(No Model.) 2 Sheets—Sheet 1.

S. D. RIEGEL.

MACHINE FOR SAWING FENCE PICKETS.

No. 386,035. Patented July 10, 1888.

Fig. 1.

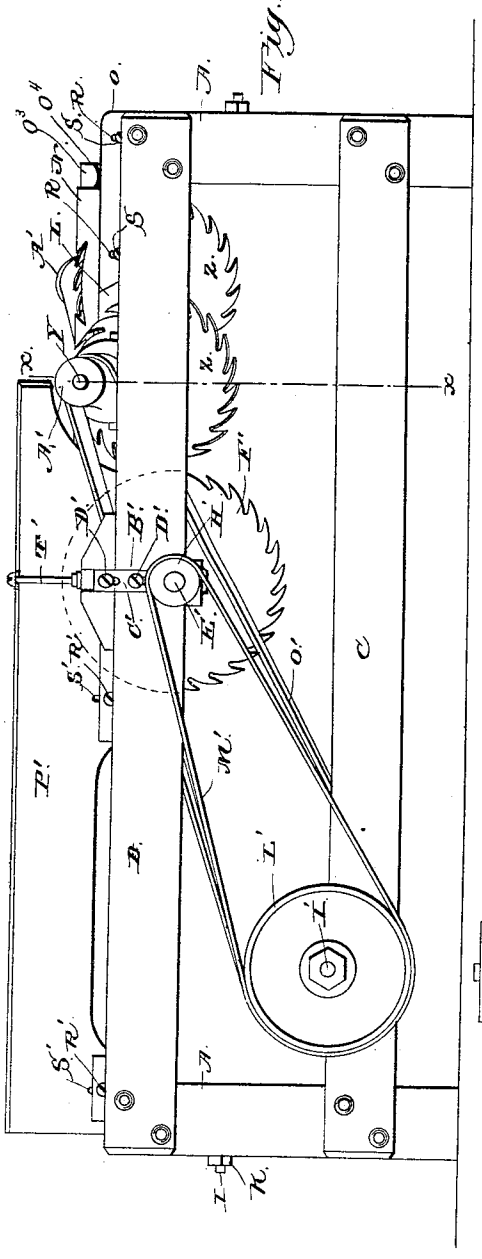
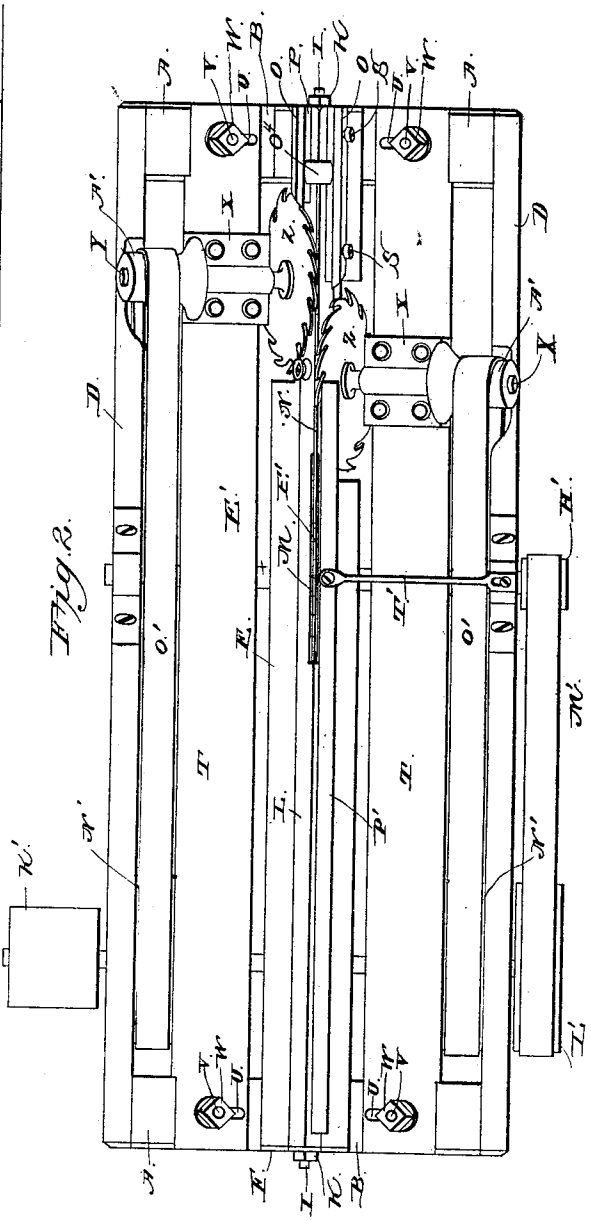


Fig. 2.



