

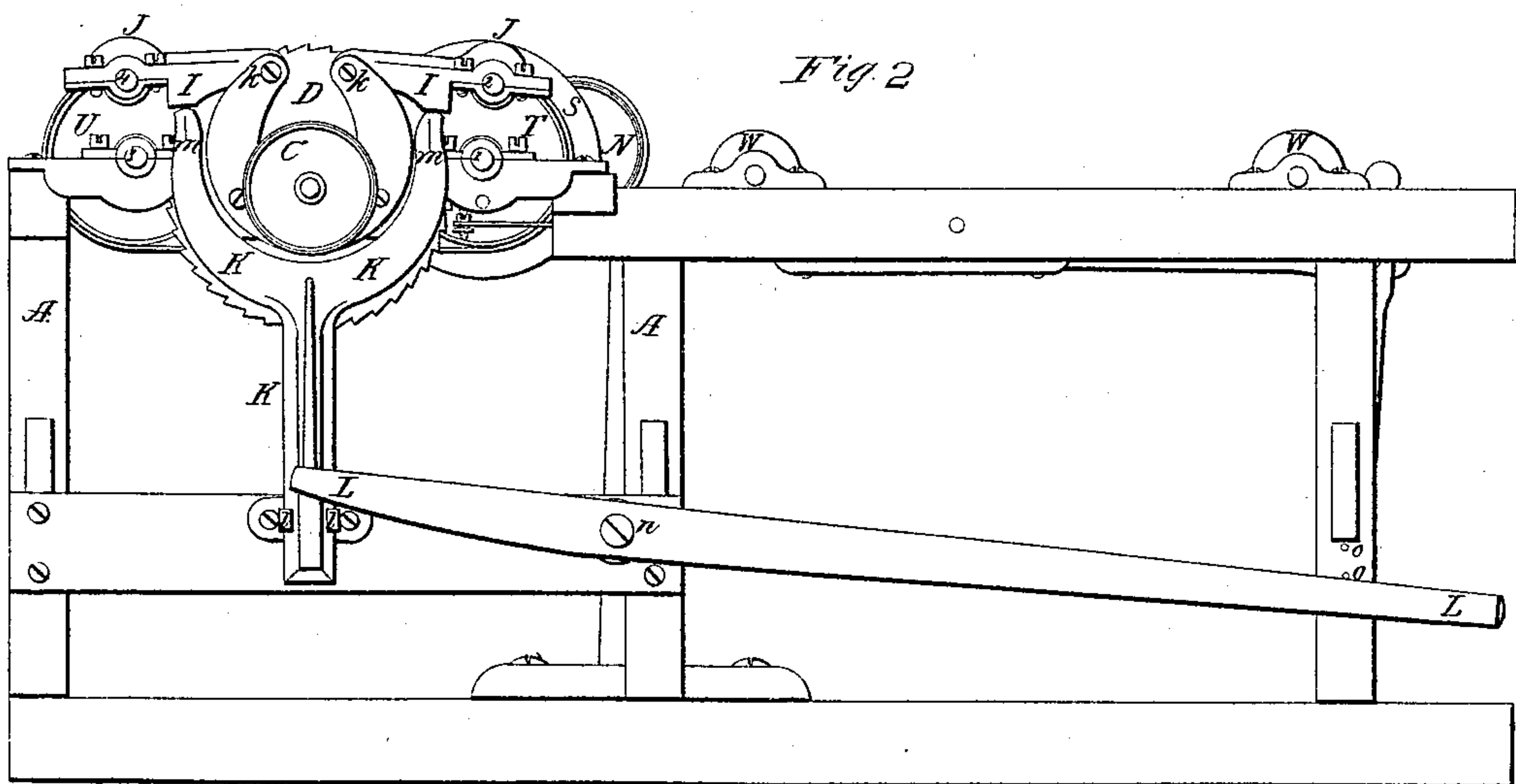
