

(No Model.)

3 Sheets—Sheet 1.

J. H. SCHUMACHER.
SHEARING MACHINE FOR FRUIT PACKAGES.

No. 487,781.

Patented Dec. 13, 1892.

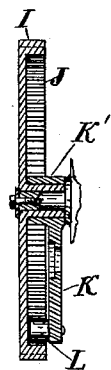
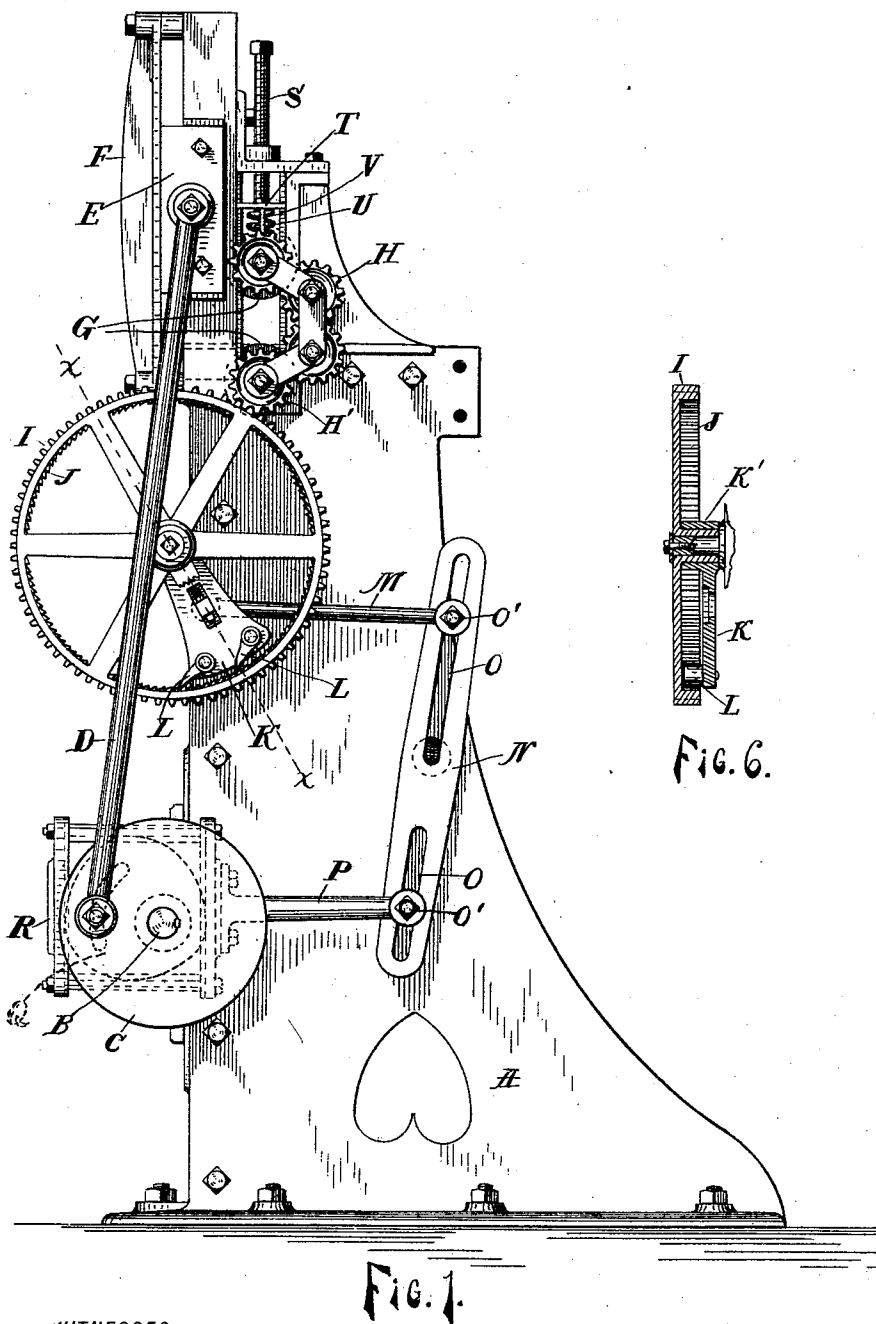


Fig. 6.

