J. A. NEAL.

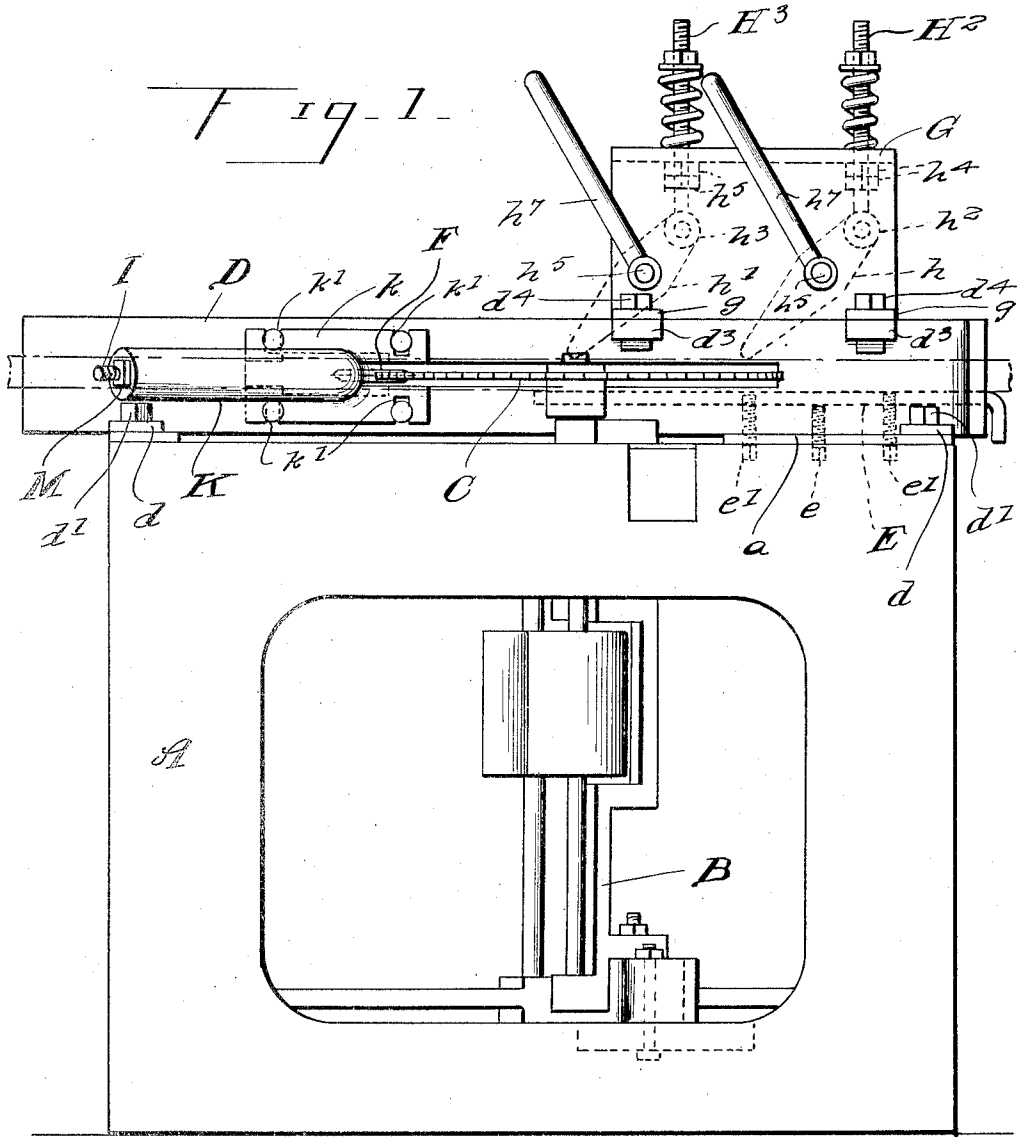
ATTACHMENT FOR RESAWING MACHINES.

APPLICATION FILED DEC. 17, 1919.

1,356,110. Patented Oct. 19, 1920.

4 SHEETS—SHEET 1.

Fig. 1.



