

W. L. ROBERTS.

MACHINE FOR DRAWING AND EDGING SHINGLES.

No. 268,290.

Patented Nov. 28, 1882.

Fig. 1.

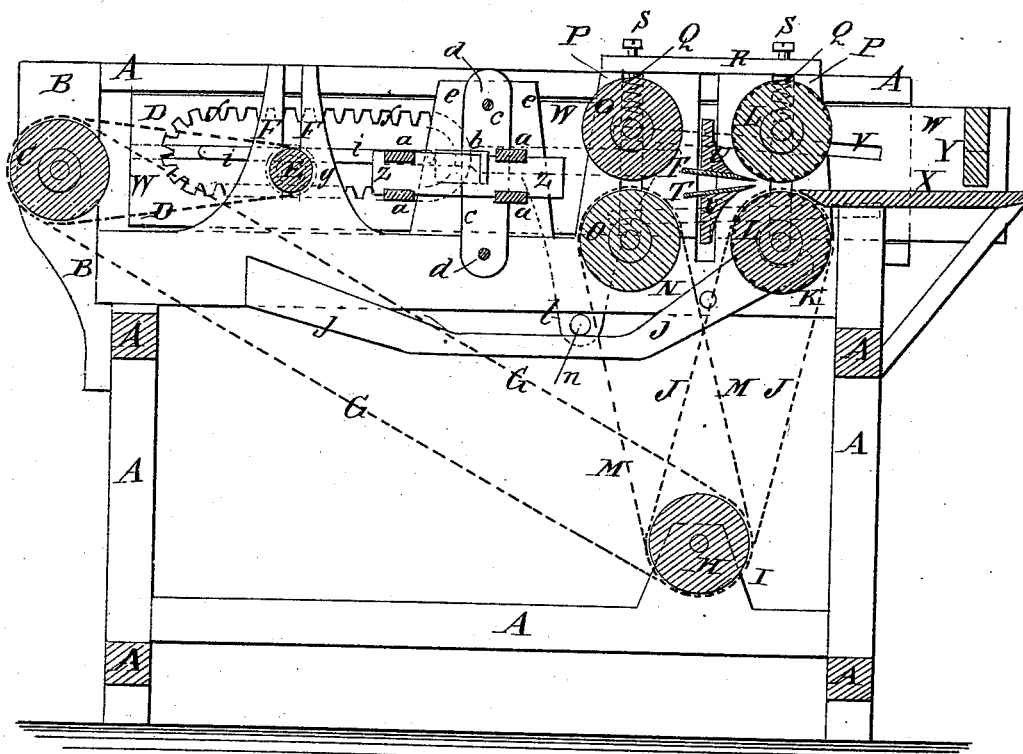
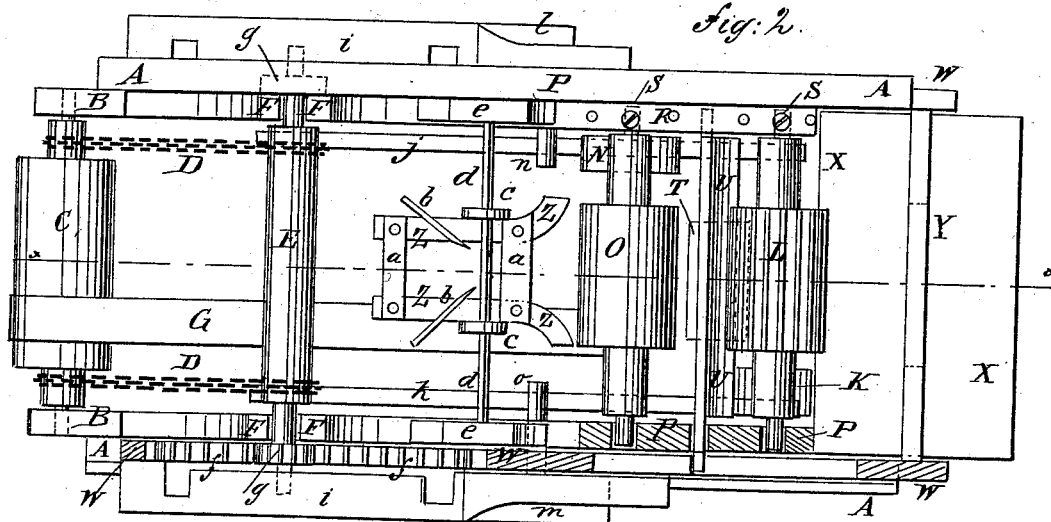


Fig. 2.



