

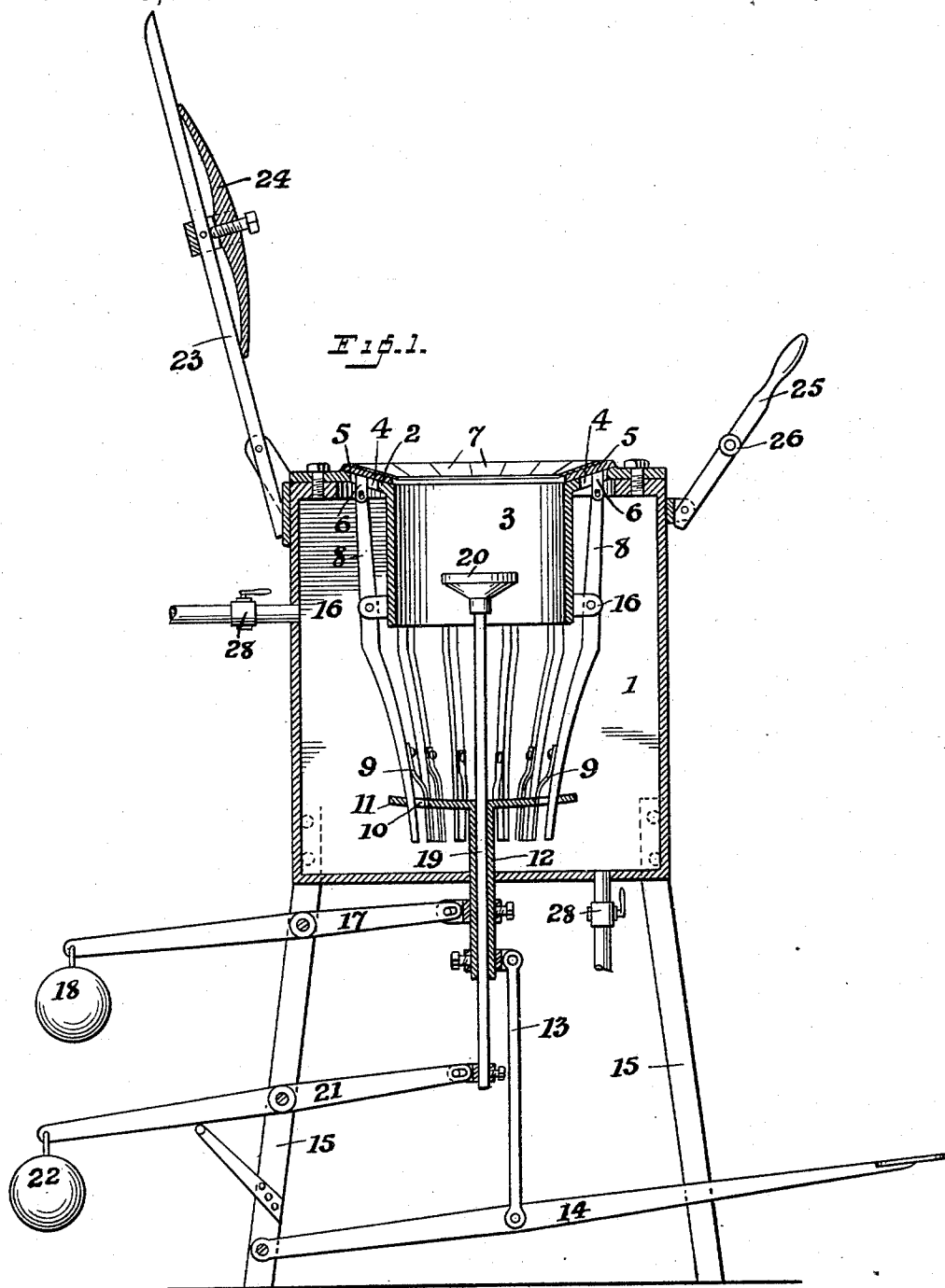
(No Model.)

3 Sheets—Sheet 1.

J. MARSHALL.
HAT BLOCKING MACHINE.

No. 485,349.

Patented Nov. 1, 1892.