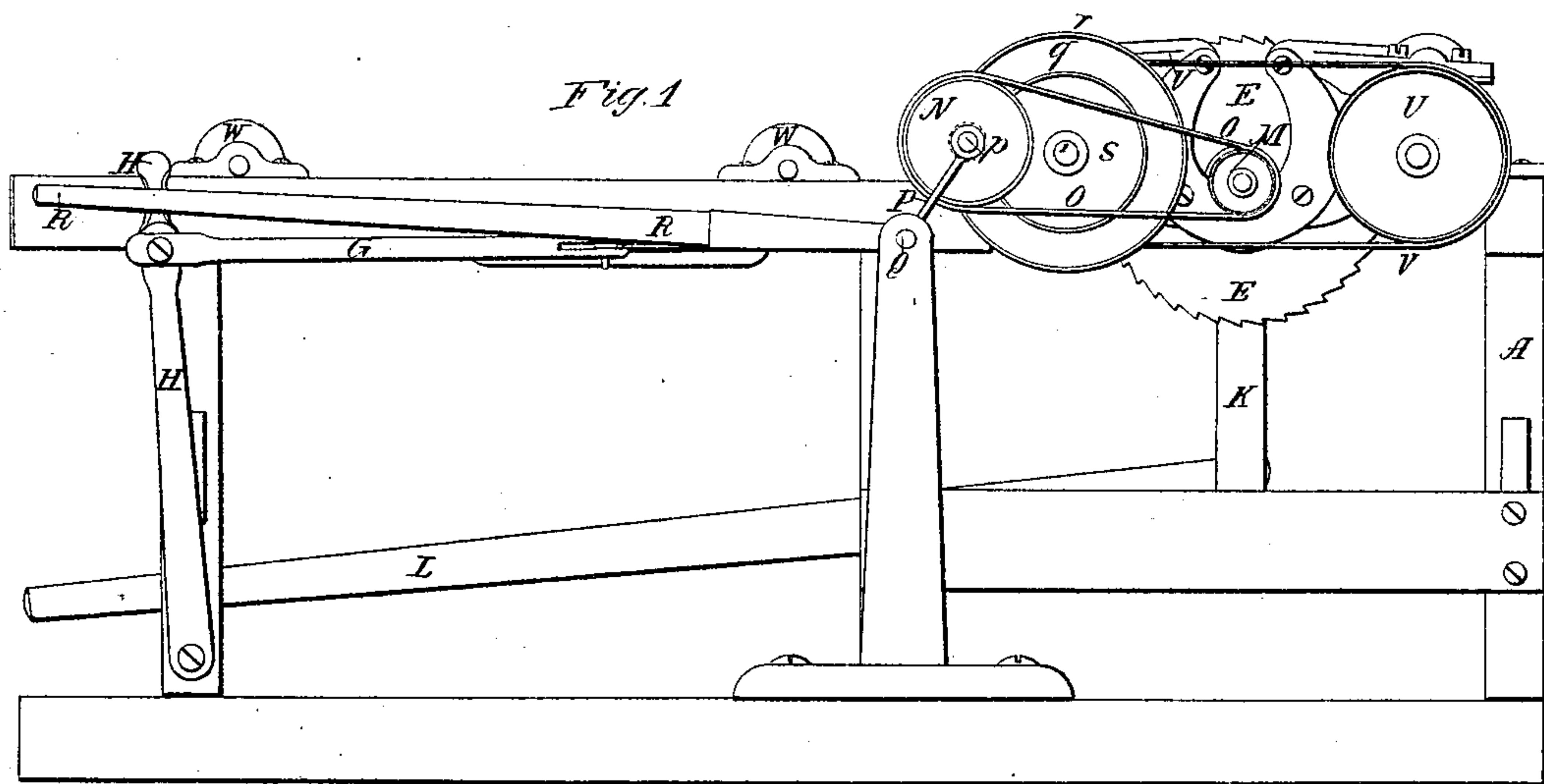
Sheet 1-2 Sheets.

