

(No Model.)

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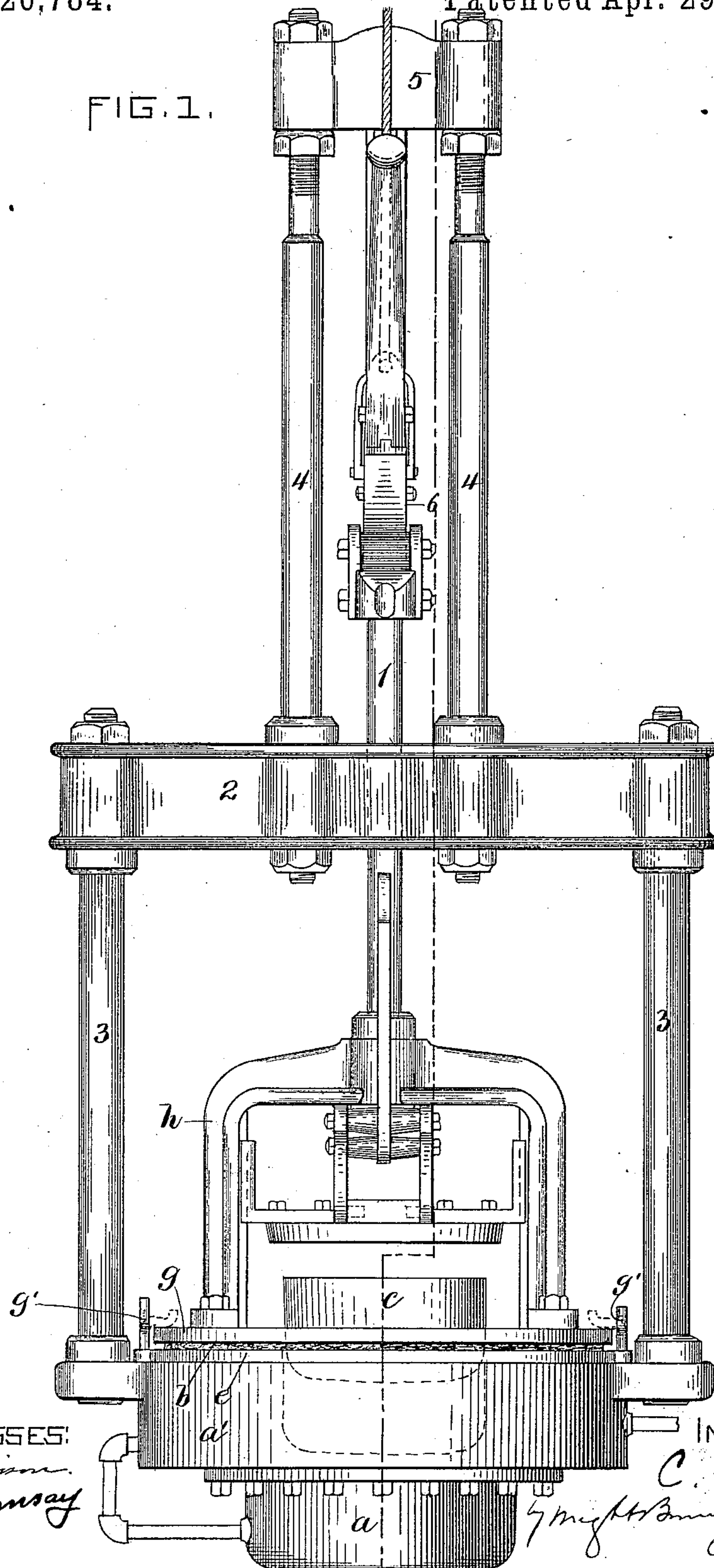
C. EASTON.

HAT PRESSING AND FINISHING MACHINE.

No. 426,784.

Patented Apr. 29, 1890.

FIG. 1.



WITNESSES:

A. D. Harrison.

W. C. Ramsay

INVENTOR:

C. Easton

by *Myrtle B. Hensley*
Atty.

(No Model.)