Inventor

Joseph A. Neal

By Julian C. Dowell

his Attorney

J. A. NEAL.

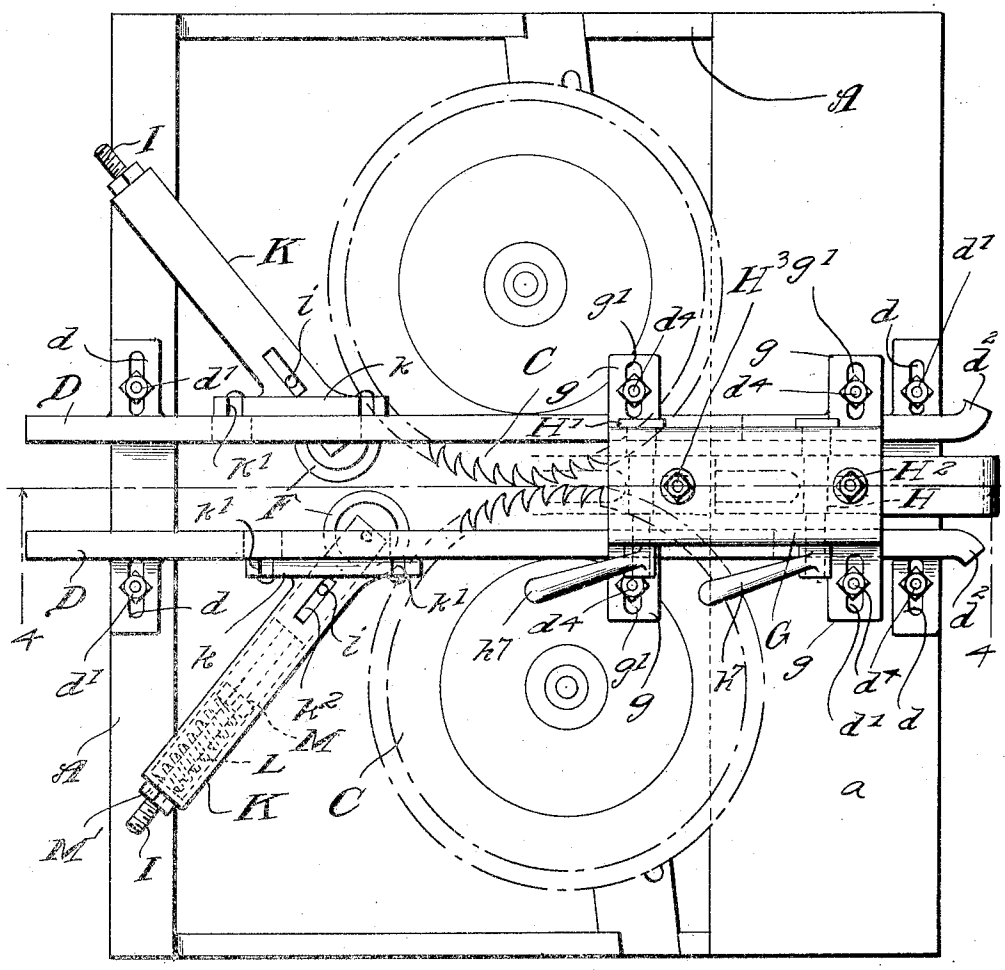
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4 SHEETS—SHEET 2.

Fig. 2.



Inventor

Louis A. Neal

By Julian C. Dowell

his Attorney

J. A. NEAL.

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4 SHEETS—SHEET 3.

Fig. 3.