WITNESSES

C. M. Newman,
A. J. Tanner.

INVENTOR

James Marshall,
by D. H. Hubbard,
his attorney

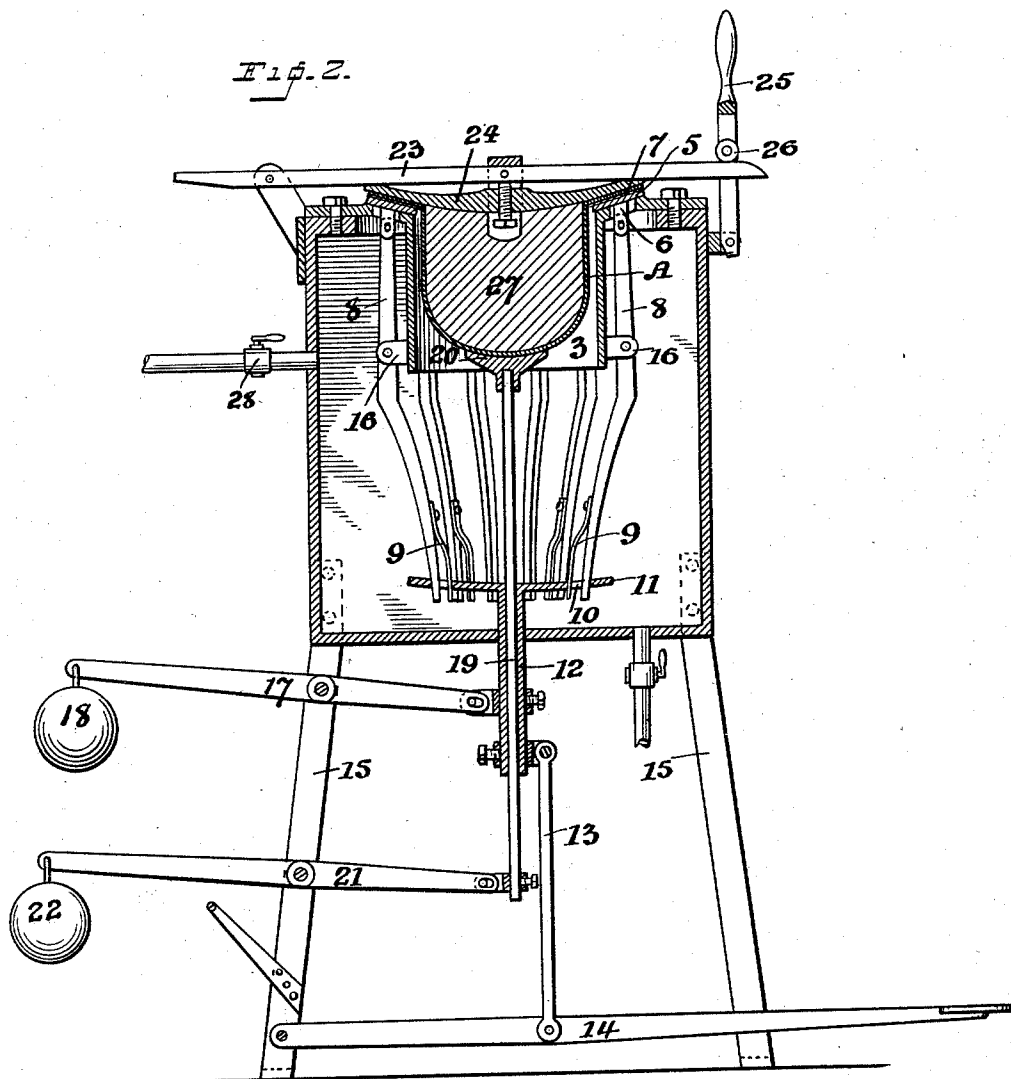
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Fig. 3.

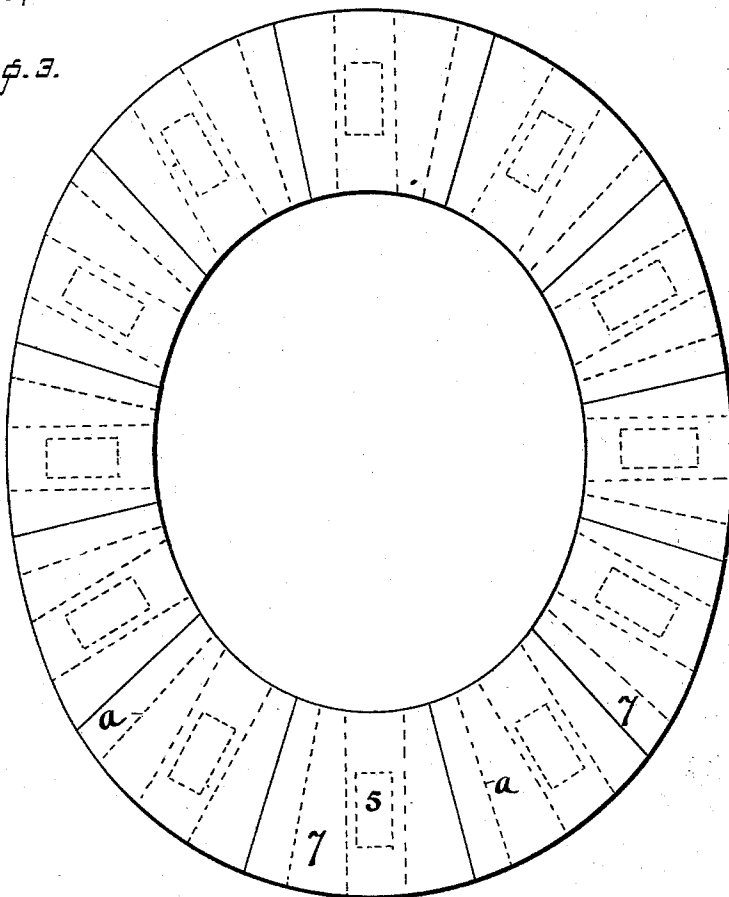
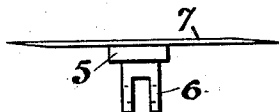


