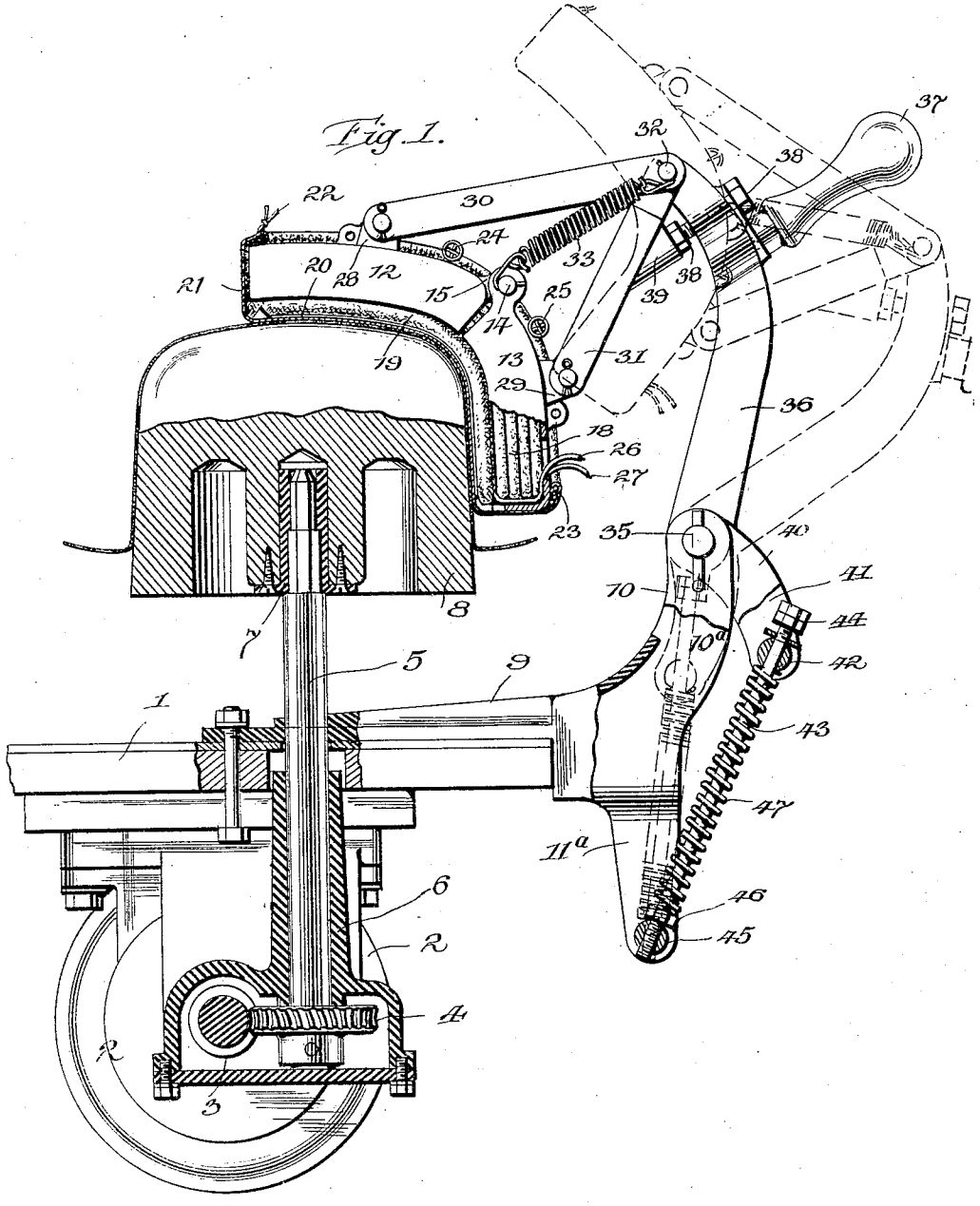
March 7, 1933. J. L. CARD 1,900,634

HAT LUHRING MACHINE

Filed Dec. 1, 1930 2 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

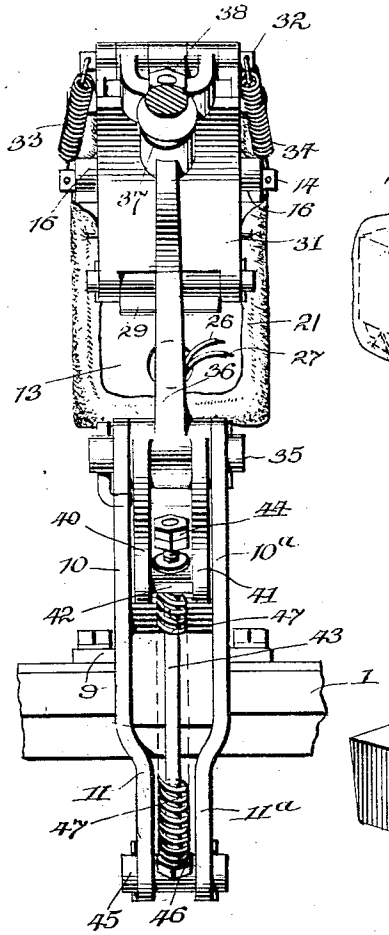


Fig. 3.

