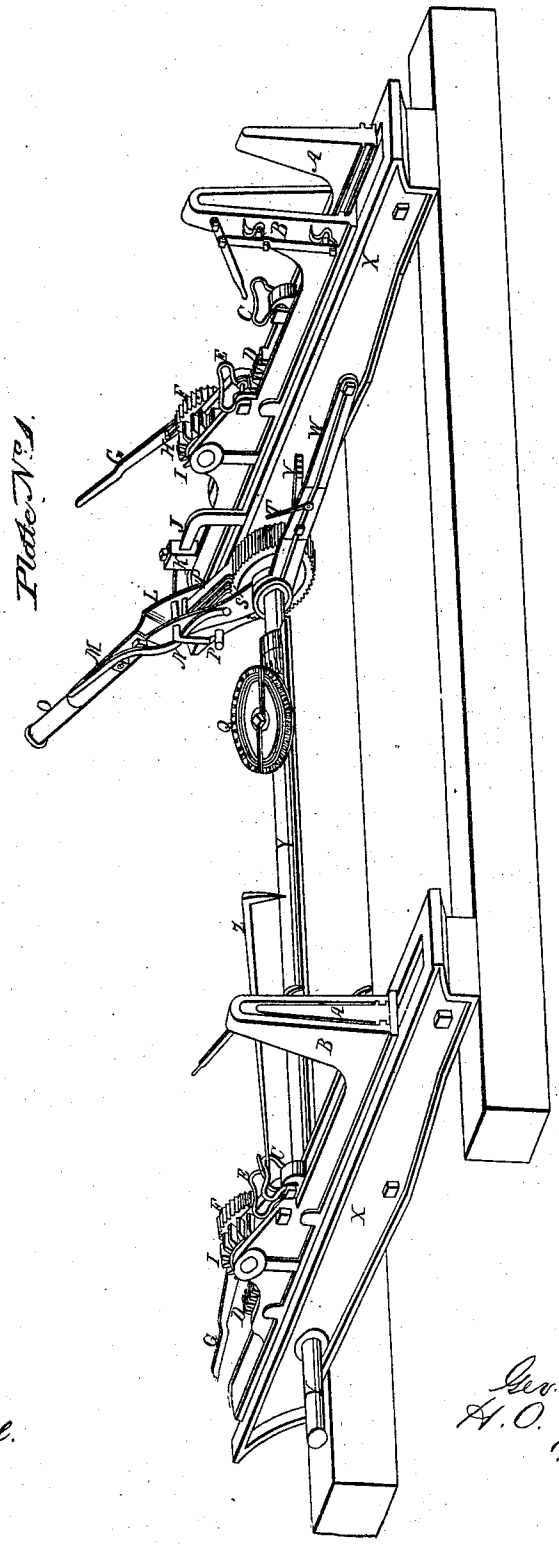
3 Sheets—Sheet 1.

G. SELDEN & H. O. KELSEY.

HEAD BLOCK FOR SAWMILLS.

No. 104,068. Patented June 7, 1870.



Witnesses.
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3 Sheets—Sheet 2.

G. SELDEN & H. O. KELSEY.

HEAD BLOCK FOR SAWMILLS.

No. 104,068. Patented June 7, 1870.

Fig; 1.

