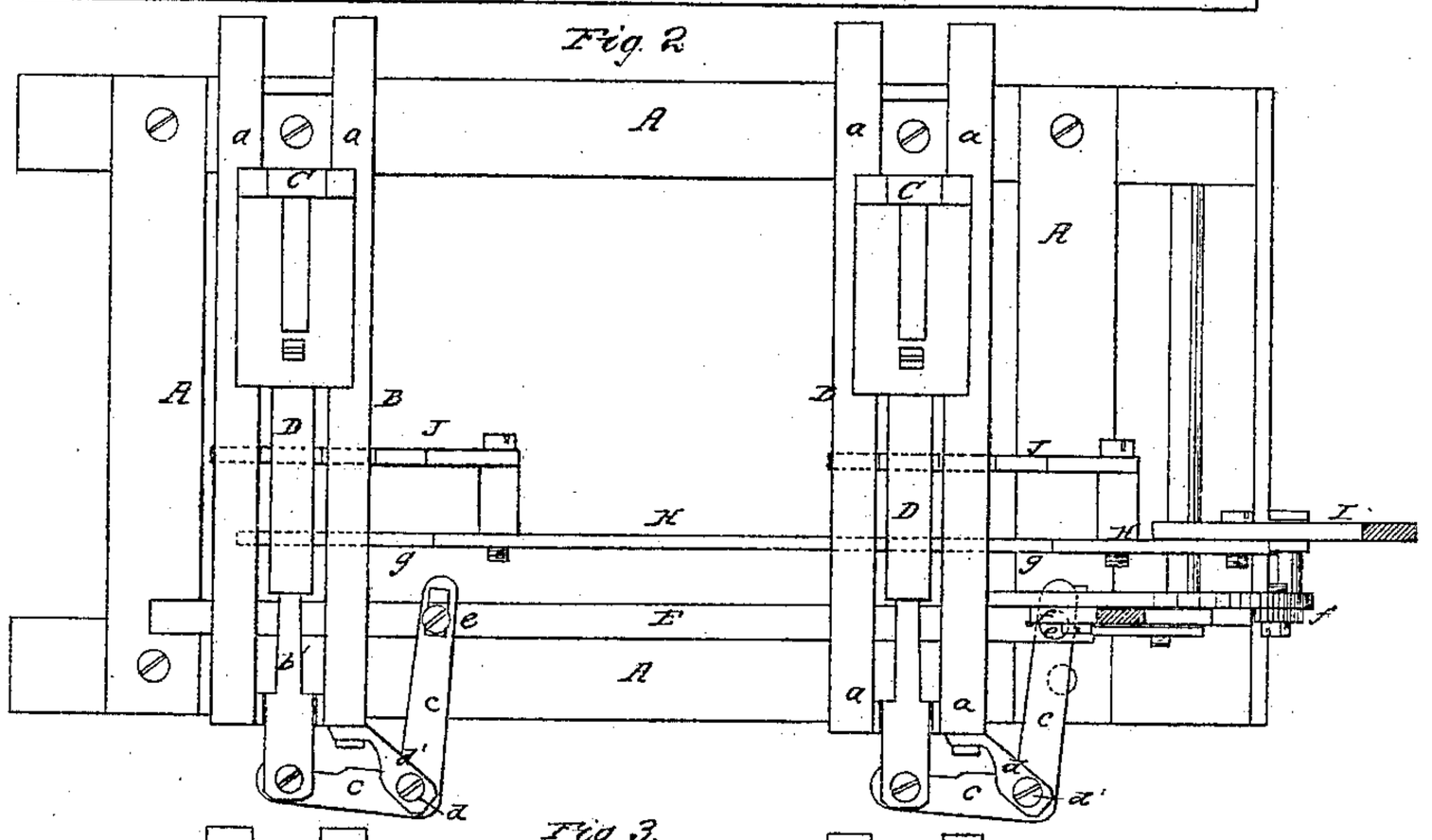