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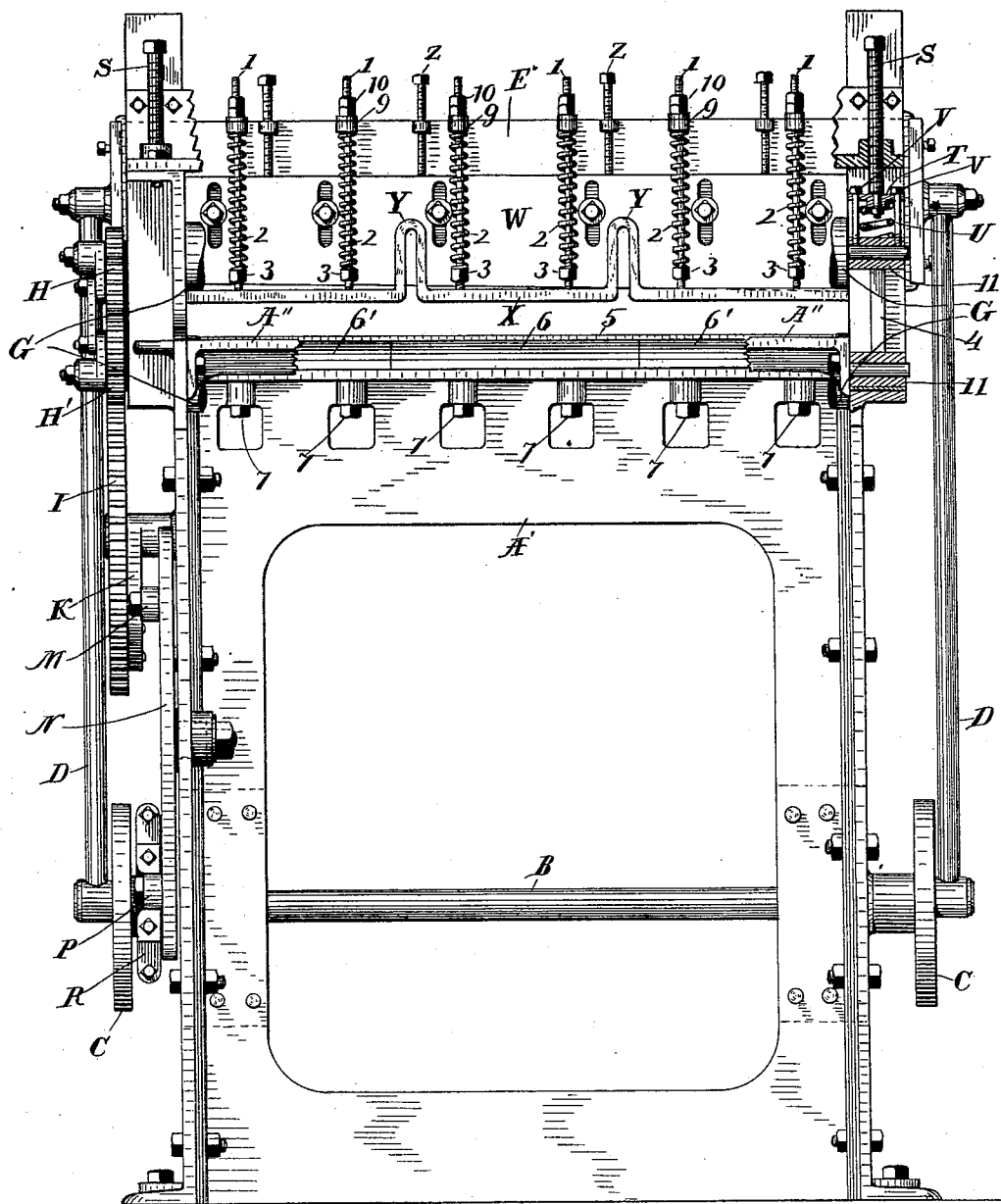


FIG. 2.

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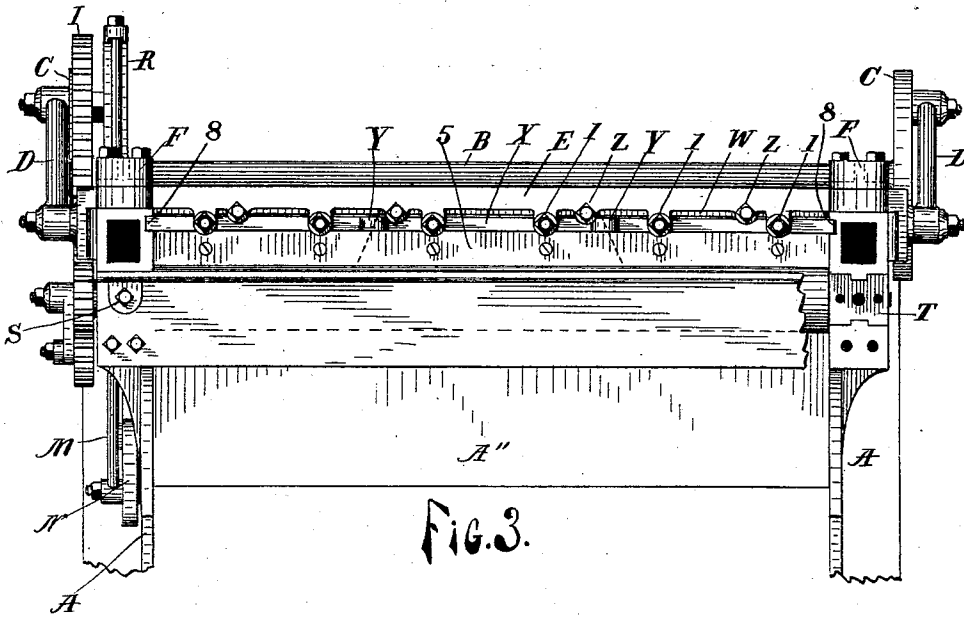