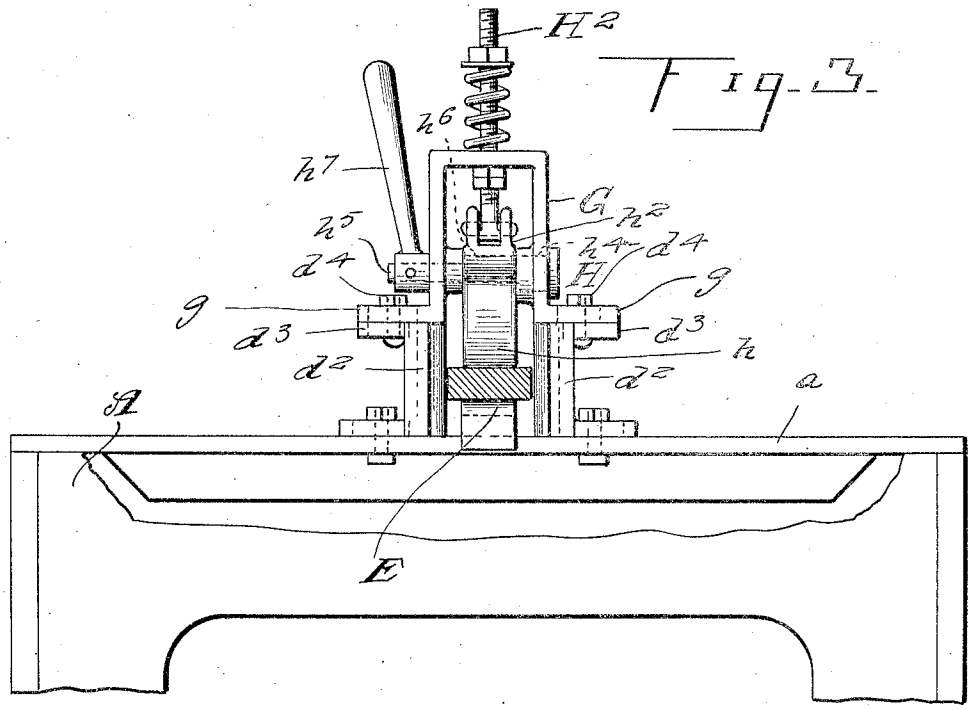


Fig. 8.

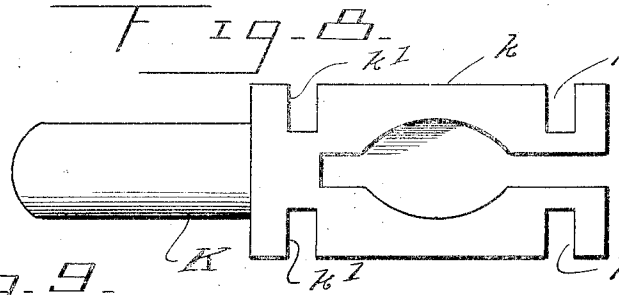
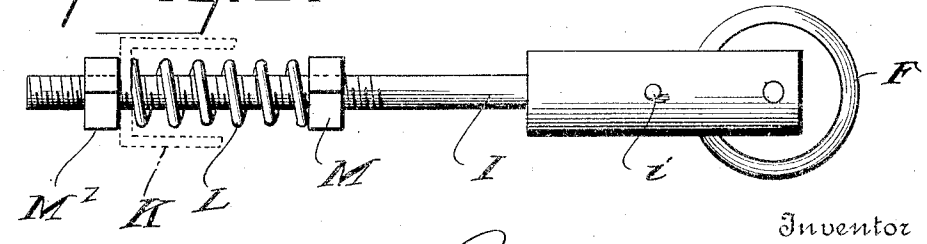


Fig. 9.



Inventor

Joseph A. Neal

By Julius C. Dowell

his Attorney

J. A. NEAL.

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4 SHEETS—SHEET 4.

Fig. 4.

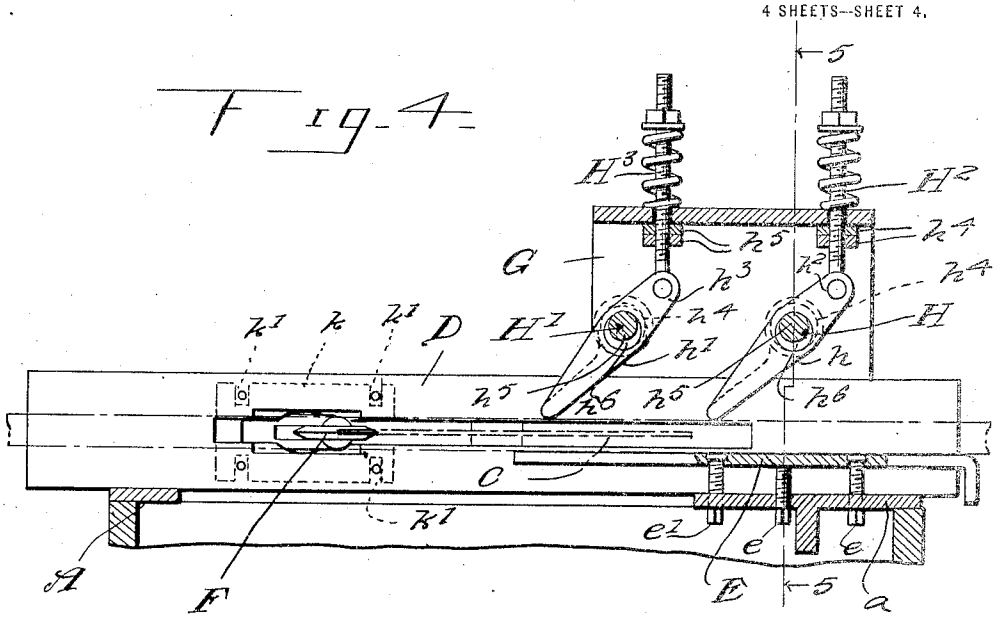


Fig. 5.

