No. 834,923. PATENTED NOV. 6, 1906.

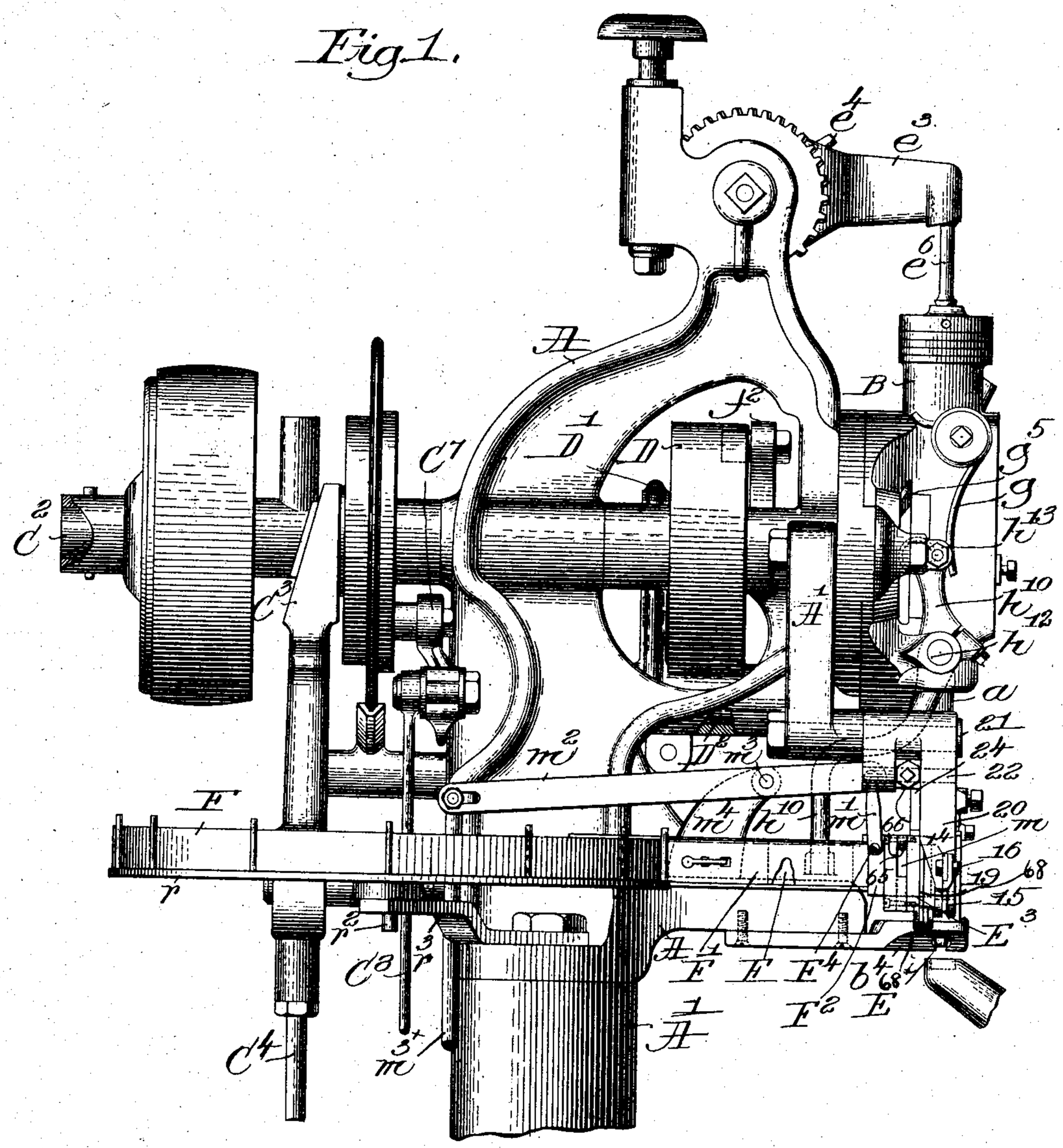
B. F. MAYO.

PEGGING MACHINE.