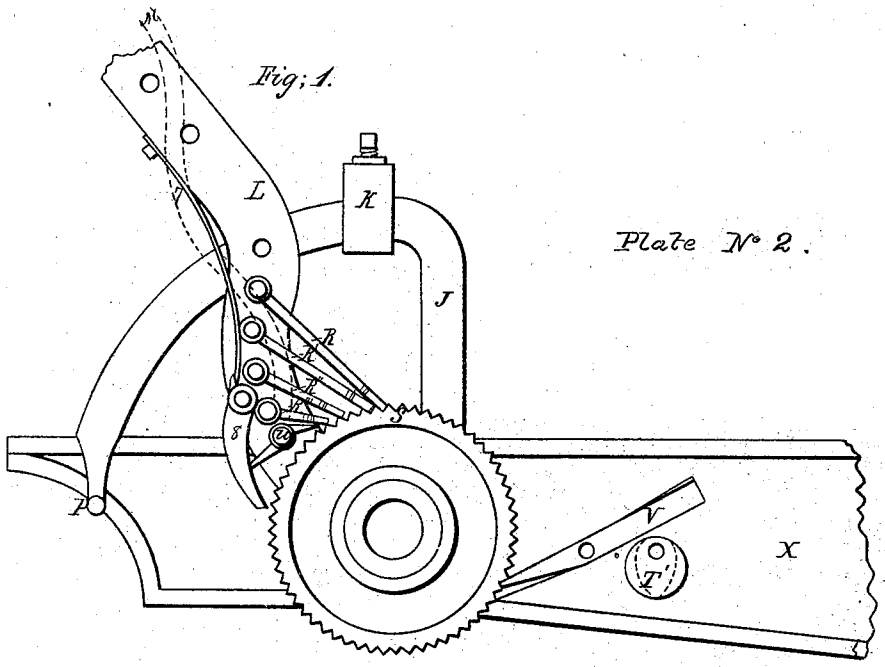
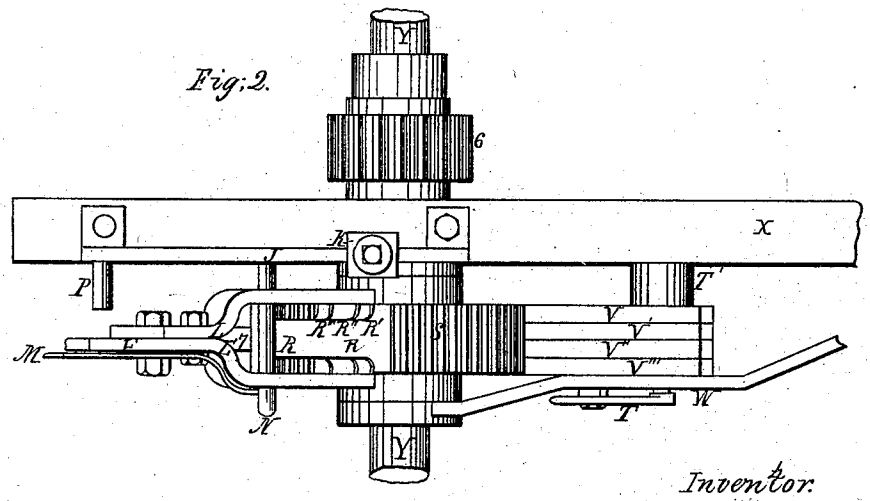


Plate N° 2.

Fig; 2.



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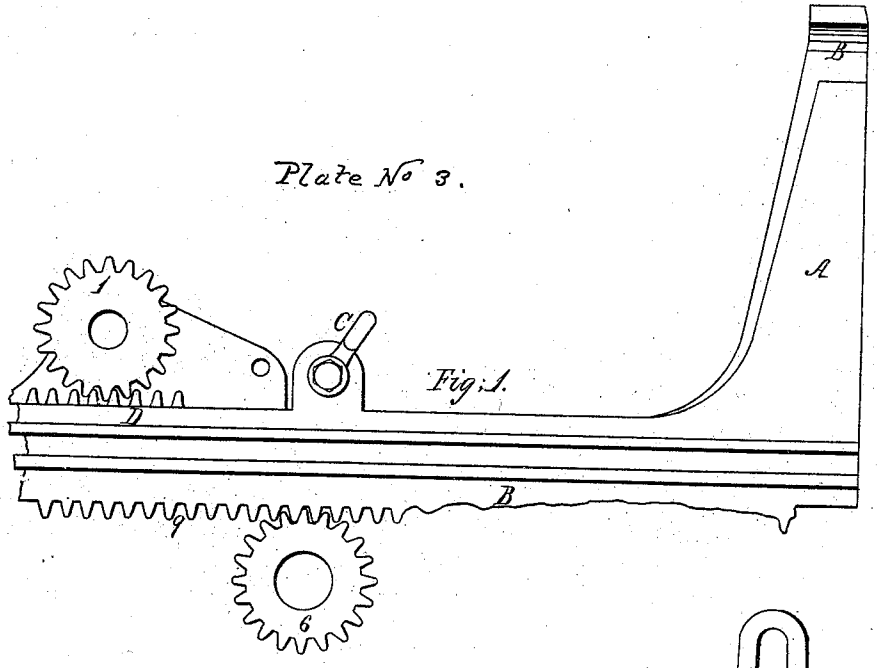
3 Sheets—Sheet 3.

