(No Model.)

W. H. SNYDER.

SAW MILL SET WORKS.

No. 316,299. Patented Apr. 21, 1885.

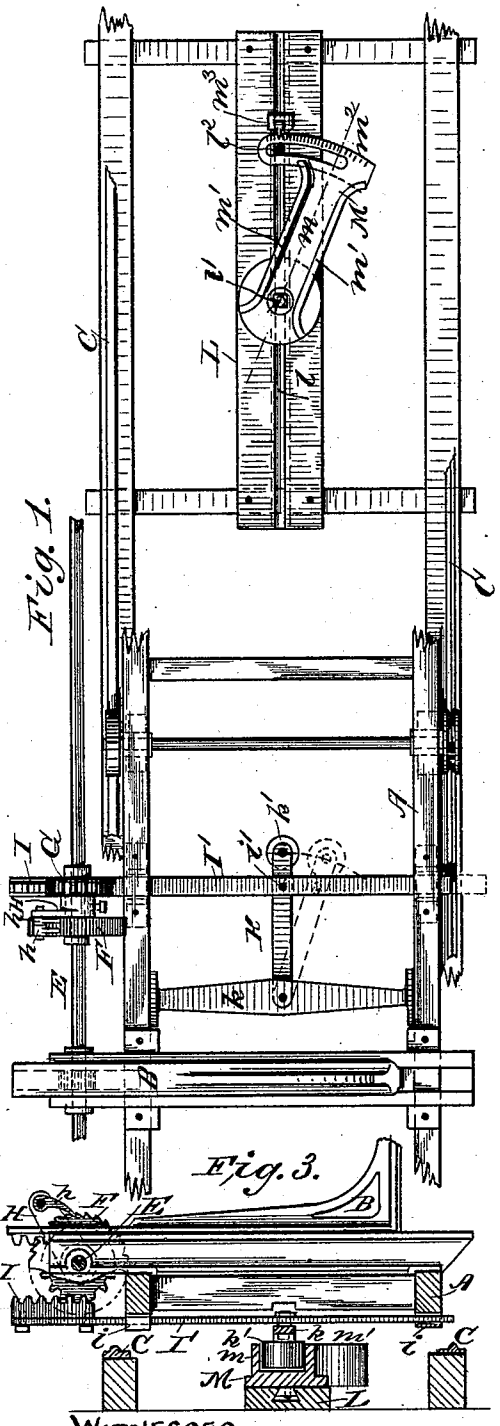

Fig. 1.

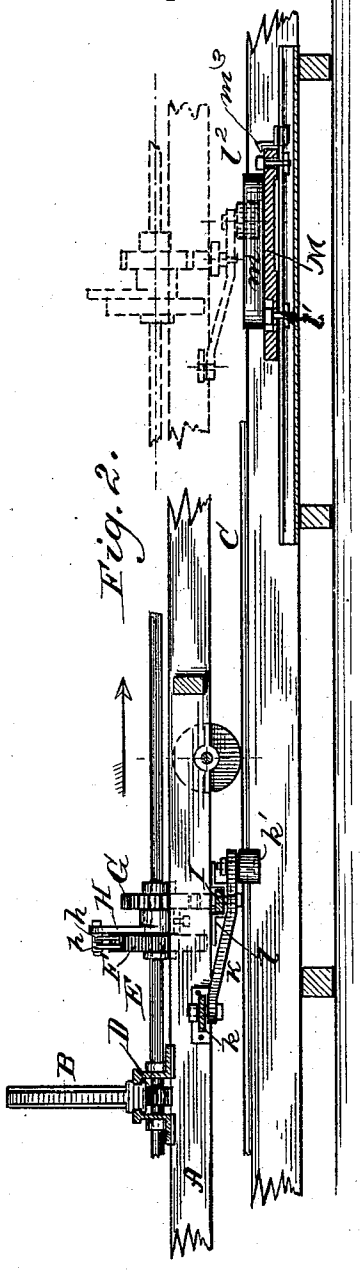

Fig. 2.

Fig. 3.

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SAW-MILL SET-WORKS.

SPECIFICATION forming part of Letters Patent No. 316,299, dated April 21, 1885.

Application filed October 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. SNYDER, a citizen of the United States, residing at Waynesborough, in the county of Franklin and State of Pennsylvania, have invented certain new and useful Improvements in Saw-Mills; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to the feed mechanism of saw-mill head-blocks whereby the head-blocks are advanced across the log-carriage to feed the log or stick of timber across the line of the saw each time preparatory to sawing a board from the log.

