(No Model.) 2 Sheets—Sheet 1.

W. H. SNYDER.

SAW MILL SET WORKS.

No. 284,081. Patented Aug. 28, 1883.

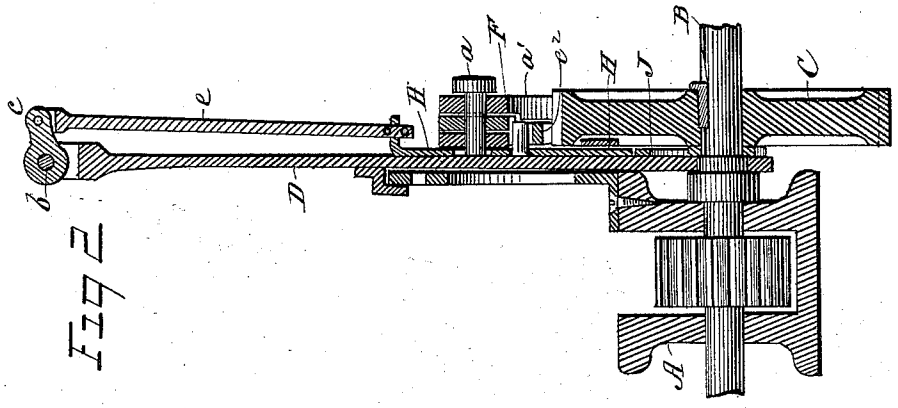

Fig 2

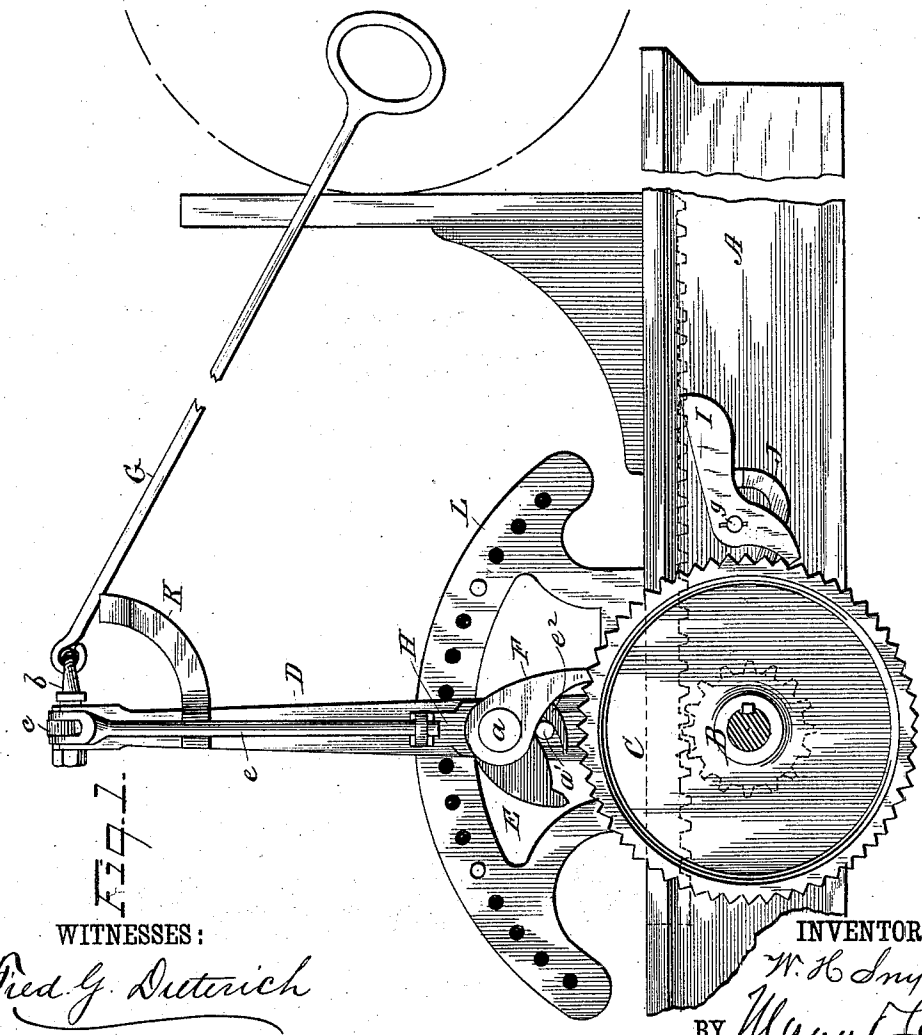

Fig 1.

WITNESSES:

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Edw. W. Byrn

INVENTOR:

W. H. Snyder

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(No Model.) 2 Sheets—Sheet 2.