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Fig. 3.

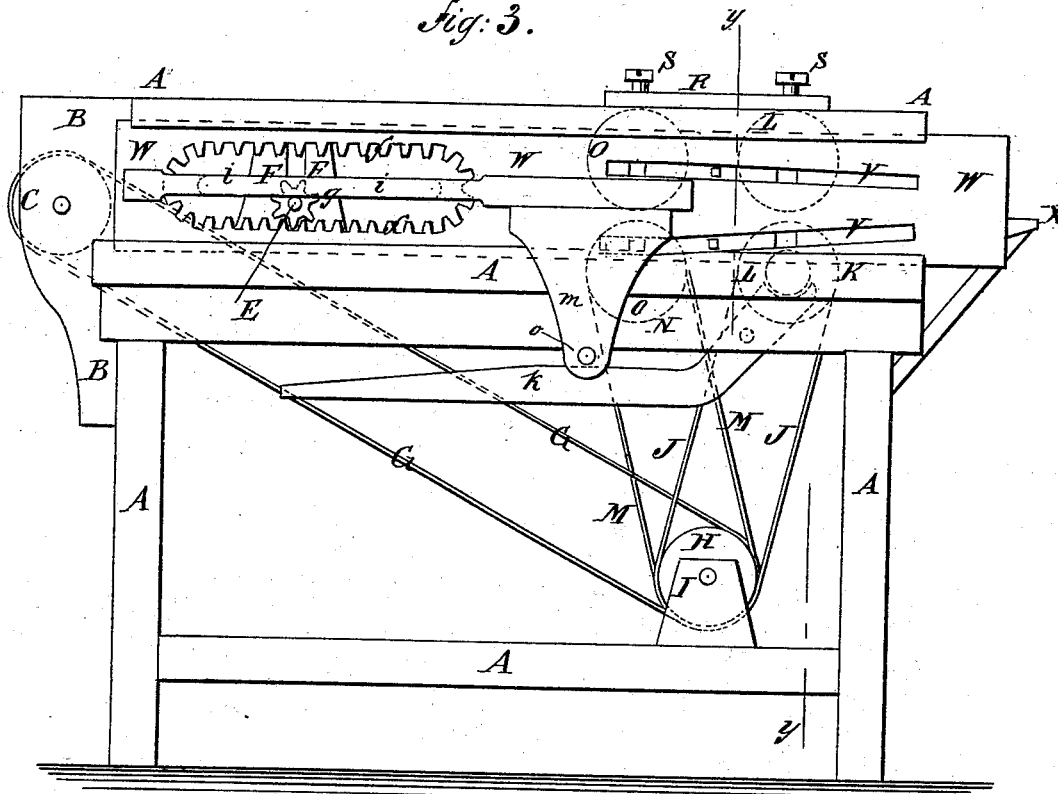
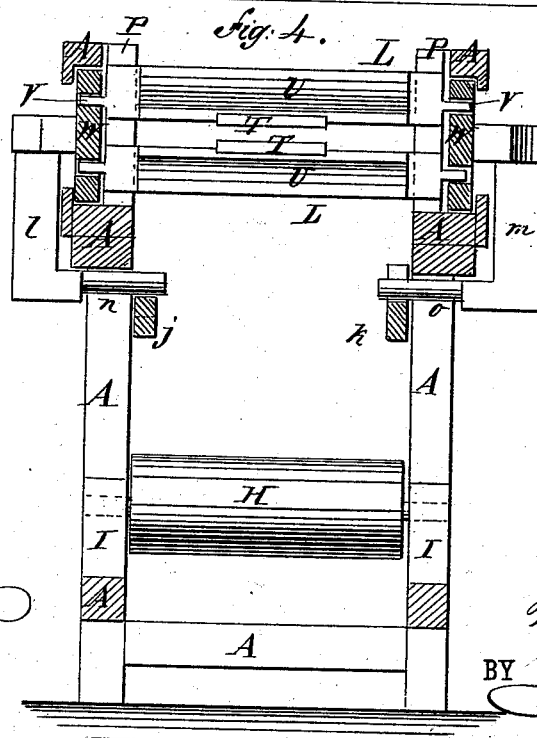


Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM L. ROBERTS, OF ELLENTON, SOUTH CAROLINA.