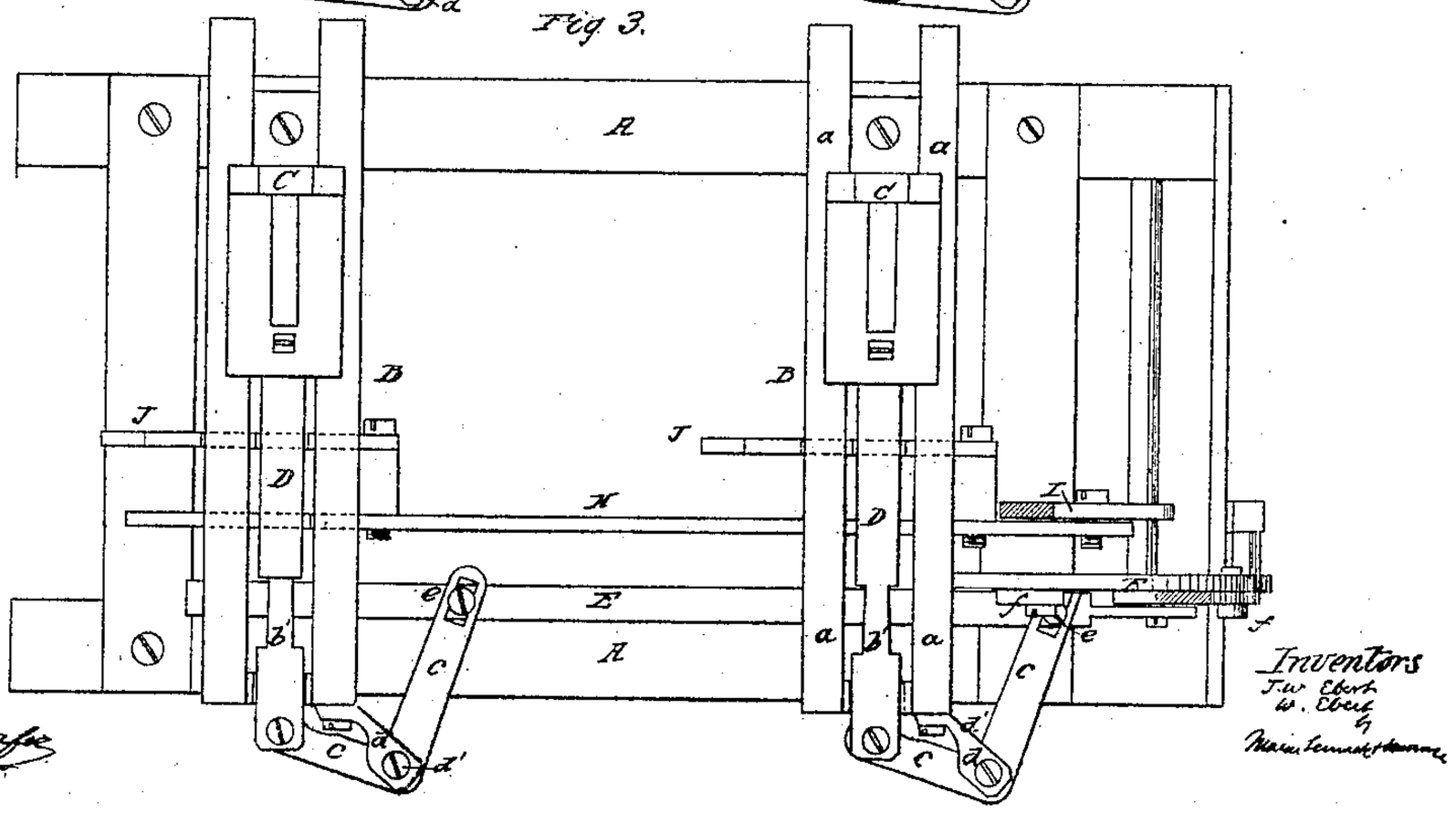