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(No Model.) 2 Sheets—Sheet 2.

S. D. RIEGEL.

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Fig. 3.

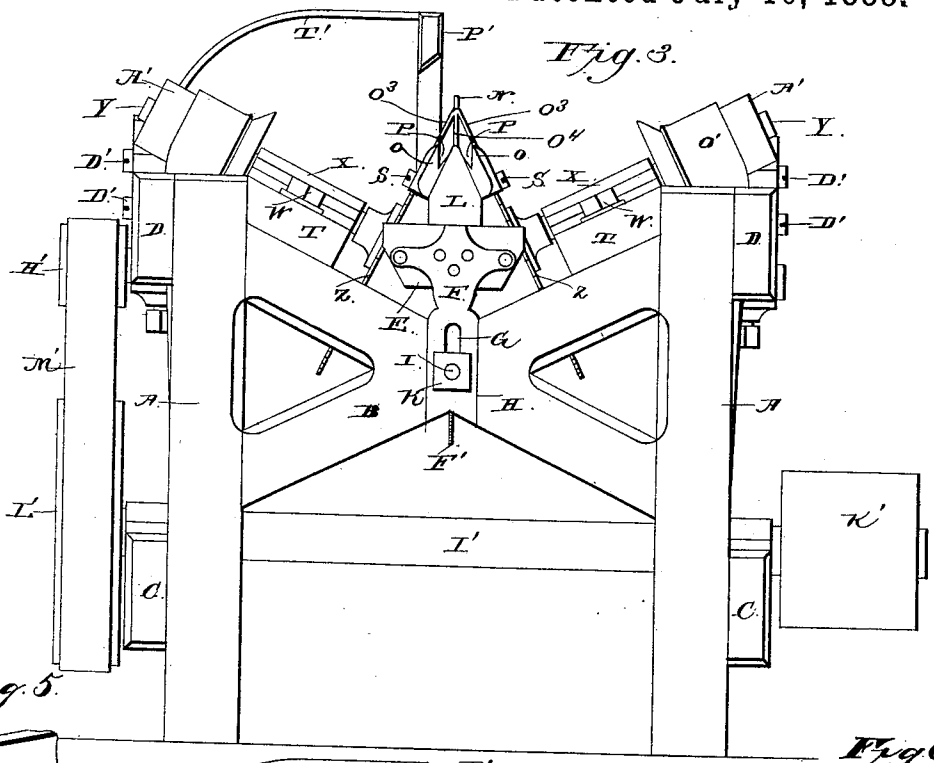


Fig. 5.

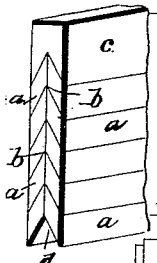


Fig. 6.



Fig. 4.

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UNITED STATES PATENT OFFICE.

SAMUEL D. RIEGEL, OF THOMASVILLE, GEORGIA.

MACHINE FOR SAWING FENCE-PICKETS.

SPECIFICATION forming part of Letters Patent No. 386,035, dated July 10, 1888.

Application filed October 12, 1887. Serial No. 252,167. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL D. RIEGEL, a citizen of the United States, residing at Thomasville, in the county of Thomas and State of Georgia, have invented a new and useful Improvement in Machines for Sawing Fence-Pickets, of which the following is a specification.

My invention relates to an improvement in machines for sawing fence-pickets; and it consists in the peculiar construction and combination of devices, that will be more fully set forth hereinafter, and more fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a picket-sawing machine embodying my improvements. Fig. 2 is a top plan view of the same. Fig. 3 is an end elevation. Fig. 4 is a vertical transverse sectional view taken on the line *x x* of Fig. 1. Fig. 5 is a detail perspective view of a board, showing the lines on which the pickets are sawed. Fig. 6 is a similar view of one of my improved pickets.

A represents the corner posts or standards of a frame or table.

B represents two pairs of crossed beams, which connect the posts A at opposite ends.

C represents a pair of longitudinal bars, which are arranged on opposite sides of the table or frame, and connect the posts or standards A near their lower ends.

D represents a pair of similar bars, which are attached to the posts or standards A at their upper ends, and are arranged parallel with the bars C.

E represents a longitudinal central beam, which is beveled on opposite sides, as shown, corresponds in length with the table or frame, and is provided at its ends with vertical depending standards F. The said standards are provided with vertical slots G, and the lower ends of the said standards are secured in vertical grooves H, which are made on the outer sides of the crossed bars B at the centers thereof.

I represents bolts, which extend through openings in the centers of the cross-bars, and also extend through the slots G in the standards F. Clamping-nuts K are screwed onto the outer ends of the said bolts, and are adapted to be compressed against the outer sides of the standards F, so as to secure the said standards at any desired vertical adjustment, and thereby enable the beam E to be secured at any desired height.