APPLICATION FILED JUNE 13, 1901.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

Fig. 2.

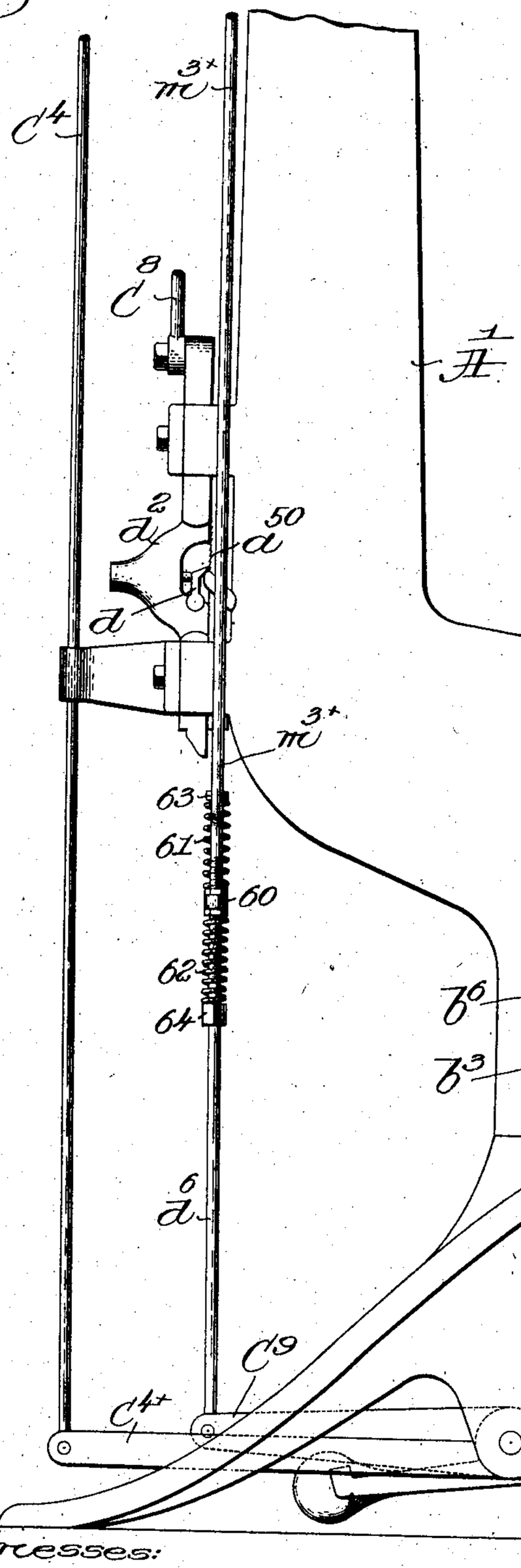
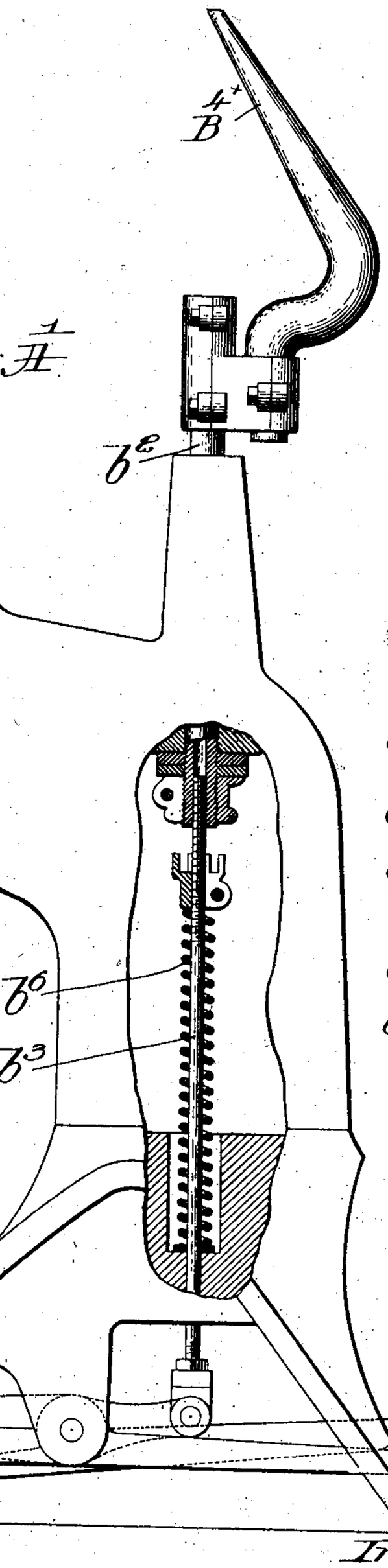
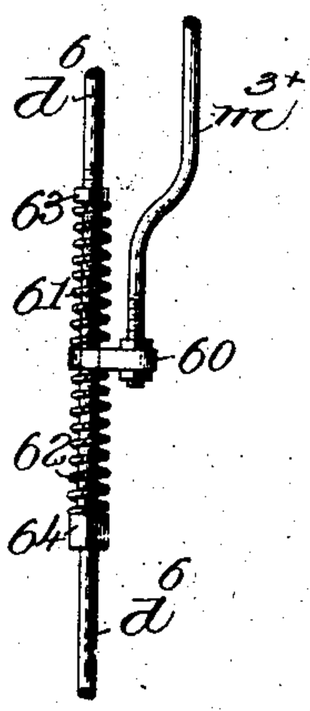