Fig. 3.



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2 Sheets—Sheet 2.

J. W. & W. EBERT.

HEAD BLOCK FOR SAWMILLS.

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Fig. 4.

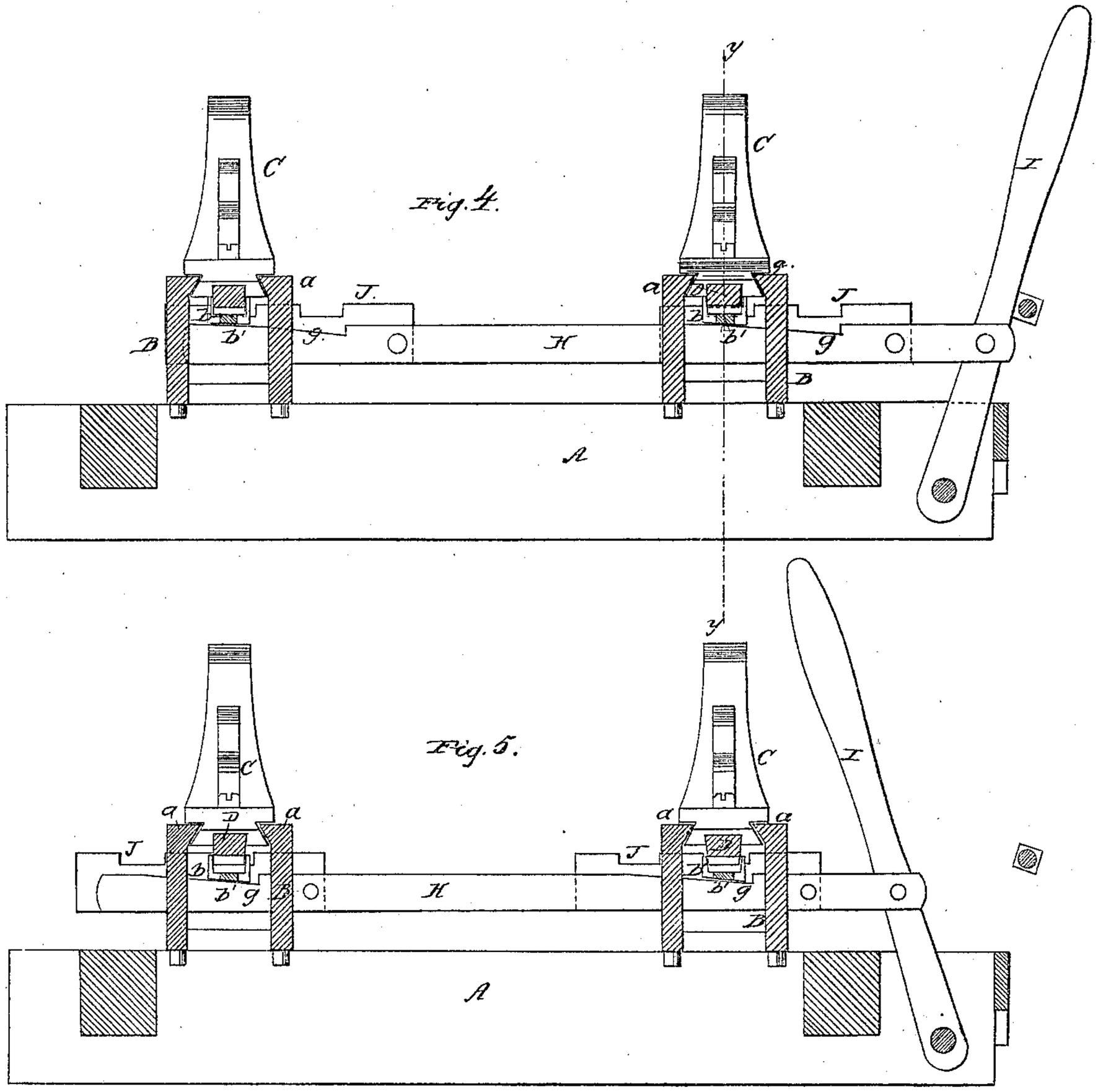
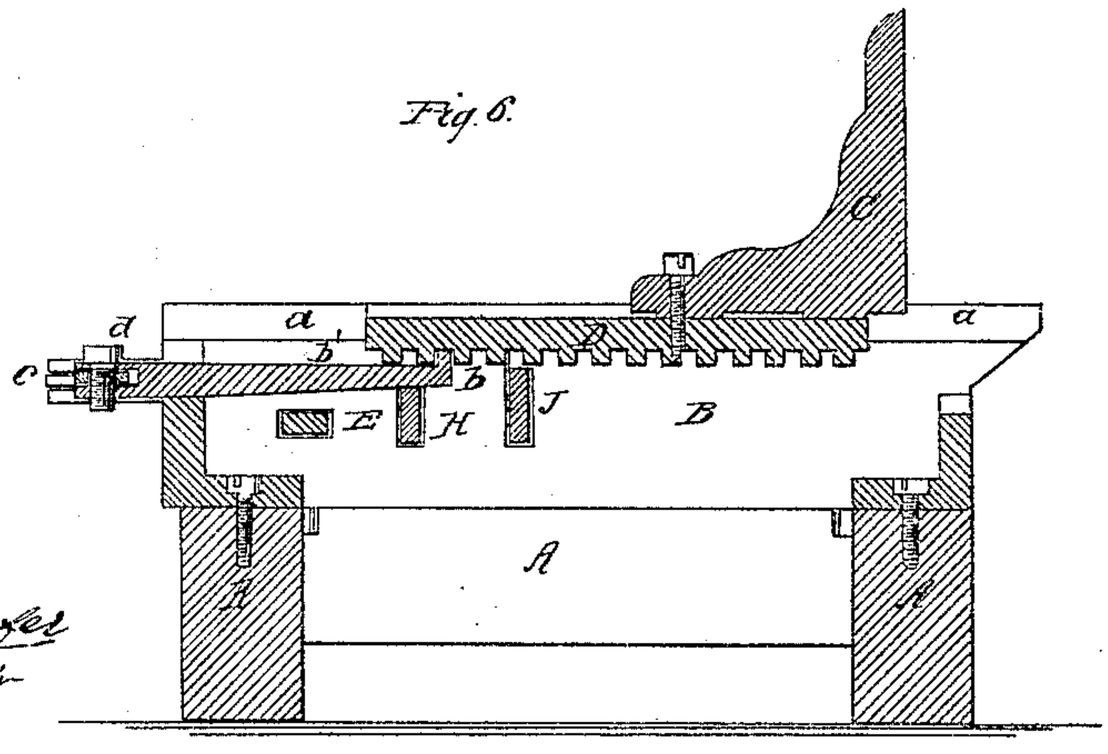


