

No. 17,226.

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This technical drawing illustrates a mechanical assembly, possibly a pump or engine component, shown in a cross-sectional view. The device is housed within a rectangular frame with diagonal bracing. A central vertical shaft is the primary component, with several parts labeled: 'C' at the top, 'H' in the middle, and 'I' at the bottom. A horizontal bar, labeled 'P', is positioned across the middle of the shaft. To the left of the shaft, a large circular component, possibly a flywheel or a large gear, is visible, with a smaller circular component labeled 'S' attached to the shaft. A dashed line indicates a path or movement from the bottom of the shaft towards the large circular component. On the right side, a horizontal bar is labeled 'R'. The drawing is a black and white line drawing with various labels and dashed lines indicating mechanical details and movement.

Fig. 1. A perspective view of the machine, showing the frame, the vertical shaft, the horizontal shaft, and the various components labeled with letters. The vertical shaft is labeled *A*, and the horizontal shaft is labeled *B*. The frame is labeled *C*, and the various components are labeled with letters *D*, *E*, *F*, *G*, *H*, *I*, *J*, *K*, *L*, *M*, *N*, *O*, *P*, *Q*, *R*, *S*, *T*, *U*, *V*, *W*, *X*, *Y*, *Z*, *a*, *b*, *c*, *d*, *e*, *f*, *g*, *h*, *i*, *j*, *k*, *l*, *m*, *n*, *o*, *p*, *q*, *r*, *s*, *t*, *u*, *v*, *w*, *x*, *y*, *z*.

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SELF-REVERSING FEED-MOTION FOR SAWING-MILLS.

Specification of Letters Patent No. 17,226, dated May 5, 1857.

To all whom it may concern:

Be it known that we, D. METHVEN and A. A. METHVEN, of Wooster, in the county of Wayne and State of Ohio, have invented
5 new and useful Improvements in Sawmills; and we do hereby declare that the following is a full and exact description of the construction and operation of the same, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of our invention consists in the arrangement and combination of devices, by means of which the carriage can be run
15 in both directions, by means of a double ratchet wheel, upon the pinion shaft, these wheels being operated upon by two pawls, one of which drives the wheel and shaft in one direction, and the other in the opposite,
20 the direction of the carriage being changed by simply changing the pawls; also, in the manner of communicating motion to the rock shafts that move the pawls, using for that purpose, inclined planes attached to
25 the crosshead at the lower end of the saw, and also, as accessory to the foregoing, the furnishing the saw with teeth upon both edges, and the construction of the carriage of such a form, that the board may be cut
30 clean from the log, so that instead of giggering back for a new run, a board may be cut in the opposite direction.

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

The frame of the sawmill is constructed in the usual manner.

Figure 1, in the drawings represents a
40 side view of our improved mill, and Fig. 2 an end view. Figs. 3, 4, and 5 are detached sections of devices used in accomplishing the ends above set forth.

In Figs. 1 and 2, A represents the saw.
45 This is armed with teeth upon both its edges. The upper end is provided with a crosshead B, Fig. 2, running between the ways C, C, Figs. 1 and 2.

The guides D, D, are adjusted to each
50 side of the saw, above the log, to prevent the vibration of the saw when running and are constructed and attached in the usual manner.

The lower end of the saw, is attached to
55 a crosshead in the usual manner as seen at E, Fig. 2, with this exception, that the cross-

head is longer, and the ways F, F, are farther apart, for the purpose of having introduced the inclined plane blocks G, Figs. 2 and 3.

The pitman, (connecting rod) H, is attached to the lower crosshead in the ordinary manner, and is connected to the driving crank I, Fig. 1.

To the lower end of one of the lower ways
65 F, at F', is attached a cap K, which forms the guides to the head of the rod L, Fig. 2, which head works in the inclined plane groove or furrow, *a, a*, Figs. 2 and 3. The inclined plane block G, moving upward and
70 downward with the crosshead when the saw is in motion, by means of the head working in the groove *a, a*, causes the rod L, to move alternately to the right and left, at each stroke of the saw. The rod L is attached
75 to the rock shaft M, Figs. 2 and 4, by a short arm *c*, with a hinge joint. At the upper end of the rock shaft M, is another arm, *e*, longer than the arm *c*. To this arm *e* is attached the pawls N. It will be ob-
80 served that the arms *c* and *e*, stand at nearly right angles to each other, and also that there are two rock shafts both like the one described, with all its parts and fixtures, the two rods L, being each worked by a head
85 in a groove *a, a*, in each side of the inclined plane block G. The two rock shafts are shown in section in Fig. 4.

The pinion shaft O, that drives the carriage P, by means of the rack R, is itself,
90 driven by means of the pawls working upon ratchet wheels S, upon the shaft O. These wheels are also seen in section in Figs. 4 and 5.

There are two ratchet wheels, one for each
95 pawl, having the teeth point in opposite directions. The two are seen at S, Fig. 2. The pawls N, are dropped upon the ratchet wheels, or raised from them, by means of a cord T, T', passing over a pulley U, U', and
100 around a belaying pin V, placed at some convenient distant accessible point, and when one is in use, in running the carriage in one direction, the other is raised from the ratchet wheel, and is at rest, and when the
105 saw has passed entirely through the log, and the log is set for another run, the pawls are changed; and the carriage immediately starts in the opposite direction.

The two ratchet wheels are seen in sec-
110 tion, with the front one in part removed, in Fig. 5.

The carriage P, may be made so that one of its sides will be upon each side of the saw, or both of them upon one side; as represented, in the drawings at W, Fig. 2.

5 We do not claim any of the herein mentioned devices, separately considered, but

What we do claim as our invention and desire to secure by Letters Patent, is—

10 The arrangement of the inclined planes *a, a*, the connecting rods L, the rock shafts

M, the pawls N, and the double ratchet wheels *s, s*, as herein specified, in combination with the double toothed saw, operating, substantially in the manner and for the purpose set forth.

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Witnesses:

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