

(No Model.)

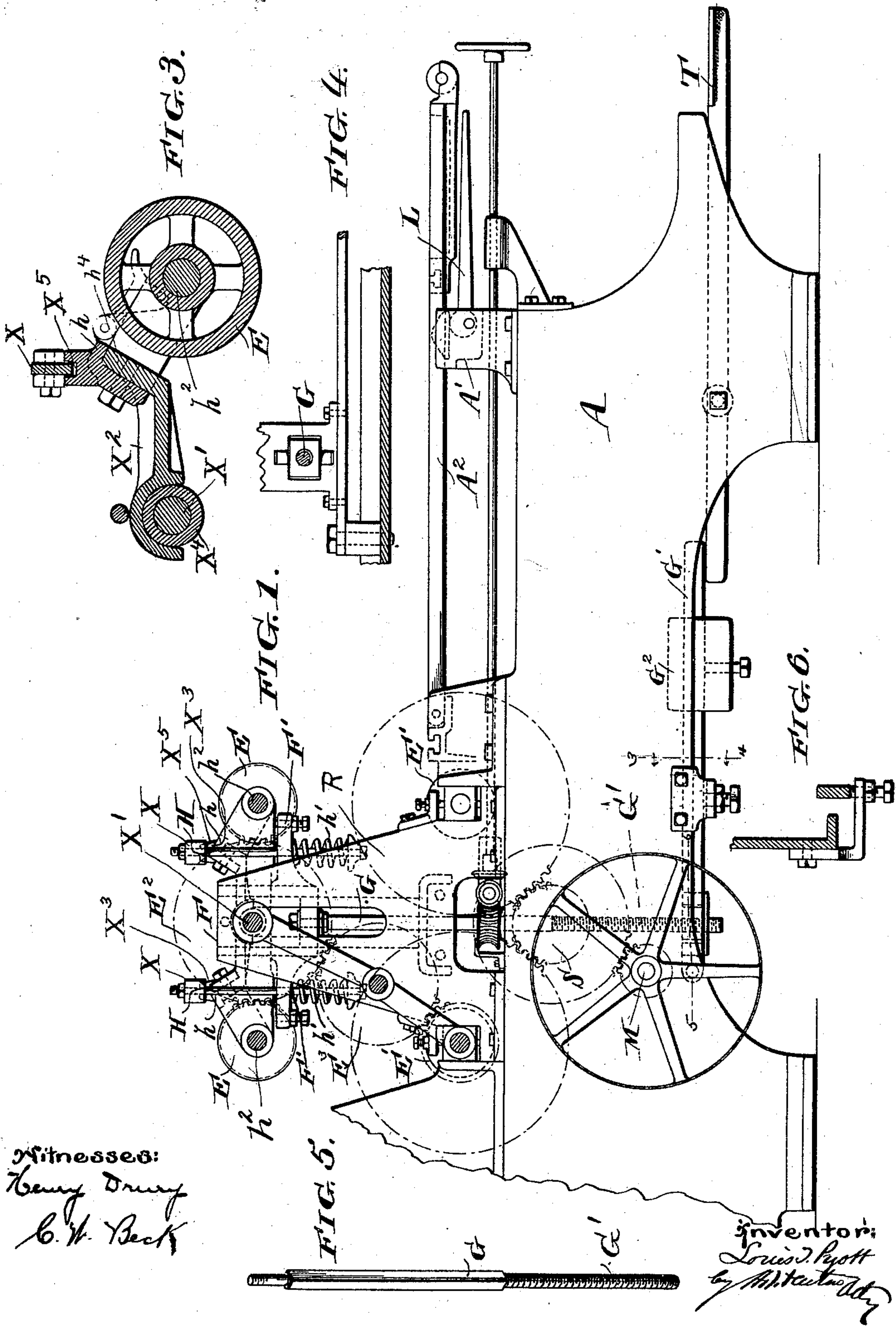
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L. T. PYOTT.

DOUBLE OR SECTIONAL PLANING MACHINE.

No. 542,598.

Patented July 9, 1895.



(No Model.)