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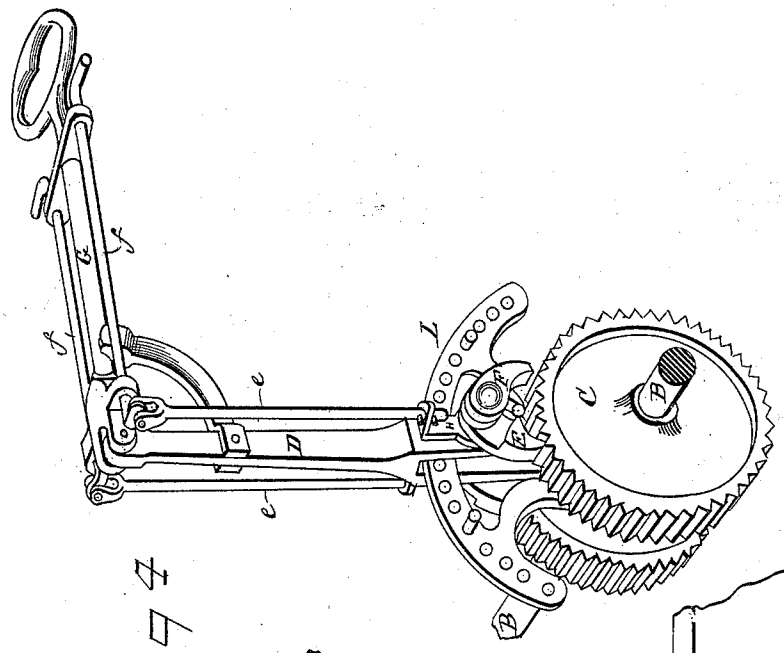

Fig 4

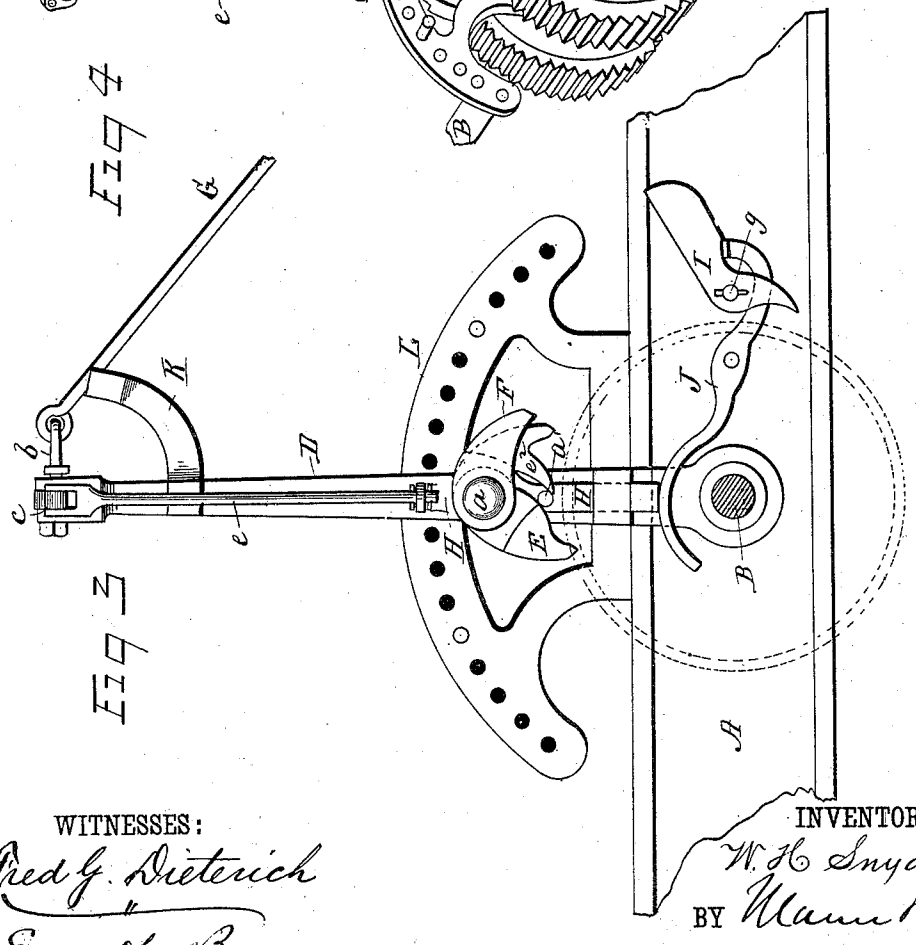

Fig 3

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UNITED STATES PATENT OFFICE.

WILLIAM H. SNYDER, OF WAYNESBOROUGH, PENNSYLVANIA.

SAW-MILL SET-WORKS.

SPECIFICATION forming part of Letters Patent No. 284,081, dated August 28, 1883.

Application filed May 3, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. SNYDER, of Waynesborough, in the county of Franklin and State of Pennsylvania, have invented a new and useful Improvement in Saw-Mill Head-Blocks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of my saw-mill head-block. Fig. 2 is a vertical transverse section of the same. Fig. 3 is a side elevation with the ratchet-wheel removed; and Fig. 4 is a perspective view, showing a modification of my invention, and showing the application thereof to a combined independent and simultaneous head-block.

My invention relates to an improvement in saw-mill head-blocks designed to enable the sawyer to move the knees forward or backward without releasing his hold upon the handle-rod and without any change in his position.

In the drawings, A represents the head-block upon which the log rests and on which the knees slide. Running through this head-block and the corresponding parallel supports for the log is the longitudinal shaft B, which is provided with a pinion for each knee, which pinion engages with teeth upon the under side of the horizontal sections of the knees.