Fig. 4.



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UNITED STATES PATENT OFFICE.

JAMES MARSHALL, OF FALL RIVER, MASSACHUSETTS.

HAT-BLOCKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 485,349, dated November 1, 1892.

Application filed January 26, 1892. Serial No. 419,273. (No model.)

To all whom it may concern:

Be it known that I, JAMES MARSHALL, a citizen of the United States, residing at Fall River, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Hat-Blocking 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 certain new and useful improvements in hat-blocking machines, and has for its object to provide a machine whose parts shall be in a sense automatically adjustable to hats of different sizes and of varying difference between the major and minor axis of the ellipse, and, further, to provide a machine in which the "band"—that is, the angle between the crown and brim—shall be sharply cut and defined in the finished hat; and with these ends in view my invention consists in the construction and combination of elements hereinafter fully explained, and then recited in the claims.

In order that those skilled in the art to which my invention appertains may fully understand its construction and operation, I will describe the same in detail, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a central vertical section showing the parts in their open position; Fig. 2, a like view showing the machine operating upon a hat; Fig. 3, a plan view of the adjustable plates forming the elliptic ring, and Fig. 4 a detail of one of the plate-blocks and its plate.

Like numerals denote the same parts in all the figures.

1 denotes a steam-chest of any ordinary construction, which should be provided, as shown, with suitable steam connections. The top 2 of this chest has an opening, from which depends a tubular extension 3 of elliptic section and somewhat larger than the crown of any hat which the machine would be required to block.

4 are slots cut in the top 2 of the chest. They are rectangular in shape and extend radially relative to the central opening. Upon the top just referred to are superposed a plurality of slide-blocks 5, each provided with a lug 6, which extends downwardly through one of the slots in the top, fitting the same laterally, but free to slide therein longitudinally within certain limits, as will presently be set forth. The inner ends of these sliding blocks or supports extend over the central opening of the chest. Each one of the slide-blocks has secured thereon a thin sheet-metal plate 7 of the general shape shown at the plan view, Fig. 3. The side edges of these plates are beveled or cut away to a very thin edge and they overlap one another, as appears from the diagonal joint-lines, as appears at Fig. 1 and the dotted lines at Fig. 3. These plates should be of very thin metal, their thickness being somewhat exaggerated in the drawings for purposes of illustration, and their inner ends project slightly over the ends of the blocks 5.

To the lugs 6 are pivotally secured the upper ends of a series of levers 8, which are fulcrumed, as at 16, to the outer surface of the tubular extension 3. Each of these levers 8 bears upon its inner surface, near the lower end, a spring 9, and both the lever and spring extend through a slot 10 in a plate 11, which, as will be hereinafter set forth, is designed to actuate the levers and through them the plates 7. From this plate 11 depends a tube or sleeve 12, and said sleeve is connected by means of a link 13 with a lever 14 of the second order, which has a fulcrum-bearing between two of the legs 15, which support the steam-chest. The sleeve 12 is also connected to a lever 17, fulcrumed near its center and provided with a counterbalance-weight 18, whose function is to normally hold the plate 11 in the position in which it is shown at Fig. 1. A stem or rod 19 extends through and has a sliding movement within the sleeve 12 and bears upon its upper end a head 20, which is adapted to rest against the hat for the purpose of supporting the latter, as is shown at Fig. 2 and as presently will be further ex-

plained. This head is normally raised by means of the lever 21 and counter-balance 22 to the position shown at Fig. 1. To the top of the steam-chest is hinged a clamp-bar 23, having secured thereon a pressure-plate 24, whose under surface is conformed to the surface-contour of the flange formed by the plates 7. The outer end of the bar 23 is beveled or cut away obliquely, and with this is adapted to co-operate a locking-lever 25, having thereon a roll 26, which rides over the oblique portion of the bar, and is adapted to lock the same in the position shown at Fig. 2.