Fig. 3.





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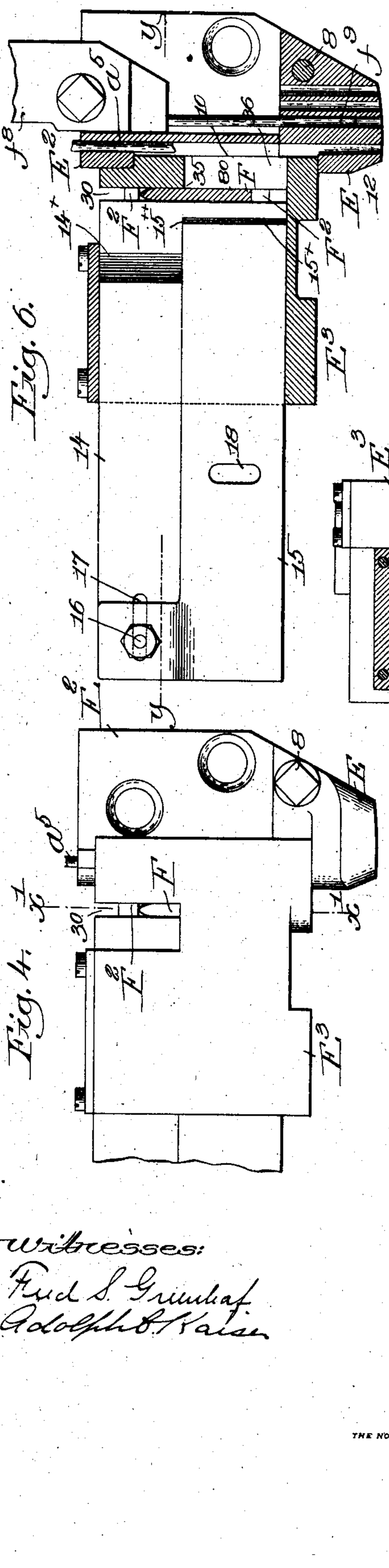
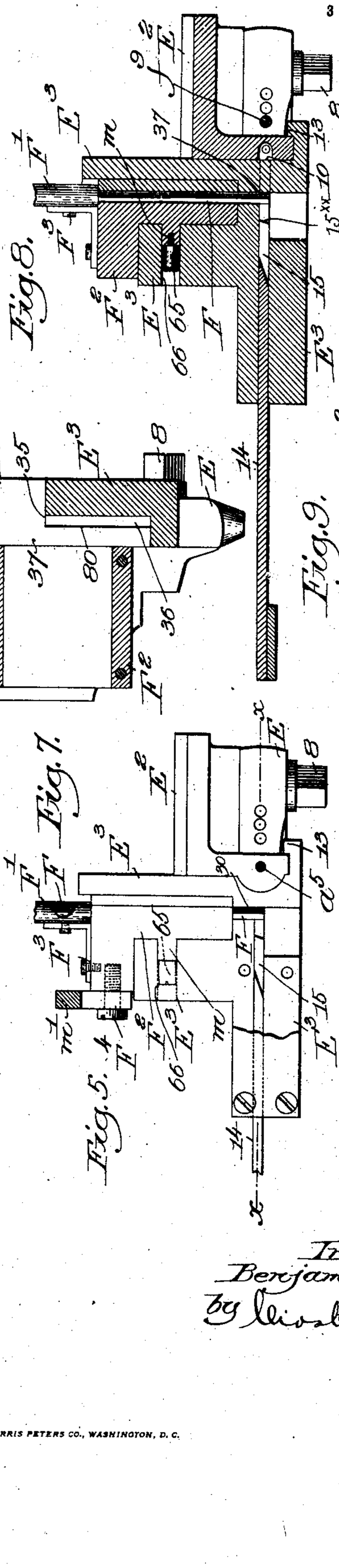
3 SHEETS—SHEET 3.