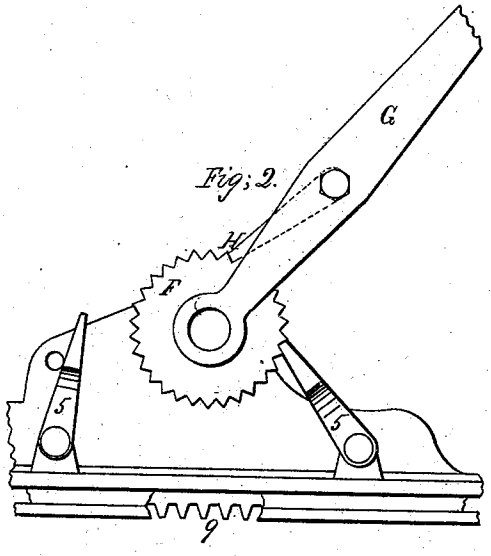
G. SELDEN & H. O. KELSEY.

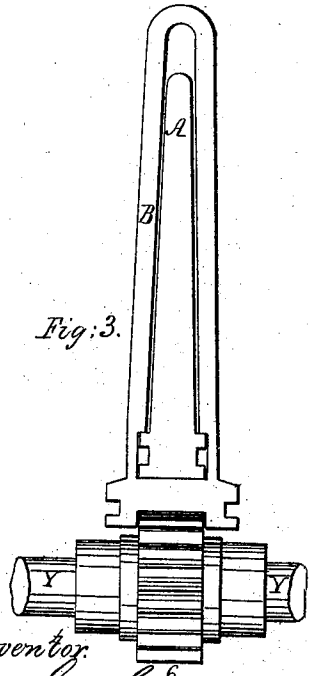
HEAD BLOCK FOR SAWMILLS.

No. 104,068. Patented June 7, 1870.

Plate No 3.







Witnesses.

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United States Patent Office.

GEORGE SELDEN AND H. O. KELSEY, OF ERIE, PENNSYLVANIA, ASSIGNORS TO GEORGE SELDEN.

Letters Patent No. 104,068, *dated June* 7, 1870.

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, GEORGE SELDEN and H. O. KELSEY, of Erie, in the county of Erie and State of Pennsylvania, have invented certain Improvements in Head-Blocks for Saw-Mills, of which the following is a specification.

The nature of our invention consists—

First, in providing saw-mill head-blocks with such a combination of levers, pawls and ratchets, pinions, pinion and racks, as to cause the log to be fed to the saw in a more perfect manner, and with complete accuracy.

Second, in providing head-blocks with independent knees working out from the main knees for the purpose of throwing the log out of the parallelism, and to parallelize the same.

The object of this part of the invention is to enable the operator to throw the log at any angle to the saw-line that he may choose, as in sawing diagonal stuff, and in sawing a tapering log to hold it parallel to the saw-line, and, if three head-blocks are used, to spring a curving log into line.

In the accompanying drawing there are three plates:

In Plate No. 1, the figure is a perspective view of a machine embodying our invention.

In Plate No. 2, Figure 1 is a view of the feed.

Figure 2 is a top view of the same.

In Plate No. 3, Figure 1 is a sectional view of the knee, showing the independent knee, which works inside of the main knee and the pinion and rack which propel the same, and also the pinion and rack which propel the main knee.

Figure 2 is a view of the feed ratchet and lever of the independent knee, and

Figure 3 is a face view of the main and independent knees, showing their relative positions, and also showing the pinion and shaft underneath.

The following is a description of our invention:

X is the bed-plate of the head-block, and rests on wooden sills below.

Y is the feed-shaft, and passes from head-block to head-block, and on it the propeling or feed-pinions 6 are hung.

O is a forked lever, and is hung on the shaft Y, which acts as its pivot.

Between the prongs of this forked lever O, on the shaft Y, is hung the ratchet-wheel S.