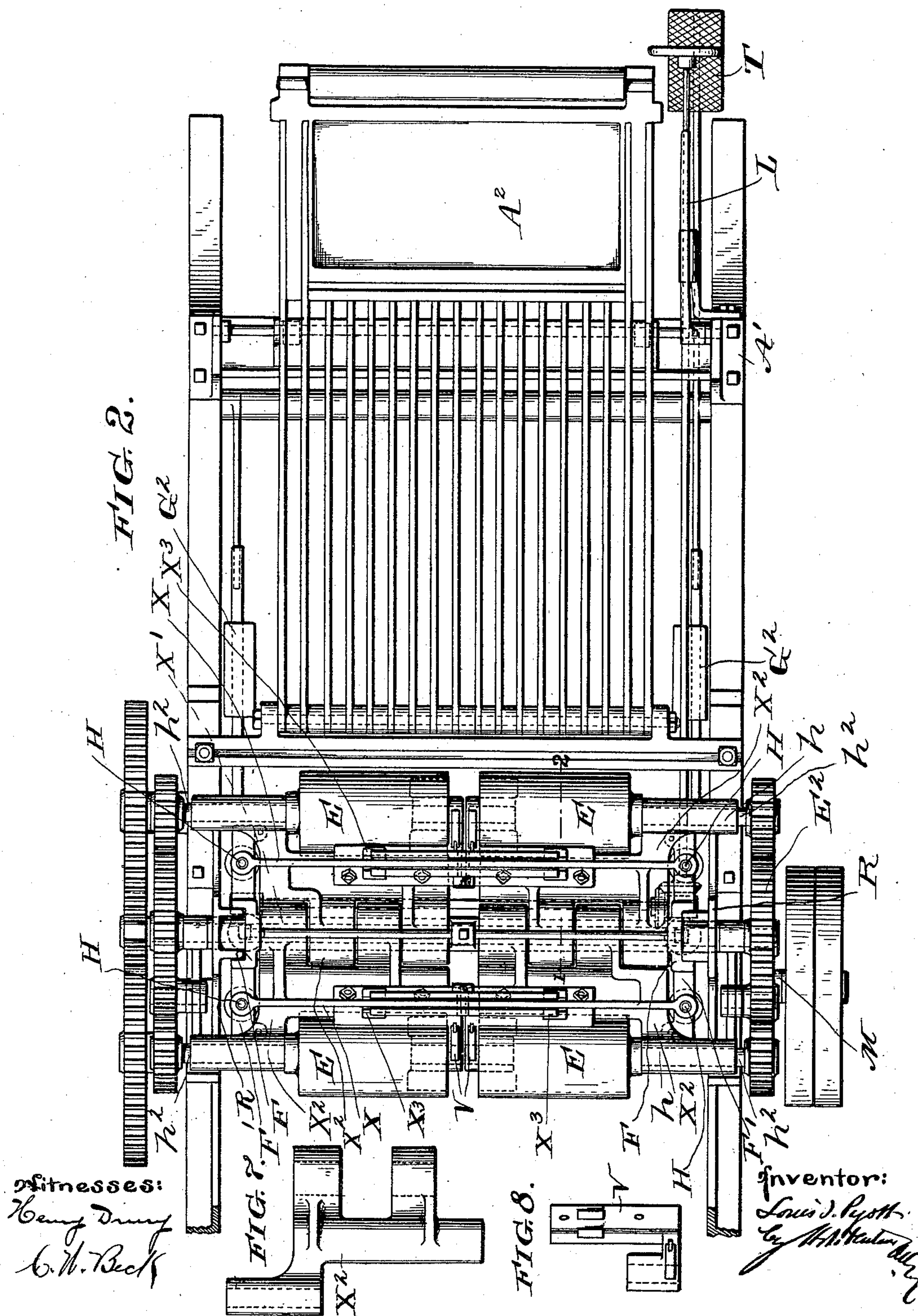
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## DOUBLE OR SECTIONAL PLANING MACHINE.

No. 542,598.

Patented July 9, 1895.





(No Model.)

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DOUBLE OR SECTIONAL PLANING MACHINE.