MACHINE FOR DRAWING AND EDGING SHINGLES.

SPECIFICATION forming part of Letters Patent No. 268,290, dated November 28, 1882.

Application filed August 14, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. ROBERTS, of Ellenton, in the county of Aiken and State of South Carolina, have invented a new and useful Improvement in Machines for Drawing and Edging Shingles, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1, Sheet 1, is a sectional side elevation of my improvement, taken through the line *x x*, Fig. 2. Fig. 2, Sheet 1, is a plan view of the same, part being broken away. Fig. 3, Sheet 2, is a side elevation of the same. Fig. 4, Sheet 2, is a sectional end elevation of the same, taken through the line *y y*, Fig. 3.

The object of this invention is to provide machines for drawing and edging shingles, constructed in such a manner as to taper the shingles uniformly and upon both sides from butt to point, take the twist out of the timber, and make the side edges of the shingles straight at one passage of the shingles through the machine.

The invention consists in the machine for drawing and edging shingles, constructed, substantially as herein shown and described, with two pairs of feed-rollers, and with knife-holders and knives placed between the pairs of feed-rollers, and moved toward and from each other by slotted plates sliding in ways in the frame of the machine, and operated from the driving mechanism by gear-wheels working in oblong toothed openings in the rear parts of the said sliding plates. In the frame of the machine, in the rear of the rear pair of feed-rollers, is placed the edger, which is formed of two knife-holders and their knives, connected by cross-bars and attached to upright bars sliding upon supporting-rods attached to the machine. To the frame of the machine are pivoted levers operated by hangers attached to the sliding plates to adjust the lower forward feed-roller automatically to take the twist out of the shingles, as will be hereinafter fully described.

A is the frame of the machine.

To the upper part of the rear end of the frame A are attached brackets B, in bearings in which revolve the journals of the roller C.

Around the end parts of the roller C pass

two endless chains, D, which also pass around the small roller E. The journals of the small roller E revolve in vertical slots in the frame A, or in bearings or standards F, attached to the said frame.

Around the roller C also passes a belt, G, which passes around a roller, H. The journals of the roller H revolve in bearings in the brackets or standards I, attached to the lower forward part of the frame A.

Around the roller H passes an endless chain or belt, J, which also passes around a pulley, K, attached to a journal of the lower one of the forward pair of feed-rollers, L.

Around the roller H also passes an endless chain or belt, M, which passes around a pulley, N, attached to the lower one of the rear pair of feed-rollers, O.

Motion can be given to the machine from any convenient power, and the power can be applied to the roller C or to the roller H, as may be desired or convenient. The journals of the forward and rear pairs of feed-rollers, L O, revolve in vertical slots in the frame A, or in the forward and rear parts of the wide standards P, attached to the frame A. The upper feed-rollers, L O, are held down by springs Q, placed in the slots in which the journals of the said rollers L O revolve, and interposed between the said journals and the cap-bars R, attached to the frame A, above the said slots, or to the upper end of the standards P. The tension of the springs Q, and consequently the force with which the upper feed-rollers are pressed down upon the shingles, is regulated by set-screws S, which pass down through screw-holes in the cap-bars R and rest upon the upper ends of the springs Q.

The drawing-knives T are bolted adjustably to the adjacent faces of the holders U, the ends of which move up and down in vertical slots in the frame A, or in the standards P, midway between the slots for the journals of the two pairs of rollers L O. The ends of the knife-holders U, or tenons formed upon the said ends, enter slots V in the guide-plates W, which slide in grooved cleats or other ways attached to or formed in the sides of the frame A. The slots V incline toward each other from points at a little distance from their rear ends to or nearly to their forward ends, so as to bring the knives T gradually nearer to each other to

give a uniform taper to the shingles. The rear parts of the slots V are made parallel for such a distance as will allow the end of the shingle to be carried through the forward pair of feed-rollers, L, and enter between the knives T before the said knives begin to approach each other. The faces of the forward pair of rollers, L, are corrugated to cause them to take a firm hold upon the shingles and carry them forward with a positive movement.

