Bassett & Smith,

Circular Saw Mill.

No. 62,995. Patented Mar. 19, 1867.

Fig. 1.

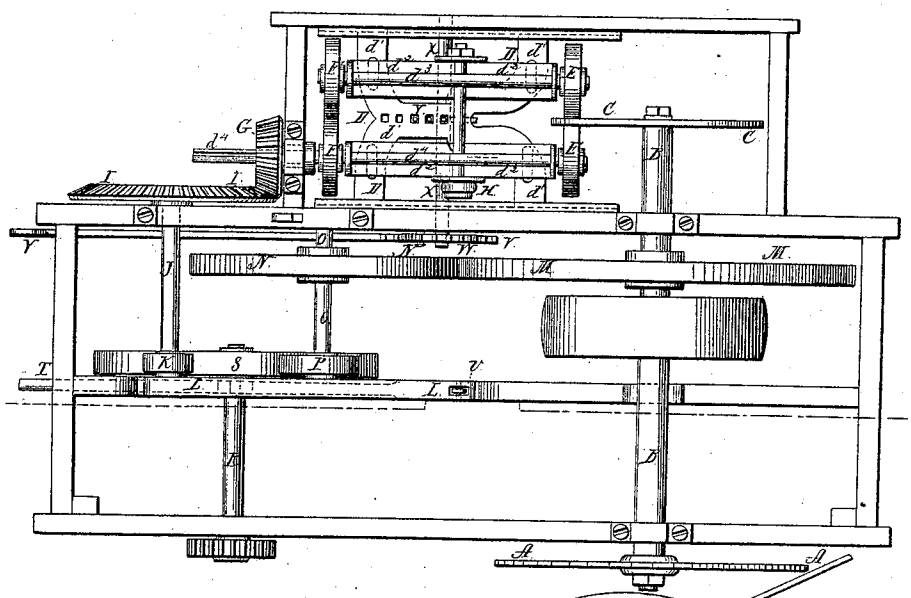

Fig. 2.

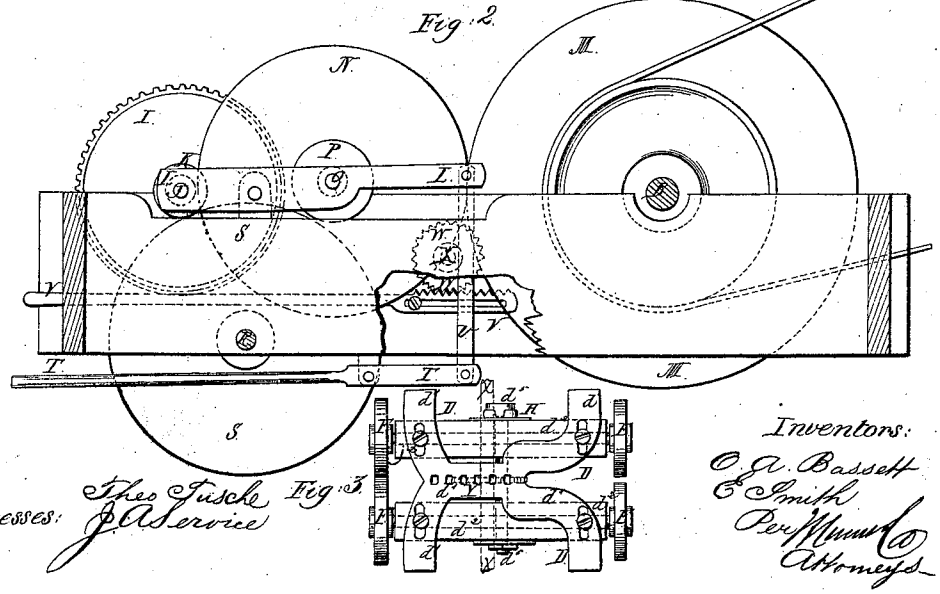

Fig. 3.

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O. A. BASSETT AND ERASMUS SMITH, OF NORWICH, NEW YORK.

Letters Patent No. 62,995, *dated March* 19, 1867.

IMPROVEMENT IN 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, O. A. BASSETT and ERASMUS SMITH, of Norwich, in the county of Chenango, and State of New York, have invented a new and useful Improvement in Saw-Mills; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top or plan view of our improved machine.

Figure 2 is a vertical longitudinal section of the same taken through the line *x x*, fig. 1, part being broken away to show the construction.

Figure 3 is a detail view of the under side of the friction-carriage.

Similar letters of reference indicate like parts.