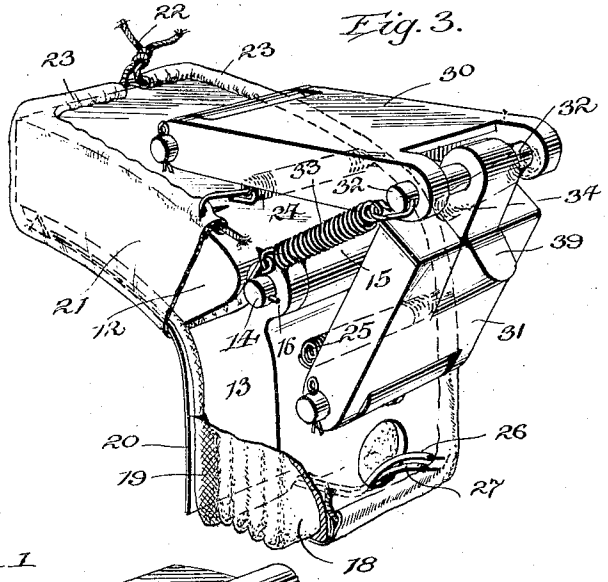
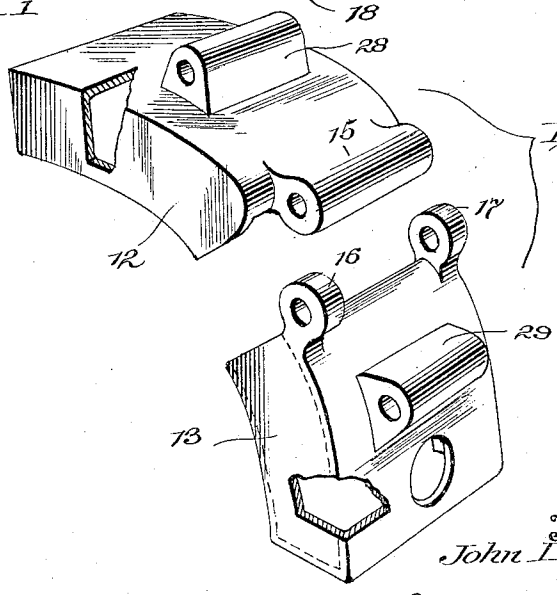


Fig. 4.



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UNITED STATES PATENT OFFICE

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HAT LUHRING MACHINE

Application filed December 1, 1930. Serial No. 499,375.

This invention pertains to hat luhring machines the construction and advantages of which will hereinafter appear.

The main object of the invention is to provide a support for the hat to be finished, said support being rotatable, combined with a self-conforming, heated luhring pad. More specifically, means is provided for holding the pad against the hat with a certain degree of pressure. Means is also provided for holding the pad out of operative position with reference to the hat support during the placement of a hat thereon and the removal of a hat therefrom. Preferably the pad, the body whereof is yielding, will be articulated so that it will readily conform to the hat body and produce a substantially even pressure throughout the extent of bearing between the pad and the hat.

With these and other objects in view, reference will be had to the annexed drawings wherein,

Figure 1 is a sectional elevation illustrating a preferred embodiment of my invention, the pad in the full line position being shown in its pressing relation to a hat mounted upon the rotatable block;

Figure 2, a rear view of the pad and its associated supporting elements;

Figure 3, a perspective view of the articulated pad, parts being broken away to more clearly show the interior structure; and

Figure 4 a perspective view of the main body elements of the pad.

In the drawings, 1 denotes a suitable support, as for instance a table top. Mounted beneath the top is an electric motor 2, the shaft whereof is designed to be connected to a worm 3 meshing with a worm gear 4 which in turn is secured to the lower end of a vertically disposed shaft 5. Said shaft 5 finds its bearing in casting 6 which likewise houses the gearing just mentioned. A flexible coupling (not shown) is interposed between the motor shaft and the worm.