The shingles are fed to the forward rollers, L, from the feed-apron X by a cross-bar, Y, attached to the forward ends of the guide-plates W. As the shingles pass out from between the rear feed-rollers, O, they enter the space between the knife-holders Z, which are held at the proper distance apart by cross-bars a, attached to their forward and rear parts. The forward ends of the knife-holders Z are curved outward, as shown in Fig. 2, to serve as guides to center the edger upon the shingle.

b are the knives, which are secured to the holders Z in inclined positions, so as to shave and straighten the edges of the shingles as they are forced through the edger. The knife-holders Z are attached to the middle parts of upright bars c, which have holes in their upper and lower ends to receive and slide upon two parallel guide-rods, d, so that the edger can readily center itself upon the shingle, as the said shingle passes out from between the rear feed-rollers, O. The ends of the rods d are attached to the sides of the frame A, or to brackets e, attached to the said frame.

In the extended rear parts of the guide-plates W, or in plates attached to the rear ends of the said guide-plates, are formed oblong openings, and in the said plates, around the edges of the said openings, are formed rack-teeth f, into which mesh the teeth of the gear-wheels g. The gear-wheels g are attached to the journals formed upon the ends of the roller E, and are made of a less diameter than the width of the openings in the plates W. The journals of the roller E revolve in vertical slots in the sides of the frame A, or in brackets F, attached to the said frame, as hereinbefore described. With this construction, as the roller E is revolved it carries the gear-wheels g with it, and the revolution of the gear-wheels g causes the plates W to move forward, separating the knives T, so that they can receive between them the butt of the next shingle. As the plates W reach the end of their forward movement the gear-wheels g reach and pass up the curved rear end of the toothed openings in the plates W, and then move the said plates to the rearward, moving the knives T toward each other, causing them to taper the shingle. As the plates W reach the end of their rearward movement the gear-wheels g reach and pass down the curved forward ends of the openings in the plates W, and then move the said plates forward, so that the plates W will receive a reciprocating movement from

the continuous revolution in the same direction of the gear-wheels g.

The gear-wheels g are kept in gear with the teeth of the plates W by guide-plates i, attached to the plates W at the ends of the toothed openings in the said plates, and which pass along the central lines of the said plates, so as to be alternately above and below the journals of the gear-wheels g as the said gear-wheels mesh into the upper and lower teeth of the plates W, the said guide-plates W being notched at the ends of the oblong toothed openings of the said plates to allow the journals of the gear-wheels g to pass from one side to the other of the said guide-bars.

To the sides of the frame A, below and between the lower feed-rollers, L O, are pivoted two levers, j k, the forward ends of which are notched and rest against the lower sides of the journals of the lower feed-roller, L. The lever j inclines downward from its forward end to a point below the lower feed-roller, O, being about one-third its length, then extends back horizontally for about one-third its length, and its rear part then inclines upward for about one-third its length. The other lever, k, is inclined downward from its forward end for a distance a little less than one-third its length, then extends to the rearward for about one-third its length, and then inclines slightly downward to its rear end.

To the plates W, between their guide-slots and toothed openings, are attached hangers l m, which project downward and have inward projections or pins n o formed upon or attached to their lower ends, which project across the upper edges of the levers j k, so that as the plates W move to the rearward the lever j will be operated to raise one end of the lower forward feed-roller, L, and the lever k will be operated to allow the other end of the said feed-roller L to lower to bring the feed-rollers into proper position to take the twist out of the shingles as they pass between the said feed-rollers.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A machine for drawing and edging shingles, constructed substantially as herein shown and described, and consisting of the two pairs of feed-rollers L O, the knife-holders and knives U T, the edger Z a b c, and its supporting-rods d, the sliding plates W, having guide-slots in their forward parts, and oblong toothed openings and guides i in their rear parts, the gear-wheels g, and the rollers C E H and their driving-belts, as set forth.

2. In a machine for drawing and edging shingles, the combination, with the frame A and the rear feed-rollers, O, of the knife-holders Z, the knives b, the cross-bars a, the upright bars c, and the supporting-rods d, substantially as herein shown and described, whereby the tapered shingles will be edged as they come from the said feed-rollers, as set forth.

3. In a machine for drawing and edging shin-

gles, the combination, with the frame A, the lower forward feed-roller, L, and the sliding plates W, of the levers *j k*, having inclined surfaces extending in opposite directions—one upward and the other downward—and the hangers *l m*, having projections or pins *n o*, substantially as herein shown and described,

whereby the said roller is adjusted automatically to take the twist out of the shingles, as set forth.

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Witnesses:

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