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UNITED STATES PATENT OFFICE.

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PEGGING-MACHINE.

No. 834,923. Specification of Letters Patent. Patented Nov. 6, 1906.

Application filed June 13, 1901. Serial No. 64,345.

To all whom it may concern:

Be it known that I, BENJAMIN F. MAYO, a citizen of the United States, residing at Salem, in the county of Essex and State of Massachusetts, have invented an Improvement in Pegging-Machines, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention is an improvement on the pegging-machine represented in application for United States Patent, Serial No. 672,507, filed on the 4th day of March, 1898. That application shows a peg-strip carrier or peg-ribbon support operatively connected with the horn, stock-support, or work-support, whereby the position of the peg strip or ribbon with relation to the peg-forming means is changed according to the varying thickness of the stock, so that there is formed a peg of a proper length to correspond with the stock being pegged. In that application the means shown for connecting the stock-support and the peg-strip carrier or support was so constructed that the horn and peg-strip carrier or support moved always substantially in unison.

In the machine herein shown the connections between the peg-ribbon support and the horn include a yielding medium in order that the horn may be given an extra depression when it is desired to remove or apply the work without effecting a corresponding movement of the strip carrier or support. Preferably also stops are provided to limit the movement of the peg-ribbon support in both directions.

Figure 1 of the drawings is a left-hand side elevation of the upper part of a pegging-machine, showing one form of peg-ribbon support. Fig. 2 is a left-hand side elevation of the lower part of the machine broken off from Fig. 1, the column being broken out to show the parts within it. Fig. 3 is a detail of one form of yielding means in the connections between the horn or stock-support and the peg-ribbon support. Figs. 4 and 5 show much enlarged views of the nose and part of the peg-ribbon support and guide in front and in plan views, respectively. Fig. 6 is a section in the line x of Fig. 5. Fig. 7 is a section in the line x' of Fig. 4. Fig. 8 is a section in the line y of Fig. 6; and Fig. 9 is a detail showing one end of a piece of peg-ribbon, the lines of cut to form the peg being shown by full lines and the cut made in removing the surplus being indicated by a dotted line.

I have chosen for the sake of illustrating my invention in a practical working machine to embody it in a machine of the type represented in United States Patent, No. 490,624, January 24, 1893.