Fig. 3.

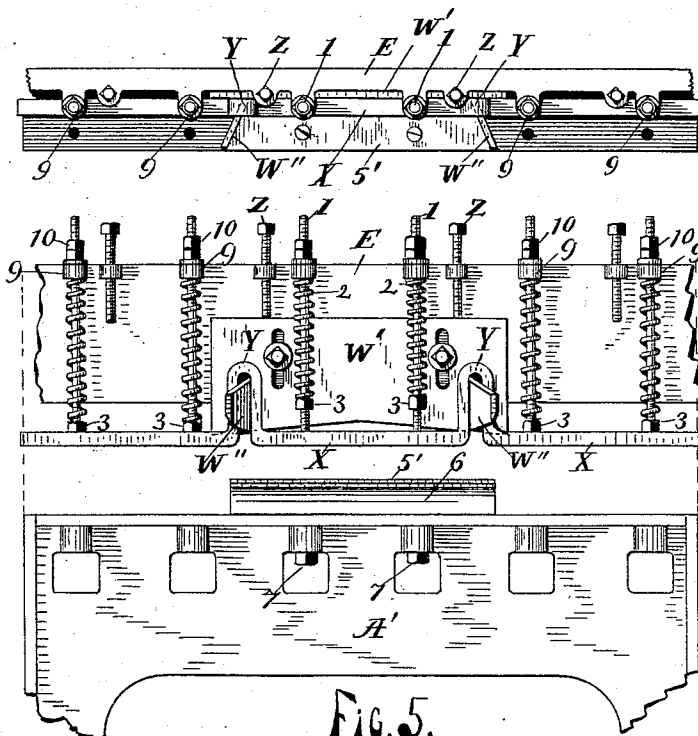


Fig. 4.

Fig. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN H. SCHUMACHER, OF SAUGATUCK, MICHIGAN.

SHEARING-MACHINE FOR FRUIT-PACKAGES.

SPECIFICATION forming part of Letters Patent No. 487,781, dated December 13, 1892.

Application filed March 9, 1892. Serial No. 424,346. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. SCHUMACHER, a citizen of the United States, residing at Saugatuck, in the county of Allegan and State of Michigan, have invented certain new and useful Improvements in Shearing-Machines for Fruit-Packages; 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.

My invention relates to improvements in veneer-cutting machines, and more particularly to such machines that are used in making stock from veneers for fruit packages, baskets, &c.; and its object is to provide such machines with certain new and useful features hereinafter more fully described, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which—

Figure 1 is a side elevation of a machine embodying my invention; Fig. 2, a rear elevation of the same with parts broken away to show the construction. Fig. 3 is a plan view of a part of the machine with parts broken away; Fig. 4, a detail showing a plan view of a portion of the machine adjusted to cut basket-tops; Fig. 5, a rear elevation of the same parts shown in Fig. 4, and Fig. 6 a detail of the wheel I and arm K in section on the line *xx*.

Like letters and numerals refer to like parts in all of the figures.

A A represent the sides of a suitable framework to which the various working parts are attached, and A' the front of the same, and A'' the bed or table over which the stock passes to the feed-rolls.

B is the driving-shaft, journaled across the front of the machine near the bottom. Said shaft is provided with crank-wheels C at each end, which are connected by pitman-rods D to the respective end of a knife-bar E, which bar is vertically movable in ways F as actuated by said pitman-rods. A suitable knife W is attached to the bar E, which passes close to the edge of the shear-plate 5. Said plate rests upon a bed having a middle section 6, having front and end faces to fit the blade W' and wings W'' of the angle-knife shown in Figs. 4 and 5, and side sections 6'

6', which are removed when the said angle-knife is in use, in which event a shear-plate 5' is substituted for the plate 5, which plate 5' has front and end edges to coact with said angle-knife.