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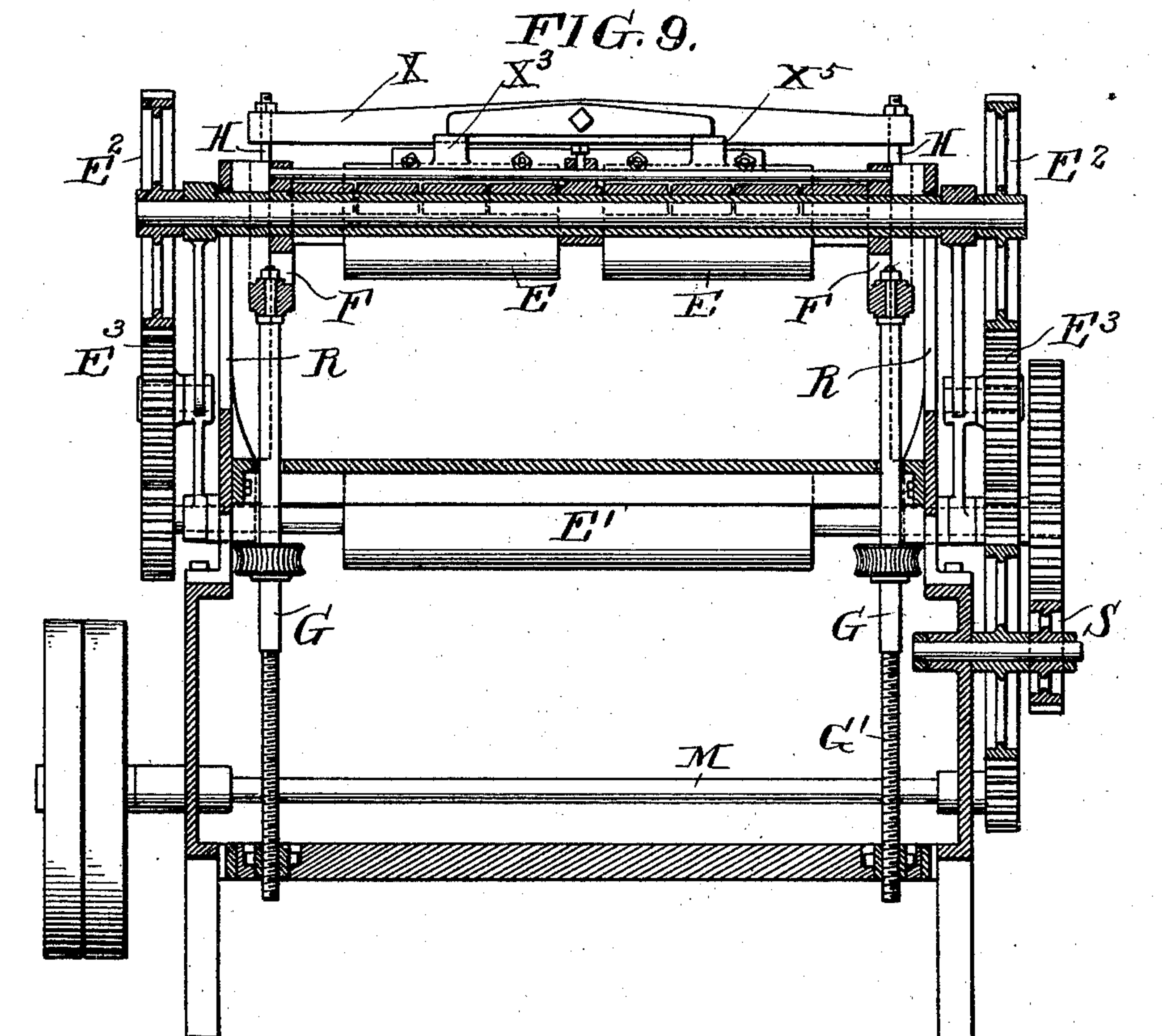
