(No Model.)

H. M. JOHNSTON & G. W. MASON.

LUMBER EDGER.

No. 604,661. Patented May 24, 1898.

Fig. 1.

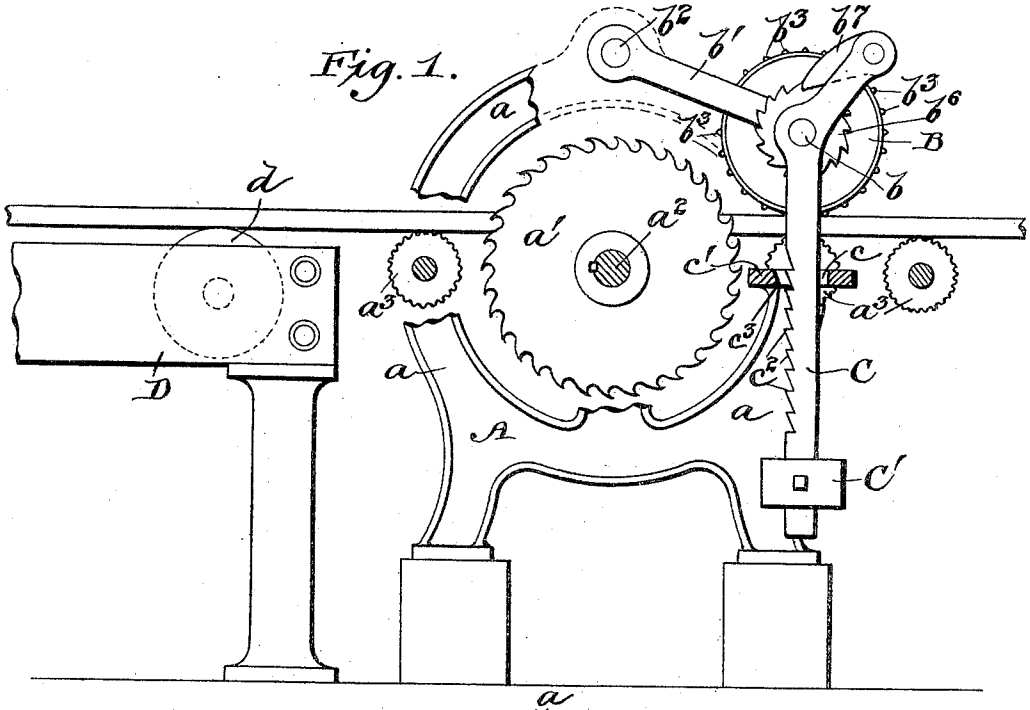


Fig. 2.

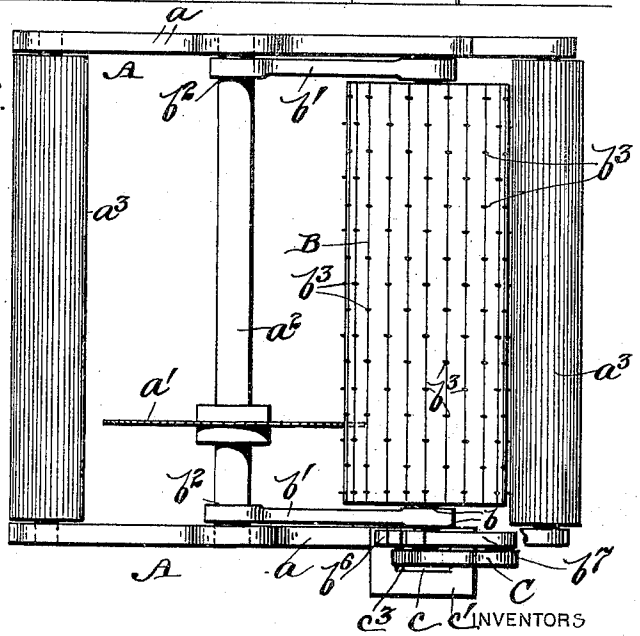


Fig. 3.

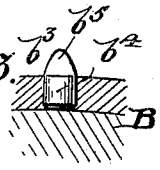
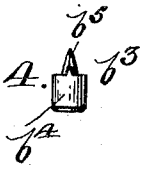


Fig. 4.



WITNESSES

Geo. Severance.

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INVENTORS

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HECTOR M. JOHNSTON AND GEORGE W. MASON, OF EAU CLAIRE, WISCONSIN.

LUMBER-EDGER.

SPECIFICATION forming part of Letters Patent No. 604,661, dated May 24, 1898.

Application filed May 24, 1897. Serial No. 637,937. (No model.)