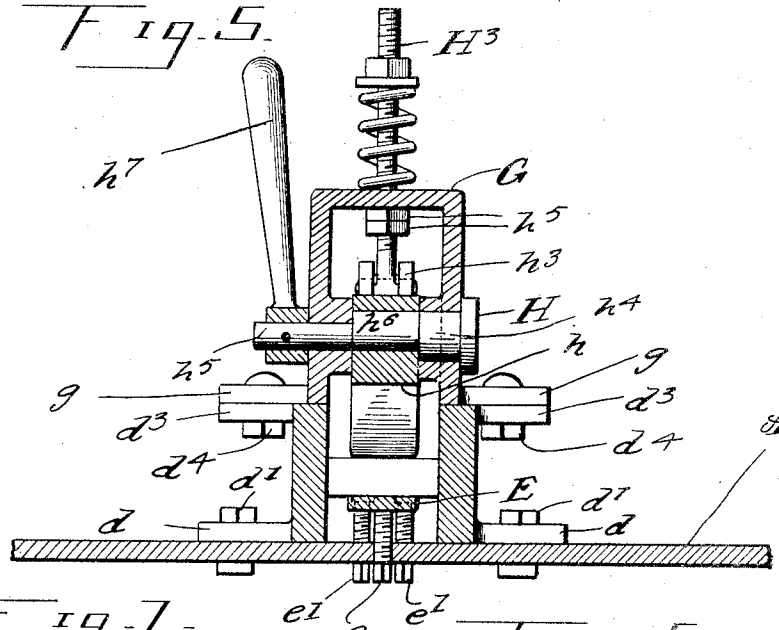


Fig. 7.

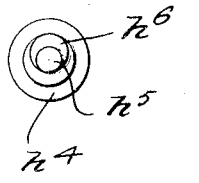
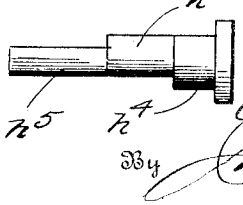


Fig. 6.



Inventor

Joseph A. Neal

By William C. Dowell

his Attorney

UNITED STATES PATENT OFFICE.

JOSEPH ALFRED NEAL, OF MOBILE, ALABAMA.

ATTACHMENT FOR RESAWING-MACHINES.

1,356,110. Specification of Letters Patent. Patented Oct. 19, 1920.

Application filed December 17, 1919. Serial No. 345,518.

To all whom it may concern:

Be it known that I, JOSEPH A. NEAL, a citizen of the United States, residing at Mobile, in the county of Mobile and State of Alabama, have invented certain new and useful Improvements in Attachments for Resawing-Machines; and I 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.

This invention relates to re-sawing machines; and the objects of the invention are to provide simple, efficient and inexpensive means for supporting and guiding the material as it is passed through the machine and for holding it down upon its support in proper position for the action of the saws with a yielding and variable pressure, together with means for yieldingly holding apart the pieces of stock separated by the saws so as to keep the kerf open and prevent binding action of the stock upon the saws.

The invention will first be hereinafter more particularly described, with reference to the accompanying drawings, which are to be taken as a part of this specification, and then pointed out in the claims at the end of the description.

In said drawings—

Figure 1 is a side elevation of a re-sawing machine embodying my invention;

Fig. 2 is a plan view of the same;

Fig. 3 is a front view of a broken away portion of the machine;

Fig. 4 is a longitudinal sectional elevation of said broken away portion taken at right angles to the view shown in Fig. 3;

Fig. 5 is a vertical sectional view taken on the line 5—5 of Fig. 4;

Fig. 6 is a side view of the eccentric pin or cam shaft on which the hold down devices or presser feet are mounted, and which is used to throw the presser foot into and out of action;

Fig. 7 is an end view of said cam shaft;

Fig. 8 is an end view of the separator housing or casing, and

Fig. 9 is a plan view of the yielding separator or kerf opener.

Referring to said drawings, in which the same reference letters are used to denote corresponding parts in different views, the letter A may denote the machine frame, which may be of the form shown or any ordinary construction, and to which may be secured laterally and vertically adjustable mandrel-supporting frames B carrying circular saws C. Said frames are preferably as shown, of substantially the same construction as the mandrel-supporting frames shown in my Patent No. 1,340,286 dated May 18, 1920. But other forms may be employed, as the mandrel-supporting frames form no part of my present invention.