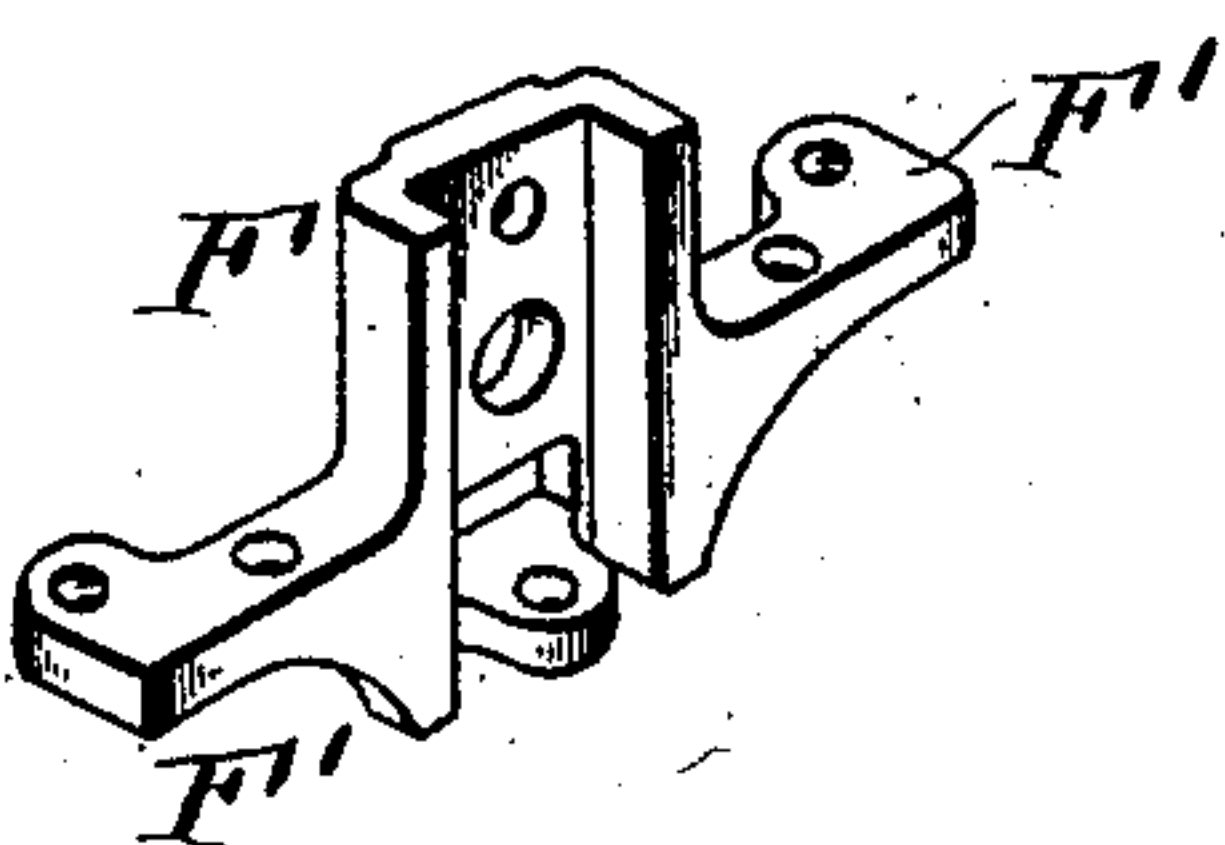
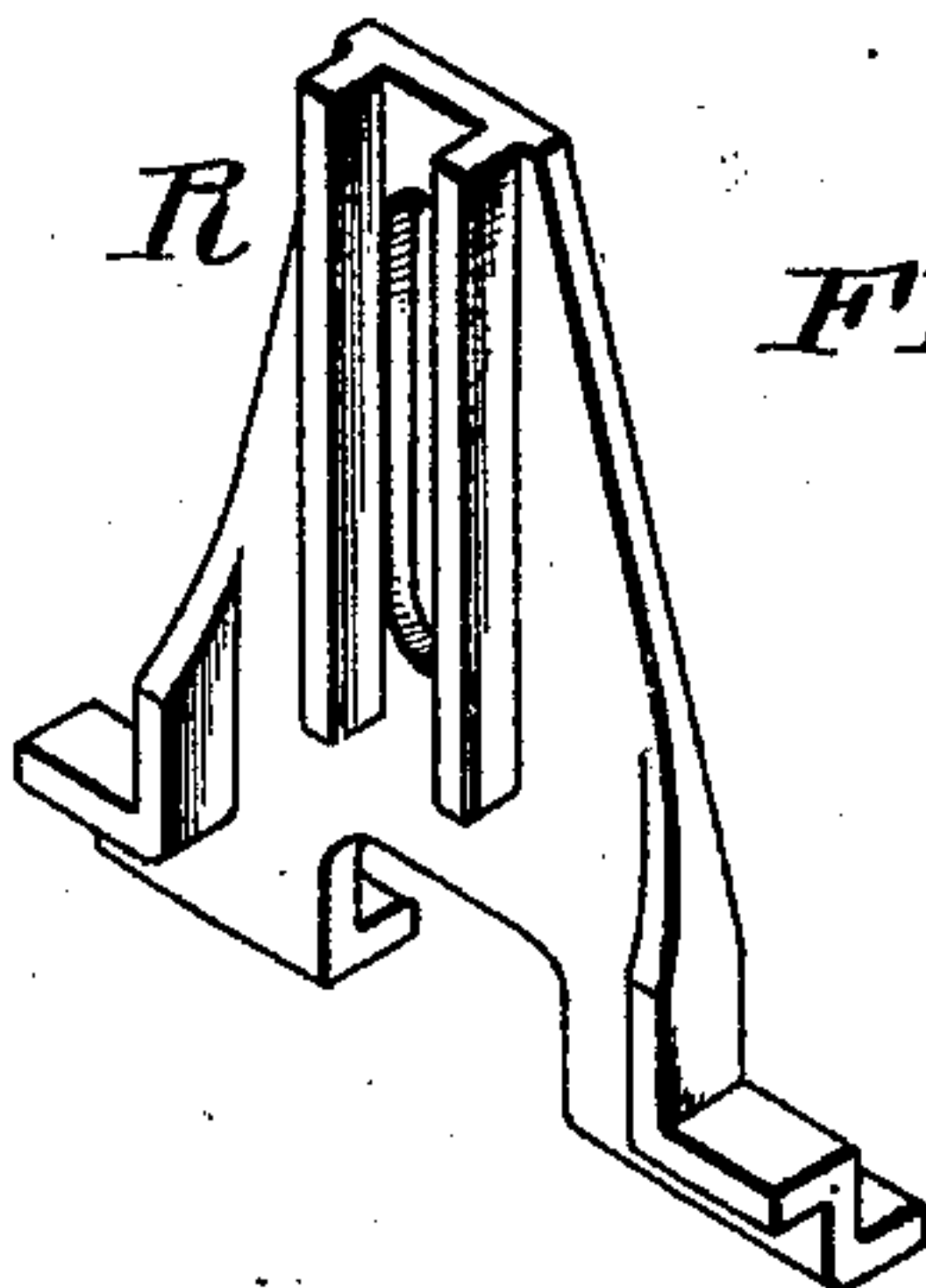