C is the ratchet-wheel, which is rigidly keyed upon the adjusting-shaft B, and which is made with short teeth having the same inclination upon both sides.

D is the adjusting-lever, which is mounted upon the shaft B, and is arranged to oscillate above the same. On the lever D, just above the ratchet-wheel, is an offsetting-pin, *a*, upon which are hung two oppositely-working pawls, E F, either of which may alternately rest upon the periphery of the ratchet-wheel, but which pawls cannot occupy this position at the same time. At the upper end of the adjusting-lever D is the handle-rod G, which is jointed to a swiveling piece, *b*, journaled in the end of the lever. This swiveling section has a short crank-arm, *c*, that is jointed to a rod, *e*, which lies parallel with the adjusting-lever, and at its lower end is connected to a slotted sliding plate, H, which moves over the pin *a*, carrying the pawls, and is provided just below the pawls with a pin, *a'*, which, on the upward movement of the plate H, strikes the pawl E and throws it out of contact from the ratchet-wheel and allows the other pawl to drop into contact with the ratchet-wheel, and which pin, on the other or downward movement, allows the pawl E to drop into engagement with the ratchet-wheel and throws the other pawl, F, out by striking against the horn-like projection e^2.

I is a detent, which is pivoted on a pin, *g*, on the head-block, and which detent is made with a weighted extension upon one side of its center, which normally holds the toothed end of the detent into engagement with the ratchet-wheel. When the pawl F is working to advance the log, the detent I engages with the ratchet-wheel to hold it to place while the pawl is moving back for a new hold, and when the pawl F is thrown out and E thrown in to reverse the movement, the detent I, as a matter of course, must be thrown out of engagement with the ratchet-wheel. To permit this to be done by the same movement that brings pawl E into engagement, a lever, J, Fig. 3, is fulcrumed at *j*, and one end is bent laterally and extended under the weighted end of the detent, while the other end is allowed to rest beneath the end of the slide-plate H, so that when the slide-plate moves down to throw pawl F out and bring pawl E into engagement the same movement causes lever J to be turned on its fulcrum and throw the detent I away from the wheel. For effecting the change in the position of the pawls and detent and reversing the feed, it will be seen that all that is necessary is simply to give the handle-rod a rotary turn about its own axis and continue the oscillation of the lever by alternately pushing and pulling the handle-rod.

K is a forked support offsetting from the working-lever, for holding up the handle-rod, and L is a curved bar with holes and pins, which latter may be adjusted in the holes to limit the length of the stroke of the lever.

In making use of my invention I may arrange it in connection with a simultaneously-working head-block in which all of the knees are adjusted equally and together from one

shaft; or I may use two independent shafts having two independent ratchet-wheels thereon, juxtaposed so as to be operated by a common mechanism, but so arranged that one ratchet-wheel, shaft, or head-block may be operated to move one end of a log without the other, so as to get the benefit of an angular cut. Such general arrangement of my devices for coacting with two independent ratchet wheels and shafts is shown in Fig. 4, in which the rods *e* are worked by independent rock-shafts *f f*.

In the drawings I have shown the pawl F, and also the detent I, constructed of several parallel similarly-acting pieces, as has been heretofore done to insure engagement with the ratchet-wheel; but this is not essential to my invention.

In defining my invention with greater exactness, I would state that I am aware of the Patent No. 160,116, and I do not claim, broadly, the reversal of a pawl by the rotary axial adjustment of the handle-rod which connects with the lever. This result has been heretofore attained; but the connection between the pawls and the handle-rod was a flexible cord or chain. I therefore restrict this part of my invention to a rigid sliding bar or connection, which acts upon the pawls with a positive bearing. This not only makes a more positive action, but enables me to throw either pawl in and the other out, or to stop the adjustment midway its range of movement and hold both pawls out. This is very desirable sometimes, especially in light saw-mills, where to save time the sawyer will sometimes pull back the head-block by hand.

Having thus described my invention, what I claim as new is—

1. The rigid sliding bar H, with laterally-projecting pin, in combination with the reversely-acting pawls pivoted or jointed to the lever, the toothed wheel operated upon by said pawls, the vibrating lever, the connecting-rod *e*, for actuating the sliding bar H, and means for vibrating the lever, substantially as shown and described.

2. The combination, with the toothed wheel, the weighted detent I, and its releasing-lever J, of the vibrating lever D, carrying reversely-acting pawls E F, a rotary adjustable handle-rod connected to the lever, and an inflexible or rigid connection receiving its movement from the handle-rod, and acting upon the pawls and also upon the detent-lever with a simultaneous and positive action, as described.

3. The combination, with two independent shafts bearing independent toothed wheels, and a vibrating lever carrying reversely-acting pawls for each wheel, of a handle-rod connected to the lever, independent rock-shafts *f f* arranged therein, and independent inflexible connection extending from the said rock-shafts to the pawls, for reversing them, as described.

WILLIAM H. SNYDER.

Witnesses:
D. M. GOOD, Jr.,
SAML. HARFLICH.