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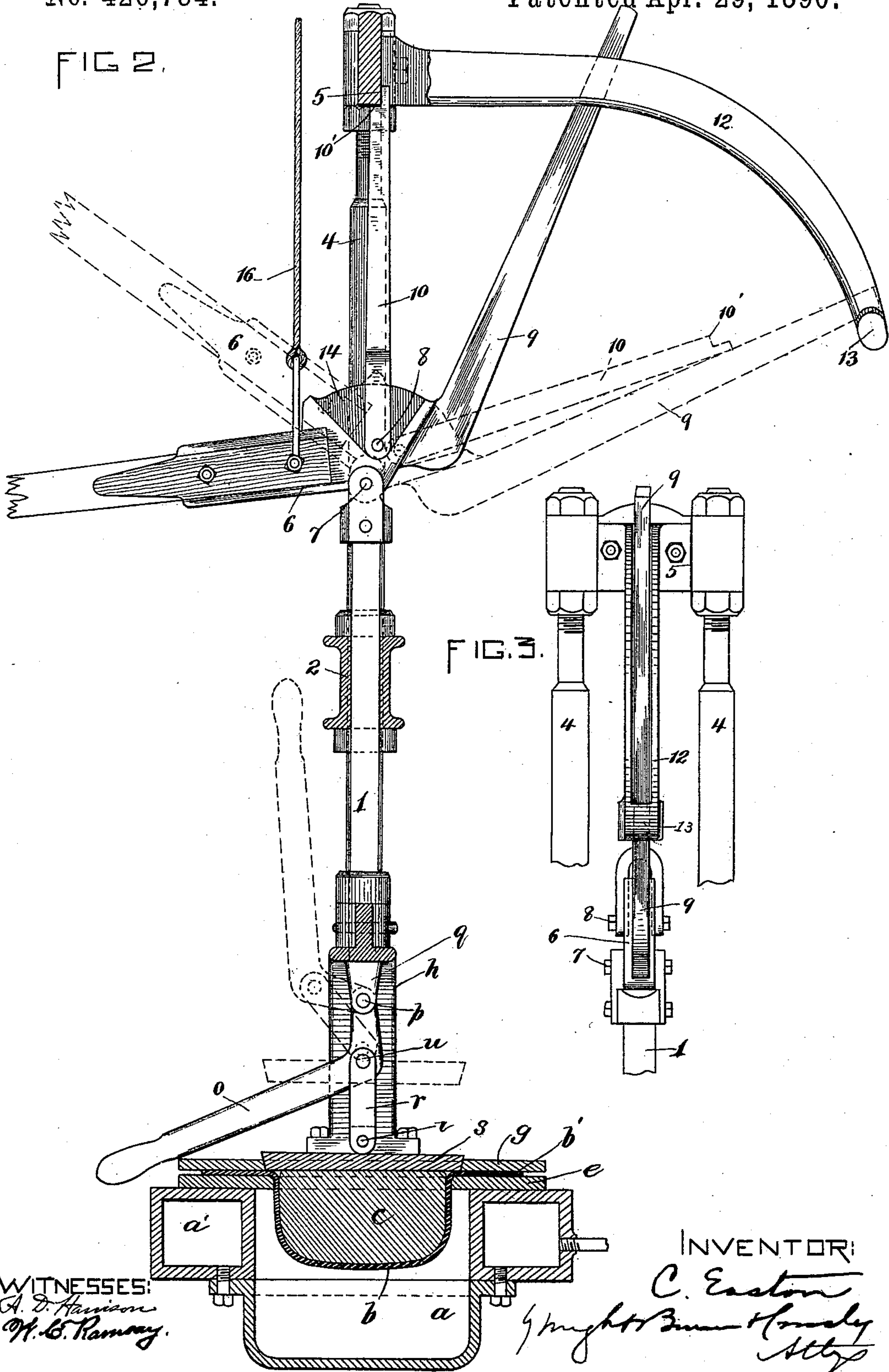
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FIG 2.



WITNESSES:
A. D. Harrison
W. B. Ramsey.

INVENTOR:

C. Easton

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(No Model.)