When organized as above set forth, the operation of my invention is as follows: By means of a counterbalance-weight 18 the plate 11 is normally raised, as shown at Fig. 1, and the outer ends of the slots 10, acting on the oblique outer surfaces of the levers 8, draw the latter inward at their lower ends and move the blocks 5 and plates 7 radially outward, so that the central elliptic opening is larger than the crown of any hat required to be blocked. At the same time the head 20 stands up within the tubular extension 3 and is there held by its counterbalance-weight. The operator first inserts the block 27 within a hat, which I designate by A, and inserts the crown of the hat and the block into the central opening of the machine, so that the brim rests upon the upper surface of the overlapping plates. In inserting the hat and block the bottom of the crown engages the head 20 and depresses it against the action of the counter-balance, as shown at Fig. 2, and the upward pressure of said head relieves the brim from the weight of the hat-block and serves to keep the latter against the plate 24, which is then turned downward into contact with the hat-brim, so as to apply a slight initial pressure thereto. Then the operator places his foot upon the treadle on the outer end of the lever 14, and thereby draws down the plate 11 to the position shown at Fig. 2. The plate, acting through the springs 9, throws the lower ends of the levers outward, thereby drawing the several plates 7 inward, so that their inner edges closely engage the surface of the hat-crown at the point where it joins the brim. Great pressure by means of these plates is not required; but they should rest snugly against the hat, and the fact that the drawing-in motion of the levers is imparted to them through the medium of the yielding springs will permit all the plates to engage the crown of the hat with a substantially-uniform pressure even though the hat is of such elliptic shape as to require some of the plates to travel a little farther than others. When these plates have been drawn inward against the hat, the locking of the bar 23 is completed by means of the lever 25, so that the pressure-plate is clamped with great force against the hat-brim. When the blocking operation is completed, the pressure-plate is unlocked and the lever 14 released, thereby per-

mitting the counterbalance 18 to raise the plate 11 and withdraw the plates 7 out of contact with the hat. The locking-bar being raised, the head 20 by means of its weight will eject the hat and block partially out of the machine, so that they may readily be removed by hand. By means of suitable cocks 28 the steam-supply may be regulated and controlled, as is found expedient for proper treatment of the hat.

In this invention I do not wish to be confined to the details of construction herein shown and described, since these may be varied and the proportion and mutual relation of the parts varied without departing from the spirit of my invention. The use of the thin plates, whose edges cut a sharp angle between the hat crown and brim, I consider an important feature of my machine.

I claim—

1. In a hat-blocking machine, the combination, with the steam-chest, of a series of thin overlapping metallic plates forming a pressure-surface on top of the steam-chest, levers connected to said plates and adapted to move them radially, a plate for the actuation of said levers, springs interposed one between each lever and the plate, and means for actuating said plate vertically, whereby the inward movement of the overlapping plates may cause them to conform to hats of different sizes, substantially as described.

2. In a hat-blocking machine, the steam-chest, in combination with the series of overlapping metallic plates, the slide-blocks whereon said plates are supported, the levers connected to and adapted to actuate said blocks, the springs secured to the inner sides of the levers, the slotted plate 11, engaging said levers and springs, a foot-lever for operating said plate in one direction, and a counter-balance for returning it to its normal position, substantially as specified.

3. In a hat-blocking machine, the combination of the following elements, namely: the steam-chest, the blocking-ring mounted thereon and consisting of a series of thin overlapping metal plates having their edges beveled, a series of blocks upon which said plates are mounted, levers connected to said blocks and fulcrumed and extending downward within the steam-chest, a vertically-movable slotted plate having connection, as described, with the ends of the levers and adapted to actuate them, a treadle for the operation of said plate in one direction, a counter-balance for actuating said plate in the other direction, and a vertically-adjustable head within the chest, adapted to engage the crown of the hat, the whole arranged substantially as and for the purpose set forth.

4. In a hat-blocking machine, the steam-chest, in combination with a series of radially-movable slide-blocks mounted in the top of said chest, a series of thin overlapped bevel-edged metallic plates secured one on

top of each block and having its inner edge projecting beyond the inner edge of the block, and a series of levers secured one to each block and extending downward within the
5 chest, whereby the radial movement of the blocks and plates may be effected, substantially as specified.

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

JAMES MARSHALL.

Witnesses:

S. H. HUBBARD,
A. J. TANNER.