Our invention has for its object to furnish an improved friction feed for circular saws and other machines in which it is necessary to change the direction of the feed while the machine is at work; and it consists in the combination of the friction-wheels, friction-carriage, and gear-wheels or equivalent, with each other, and with the saw and feed-shafts, for the purpose of feeding the lumber forward to the saw; second, in the combination of a series of friction-wheels with the saw and feed-shafts, for the purpose of feeding the lumber back from the saw when desired; third, in the combination of a toothed bar, gear-wheels, and shaft, with each other, and with the friction-carriage, for the purpose of regulating the rapidity of the feed; and, fourth, in the combination of the two levers, and connection-bar, with the friction-wheels, for the purpose of changing the direction of the feed, the whole being constructed and arranged as hereinafter more fully described.

A is the circular saw, which is secured to the end of the saw-shaft B, in the usual manner. To the other end of the shaft B is attached a friction-wheel or circular plate, C, as shown in fig. 1. D is the friction-carriage, the frame d^1, of which slides back and forth in grooves formed in the frame of the machine. d^2 are bars, which are kept in place upon the frame d^1 by screws or bolts passing through slots in said frame, as shown in figs. 1 and 3. The ends of the bars d^2 are turned up or have ears formed upon them, through which pass the shafts d^3 and d^4. The shafts d^3 d^4 have friction-wheels, E, secured to their ends, the faces of which rest against the sides of the friction-wheels C, as shown in fig. 1, and receive motion therefrom. F are friction-wheels, attached to the shafts d^3 d^4, the faces of which rest against each other, and which concentrate the motion upon the single shaft d^4, upon the end of which the pinion-wheel G is placed. The pressure of the friction-wheels E against the wheel C is regulated by the screw-bolt d^5 passing through ears formed upon the bars d^2, and by the spring H, placed upon said bolt, as shown in fig. 1. The gear-wheel G is formed with a collar, which revolves in bearings in the frame of the machine. The shaft d^4 has a longitudinal groove formed in it, into which a tongue or feather formed in the gear-wheel G enters, so that the said shaft may carry the said gear-wheel with it in its revolution, and at the same time be free to move back and forth as the position of the friction-carriage D is changed. The teeth of the gear-wheel G, mesh into the teeth of the gear-wheel I, attached to the end of the shaft J, which has a friction-wheel, K, attached to its inner end. The outer end of the shaft J revolves in bearings in the frame of the machine, and at its inner end in bearings in the end of the lever L, which is pivoted to the frame of the machine, as shown in figs. 1 and 3. The gear-wheels G and I may be replaced by a friction-wheel or circular plate, similar to the friction-wheel C, attached to the end of the shaft J, and working between and receiving motion from the friction-wheels F, when the parts of the machine are so arranged that the feed will be moved in the proper direction. M is a friction-wheel attached to the saw-shaft B, and the face of which comes in contact with and imparts motion to the friction-wheel N, attached to the shaft O. The outer end of the shaft O revolves in adjustable bearings in the frame of the machine, so that the pressure between the friction-wheels M and N may be regulated at pleasure. The other end of the shaft O revolves in bearings in the lever L, as shown in figs. 1 and 2, and has a friction-wheel, P, attached to it, as shown. R is the feed-shaft, that drives the feed-carriage, and to the inner end of which is attached a friction-wheel, S, in such a position that each of the friction-wheels K and P, as desired, may be brought into contact with it by operating the lever L. T is a lever, pivoted to some suitable support beneath the machine, and the inner end of which is connected to the end of the lever L by the connecting-rod or bar U, as shown in fig. 2. By depressing the free end of the lever T, the friction-wheel K is brought into contact with the friction-wheel S, and revolves it in the direction

to carry the feed-carriage towards the saw; and by raising the free end of the lever T, the friction-wheel P is brought into contact with the wheel S, and revolves it in the direction to carry the feed-carriage back from the saw. V is a bar, having teeth formed upon the upper side of its inner end, as shown in fig. 2, and which is kept in proper position, while sliding back and forth, by a guide-pin which passes through a slot in its forward end, or by any other convenient means. The teeth of the bar or rack V mesh into the teeth of gear-wheel W, attached to the inner end of the shaft X, which revolves in bearings in the frame of the machine, and which has a gear-wheel, Y, attached to it. The teeth of the gear-wheel Y enter holes formed in the frame of the friction-carriage D, as shown in figs. 1 and 3, so as to move the said carriage D forward or backward to regulate the rapidity of the feed by changing the position of the wheels E upon the sides of the wheel C. The lever T and bar V, being placed beneath the machine, may be operated by poles or levers attached to their free ends and extending up through the floor in the usual manner.

What we claim as new, and desire to secure by Letters Patent, is—

1. The combination of the friction-wheels C E F, and wheels G I, or equivalent, and the friction-wheels K S, with each other and with the saw-shaft B and feed-shaft R, substantially as herein shown and described and for the purpose set forth.

2. The combination of the toothed sliding-bar V, gear-wheels W Y, and shaft X, with each other, and with the friction-carriage D, substantially as herein shown and described and for the purpose set forth.

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