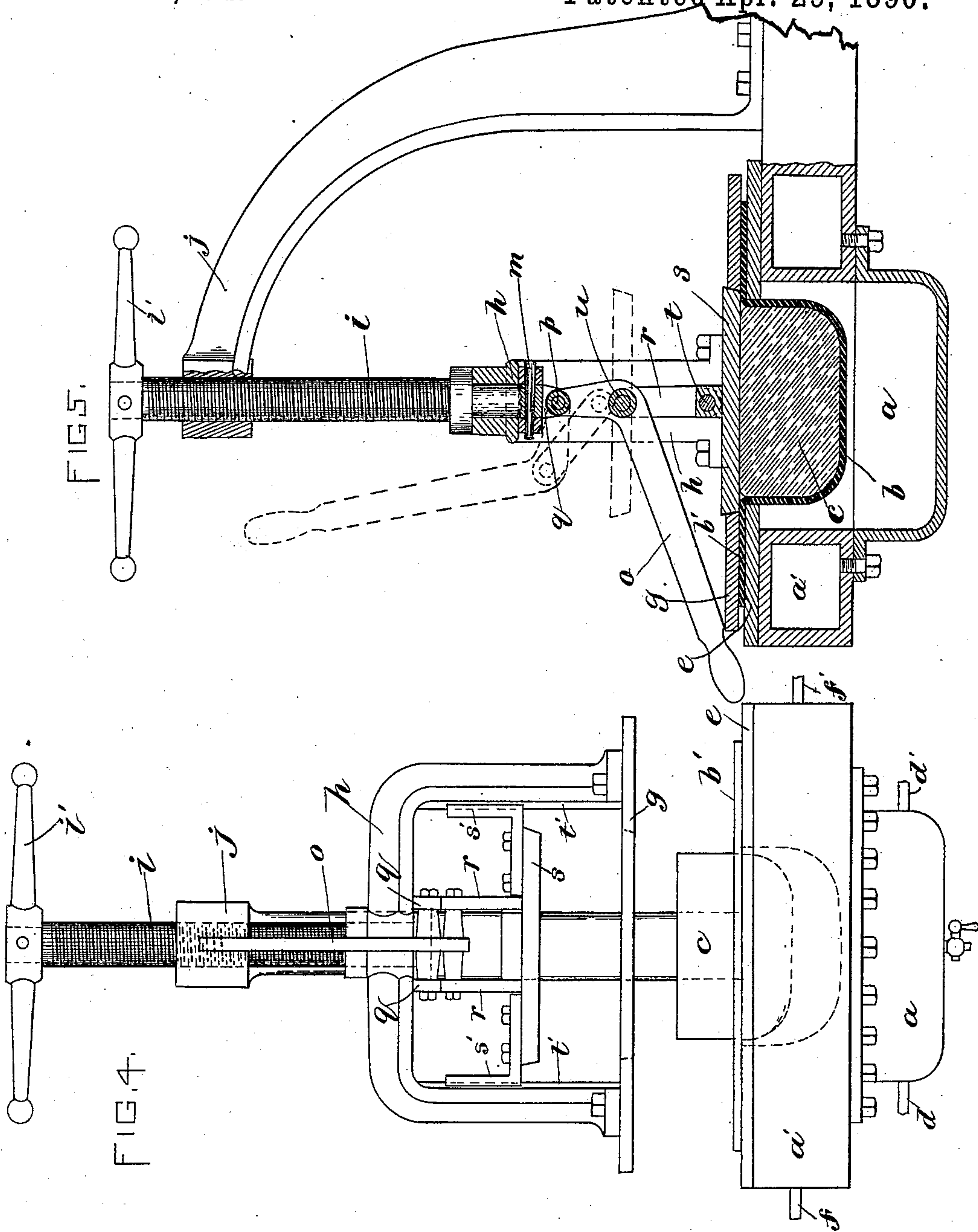
3 Sheets—Sheet 3.

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WITNESSES:
A. D. Harrison
W. B. Ramsay.

INVENTOR:
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UNITED STATES PATENT OFFICE.

CHARLES EASTON, OF METHUEN, MASSACHUSETTS.

HAT PRESSING AND FINISHING MACHINE.

SPECIFICATION forming part of Letters Patent No. 426,784, dated April 29, 1890.

Application filed December 21, 1889. Serial No. 334,543. (No model.)

To all whom it may concern:

Be it known that I, CHARLES EASTON, of Methuen, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in Hat Pressing and Finishing Machines, of which the following is a specification.

This invention relates to machines in which hat-crowns are finished or given their final shape by pressing a crown-forming block into the hat-body while the latter is subjected to the action of steam, the brim being at the same time secured upon a suitable bed or brim block, the hat-body having been previously given its rough general shape by another machine.

The invention has for its object to provide an improved machine, operating on the principle above indicated, having means not only for pressing the hat-block into the crown portion of the hat while the latter is contained in the steam-chamber, but also for applying pressure to both sides of the brim and thereby pressing the brim while the crown is being acted on by the block and the steam in the steam-chamber. These results I attain by the means which I will now proceed to describe.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a side elevation of a hat pressing and shaping machine embodying my invention. Fig. 2 represents a section on line *x x*, Fig. 1. Fig. 3 represents a rear elevation of a portion of the machine. Fig. 4 represents a front, and Fig. 5 a side view, of a modification.

The same letters of reference indicate the same parts in all of the figures.