The upper end of the shaft 5 is so shaped in cross section as to make a close driving fit within a bushing 7 secured within the lower face of a hat block 8. Thus the block partakes of a rotary motion imparted thereto from the motor 2, through worm 3, gear 4, shaft 5 and bushing 7.

As will be appreciated by those skilled in the art, blocks of various sizes and shapes are used for different hats and a block of proper contour and size will be placed upon the upper end of shaft 5 according to the hat to be finished.

Secured to the upper face of the table or support 1, and extending outwardly therefrom, is a bracket 9 having a pair of upwardly extending spaced arms 10 and 10^a and a pair of downwardly extending spaced arms 11 and 11^a. The bracket and the arms form a support for the luhring pad and its allied parts.

The pad, as will be clearly seen from the drawings, is articulated and the main supporting elements therefor comprise two channel-shaped members 12 and 13 produced from metal and arcuate in outline. The members 12 and 13 are interconnected by a pin 14 passing through lugs 15, formed upon the member 12, and 16 and 17, formed upon the member 13.

The elements 12 and 13 house a suitable yielding cushion, such for instance as a series of layers 18 of cotton or other resilient material. Imposed upon the outer layer is an electric heating element 19. This element 19 takes the form of a flexible pad which is interposed between the outermost layer 18 and a relatively thin resilient metallic plate as 20 (see Figure 3). This plate may be formed of any suitable springy metal and is overformed, or formed on a radius less than that of the hat-supporting block, to insure its return to the minimum curvature of any hat block which may be employed.

The resilient layers 18 are held in place within the elements 12 and 13 by a suitable cover cloth 21 which also holds the electric pad and plate 20 in position. Said cover cloth is carried upwardly along the sides and ends of the members 13 and drawn to place by a draw-string 22 which passes through a pocket 23 formed along the edge of the cover. A cross spring 24 is attached to the edges of the cover adjacent the inner

end of the member 12 and a similar spring 25 is attached to the cover adjacent the inner end of the member 13. These springs serve to hold the cover or luhring cloth 21 in close position against the copper plate 20, which in turn is held in close contact with the heating pad. There is thus presented to the hat which is to be luhred a smooth surface free of all wrinkles. While such plate 20 is not essential it acts to evenly distribute the heat to the luhring cloth 21 and likewise affords a smooth bearing surface over which the cloth is stretched.

It is to be understood that the electric element 19 is flexible and will conform to the shape of the pads and covering. Current is supplied to the pad from any suitable source through leads 26 and 27.

Extending upwardly from the upper face of the member 12 about its midlength is a lug 28 and a similar lug 29 is similarly positioned upon the lower member 13.

Pivotally connected to the lug 28 is an arm or link 30 and pivoted to the lug 29 is a second arm or link 31. These links are connected together at their adjacent ends by a pin 32 extending through lugs formed upon such ends. The pin 32 extends outwardly at each end beyond the lugs and springs 33 and 34 are connected respectively to the outwardly extending ends of said pin and to the outwardly extending ends of the pivot pin 14. These springs acting under tension tend to draw the pivot pins 32 and 14 toward each other and as a consequence will draw the adjacent inner ends of the pad supporting elements 12 and 13 upwardly, thus making the angle between the inner faces of said members 12 and 13 more closely approximate a right angle. This articulation of the pad supporting members will insure a full and fair bearing of the pad upon the hat and will allow the pad to accommodate itself to hats of various contours.

Pivotally supported between the arms 10 and 10ª upon a pin 35 is a lever of the first order, the upper arm 36 whereof at its upper end is bifurcated, the pin 32, heretofore referred to, passing therethrough.

The arm 36 has secured to it a handle 37 and likewise an adjustable stop 38, which latter bears against a lug 39 formed upon the link 31. The purpose of this stop is to regulate the height or position of the pad assembly with reference to the crown of the hat block 8 so as to insure proper positioning of the pad and to likewise minimize the drag of the pad on the hat as it is moved into or out of operative position.

The lower end of the pad supporting lever just above mentioned is bifurcated, producing arms 40 and 41, which arms, as will be seen upon reference more particularly to the full line position in Figure 1, stand to the rear of and at an angle to the upper portion 36 of the lever. As will be seen upon reference to Figure 2, the arms 40 and 41 are so spaced that they may swing inwardly between the supporting elements 10 and 10ª as shown in the dotted line position in Figure 1.