The column A′, supporting the frame-head A, provided with a foot-plate b^4; the movable head B having ways for an awl-bar f^8, (partially shown,) provided with an awl f^9 (see Figs. 6 and 8) and ways for the reception of a driver-bar a, provided with a driver a^5, (shown in Figs. 4 and 6;) the link e^6 connecting the driver-bar with its actuating mechanism; the arm e^3; the spring e^4; the main shaft C^2, having at its front end a suitable driver-lifting projection to meet a suitable projection connected with the driver-bar to lift the driver; the cam D, fast on the main shaft C^2; the arm f^2, having a roller-stud entering a suitable groove at one face of said cam and actuating a rock-shaft provided with an arm adapted to engage and reciprocate the awl-bar that it may enter the stock; the arm D′, also actuated by a suitable groove in cam D, said arm being secured to a shaft D^2, having connected with it suitable means to swing the head B to enable the awl in the stock to feed the same over the stock-support; the wedge C^3 connected with a rod C^4, attached to a starting and stopping treadle $C^{4\times}$; the lever C^7, mounted upon a suitable stud sustained by the head A; the rod C^8, connected with said lever and also with the carrier d^2, having a suitable dog or device d to engage ratchet-teeth a^{50} of a bar connected by a rod d^6 with a lever C^9, connected with a rod b^3, attached to the spindle b^2 of the horn $B^{4\times}$ to depress the horn for feeding, and the spring b^6 surrounding the rod b^3 and raising the horn to caliper the stock are and may be all as common to said Patent No. 490,624 and to Patent No. 383,455, dated May 29, 1888, and in practice said parts may be actuated as provided for in said patents. Said parts are also indicated by like letters in my application, Serial No. 672,507, previously referred to.

That a shortened peg may be cut from a peg-ribbon, the peg varying in length according to the requirements of the stock being calipered between the foot-plate b^4 and the upper end of the horn $B^{4\times}$, the following means have been provided.

I have mounted upon a stud h^{12} a lever h^{10}, having at its upper end a roller-stud h^{13}, (shown by dotted lines, Fig. 1,) which is kept pressed by a spring g against the face of a cam g^5, carried by the shaft C^2, as in Patent No. 490,624. The lower end of the lever h^{10} actuates suitable mechanism, as provided for in my said application, to engage and move the peg-strip F, represented as coiled and suitably sustained on a plate r, having a stud r^2 entering a hole in an arm r^3, fixed to the head A.

E^2 indicates part of a driver-guide attached to the head B, as in United States Patent No. 490,624. The guide has connected with it by a suitable screw 8 a nose E, having usual holes for the awl and driver. The driver-passage in the driver-guide is open at one side 10, as best represented in Figs. 6 and 8, to leave a space or mouth through which the peg-forming means pushes the formed peg into position under the driver, the peg being driven through the hole 12 in the nose and entering the stock resting on the horn.

As shown in Figs. 6 and 8, the guide E^2 receives against it one end of a block E^3, having an ear 13, which embraces a portion of the driver-guide E^2. The block E^3 is grooved, as illustrated in this present embodiment of my invention, to receive and guide the peg-forming means and the surplus-remover. The peg-forming means presents two operating cutting edges, one designated $15^\times$ and the other $15^{\times\times}$. The edge $15^\times$ occupies a vertical position and coöperates with the vertical wall 80 of the throat 36 in the block E^3, which communicates with the open side 10 of the driver-passage. The peg-shortening edge $15^{\times\times}$ is substantially horizontal and coöperates with the top or upper edge 35 of the throat 36 and serves with the edge $15^\times$ to form at one operation a shortened peg, such as n, Fig. 9. The edges $15^\times$ and $15^{\times\times}$ are represented as formed on one and the same blade 15.

The surplus-remover 14 has its edge $14^\times$ located somewhat behind the edge of the peg-forming device, and it is shown as connected therewith in an adjustable manner by a bolt 16 in a slot 17. The edge of the surplus-remover meets the peg-strip at its side opposite that which contacts with the wall 37 of the block E^3 above the throat 36, cuts into the peg-strip, and removes any surplus wood, such as n', Fig. 9, left after the operation of the peg-former. The line of the cut made by the surplus-remover is indicated by the dotted line n^2 in Fig. 9.

The plate r has connected with it, as shown, a peg-strip guideway F′, united by screws or otherwise with a block F^2 by an angle-iron F^3. (See Figs. 5 and 8.) The block F^2 and guideway F′ constitute one suitable form of peg-strip carrier or support.

Viewing Figs. 6 and 8, it will be seen that the end of the peg strip or ribbon F occupies a position in the slot 30 of the block E^3 when a peg is to be formed by the operation of the peg-forming means. The head of the peg will be formed at a distance from the upper edge of the strip equal to the distance between the upper edge of the strip and the upper horizontal shoulder 35 of the throat 36.