FIG. 10.



R

FIG. 11.



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(No Model.)

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Fig. 12.

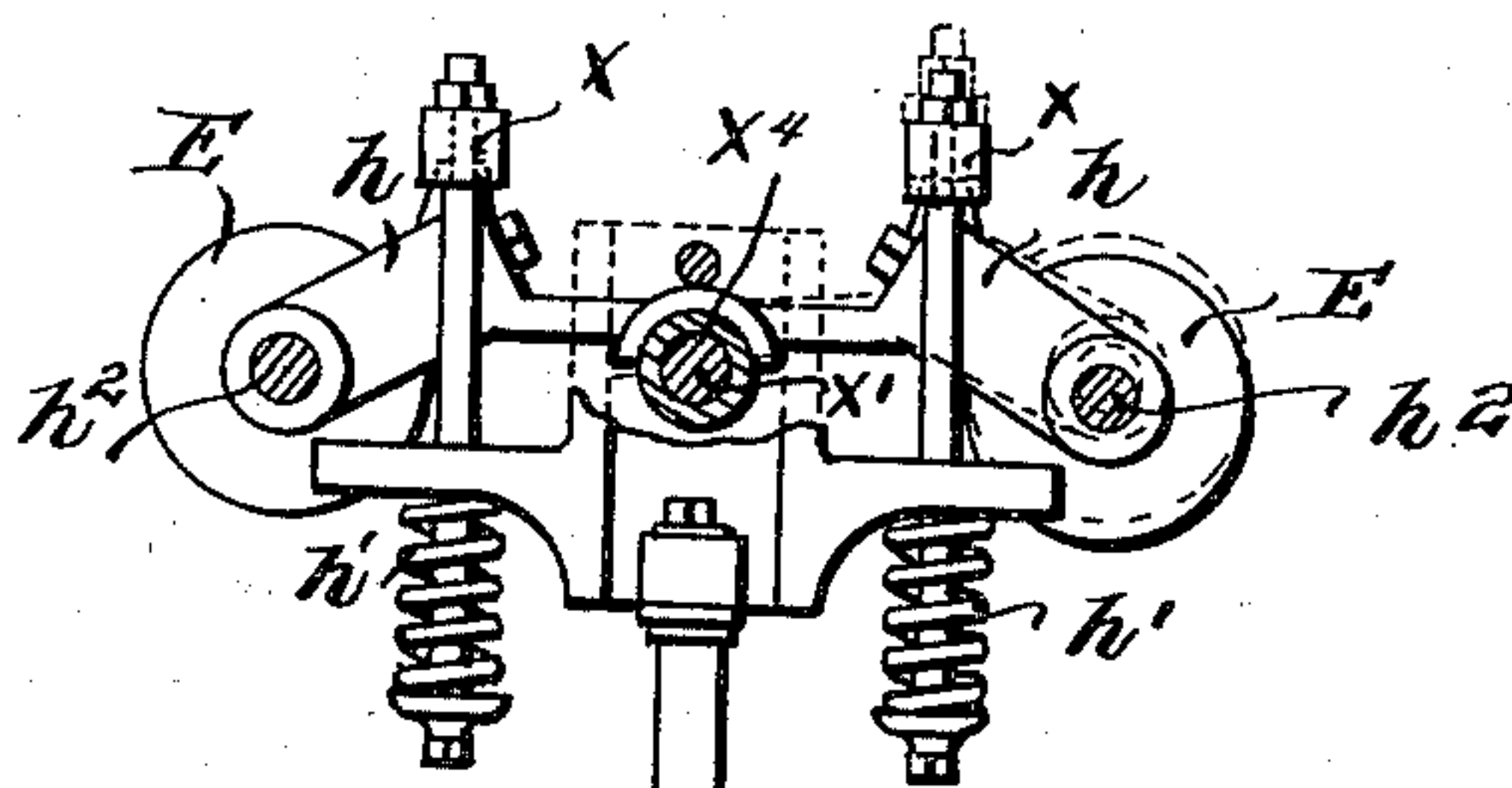
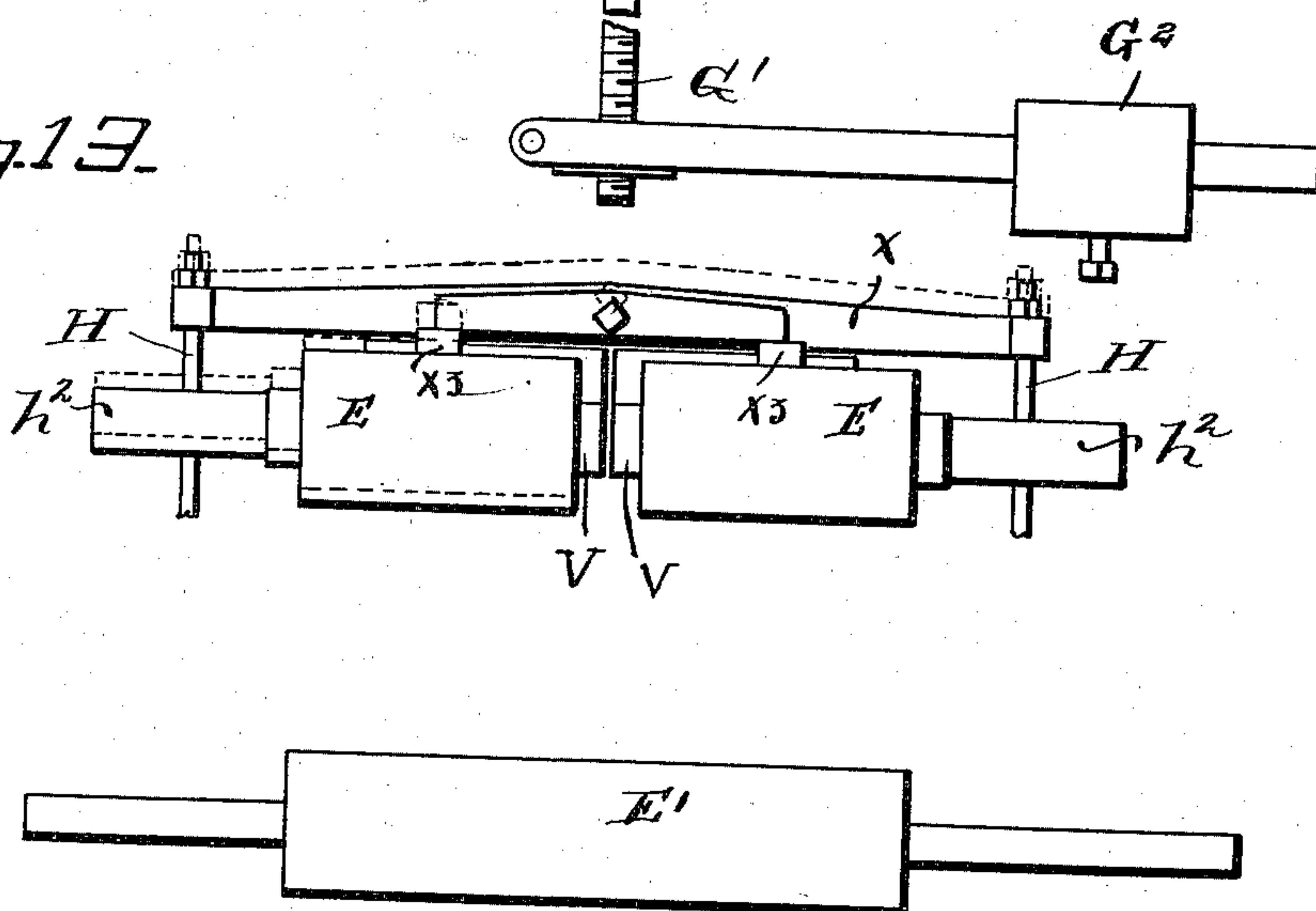


Fig. 13.