To all whom it may concern:

Be it known that we, HECTOR M. JOHNSTON and GEORGE W. MASON, citizens of the United States, residing at Eau Claire, in the county of Eau Claire and State of Wisconsin, have invented certain new and useful Improvements in Lumber-Edgers; and we 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.

Our invention relates to improvements in machines for sawing lumber, and more particularly to that class of machines which are adapted to edge the said lumber or saw the same into strips.

It consists in an attachment for machines for sawing lumber comprising a roll for holding the said lumber upon the feed-rollers of the machine and brads or metallic blades inserted in said roller for engaging the lumber being sawed, whereby the said lumber is prevented from being twisted out of line with relation to the saw as it passes through the machine.

It also consists in an attachment for machines for sawing lumber comprising a roller for engaging the lumber and holding it in position in the machine and means connected to the said roller for preventing it from turning backward, whereby the lumber is prevented from being thrown backward by the action of the saws.

It also consists in certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 represents a side elevation of an edging-machine constructed in accordance with our invention. Fig. 2 represents a top plan view of the machine with the roller-controlling mechanism. Fig. 3 represents a detail view showing the construction of one of the brads, and Fig. 4 represents an enlarged side elevation of one of the said brads.

A in the drawings represents an edging-machine, B a roller for controlling the movement of the lumber, and C an arm or lever for controlling the movement of the roller B.

The machine A may be of any well-known construction adapted for the purpose of edging lumber or cutting the same into strips, and may consist of a frame a, supporting a circular saw a', which is mounted upon a shaft a^2, journaled in said frame a. If it is desired to split the lumber into strips in addition to edging it, any number of saws may be used for this purpose. Feed-rollers a^3 a^3 are also mounted in the frame a and support the lumber at the proper height for the action of the saw or saws. An auxiliary table D, having rollers d d, may be placed in close proximity to the machine A for feeding the boards or lumber to the machine when desired.

In order to prevent an irregular movement of the lumber in passing through the machine and also to prevent it from swerving from the direct line, we employ our improved attachment comprising the roller B, which is adapted to press upon the upper side of the lumber and hold it in place upon the feed-rollers of the machine. The roller B is mounted upon a shaft b, which is carried by arms, as b' b', pivoted to the sides of the machine, as at b^2 b^2. The roller B is provided upon its periphery with a number of brads or metallic points, as b^3 b^3, which are inserted in apertures in the periphery of the said roller. These brads, as seen in Figs. 3 and 4 of the drawings, are formed with cylindrical body portions, as b^4, which are adapted to be inserted in the apertures in the periphery of the said roller B, and flat oval-shaped blades or knife-points, as b^5, project from the said cylindrical body portions of these brads.

The brads b^3 b^3 are preferably so placed in the periphery of the roller B that the knife-points thereof will not cut the grain of the wood, but will lie with flattened sides parallel with the grain of the wood. For this purpose they will therefore be arranged with their knife-points about at right angles to the longitudinal axis of the roller. They may, however, be set at an angle, according to the kind of wood which it is intended to operate upon. These brads b^3 b^3 will engage the surfaces of the wood or lumber without injuring the same, and yet by their peculiar shape will prevent the board from swinging out of true alinement on account of the action of the saws, and will also hold the lum-

ber so that it cannot have any movement except that which is allowed by the movement of the roller B.

In order to prevent the roller B from turning in a backward direction, a ratchet b^6 is secured to the shaft b of the said roller and is adapted to be engaged by a pawl b^7, pivotally mounted upon the upper end of a lever C. The said lever C is pivotally mounted upon the end of the shaft b and is preferably provided with a weight C′ at its lower end to hold the said lever normally in its vertical position. The pawl b^7, engaging the ratchet b^6, prevents the roller from turning backward and in this manner assists in holding the board or lumber from being forced backward in the machine by the saw or saws. In using rotary saws, if for any reason the lumber being operated upon is caused to crowd or pinch the saw or saws the lumber is likely to be raised by the back edge of the saw and thrown back at the same time. Our attachment is particularly well adapted to prevent this trouble. The lever C thereof passes through a slot, as c, formed in a side extension c' on the frame A. The aperture or slot is preferably made a little larger than the cross-sectional area of the lever C, so that the said lever is allowed some slight movement. A rack c^2 is formed upon one end side of the lever C, and when any backward motion is imparted to the roller B the same will be stopped by the action of the pawl b^7 upon the upper end of the lever C. This movement will tend to throw the lever upon its pivot, and the rack c^2 will engage a sharp edge c^3, formed upon one of the walls of the slot and prevent the possibility of the rollers B being lifted from engaging contact with the surface of the lumber. By this simple mechanism the movement of the lumber may be perfectly controlled, so that it cannot be raised or forced backward by the saw. This is an important feature of our invention, as in machines of this kind this contingency is apt to arise, and when the lumber is thus thrown back by the saw it is apt to cause injury and sometimes fatal injuries to the parties using the machine.