This ratchet-wheel is the drive-wheel of the shaft Y, and is operated by the lever O, with its pawls R R′ R″ R‴, which are hung in its fork above the ratchet wheel S.

These pawls can be seen more plainly in plate No. 2, fig. 1, where the lever O is seen with the prong nearest removed, exposing the several pawls R R′ R″ R‴, and the backing or gig-pawl 8 and their trip U.

It will there be seen that the pawls R R′ R″ R‴ are all of different lengths, and so arranged that one only acts on the ratchet-wheel S at a time, but that the slightest movement of the lever O will bring some one of the others into use.

This arrangement is for preventing the slightest amount of lost motion, for with four pawls all the motion that it is possible to lose is one-fourth of the width of one of the notches on the ratchet-wheel S, and as the number of pawls is increased the amount of lost motion possible is in that proportion diminished.

These pawls are arranged one above the other. This insures a more perfect action of each pawl, for there can be no friction of one upon the other, and also the face of each pawl can be of the same width as the thickness of the ratchet wheel.

On the under and opposite side of the ratchet-wheel will be seen four other pawls V V′ V″ V‴, also of unequal lengths. These are for the purpose of retaining every particle of motion produced, that is, they prevent the slightest giving back of the machine.

These pawls, R R′ R″ R‴ and V V′ V″ V‴, are tripped by the trips U and T, respectively, which are worked by the trip-levers M and T respectively.

The motion obtained by the working of the lever O on the shaft Y, as described, is communicated by means of the pinion 6 to the knees B B, (see plates Nos. 1 and 2,) and as the log which is being sawed rests against their faces, it is, of course, fed to the saw.

J is a graduated quadrant attached to the bed X, and

K is a stop, which can be secured at any point on the quadrant by means of a set-screw.

N is a stop-pin, which passes through the prongs of the forked lever O, and when the lever is moved it follows the quadrant and stops the lever when it reaches the stop K.

This arrangement is to regulate the distance to be traversed by the knees at each setting forward of the log toward the saw, and the stop K is set on the quadrant by the operator to suit the thickness of stuff it is desired to saw.

When a log is sawed up, it is necessary to gig the knees back for the reception of a new log. This can be accomplished in the following manner: (See plates 1 and 2:)

The trip-lever M is thrown down. This causes the trip U to raise the pawls R R′ R″ R‴ from the ratchet-wheel S, and lets the gig-pawl 8 drop onto the ratchet.

The trip-lever T is also thrown back. This causes the trip T′ to raise the pawls V V′ V″ V‴ from the ratchet-wheel S. The lever O is then worked by the operator, and the direction of the motion of the shaft is reversed, and, of course, the knees are drawn back.

The second part of our invention consists of an independent knee working out from the knee proper.

A, plates Nos 1 and 3, is the independent knee;

D is a rack; and

I is a pinion working in the same.

F is a ratchet-wheel, which is on the same shaft with the pinion I, and these are propelled by the lever G with the pawl H.

By this arrangement the independent knee can be thrown out ahead of the knee B, and drawn back again, for, by throwing the pawl H over, the lever G can be made to work the knee A in either direction.

3 and 5 are dogs, by which the independent knee can be held at any point desired.

E and C are rings in which the grappling pikes Z are hooked onto the knee, or independent knee, as desired.

By attaching the pike Z to the ring on the independent knee A, and driving the pike into the log it will be held firmly to the face of the independent knee, and no matter in which direction the log is moved, the pike will hold it snug to the face of the knee, hence the log can be shoved forward and drawn back by operating that knee, A, in the manner described, thus greatly facilitating the manipulation of the log and insuring accuracy.

What we claim is as follows:

1. The trip U, in combination with the pawls R R′ R″ R‴, and the gig-pawl S, when constructed and operated as and for the purposes set forth.

2. The lever T and trip T′, in combination with the check-pawls V V′ V″ V‴, when constructed and operated as and for the purposes set forth.

3. The independent knee A, provided with loop C and rack D, in combination with the knee B, pinion I, ratchet F, and lever G, with its pawl H, when constructed and operating in the manner and for the purpose specified.

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H. O. KELSEY.

Witnesses:
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J. C. SELDEN.