L represents a guide-rail, which is secured on the upper side of the beam E at the center thereof, and extends longitudinally on the said beam. The opposite sides of this guide-rail L are beveled upwardly toward each other, as shown, at an angle of about thirty degrees. Near the center of the guide-rail and near the center of the beam D is a vertical longitudinal opening M.

N represents a metallic flange-plate, which is secured in a vertical longitudinal slit or kerf that is made in the guide-rail at the rear end thereof. The upper edge of this flange-plate projects a suitable distance above the upper edge of the guide-rail, as shown. On opposite sides of the guide-rail, at the rear end thereof, are arranged guide-blocks O, which have their upper edges provided with incised angular grooves P. Vertical slots R are made in the said guide-blocks, and screws or bolts S extend through the said slots and enter the sides of the guide-rail E, and thereby secure the guide-blocks to the said guide-rail at any desired vertical adjustment.

T represents a pair of longitudinal bars, which have their ends arranged on the upper inclined sides of the crossed bars B, the said bars T being arranged with their upper sides at right angles to the beveled sides of the guide-rail L. Vertical transverse slots U are made in the bars T, near the ends thereof.

V represents bolts which extend through the upper cross-bars, B, and extend through the slots U. Clamping-nuts W are screwed on the upper end of the said bolts and bear against the upper sides of the beams T, and thereby secure the said beams or bars on the upper sides of the crossed bars B and permit the said beams or bars T to be adjusted laterally toward or from the central beam, E. On the upper sides of the bars T, at suitable distances from the rear ends of the said bars, are secured bearing-blocks X.

Y represents a pair of saw-arbors, which are journaled in the said bearing-blocks, and are inclined parallel with the upper sides of

the bars T. These arbors are out of line with each other, as shown, and to their inner ends are secured circular rip-saws Z, which are arranged on opposite sides of the guide-rail L and at a suitable distance therefrom, and are parallel with the said inclined sides of the guide-rail, as shown. The upper edges of these saws extend into recesses or notches which are made in the upper edge of the flange-plate N. To the outer ends of the saw-arbors are secured band-pulleys A'. In the outer sides of the bars D of the frame, near the centers of the said bars, are made vertical grooves B'.

C' represents hangers, which have vertical arms secured in the said grooves by means of screws or bolts D', which work in vertical slots with which the hangers are provided. The lower ends of these hangers form bearings for a saw-arbor, E', which extends transversely across the frame. To the center of this shaft is attached a circular rip-saw, F', the upper edge of which extends through the opening M. The saw-arbor passes transversely through a groove, G', on the lower side of the beam E, and thereby permits the said beams to be vertically adjusted with relation to the saw-arbor. By reason of the slotted hangers in which the saw-arbor is journaled the latter may be also vertically adjusted, as may be readily understood. H' represents a band-pulley, which is secured on one end of the arbor E'.

I' represents a driving-shaft, which is journaled in bearing-boxes secured on the upper edges of the bar C, near the front end of the machine. To one end of this shaft is secured a pulley, K', for the driving-belt, (not shown,) and to the opposite end of the said shaft is secured a pulley, L', which is connected to the pulley H' on the arbor E' by means of an endless belt, M'. N' represents a pair of pulleys, which are of the same diameter as the pulley L', are secured to the shaft I' on the inner sides of the bar C, and are connected to the pulleys on the inclined saw-arbors by means of endless belts O', which bear against guiding-sheaves O^2.

P' represents a guide-board, which is secured on one side of the guide-rail by means of screws or bolts R', which pass through vertical slots S' in the lower edge of the guide-board and enter one side of the guide-rail.

T' represents a brace, which connects the upper edge of the guide-board to a block on the upper edge of one of the bars D, and thereby secures the said guide-board rigidly in position.

The pickets, for the manufacture of which my sawing-machine is designed, are beveled on opposite sides to feather edges *b*.

The operation of my sawing-machine and the method of making the pickets are as follows: A board, *c*, of suitable length, width, and thickness, is first provided with an incised groove, *d*, on its lower edge, adapted to fit on the upper edge of the guide-rail L. The board is then placed in position on the upper edge of the said guide-rail L, and is caused to bear against the guide board P', and is forced forward on the said guide-rail and presented to the action of the saw F', which makes the longitudinal vertical kerf in the center of the board, from end to end thereof, and thereby partly splits the said board. As the board is forced forward over the upper cutting-edge of the saw F', the guide-plate N enters the kerf in the board and prevents the same from binding on the saw F'. As the board continues to be forced forward, its front edge comes in contact with one of the saws Z, which, being arranged at right angles to the opposing beveled side of the guide-rail L, cuts an inclined longitudinal kerf lengthwise in the board, and thereby serves to separate a diamond-shaped picket from one side of the board. When the board reaches the inclined saw Z on the opposite side of the guide-rail, the said inclined saw cuts a similar kerf in the board, and thereby serves to separate another inclined picket from the opposite side thereof. While the pickets are being sawed from the board, their outer ends, as they pass beyond the inclined saws, are guided in the grooves in the upper edges of the guide-blocks O, and on the under sides of downwardly-inclined wings O^3, with which a guide, O^4, is provided.