Although we have described and shown our device with only one roller B, it is apparent that two or more rollers might be used without departing in the least from the spirit of our invention. The roller or rollers are preferably located near to the saw and may be placed either in front or behind the same. The weight C′ is preferably adjustable upon the end of the lever C, being secured thereto by means of a set-screw or similar device, and may be removed and replaced by a lighter or heavier weight, as may be desired.

It will be obvious that ratchets and levers may be employed on both ends of the shaft b, if desired.

Although we have described our attachment as applied to a machine like that shown in the drawings, we wish it understood that it is adapted to be applied and used upon other machines of a like character.

Having now described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. An attachment for machines for edging or splitting lumber consisting of a roller for holding the lumber in position in said machine, means secured to the shaft of the said roller for preventing its backward movement comprising a pivoted lever, a pawl on the said lever and a guide upon the frame engaging said lever whereby the said lever is held so that the pawl will always be in operative position, a ratchet-wheel upon the roller-shaft for engaging the said pawl and means upon the periphery of the said roller for engaging the surfaces of the lumber, the construction being such that the lumber cannot be thrown backward in the machine by the action of the saw, substantially as described.

2. An attachment for a machine for edging or splitting lumber comprising a roller for holding the lumber in proper position, a ratchet secured to the shaft of the said roller, a lever pivotally mounted on the said shaft, a pawl pivotally secured to the said lever for engaging the said ratchet whereby the roller is prevented from moving backwardly and the back throw of the lumber under the action of the saw is also prevented, and a guide upon the frame engaging the said lever to limit the movement of the pawl with the ratchet, the said pawl also operating to prevent the rising of the roller, substantially as described.

3. An attachment for a machine for edging or splitting lumber comprising a roller for holding the said lumber in proper position, a ratchet secured to the shaft of the said roller, a lever pivotally mounted on the said shaft and a pawl pivotally secured to said lever for engaging the said ratchet whereby the roller is prevented from turning backwardly and a weight secured to the lower end of the said pivoted lever for holding the roller in engagement with the lumber, substantially as described.

4. In an attachment for lumber-edging machines, the combination of a roller for holding the lumber in proper position, means for pivotally holding said roller in said frame whereby the roller is capable of an up-and-down movement, brads for engaging the lumber secured to the periphery of the roller, a ratchet secured to the shaft of the roller, a pivoted lever carrying a pawl for controlling the ratchet, said lever being provided with a rack or ratchet-teeth adapted to engage a portion of the frame, the construction being such that the roller is prevented from being turned backwardly and is held firmly in contact with the lumber, substantially as described.

5. In an attachment for lumber-edgers, the combination of a roller for holding the lumber in proper position, a swinging frame for supporting the roller, a lever pivotally mount-

ed on the shaft of said roller, means interposed between the said roller and lever for preventing the backward revolution of the roller, ratchet-teeth formed upon the said lever, a projection upon the frame of the machine having a guide-slot formed therein for receiving and guiding the lower portion of the said lever, one of the walls of the said slot being adapted to engage the teeth upon the lever for preventing its upward movement and a weight secured to the lower end of the lever, substantially as described.

6. In an attachment for lumber-edgers, the combination of a roller for holding the lumber in proper place, brads consisting of cylindrical body portions adapted to be inserted into the periphery of the roller, whereby the roller is adapted to hold the lumber from twisting, the surface of the outer ends of the said cylindrical portions being flush with the peripheral surface of the roller, flattened knife-edges formed upon said body portions for engaging the lumber, the said edges being arranged on lines at right angles to the roller, a ratchet secured to the shaft of the roller, a lever pivotally mounted on the said shaft, a pawl pivotally secured to said lever for engaging the said ratchet whereby the roller is prevented from turning backwardly and thus adapted to prevent the back throw of the lumber under the action of the saw, and means for limiting the movement of the said lever, substantially as described.

In testimony whereof we hereunto affix our signatures in presence of two witnesses.

HECTOR M. JOHNSTON.
GEORGE W. MASON.

Witnesses to signature of Hector M. Johnston:

JOHN L. RODGERS,
M. L. GRUMLEY.

Witnesses to signature of George W. Mason:

V. W. JAMES,
JESSIE M. HOWLAND.