M. Newman,

Edging Timber.

No 48,875,

Patented July 18, 1865.



Witnesses:

J. D. Patton
J. W. Stoughton

Inventor:

Martin Newman
By atty A. B. Stoughton

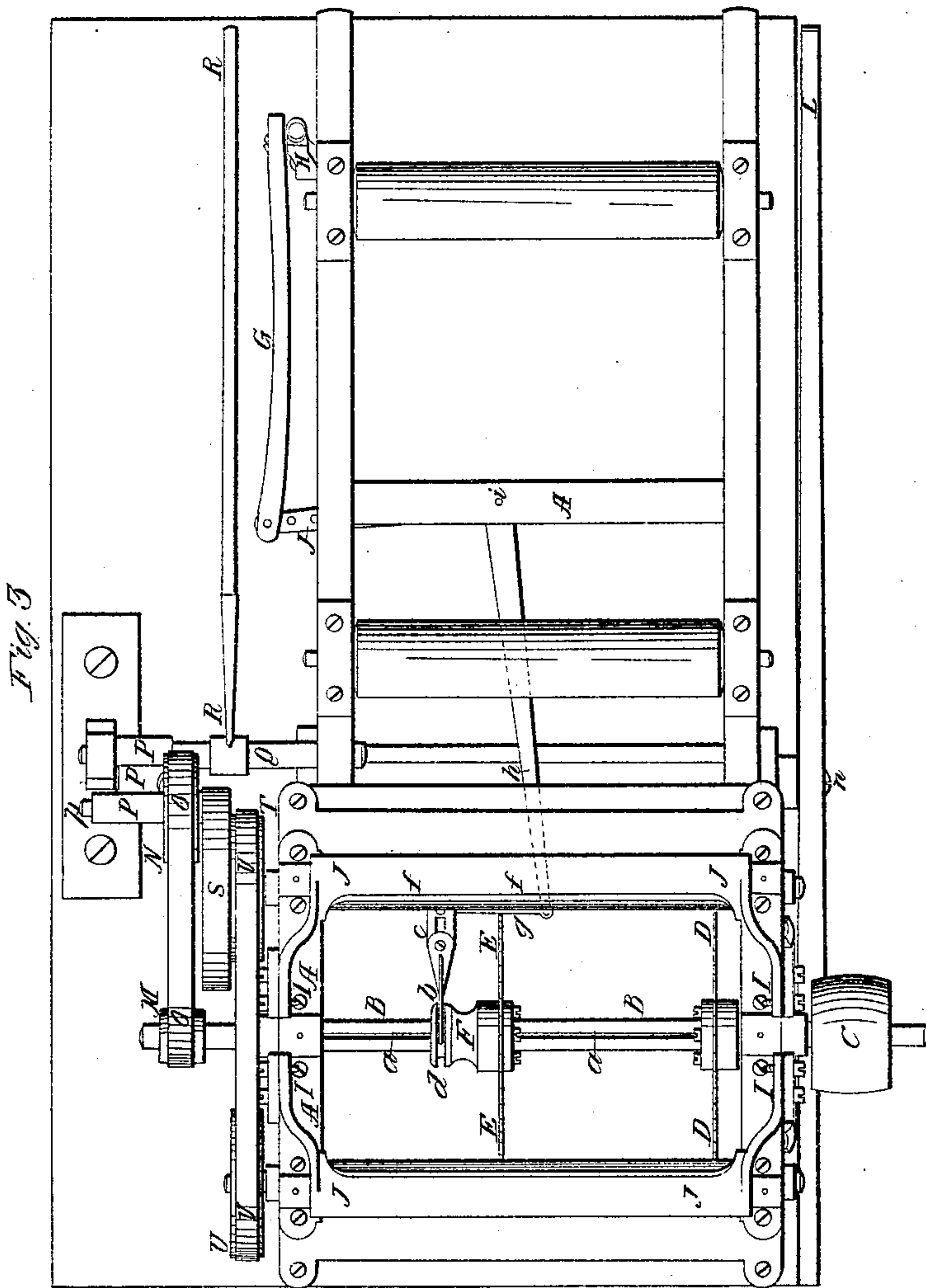
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UNITED STATES PATENT OFFICE.