X is a pressure-bar, which moves vertically in the ways 8 and is provided with rods 1, which pass through bosses 9 on the knife-bar, and have adjustable nuts 10 above said bosses to lift said bar X. Surrounding said rods 1 are springs 2, which at their upper ends engage the under side of said bosses and are provided with tension-adjusting nuts 3 upon the lower ends of the rods 1, which springs press the bar X down upon the stock as the knife-bar descends. Said bar X is also provided with two vertical loops Y Y, which embrace the respective wings W'' of the angle-knife and permit the said bar to descend upon the stock at each side of said wings.

Z are adjusting-screws for the knives, and said knives are secured to the knife-bar by cap-screws in the usual way.

The feed mechanism consists of a pair of rolls G, journaled in boxes 11, which are vertically movable on guides 4. The upper roll is adjusted to various thicknesses of stock by screws S, having plates T attached to their lower ends, said plates being connected to said journal-boxes by bolts V, which move longitudinally in said plates as the springs U are compressed by the stock passing between the rolls. Said springs U are located between the upper journal-boxes 11 and plates T and force them apart as far as the bolts V will permit. By this construction the initial tension on springs U can be adjusted by turning said screws or placing washers under the heads of the same, and the upper roll supported in an elevated position when there is no stock in the machine. Said rolls G are connected by expansion-gearing H, and are actuated by a large gear I, engaging the pinion H' on the lower roll. Said gear I has an inwardly-projecting rim, on the inner surface of which is a ratchet J. An arm K is journaled upon the hub of said wheel by means of the sleeve K', and is provided with pawls L L, which engage said ratchet J. Said arm K is vibrated by means of a cam Q on the driving-shaft, provided with a yoke R, which operates a rocker-arm N by means of a con-

necting-rod P. Said rocker-arm in turn is connected to the arm K by means of the rod M. By moving the pivot-bolts O' in the slotted openings O O the points of attachment to the rocker-arm N of the rods P and M may be varied to determine the throw of the arm K, which will determine the width of stock fed forward by the rolls G at each stroke of the machine. The cam Q is so adjusted that the forward movement of the stock takes place while the knife is in the upper part of its stroke and above the plane of the stock.

Having now described my invention, I claim—

1. The combination, with the vertically-movable bar carrying a cutting-knife and having bosses and a stationary shear-plate, of a pressure-bar having rods extending upward from its upper face, said rods extending through said bosses and having threaded ends, coiled springs encircling said rods and engaging the under side of said bosses at their upper ends, adjustable nuts on the lower ends of said rods engaging the lower end of said coiled springs and serving to adjust the tension thereof, and nuts on said rods above said bosses for lifting said pressure-bar, all substantially as described.

2. In a shearing-machine, in combination with a vibrating knife attached to the same, having laterally-projecting cutting-wings, a stationary shear-plate having side and end edges adjacent to said knife and wings, and a pressure-bar to rest upon and hold the stock, having vertical loops embracing said wings, substantially as described.

3. The combination, with the movable knife-bar and a knife removably attached thereto, of a bed having removable sections and shear-plates removably secured to said bed, substantially as described, and for the purposes specified.

4. The combination, with the movable knife-

bar and a knife removably attached thereto, of a bed having removable sections, a shear-plate removably attached to said bed, and a movable pressure-bar having vertical loops, all substantially as shown and described.

5. The combination, with the feed-rolls journaled at their ends in boxes and expansion-gearing connecting said rolls, of means for adjusting the upper roll vertically toward and from the lower roll, said means consisting of plates, bolts attached to the boxes of said rolls and loosely engaging said plates, adjusting-screws attached at their lower ends to said plates, and coiled springs between said boxes and plates, substantially as described.

6. In combination with a vibrating arm having pawls engaging a ratchet to operate the feed mechanism, a cam, a yoke engaging the same, a rocker-arm having slotted openings, and connecting-rods connecting the respective ends of said rocker-arm to said vibrating arm and yoke, said rods having pivot-bolts adjustable in said slots, substantially as described.

7. In combination with feed-rolls having expansion-gearing, a gear engaging the pinion on the stationary roll, said gear having an inwardly-projecting rim, a ratchet on the inner surface of said rim, an arm having a sleeve surrounding the hub of said wheel, a pawl on said arm engaging said ratchet, a rocker-arm connected to said vibrating arm by a rod having an adjustable connection to said rocker-arm, a cam on the driving-shaft, a yoke engaging said cam, and a rod connecting said yoke to said rocker-arm, substantially as described.

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

JOHN H. SCHUMACHER.

Witnesses:

LUTHER V. MOULTON,
GEO. W. SHOOK.