Witnesses.

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# UNITED STATES PATENT OFFICE.

LOUIS T. PYOTT, OF ARDMORE, ASSIGNOR TO DANIEL A. WATERS AND  
WILLIAM G. VERNON, OF PHILADELPHIA, PENNSYLVANIA.

## DOUBLE OR SECTIONAL PLANING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 542,598, dated July 9, 1895.

Application filed February 2, 1892. Serial No. 420,118. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS T. PYOTT, a citizen of the United States, residing at Ardmore, Montgomery county, in the State of Pennsylvania, have invented certain new and useful Improvements in Double or Sectional Planing-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to double or sectional planing-machines; and it consists, first, in improvements in the mounting and actuating mechanism of the entry-feed or pressure rolls; second, in mechanism combined with the feed or pressure roll devices, so that the latter may be raised quickly by a foot-treadle actuated by the weight of the operator when an excessive thickness of material is presented; third, in lever mechanism operated by the hand, combined with the feeding-in table to lower the latter when desired and adapt the machine to irregularly-fed stuff.

The object of the first part of my invention is to obtain an effective means of driving or conveying power to the entry-feed or pressure rolls and of so mounting the same that each section of the roll shall have an effective and independent action under varying thicknesses of the material being planed, as well as a combined action through the single cross-head or mounting, in which all the upper rolls on each side of the planer are placed and supported.

In the accompanying drawings, illustrating my invention, Figure 1 is a side view of the forward or feeding-in end of a double or sectional planing-machine, showing so much thereof as is necessary to illustrate my invention. Fig. 2 is a plan view thereof. Fig. 3 is a sectional view of part of the upper roll-support through the line 1 2 of Fig. 2. Fig. 4 is a section on the line 5 6 of Fig. 1. Fig. 5 is an elevation of the lifting screw-rod shown in Fig. 1. Fig. 6 is a section on the line 3 4 of Fig. 1; and Figs. 7 and 8 are elevations of detached parts shown in Fig. 2, the former of the side bracket or its shaft on which the feed-rolls are mounted and the latter the bracket on which the free end of the rolls is supported. Fig. 9 is a vertical cross-section taken later-

ally and through the cross-head, guideways, and lifting-bar. Fig. 10 is a perspective view of the cross-head, and Fig. 11 a like view of the vertical guideway. Fig. 12 is a side view showing the cross-head, the lifting-rod therefor, the weighted lever, the resilient bearings for the cross-head, the tubular cross-bar connecting the opposite cross-heads, the shaft passing through the same, upper entry-feed rolls and the bearings therefor pivotally mounted on the connecting-bar of the cross-heads, the equalizing-bar connecting the opposite spring-rods or resilient bearings for the cross-heads, and the guiding-recesses therein, in and by which the pivotal bearings of the entry-feed rolls are guided in any vertical reciprocation thereof which may take place from pressure of entering material, the upper part of the cross-head being broken away to show the feed-roll bearings more clearly; and Fig. 13 is a front view of the upper part of the same.

The feeding-in or pressure rollers are mounted as follows: A single vertical guideway or housing R is placed on each side of the planer. A cross-head F, sliding in this guide, is mounted upon a vertical bar G, (see Figs. 1 and 5,) having a screw-threaded lower end which is secured to a lever-arm G' in the frame of the machine, and which carries a pressure-weight G<sup>2</sup>. The upper feed-rolls E E have their bearings indirectly in the said cross-head F, as hereinafter described, and are thus moved up and down with said cross-head by means of the bar G, counterbalanced by the weighted lever-arm G'. Said cross-head F is provided with extension-plates F' F' vertically recessed, and through which passes a small shaft H, carrying an outwardly-pressing spring h', the top of which bears against the under side of the extension-plate F'. A swinging-arm h affords a movable bearing for a shaft h<sup>2</sup>, carrying the upper feeding-in rolls E E. This swing-arm h is bolted at h<sup>4</sup> (see Figs. 1 and 3) to a connecting-arm X<sup>2</sup>, which is pivotally mounted upon a tubular cross bar or tie X<sup>4</sup>, which serves to tie or connect together the opposite sides of the cross-head on each side of the machine. The shaft X' passes through this tubular cross-bar X<sup>4</sup>. The swing-arm h rests by its free end upon the extension-piece