The blade 15 has a slot 18, which is entered by a pin or projection 19, (see dotted lines, Fig. 1,) carried by an arm 20, common to said application, mounted to turn loosely on a stud 21, extended from the frame A, said arm 20 having a stud 22, (shown by dotted lines, Fig. 1,) which is embraced by a link 24, embracing a stud carried by the movable head B, so that said head in its feeding movement may turn the arm 20 and actuate the peg-forming means and surplus-remover at the proper times a spring 68, common to said application, and having its coiled part embracing a stud-screw $68^\times$, one end of said spring acting against said lever taking up lost motion in the peg-forming means.

The block E^3 has a suitable groove, (see Fig. 5,) which receives a projection m, extended from the part F^2 of the peg-strip carrier or support. The part F^2 receives a stud or other screw F^4, which is embraced by a link m', loosely connected with the front end of a lever m^2, pivoted at m^3 on a stand m^4, erected on a fixed part of the head A. The rear end of said lever m^2 has jointed to it a rod $m^{3\times}$, (see Figs. 1, 2, and 3,) connected at its lower end with a block 60, surrounding loosely the rod d^6. The block 60 is engaged on its upper and lower sides by springs 61 and 62, which surround rod d^6, and are engaged at their opposite ends, respectively, by a nut 63 and a collar 64, the nut being adjustable to change the tension of the springs. These springs constitute one form of a yielding medium in the connections between the peg-strip carrier and the horn.

The parts thus far described, with the exception of the block 60, the springs 61 and 62, and the nut and collar 63 and 64, are common to my application hereinbefore referred to, and the present invention relates particularly to the yielding medium in the connections between the peg-strip carrier and the horn. One object of this yielding connection is to enable the peg-strip carrier to follow the horn in all changes of position occasioned by varying thickness of the stock, but prevent it from following the horn in the extreme movements of the horn, as when it is given an extra depression or when it rises to an unusual height. It is unnecessary and undesirable

for the peg-strip carrier to follow these extreme variations in the position of the horn.

When the horn is given an extra depression for the removal or application of stock, a suitable stop 65, shown as a stud-screw extended from the projection *m* of the peg-strip carrier, (see full lines, Figs. 1 and 8, and dotted lines, Fig. 5,) meets the lower end of a slot 66, cut in the block E^3, and prevents further downward movement of the peg-strip carrier. Thereafter in the further downward movement of the horn the spring 62 will yield and no further movement will be imparted to rod $m^{3\times}$ and through it to the peg-strip carrier.

When the stock is removed and the horn is released, the spring b^6 acts to lift the horn, and if the horn should rise to an unusual height, as in case no work were between it and the foot-plate, the stop 65 would meet the upper end of the slot 66 and limit the extent of upward movement of the strip-carrier. It will thus be observed that the movement of the peg-strip carrier is yieldingly effected in both directions.

In the form in which I have herein chosen to illustrate my invention the peg-forming means and peg-shortener are shown as slidably mounted in a guideway of the block E^3, extended laterally from the nose having the driver-passage, and the support for sustaining the peg-ribbon is placed in a slot between said block and nose and is made vertically movable in said slot for a greater or less distance through connections between one end of the lever m^2, which is jointed to the peg-ribbon support, and to a rod connected with the horn-lever, which latter is connected with the horn-rod b^3. When, therefore, the position of the horn is changed due to variations in thickness of the stock interposed between the top of the horn and the under side of the nose, the peg-ribbon support will be moved vertically more or less in said space, and more or less of the upper edge of the peg-ribbon will be put above the edge $15^{\times\times}$ according to the length desired for the shortened peg next to be cut and driven. The peg-ribbon support having been put automatically in its proper position for a peg of the desired length, due to change of position of the horn in calipering the stock, the cutters 15 and 14 will be moved toward the peg-ribbon, and blade 15 will cut out the shortened peg and force it through the throat 36 into the driver-passage of the nose, and during this operation the edge of blade 14 will meet the part of the peg-wood sustained by the face 37 above the shoulder 35 and will cut off and remove from the peg-ribbon the surplus, (designated by *n'*, Fig. 9.)