Fig. 5.

Fig. 6.



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United States Patent Office.

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Letters Patent No. 61,178, *dated January* 15, 1867.

IMPROVEMENT IN HEAD-BLOCKS FOR SAW-MILLS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, J. W. EBERT and W. EBERT, of Zanesville, Muskingum county, and State of Ohio, have invented an Improvement in Head-Blocks for Saw-Mills; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an elevation of the machine.

Figures 2 and 3 are top views showing the pawl lever and sliding stops in two positions.

Figure 4, sheet 2, is a longitudinal section taken through fig. 2, in the vertical plane indicated by line *x x*, showing the pawls elevated in gear with the racks of the knees.

Figure 5 is a similar section of the same parts, showing the pawls depressed free from the racks.

Figure 6 is a transverse section, taken through a head-block in the vertical plane indicated by red line *y y*, fig. 4.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements on devices for adjusting logs up to saws in saw-mills, the object of which invention is to obtain absolute correctness in the adjustment of the two knees or brackets to which the logs are secured, and at the same time to effectually prevent any liability of either one of said knees moving backward or forward, after they have been adjusted to the proper position on the head-blocks, as will be hereinafter described.

To enable others skilled in the art to understand our invention, we will describe its construction and operation.

The carriage or frame A, upon which the head-blocks B B are supported, may be constructed, mounted, and operated in the usual or other suitable manner. Upon this carriage, and extending transversely across the same, are the two head-blocks B B, upon which the logs are supported as they are moved up to the saw. These head-blocks are arranged in planes parallel to each other, and they are constructed with ways, *a a*, for receiving, holding down, and guiding the upright knees C C, so that these latter shall slide freely and be firmly sustained. On the lower sides of the base portions of the knees C C toothed bars or racks, D D, are suitably secured, the teeth on the bottom sides of which are all regularly spaced and adapted for receiving between them the reciprocating pawls *b b*, which are formed on the inner ends of arms *b' b'*, as shown in fig. 6. The outer ends of the pawl arms *b' b'* are pivoted to vibrating angular levers, *c c*, which have their fulcra, *d d*, upon brackets, *d' d'*, projecting from the ends of the head-blocks; these levers, *c c*, are pivoted to a rectilinear reciprocating rod, E, which passes through the two head-blocks B B, and is connected at one end to a hand-lever, F, on the carriage A. The connections of levers *c c* with the sliding-rod E are made by means of pins, *e e*, passing through oblong slots in said levers and entering the rod. These connections allow the two levers to be vibrated by moving the rod E back and forth. The pawl arms are seated in slots, which are formed in the ends of the cross-heads, for guiding said arms and causing them to move in a direction with their length when acted upon by the angular levers *c c*, as above mentioned. The upright hand-lever F is vibrated between two stops, *f f*, on the curved frame G, which stops limit the vibration of said lever, but they are adjustable for regulating the throw of the pawl arms *b' b'*, according to the distance which it may be desired to move the knees C C at each forward movement of said pawls. Both pawl arms, both angular levers, and both pawls are constructed alike, so that both pawls receive the same length of movement, and operate simultaneously upon both of the knees C C. In order to move the knees C C up to the saw with an intermittent motion, by means of the pawls *b b*, it will be necessary to depress both pawls after every forward thrust, so as to allow them to clear the teeth of their respective racks, D D, and leave the knees in the position to which they were adjusted. To effect this object, the inner ends of the pawl arms *b' b'* are supported upon the inclined edges *g g* of a sliding-bar, H, which latter passes through the two head-blocks B B, and is reciprocated by a vibrating hand-lever, I, which is alongside of the hand-lever F, as shown in the drawings. The inclined planes *g g* are so arranged that when lever I is moved back, as shown in fig. 4, the pawls *b b* will be raised, so as to engage with the teeth of racks D D; and when lever I is pressed forward the pawls *b b* will be depressed, and will move free of said racks. When the pawls are depressed the knees C C can be adjusted backward and forward on their ways without obstruction, but when these pawls are raised the knees can only be moved by vibrating the hand-lever F, as above set forth. To prevent any movement of the knees after they have been once adjusted by the pawls, we use two sliding-plates, J J,

one for each rack, D, and secure these plates to the reciprocating bar H, so as to pass freely through their respective head-blocks B beneath the racks D. The upper edges of plates J J are notched, so as to allow the racks D D to be moved by the pawls when the lever I is in the position shown in fig. 4, and also to allow these racks or knees to be moved by hand, when the pawls are disengaged from them, and the lever I is in the position shown in fig. 5. But when those portions of the edges of plates J J, which are between the notches, are brought in a position to enter the spaces between the rack teeth, then the knees cannot be moved either by hand or by the pawls, but will be locked firmly in their places. These sliding-plates J J thus operate as keys or locks for keeping the knees and log in the desired position. If there should be any lost motion in the angular levers or parts connected thereto, the plates J J, which move through the racks D, will bring the knees to their proper places. The ends of the keys or elevations between the notches of plates J J may be bevelled, so as to readily enter the spaces between the rack-teeth, if such spaces should not have been brought in a line exactly coinciding with the said elevations or keys.

To operate this machine, the stops *f f* on frame G are adjusted and set according to the length of movement required. If the log is to be moved up to the saw, the lever F is moved forward to the position shown in figs. 1 and 2; the lever I is then drawn back to the position shown in figs. 1, 2, and 4, so as to engage the pawls with their respective racks. Now, by drawing lever I back to the position shown in fig. 3, both knees, C C, will be moved forward a certain distance. To repeat this movement of the knees C C, lever I is moved to the position shown in fig. 5, lever F to the position shown in fig. 1, then lever I is moved back to engage the pawls with their racks, and lever F is moved back, which latter movement impels the knees forward again. To move the knees by hand back or forward, it is only necessary to move lever I back, and thus allow pawls *b b* to drop down and free themselves from their racks.

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

1. Providing for adjusting knees upon head-blocks, by means of rectilinear reciprocating pawls, which are allowed to vibrate vertically, in combination with a lever, H, which will admit of said pawls being engaged with or disengaged from their knees at pleasure, substantially as described.

2. The locking-plates J J, applied so as to take into the racks of adjustable knees of head-blocks, substantially as and for the purpose described.

3. The construction of the bar H, substantially as and for the purpose described.

4. The combination of the locking-plates J J, or their equivalents, with racks D, upon the knees C C, and with the bar H, which raises and depresses the pawls *b b*, substantially as and for the purpose described.

5. The combination of pawls *b b*, arms *b' b'*, and angular levers *c c* with the reciprocating bar E, and a lever whose movements are regulated by adjustable stops *f f*, substantially as and for the purposes described.

J. W. EBERT.

W. EBERT.

Witnesses:

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JNO. C. DIXON.