F' of the cross-head F to support it, or rather to hold it, and the roll E from dropping down. The swing-arm *h*, which, as before described, is the bearing for the roll E, being thus secured to the pivotally-mounted arm  $X^2$  is free to move up and down as pressure of entering material bears up against the roll E. The entering material causes this roll and its bearing to rise, while the reverse movement is accomplished by the action of the spring-rod H (see Fig. 1) by means of the following construction and arrangement of parts: A cross-bar X, which is an equalizing-bar, (see Fig. 9,) connects the two spring-rods H on opposite sides of the machine for each individual pair of rods H, and this bar X is guided in its reciprocation by means of a lug or projection  $X^3$ , (see Fig. 9,) which is recessed at  $X^5$ , (see Fig. 3,) the edge of the bar X occupying this recess. In the operation of the device, when the roll E is raised by the pressure of the entering material its supports *h* and  $X^2$  (which are not connected in any manner with the spring-rods H or their connecting equalizing-bar) contact with said equalizing-bar X and raise the same and its spring-rods against the pressure of the springs thereon, which (when the pressure of entering material is removed) retract to bring the parts into normal position again. It will thus be seen that each section of the upper feed-rolls on either side of the planer is separately capable of temporary vertical adjustment independently of each other, and that the same is true also of the back and front rolls in each section; and that by the construction described both sections of both back and front upper feed-rolls may be lifted vertically at the same time by means of the lifting-rod G, and hence the upper feed-rolls may be lifted as one by means of the lifting-rod G, actuated by the lever-arm  $G'$ , and relatively to the lower rolls  $E' E'$ , mounted in the frame of the machine, as usual.

In addition to the means described for operating the feeding-in rolls, it is often desirable when needing a quick lift or relief for pressure from entering material to provide means for that purpose, and to that end I have mounted in the frame A of the machine a treadle T, which is brought into effective operation by the weight of the operator. The forward end of this treadle lifts the weighted lever-arm  $G'$ , which rests on a fulcrum and carries the vertical supporting screw-rod G.

Power is conveyed to the upper feeding-in rolls by any of the usual methods. In the drawings is shown means for conveying such power, as follows: Gearing on those rolls E is actuated by cog-gearing of a central wheel  $E^2$ ,

which gears with wheel  $E^3$ , by which the lower feed-rolls  $E'$  are also driven. The main shaft M communicates therewith through the cog-gearing on wheel S.

The feeding-in table  $A^2$  is adapted to be raised when feeding in irregular-shaped stuff, and for this a hand-lever L is provided, mounted on a trunnion  $A'$  in the frame A of the machine, and bearing against the under side of the feeding-in table.

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

1. In a sectional or double planing machine, a vertical guide way on each side of the machine, a cross-head adapted to slide vertically therein, vertical lifting rods on which the cross-head is mounted, weighted levers to which the free ends of said rods are attached, upper entry-feed rolls constructed in sections, each having independent driving bearings pivotally mounted upon the cross-head, and counter-acting spring-controlled rods mounted upon and having their resistance entirely within the cross-head, whereby a double set of resistance supports, both operating through the cross-head, is provided for the feed rolls, said resistance supports operating independently of each other, either as to both sections of the feed rolls or as to either section thereof; substantially as described.

2. In a sectional or double planing machine, a vertical guide-way on each side of the frame, a cross head adapted to slide therein, a vertical rod on which the same is mounted, said cross head being provided with independent spring rods and swing arms mounted thereon, forming an independent driving shaft support for each individual section of the upper feeding-in rolls with its resistance entirely within the cross head; substantially as described.

3. In a sectional or double planing machine, in combination with vertically adjustable bearings for upper feed rolls, of a double set of resistance supports therefor, one by springs automatically controlling the said rolls, and the other by weighted levers, the former independent of the latter, in combination with a relief lever and treadle actuating said weighted levers; substantially as described.

In testimony whereof I have hereunto affixed my signature this 25th day of January, A. D. 1892.

LOUIS T. PYOTT.

Witnesses:

JOHN R. NOLAN,  
H. T. FENTON.