My invention consists of certain novel combinations, with such feed mechanism, of mechanical devices for operating it automatically at the required times, which combinations are specifically pointed out in the claim at the close of this specification.

In order that my invention may be clearly understood, I have illustrated in the annexed drawings, and will proceed to describe, a form thereof as applied to a common style of saw-mill.

Figure 1 is a plan view of so much of a saw-mill as is sufficient to clearly illustrate the nature and application of my invention. Fig. 2 is a longitudinal sectional elevation thereof. Fig. 3 is a transverse section.

The same letters of reference indicate identical parts in all the figures.

A refers to a portion of the log-carriage upon which a common head-block, B, is mounted in the usual manner, and which runs on the ordinary ways, C C. A rack on the under side of the head-block is engaged by a pinion, D, on the feed-shaft E, which is mounted in bearings on the head-block, and to which a ratchet-wheel, F, is secured. The feed-shaft carries a loose spur-wheel, G, on the hub of which an arm, H, is secured, carrying two or more pivoted pawls, *h h*, which rest on ratchet-wheel F. Spur-wheel G is engaged by a rack, I, the stem or shank I′ of which is arranged in suitable cross-guides, *i i*, of the log-carriage. This shank of this cross-sliding rack is connected by a pin, *i′*, to a lever, K, which is fulcrumed on a cross-bar, *k*, of the log-carriage, and carries at its extremity, on its under side, a horizontally-disposed anti-friction roller, *k′*. The lever K is so applied and formed that its anti-friction roller is below the frame of the log-carriage.

Some distance in advance of the saw, and between the ways of the log-carriage, is placed a fixed longitudinal rail, L, of considerable length, and having a longitudinal slot or groove, *l*, T-shaped in cross-section. A cam-plate, M, is mounted on this rail L in position to operate on lever K by its camway *m*, which is formed by the ribs *m′ m′* on its upper surface. The camway *m* is a straight-way made flaring at both ends, so that the anti-friction roller of lever K can enter it with ease from either end. The cam-plate is clamped to the rail L by a clamping-bolt, *l′*, which projects up through the slot in the rail. This clamping-bolt passes through the cam-plate near one end, its axis intersecting the center line of way *m*, and has a round stem so that the cam-plate can be turned on it, in order that the camway may be turned from a position parallel with the ways of the log-carriage, where it will have no effect on lever K, to such angular position as may be required to enable it to vibrate the lever K through such an arc as will cause the head-block to be advanced by the feed-gearing the necessary distance for sawing boards of a given thickness. The cam-plate is constructed with an arc, m^2, marked with a scale, and a sliding pointer, m^3, is mounted in the slot *l* of rail L. The lines of the scale represent inches and fractions thereof, and are so placed that any line opposite the pointer will indicate the exact thickness of the boards that may be successively sawed from the log so long as the cam-plate occupies that position. The scale and pointer thus afford the means for adjusting the cam-plate speedily and with precision. The arc m^2 is slotted, so that a second clamping-bolt, l^2, may be conveniently applied to secure the cam-plate to rail L. The cam-plate is made longitudinally adjustable on rail L, in order that its position may accommodate itself to the travel of the log-carriage, which necessarily changes with the length of the logs. The cam-plate should be fixed in such position that immediately after the log-carriage in retrograding has carried the log entirely beyond the

saw the anti-friction wheel *k'* of lever K will enter camway *m*, and the retrogression of the carriage must continue until said anti-friction wheel *k'* has traversed the whole length of said camway. The lever K is thereby turned, as indicated by dotted lines in Fig. 1, and the rack I slid so as to turn spur-wheel G and arm H to move the pawls *h h* on ratchet-wheel F. As the log-carriage returns, lever K is turned back by the camway *m* to the position it is shown in by full lines in Fig. 1. This return motion of lever K moves the cross-sliding rack I, spur-wheel G, and pawls *h* in a reverse direction, so that the pawls will now turn ratchet-wheel F and the feed-shaft E, to which it is secured, whereby the head-blocks will be laterally advanced to feed the log the required distance.

My devices for automatically operating the feed-gearing may be applied to various kinds of saw-mills, such changes being made in the details as the peculiarities of the saw-mill or its feed-gearing may require.

I claim as my invention—

The combination, substantially as before set forth, of the feed-shaft of the head-blocks on the log-carriage of a saw-mill, the ratchet-wheel fixed to said shaft, the loose spur-wheel thereon carrying a pawl for turning said ratchet-wheel, the cross-sliding rack and the lever for sliding it both mounted on the log-carriage, and a stationary camway for vibrating the said lever.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM H. SNYDER.

Witnesses:
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S. B. RINEHART.