In the drawings, *a* represents the steam-chamber, which receives the hat-crown *b*, the latter being held upon a block *c*, which is forced into it by means presently described. The chamber *a* is provided with suitable pipes for the admission and escape of steam. On the top of the steam-chamber is a brim-supporting plate or bed *e*, which is formed to support the entire upper surface of the brim *b'*, and has an opening through which the crown and block project, said opening closely fitting the external contour of the crown. The brim-bed *e* may rest loosely on the top

of the chamber *a* or may be detachably secured thereto by any suitable means, it being necessary to use brim-beds of different sizes and shapes interchangeably.

I prefer to heat the brim-bed throughout its entire extent, and to this end I provide a steam-chamber *a'*, surrounding the crown-receiving chamber *a* and provided with suitable pipes for the admission and escape of steam, although, if desired, the crown-receiving chamber *a* and the brim-bed-heating chamber *a'* may be formed as one. I prefer to make the two separate, however, as I am thereby enabled to the better control the temperature of the brim-bed.

g represents a brim presser or platen, which is formed to bear on the entire under surface of the brim and press the upper surface thereof against the bed *e*. Suitable means are provided for applying pressure to the brim-presser and for maintaining said pressure.

The preferred means are shown in Figs. 1, 2, and 3, in which *h* represents a yoke attached at its ends to the brim-presser and secured at its central portion to a vertical rod *I*, which is fitted to slide vertically in a guide-orifice in a fixed frame composed of a cross-bar 2 and uprights 3 3, supporting said cross-bar and attached at their lower ends to ears on the steam-chamber *a'*. To the cross-bar 2 are affixed vertical standards 4 4, supporting a cross-bar 5 at their upper ends.

6 represents a lever pivoted at 7 to the upper end of the rod *I*. To said lever is pivoted at 8 a second lever 10, which is adapted to be turned upwardly until its upper end bears on the fixed cross-bar 5, as shown in full lines in Fig. 2. The pivots 7 and 8 bear such relation to each other that when the lever 6 is depressed the pivot 8 will be raised and moved toward a position directly over the pivot 7, the lever 10 and the portion of the lever 6 between the pivots 7 and 8 constituting members of a toggle-joint, which members are wrought into alignment with each other and caused to exert a downward pressure on the rod *I*, yoke *h*, and brim-presser *g* by the depression of the lever 6.

12 represents an arm affixed to the cross-bar 5, and provided with an offset or bearing

13, arranged to support an extension 9, affixed to the lever 6, when said lever is swung upwardly, as shown in dotted lines in Fig. 2.

The object of the arm 12 and lever-extension 9 is to enable the operator to raise the yoke *h* and brim-presser *g* by raising the lever 6, the extension 9 being thus caused to bear on the bearing 13, which acts as a fulcrum, enabling the lever 6 to raise the rod I with the yoke and brim-presser.

When the operator desires to force the brim-presser downwardly, he swings the arm 10 upwardly from the position shown in dotted lines in Fig. 2 to the position shown in full lines, the upper end of the arm 10 being thus brought to a bearing on the fixed cross-bar 5. The operator then depresses the lever 6, and thus throws the members of the toggle-joint above described into alignment, thereby causing the toggle-joint to exert a powerful downward pressure on the brim-presser through the rod I and yoke *h*, said pressure being maintained as long as the lever 6 is depressed and is released by raising said lever. Hooks *g' g'* may be employed to hold the presser in its depressed position. (See Fig. 1.) A sufficient upward movement of the lever 6 to bring its extension 9 to contact with the bearing 13 enables the operator to raise the rod I and the yoke and brim-presser. The arm 10 is bifurcated at its lower end, and its bifurcated portion bestrides a rib 14, formed on the lever 6, said rib guiding the arm 10 and supporting it laterally, so that undue strain cannot be exerted on the pivot 8. A cord or chain 16 may be connected to the lever 6 to assist in raising the same, said cord having a weight or spring (not shown) attached to it, the arrangement being such that the weight or spring exerts an upward pull on the lever 6 through the cord 16.

In Figs. 4 and 5 the yoke *h* is shown engaged with the lower end of a screw *i*, whereby said yoke and presser may be raised and lowered, the screw being rotatable in a threaded socket in a fixed arm *j* and provided at its upper end with a suitable handle *i'*, whereby it may be rotated. The lower portion of the screw is unthreaded and is engaged with the yoke by suitable means, as a pin *m* in the yoke entering a peripheral groove in the said unthreaded portion, so that the yoke rises and falls with the screw, but does not rotate therewith. By turning the screw in the direction required to depress it the brim-presser is pressed against the brim and the latter is subjected to the desired pressure between the presser and brim-bed.

In practice the brim is clamped between the brim bed and presser before the block *c* is pressed fully into the crown, the brim being thus held while the crown is being stretched and shaped by the block *c*. After the brim has been thus clamped the block *c* is forced into the crown through an opening in the presser *g*. Any suitable means may be employed for pressing the block into the crown.