Pivotally mounted between the lower ends of the arms 40 and 41 is a block 42 through which loosely extends a rod 43 having nuts 44 upon its upper end. The rod, at its lower end, extends through a block 45 pivotally mounted between the lower ends of the downwardly extending arms 11 and 11ª of the supporting frame or bracket. A nut 46 is secured upon the rod, the nut bearing against the upper face of the block 45. A spring 47 encircles the rod and at its lower end bears against the nut 46 while the upper end takes against the block 42. This spring is under compression and normally serves to rock the pad supporting lever toward the hat carrying block 8 exerting a certain degree of pressure upon the crown of the hat mounted upon the block. The spring also serves to hold the pad supporting lever in its retracted position or when it is brought to that position where the pad is removed from the head block or the hat mounted thereon.

As will be seen upon reference to Figure 1, the downwardly extending arms 40 and 41 and the rod 43 form in effect a toggle which when brought to a straightened position, as shown in dotted lines in Figure 1, throws the block 42 slightly to the left of a line passing through the pivot of the block 46 and the pivot pin 35. Thus the lever and the luhring pad will be held in that position until the operator grasping the handle moves the lever toward the block and thus allows the spring 47 to exert its pressure upon the lever to force the pad into contact with the hat. At the same time, as above noted, the springs 33 and 34 tend to draw the inner ends of the pad supporting elements 12 and 13 upwardly and thus force the pad into close contact with the hat being treated.

It will be appreciated, of course, that insofar as the articulated support of the pad proper is concerned it may be employed with pads of a form different from that shown and described.

What is claimed is:

1. In a machine of the character described, the combination of a rotatable hat support; an articulated luhring pad; means acting to swing the elements of said articulated pad toward each other at all times; and means for supporting the pad.

2. In a machine of the character described, the combination of a rotatable hat support; an articulated luhring pad; means acting independently of the hat block to fold the supporting sections of the luhring pad toward each other; a supporting arm for the pad;

and spring means acting upon the arm to force the pad bodily into contact with a hat mounted upon the hat support.

3. A pad for hat luhring machines comprising two supporting members pivotally connected to each other at their adjacent ends; a link pivotally connected to each of said members, said links being pivotally connected together at their outer ends; springs connected to the pivot of the supporting members and to the pivot connection of the links, said spring acting to rock the supporting members toward each other; and a flexible pad carried by the supporting elements.

4. A luhring pad as set forth in claim 3, wherein a flexible electrical element is mounted adjacent the operative face of the pad.

5. A luhring pad as set forth in claim 3, wherein a flexible electric heating element is imposed upon the pad and is covered by a flexible metallic plate and an outer textile cover.

6. A luhring pad comprising two hollow arcuate-shaped members; means for pivotally connecting said members together; a flexible and resilient padding mounted within said members; an electric heating element imposed upon the pad aforesaid; a resilient metallic plate located upon the outer face of the pad; and a textile cover overlying the plate.

7. In a hat luhring machine, the combination of a rotatable hat supporting block; a fixed element extending outwardly below and to one side of the hat block, said element having upwardly and downwardly extending arms; a lever of the first order pivotally connected to the upper end of the upper arm; a luhring pad; a connection between said pad and the upper arm of the lever; a rod having a lost motion connection with the lower arm of the lever, said rod likewise being pivotally connected to the lower arm of the support; and a spring encircling the rod, said spring being normally under compression at all times, the pivotal connection of the lever to the upwardly extending arm, the pivotal connection between the rod and the lower arm of the lever, and the lower end of the downwardly extending arm being so positioned as to hold the lever in its retracted position when the luhring pad is drawn outwardly by the lever to inoperative position.

8. In a hat luhring machine, the combination of a rotatable hat supporting block; a pad supporting structure comprising two hollow elements spaced apart at their adjacent ends and pivotally connected to each other at said ends; a pad carried thereby; a pair of links pivotally connected at their upper ends and likewise pivotally connected at their lower ends to the respective pad supporting elements; a lever pivotally connected to the upper end of the links; spring means acting upon the pivotal connection of the pad supporting elements acting to draw the same upwardly; and an adjustable stop carried by the lever and cooperating with an adjacent link to limit the movement of the link parts.

9. A luhring pad, comprising two hollow arcuate-shaped members; means for pivotally connecting the adjacent ends of said members, said ends being spaced apart; a flexible and resilient padding mounted within said members; an electric heating element imposed upon the pad aforesaid; a resilient metallic plate, said plate being formed upon a radius less than that of the hat-supporting block; and a textile cover overlying said plate and secured in position with reference to the arcuate-shaped members, said cover acting to place the plate under compression and to draw it into contact with the electric element.

10. In a hat luhring machine, the combination of a rotatable hat supporting block; a luhring pad having a yieldable hat contacting face arcuate in outline; means for supporting said pad and a flexible heating element located adjacent the working face of the pad.

In testimony whereof I have signed my name to this specification.

JOHN L. CARD.