The springs 61 and 62 are strong enough to resist any material compression as the horn is moved in usual manner to caliper the stock in which the peg is to be driven; but said springs may yield to permit the horn to be abnormally moved, as by or through pressure of the foot of the operator on the horn-treadle C^9.

It will of course be obvious that the advantage of the present invention would be equally well secured if the peg-forming means were movable and the peg-strip carrier stationary. The essential thing is to have one of these parts movable with relation to the other and to have the movable part yieldingly connected with the mechanism which is arranged to measure the thickness of the stock, and that mechanism is, in the form in which my invention is herein shown, the horn or stock-support.

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

1. In a machine of the class described, a stationary foot-plate, a horn or stock-support, peg-forming means including a peg-shortener, a peg-strip carrier, one of said two last-named parts being movable with relation to the other to vary the length of the peg, and means, including a yielding medium, for changing the position of said movable part according to variations in the thickness of the stock.

2. In a machine of the class described, peg-forming means including a peg-shortener, a peg-strip carrier, one of said two last-named parts being movable with relation to the other, a movable horn or stock-support and connections, including a yielding medium, between said horn or stock-support and said movable part.

3. In a machine of the class described, peg-forming means, a peg-ribbon support, one of said parts being movable with relation to the other to vary the length of the peg formed from peg-ribbon sustained in said support, and means normally controlled by the thickness of the stock for varying the position of said movable part, said means including a yielding medium.

4. In a machine of the class described, a foot-plate, a peg-ribbon support, a cutter co-operating therewith to reduce for a portion of its length the width of a ribbon sustained in said support, one of said parts being bodily removable with relation to the other, means to limit such movement, a stock-support movable toward and from the foot-plate, and an intermediate yielding connection between said stock-support and said movable part whereby slight movements of the stock-support relatively to the foot-plate produce corresponding relative movements between the ribbon-support and the cutter, but whereby during a further movement of the stock-support the relative position of the ribbon-support and the cutter will not be changed.

5. In a machine of the class described, a foot-plate, a horn or stock-support, peg-forming means including a peg-shortener, a peg-strip carrier, one of said two last-named

parts being movable with relation to the other, and mechanism for moving said movable part vertically according to variations in the thickness of the stock, said movement being yielding in both directions.

6. In a machine of the class described, peg-forming means including a peg-shortener, a peg-strip carrier, one of said two last-named parts being movable with relation to the other, a horn or stock-support and yielding connections between said horn or stock-support and said movable part, wherethrough all movement of said part is yieldingly effected.

7. In a machine of the class described, a foot-plate, a horn or stock-support, peg-shortening mechanism, a peg-strip carrier movable with relation to said shortening mechanism to vary the length of the peg, and yielding connections between the horn and the peg-strip carrier for moving said carrier yieldingly in opposite directions.

8. In a machine of the class described, a carrier or support and a transversely-operating cutter one of which is movable with relation to the other, a vertically-movable stock-support, and connections including a yielding medium between said stock-support and said movable part.

9. In a machine of the class described, a vertically non-movable foot-plate, a stock-support movable toward and from the foot-plate, a peg-ribbon support movable in the direction of the width of the ribbon, a stationary part to guide the peg-ribbon support, a pin-and-slot connection between said peg-ribbon support and said stationary part, means vertically non-movable for forming a peg from peg-ribbon sustained in said peg-ribbon support, and connections between said stock-support and said peg-ribbon support including a rod connected to one of the last-named parts, opposed springs upon said rod, and a member in operative relation with said springs and connected to the other of said parts whereby a portion of the movement of the stock-support produces a corresponding movement of the peg-ribbon support to vary the length of the peg formed according to the thickness of the stock, but whereby further movement of the stock-support in either direction does not move the peg-ribbon support.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BENJAMIN F. MAYO.

Witnesses:
GEO. W. GREGORY,
AUGUSTA E. DEAN.