On the frame A are mounted a pair of bars D, D, between which the material or stock to be operated on by the saws is guided and held in proper position for the action of the saws as it passes through the machine. The bars D, D, are each formed or provided on the outer side thereof with laterally projecting base flanges d, d, one near each end, which flanges have oblong slots therein to receive fastening bolts or screws d', d' by which said flanges are secured to the supporting frame so as to permit lateral adjustment of either or both guide bars to adapt them to receive therebetween stock of different widths. The front ends of the guide bars D, D, are each slightly bent or turned outwardly, as at d^2, to widen the space for the entrance of the material between said guides. A bed-plate E of sufficient length to properly support and guide the material in its passage between the guide bars D, is supported between said bars on set screws e and e' whereby said bed-plate may be raised and lowered, to accommodate stock of different thicknesses, and secured in a fixed position by means of said screws. The bed-plate is supported by front and rear screws e' which are swiveled thereto and screwed into threaded openings therefor in the frame-bar a, and rests upon the head or heads of an intermediate screw or screws e which are also screwed into threaded openings in said frame bar a to adapt the bed-plate to be adjusted and held at different heights. At an intermediate point the guide bars D are slotted longitudinally to permit the entrance of separating disks F, F, hereinafter described, and are formed or provided on their upper outer sides or margins with laterally projecting lugs d^3 having oblong slots or holes therein to receive set screws or bolts d^4 for securing thereto a superposed holddown or presser-foot supporting member or housing G, which is constructed substantially in the form of the letter U, inverted, and has laterally projecting base flanges g on the outer

side thereof, which flanges are provided with oblong slots g' to receive the fastening bolts or screws d^4 by which said casing or housing is secured to the flanges d^3 on the guide bars D to permit lateral adjustment of said guide bars in the manner hereinbefore described. The housing G has journaled therein a pair of eccentric pins or cam shafts H and H′ on which are pivotally mounted holddown members or presser feet h and h' having their lower ends arranged to bear upon the material or stock and hold it down upon the supporting bar or bed-plate E with a yielding pressure, by means of spring-actuated rods H^2 and H^3 having their lower ends pivoted to the shorter arms h^2 and h^3, respectively, of said presser feet and having coiled or other suitable springs thereon bearing on the top of said housing and against a nut screwed on the upper end of the rod, as shown in Figs. 1, 3 and 4. The tension of said springs may be increased or diminished as desired by adjusting said nuts, upward movement of the rods H and H′ and consequent downward movement of the free ends of the presser feet is limited by means of lock nuts h^4 and h^5 screwed upon the rods and stopped against upward movement by contact with the under side of the top of the housing G.

The eccentric pins H and H′ are each preferably constructed with an enlarged end portion h^4, a reduced end portion h^5 concentric with said enlarged portion, and an intermediate eccentric portion or cam h^6, as shown more clearly in Figs. 5, 6 and 7 and provided with an operating handle h^7. By turning said handle the free end of the presser foot may be raised or lowered according to the direction in which the handle is turned to accommodate material of different thicknesses, and the cam will hold the presser foot in adjusted position until it is turned sufficiently to pass a dead center and raise the presser foot into an inoperative position, in which position it is desirable at times to throw the presser foot, in order to permit the removal of the stock from the machine.

The lock nut on the under side of the frame member through which the vertical rods H^2 and H^3 pass may be adjusted to vary the inclination of the presser foot and the pressure of the spring thereon, and likewise the nuts on the free ends of said rods may be adjusted to vary the pressure of the spring, and springs of different sizes may be used, adapted to exert greater or less pressure, a heavier spring being preferably used upon the foremost presser foot to adapt it to exert the greater pressure. Rotating disks F, each of which is journaled at the inner end of a longitudinally movable rod I, protrude through side slots in the guide bars D and D′. Said rods I are each housed within a casing K attached to the outer side of the guide bar D, and said housing is preferably of tubular form, having on the inner end thereof a flat faced plate k, provided with open-ended slots k', to receive set screws or bolts for securing it to the outer side of the guide bar as shown more clearly in Figs. 1 and 2. In order that the disk may be retained in proper position to enter the kerf or cut made by the saws, a stud or pin i on the rod I protrudes through an oblong slot k^2 in the housing K, parallel with the axis of the disk, to prevent the rod from rotating while permitting movement thereof in the direction of its length. The free end of the rod I passes through an aperture in the outer end of the housing K which forms an abutment for one end of a spring L which is placed on the rod between said abutment and a nut M screwed on the rod, so that the spring will yieldingly force the rod toward the fixed end of the housing and thereby force the disk into the kerf made by the saws. A nut M′ screwed on the free end of the rod I beyond the outer end of the housing serves to limit the inward movement of the rod beyond a predetermined point by contact with the free end of the housing and by adjusting said nuts the tension of the spring may be varied to exert greater or less pressure as desired.