I prefer the means here shown, the same consisting of an elbow-lever *o*, having a longer and a shorter arm, the latter being pivoted at *p* to ears *q* on the yoke *h*, links *r r*, pivoted at *u* to the lever *o*, and a plunger *s*, pivoted at *t* to the lower ends of said links, said plunger being formed to enter the block-receiving opening in the presser *g* and to bear on the base of the block. The links *r* and the shorter arm of the lever *o* constitute the members of a toggle-joint, which are thrown into alignment and caused to exert a powerful downward pressure on the plunger *s* and block *c* by a downward movement of the longer arm of the lever *o*. An upward movement of said lever causes the links *r* to raise the plunger, as shown by dotted lines in Fig. 2, thereby releasing the block. Ears or brackets *s' s'*, attached to the plunger *s*, are engaged with and guided by vertical ribs or guides *t' t'* on the yoke.

The operation is as follows: The operator first secures the brim of the hat between the brim-bed *e* and presser *g* by forcing the presser down upon said brim, the block *c* resting loosely in the crown of the hat and the lever *o* and plunger *s* being raised. The lever *o* is then depressed, and the block is thereby forced into the crown of the hat, the latter being subjected to the action of the steam in the chamber *a*. The hat is allowed to remain under pressure, its brim being pressed and heated and its crown subjected to the direct action of the steam as long as may be desired, after which the hat is released and removed. It will be seen that by the use of the brim-presser in connection with the brim-bed the steam-chamber, the crown-block, and the independent means for pressing the crown-block into the hat-crown I am enabled not only to press the brim before and during the operation of forming the crown, but also to hold the brim in place while the block is stretching and forming the crown, thus avoiding the necessity of securing the outer edge of the brim by pins or other special fastenings.

If desired, the chamber *a'*, brim-bed *e*, and brim-presser *g* may be used as a brim-pressing means without the block *c* and block-receiving chamber *a*.

It will be understood that the above-described machine is adapted for finishing hat-bodies which have been already roughly shaped by a preceding operation.

I claim—

1. In a hat pressing and finishing machine, the combination of the steam-chamber, the brim-bed thereon, the brim-presser, means for forcing said presser against a hat-brim interposed between it and the brim-bed, the crown-block adapted to pass through the brim-presser, and independent means whereby said block may be forced into the hat-crown after the brim is clamped between the brim bed and presser, as set forth.

2. In a hat pressing and finishing machine, the combination of the brim-bed, means for

supporting and heating the same, the brim-presser of rigid material formed to bear only on the brim and having an opening which coincides with the crown of a hat whose brim is supported by the brim-bed, and means for positively pressing the brim-presser on a brim interposed between it and the brim-bed, as set forth.

3. In a hat pressing and finishing machine, the combination of a steam-chamber, the brim-bed thereon, the brim-presser having an opening at its central portion, the yoke attached to said presser, means for raising and depressing said yoke, the independent crown-block adapted to pass through the opening in the presser, and means for applying independent pressure to said block, as set forth.

4. In a hat pressing and finishing machine, the combination of the steam-chamber, the brim-bed thereon, the brim-presser, the yoke attached to said presser, means whereby the yoke and presser may be raised and lowered, the crown-block adapted to pass through the presser, the elbow-lever pivoted to the yoke, the links pivoted to said lever, and the block-pressing plunger pivoted to said links, all arranged and operating substantially as described.

5. In a hat pressing and finishing machine, the combination of the steam-chamber, the

brim-bed thereon, the brim-presser, the yoke attached to said presser, the rod or plunger I, attached to the yoke, a fixed frame having a guide for said rod, a lever 6, pivoted to the rod I, and an arm 9, pivoted to the said lever and arranged to bear against a part of the fixed frame, said arm and a portion of the lever 6 constituting a toggle-joint, whereby downward pressure may be exerted on the brim-presser, as set forth.

6. In a hat pressing and finishing machine, the combination of the steam-chamber, the brim-bed thereon, the brim-presser, the yoke attached to said presser, the rod or plunger I, attached to the yoke, a fixed frame having a guide for said rod, a lever 6, pivoted to the rod I and having an extension 9, and an arm 12, affixed to the frame and having a support for the extension 9, whereby the rod I and the yoke and brim-presser may be raised when the lever 6 is raised to bring the extension 9 into contact with said support, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 13th day of December, A. D. 1889.

CHARLES EASTON.

Witnesses:

C. F. BROWN,
A. D. HARRISON.