MARTIN NEWMAN, OF UNADILLA, NEW YORK, ASSIGNOR TO HIMSELF AND CLARK I. HAYES, OF SAME PLACE.

IMPROVEMENT IN SAWING-MACHINES.

Specification forming part of Letters Patent No. 48,875, dated July 18, 1865.

To all whom it may concern:

Be it known that I, MARTIN NEWMAN, of Unadilla, in the county of Otsego and State of New York, have invented certain new and useful Improvements in Machines for Edging or Slitting Boards; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a view from one side of the machine. Fig. 2 represents a view of the opposite side thereof. Fig. 3 represents a top plan of the machine.

Similar letters of reference, where they occur in the separate figures, denote like parts of the machine in all the drawings.

My invention consists, first, in combining with one of each pair of feed-rolls, which are hung in hinged frames or roller-caps, a lifting-lever or its equivalent for raising and lowering said rolls to release and to apply their pressure to the board to be acted upon, as the case may be.

My invention further consists in combining with the yielding one of a pair of feed-rollers a rigid cap or frame that will cause said roll to always maintain a proper working position to feed the board straight through, and to prevent either end of said roll from rising or falling independent of the other end, or making unequal pressure on the board; and my invention further consists in moving the saw (or one of the saws, if two or more are used) on its shaft by means of a lever, bell-crank, slide, slot, and feather, as contradistinguished from a turning screw-shaft and its appliances, by which I am enabled to shift the saw instantaneously, and thus economize much time in the operation.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

On a suitable frame, A, I mount a saw-shaft, B, which may be driven by an endless belt from any first-moving power passing around its pulley C. On this shaft I mount one permanent saw, D, and one movable saw, E—that is to say, permanent and movable as regards the shaft lengthwise, but both rotating with

said shaft. The saw-shaft B has a long slot or groove, *a*, cut in it, in which a feather on the hub F of the movable saw works, in the usual well-known manner, for the purpose of causing the saw to revolve with said shaft, and to admit at the same time of shifting it thereon, as occasion may require. A forked arm, *b*, made adjustable, as at *c*, straddles a neck, *d*, on the hub F of the movable saw, and this arm, to cause it to move freely without cramping or binding, is connected by a frame or carriage, *f*, to a guide-rod underneath the frame, to make it move in a true line. To this carriage *f* is connected, by a link, *g*, one arm, *h*, of a bell-crank lever, pivoted to the main frame at *i*, and the other arm, *j*, of the bell-crank is pivoted to a connecting-rod, G, the rear end of which is fastened to a vertical, or nearly so, pivoted hand-lever, H, near the operator's stand, so that he can from his position shift the saw E on the saw-shaft at pleasure, and hold it there, if necessary, by any of the ordinary known fastenings or supports, though in practice I find that the friction between the feather (which works in the slot *a*, and which feather I make of considerable length) and the slot in the saw-shaft, when the saw is cutting, is sufficient of itself to hold the saw from moving, but additional means of holding the saw may be applied, as above intimated, to the lever H, by which it is moved when found necessary.

On each side, front and rear, of the saw-shaft B, I arrange the feed-rolls, as seen, by their journals 1 2 and 3 4, respectively, in Fig. 2. The lower rolls of the two pairs, 1 3, by preference, I make non-yielding. The upper ones of the two pairs, 2 4, are, by preference, made yielding, and are hung to the main frame by arms I pivoted at *k*. These arms I are connected by what I term "roller-caps" J, so that they shall, as it were, be one solid piece, and, indeed, may be so cast or wrought, the object being to cause the rolls that are hung in them to rise and fall uniformly at each end and bear equally throughout, which is not the case when independently hung at each end; and when the pressure is not uniform the board is carried out of its proper-straight direction, because the pressure is not uniform on both of

its edges; but by connecting both ends of the rolls by this rigid cap J one end cannot rise or fall without the other.