From the foregoing description it will be understood that the board is first ripped on a central line, and is then cut on inclined lines of cleavage, extending from the central cut or kerf. The said central cut or kerf forms one side of each picket, parallel outer sides of the board form one side also of the said pickets, and the remaining parallel sides of the pickets are formed by the inclined kerfs. The cutting portions of all the saws intercept each other in the same longitudinal plane of the machine, so that the inclined saws will cut through the board to the central kerf. The formation of the picket and separation of the same from the board are thus rendered perfect and certain. By thus dividing the board in the center and forming the pickets by making inclined kerfs on opposite sides of the central dividing-kerf I am enabled to make twice as many pickets from a board of given size than it has been heretofore possible to manufacture from the said board, thereby effecting a very great economy of lumber.

Pickets which are made diamond shape in cross-section, as hereinbefore described, are strong and light, and are specially adapted to be secured between twisted wires to form the combined wire and picket fences which are now in extensive use. It will be readily observed that pickets thus constructed may be painted with much greater facility than ordinary pickets, for the reason that there are no opposing edges of the said pickets to which to apply the brush, as the beveled sides of the pickets converge to form feather edges, and thereby only form two opposite surfaces to which the paint can be applied. By thus bev-

eling the sides of the pickets and rendering them diamond shape the superficial area of the pickets is lessened, and consequently a smaller quantity of paint is required to cover them.

Having thus described my invention, I claim—

1. In a machine for sawing pickets, the combination of the saw F′, and the saws Z on opposite sides of the saw F′ and vertically inclined in opposite directions, and all having their cutting portions intercepting each other in the same longitudinal plane, the saws Z and F′ being out of line with each other, substantially as described.

2. The combination, in a machine for sawing pickets, of the circular saw F′, the guide-rail L, vertically adjustable with relation to the said saw and having the opening in its center through which the said saw extends, and the circular saws Z, arranged on opposite sides of the said guide-rail and inclined in opposite directions, the upper edges of the said saws Z extending over the upper edge of the guide-rail, said saws Z being further journaled in bearings which are adjustable toward and from the guide-rail, substantially as described.

3. The combination, in a machine for sawing pickets, of the guide-rail, a circular saw, F′, having its upper edge extending through a central opening in the guide-rail, the flange-plate N, projecting from the upper edge of the guide-rail and extending longitudinally thereon in rear of and in line with the saw F′, and the inclined circular saws Z, arranged on opposite sides of the guide-rail, and having their upper edges extending in notches or recesses in the upper edge of the flange-plate, substantially as described.

4. The combination, in a machine for sawing pickets, of the circular saw F′, the flange-plate N, arranged longitudinally in line with the said saw in rear thereof, the oppositely-inclined circular saws Z on opposite sides of the saw F′ and out of line therewith and with each other, and the guides O in rear of the saws Z, substantially as described.

5. The combination, in a machine for sawing pickets, of the guide-rail L, the circular saw F′, having its upper edge extending through an opening in the said guide-rail, the bars T, having the transverse slots U at their ends, the inclined bars B, on which the ends of the said bars T are supported, the clamping-bolts extending through the slots U and securing the bars T to the bars B at any desired lateral adjustment toward or from the guide-rail, and the oppositely-inclined circular saws Z, having their arbors journaled in bearings on the bars T, substantially as described.

6. The combination, in a machine for sawing pickets, of the guide-rail E, a circular saw, F′, having its upper edge extending through a central opening in the guide-rail and projecting above the same, the inclined circular saws Z on opposite sides of the guide-rail, and the guide-board P′, arranged on one side of the guide-rail, substantially as described.

7. In a machine for sawing pickets, the combination of the saw F′, for cutting the longitudinal kerf in the board, with the vertically-inclined saws Z, arranged on opposite sides and in rear of the saw F′, said saws Z cutting inclined kerfs in the board, the cutting portions of the saws F′ Z intercepting each other in the same longitudinal plane, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

SAMUEL D. RIEGEL.

Witnesses:
J. M. JONES,
A. R. JONES.