It will be observed that the separators are so inclined in relation to the guide bars that they will readily yield to any excess pressure exerted by the stock tending to force them back into their housings against the pressure of the springs acting thereon and which will immediately restore them to normal position when such excess pressure is removed.

While I have shown and preferably employ a pair of separating devices, one arranged on each side of the material operated on by the saws, and also a pair of hold down devices or presser-feet arranged to operate conjointly with a supporting-bar or bed-plate arranged between longitudinal guide-bars and on which the material slides as it is advanced toward the saws and held in proper position for the saws to operate, it may be desirable in some cases to use a single separator or a single hold down device or presser-foot, and various other changes may be made in the details of construction and arrangement of parts without departing from the spirit and scope of my invention, and I therefore do not desire to be limited to the exact construction or arrangement shown and described.

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

1. In a sawing machine horizontally arranged saws and means for supporting and guiding the material through the machine in proper position for the action of the saws,

comprising parallel guide bars and an intermediate bed-plate or support upon which the material slides, together with means for adjusting and securing said bars at different distances apart and means for vertically adjusting and securing said bed-plate at different heights, to accommodate material of different thicknesses and widths; and means for yieldingly pressing the material down upon said support.

2. The combination, in a sawing machine, with means for supporting and guiding the material through the machine in proper position for the action of the saws, of means for holding the material down upon its support, comprising a frame member mounted on said guiding means and having an eccentric pin journaled therein, a presser foot rockingly mounted on said pin with its toe in position to press upon the material passing through the machine and having its heel or shorter arm pivoted to a rod depending through said frame member, said rod having nuts screwed thereon, one on the outer side and the other on the inner side of said frame member, and a spring on said rod bearing at one end on said frame member and at the other end against a nut on the free end of said rod, whereby the free end of the presser foot may be slightly raised or lowered and held in a relatively fixed position while being yieldably held down upon the material as it passes through the machine.

3. In a sawing machine, means for yieldingly holding the material down as it passes through the machine, said means comprising an eccentric pin rotatably mounted on the machine frame, a presser-foot fulcrumed on said pin, a rod pivoted at one end to said presser foot and extending through a fixed frame member or support, a spring on said rod bearing at opposite ends against the outer side of said support and a nut on the free end of said rod and adapted to yieldingly force the presser foot down upon the material operated on by the saws, and means on said rod for limiting its movement in a direction tending to hold the presser foot down to its work.

4. In a sawing machine, a supporting bar on which the material slides, and means for holding the material down upon said bar as it is advanced toward the saws, said means comprising a rotatable shaft having a cam portion, a presser-foot extending downwardly at an angle to said supporting bar and having an opening therein intermediate its ends through which said shaft passes for pivotally supporting said presser-foot on said cam portion, and a spring adapted to yieldingly hold said presser-foot to its work; said shaft having a handle for turning it, whereby the lower end of said presser-foot normally resting on the material and held thereagainst by said spring may be raised or lowered and sustained in a relatively fixed position by said shaft.

5. In a sawing machine, parallel guide bars and means for adjusting and securing said bars at different distances apart, together with an intermediate vertically adjustable supporting bar, to adapt the machine to accommodate material of different thicknesses and widths, the latter means comprising a set screw or screws on which said supporting bar rests, and other screws on opposite sides of said set screw for adjusting and securing said supporting bar at different heights.

6. A sawing machine comprising horizontally arranged saws, a supporting bar for the material operated on by the saws, and means for holding the material down upon said bar as it is advanced toward the saws, said means comprising a rotatable cam shaft, a presser-foot extending downwardly at an angle to said supporting bar and rockingly supported intermediate its ends on said shaft, a spring adapted to yieldingly hold said presser-foot to its work, and a handle for turning said shaft, whereby the lower end of said presser-foot normally resting on the material and held thereagainst by said spring may be raised or lowered and sustained in a relatively fixed position.

In testimony whereof I affix my signature in the presence of two witnesses.

JOSEPH ALFRED NEAL.

Witnesses:
WALTER STOVER,
ERVIN W. CRABTREE.