To raise and lower the yielding rolls of the pairs I arrange a Y-shaped piece, K, at one side of the main frame, and in suitable guides, *l l*, so that it may raise and lower in a true line and not bind. The arms *m* of this piece K take respectively under the arms I of the top rolls of the pairs, and by means of a lever, L, pivoted to the main frame at *n*, and extending to the stand or operator's position, these top or yielding rolls may be raised up and held up by a pin, stop, or catch at *o*, to take their pressure from the board and allow it to be run back to be shifted for the next kerf, or to be removed, as will be described in connection with the feed motion.

On the end of the saw-shaft B there is a pulley, M, around which and around a pulley, N, passes an endless belt, O, to give said latter pulley N its motion. The pulley or wheel N is fast on a shaft, *p*, that turns in an arm, P, that is in turn made fast to a rock-shaft, Q, to which a lever, R, is fastened to operate it. The shaft *p* carries a small metallic friction-roll, (shown in red dotted lines, Fig. 1,) which works between the flanges *q r* of a wheel, S, fastened to the lower roll, 1, of the front pair of feed-rolls, but so works, or is of such diameter that it can only be in working contact with one flange or the other at the same time, and it is thrown or pressed against one or the other of the flanges, as the case may be, by means of the lever R, which extends back to the stand or position of the operator, who, without changing his position, can thus shift the saw on its shaft, raise up or let down the yielding feed-rolls, and change the direction of the feed motion at will.

On the inside face of the wheel S there is a pulley, T, around which, and around a pulley, U, on the end of the rear non-yielding feed-roll 3, passes an endless belt, V, by which the said rear feed-roll gets a motion in the same direction that the front one moves, whether that direction be to feed the board to the saws or back again. When the friction-wheel (in red lines, Fig. 1) is brought against the flange *r* and held there the motion of the feed-rolls is to move the board against the saws. When, however, the friction-roll is against the flange *q*, then the motion of the feed-rolls is reversed

and the board is carried back to the place of starting. In the manner in which I have arranged the friction-wheel it requires a continued pressure or holding of the lever R to feed the board to the saws, and by simply letting go the lever the feed becomes reversed and the board runs back to the place of starting, the tendency of the belt O being to keep the friction-wheel in contact with the flange *q*, when there are no other controlling circumstances, and this flange, by its frictional contact with the small roll, runs the board back. This mechanism may be changed so that the general tendency of the feed-rolls shall be to feed the board to the saws, while the reverse motion may be had by applying the lever or its equivalent.

The advantage of my peculiar saw-shifting mechanism is that the saw can be moved instantaneously, and no time is lost, as is the case where a screw-shaft and nut are used.

W are rollers on which the board is placed that is to be operated upon.

I would state that I am aware that in a shingle-machine a carriage carrying the bolt has been run back and forth by means of a friction-roller and flanged wheel. This I do not claim; but

Having thus fully described my invention, what I claim is—

1. Combining with the yielding rolls of a pair or pairs of feed-rolls a lifting-piece and a lever, so that the operator from his stand may raise up, hold up, or let down said yielding rolls at will, substantially as described.

2. In combination with yielding rolls hung at both ends, the connecting of said end supports by a rigid roller-cap to prevent one end of said roll from rising or falling independent of its other end, and to make the pressure on the board uniform at both edges, and thus cause it to move in a direct line, substantially as described.

3. Shifting the movable saw upon its shaft by means of the levers and link-connections herein described and represented, whereby I get a quicker motion and thus economize time, substantially as described.

MARTIN NEWMAN.

Witnesses:

A. H. MEEKER,
F. A. BOLLES.