

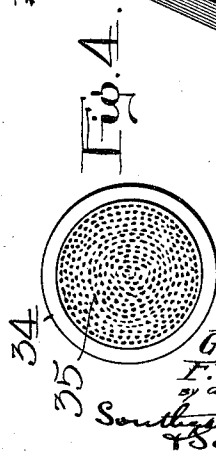
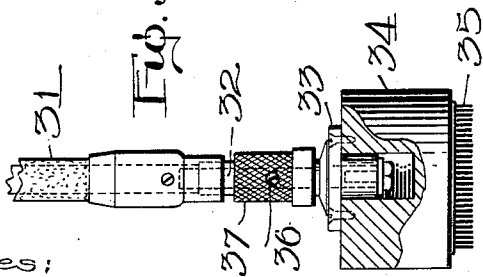
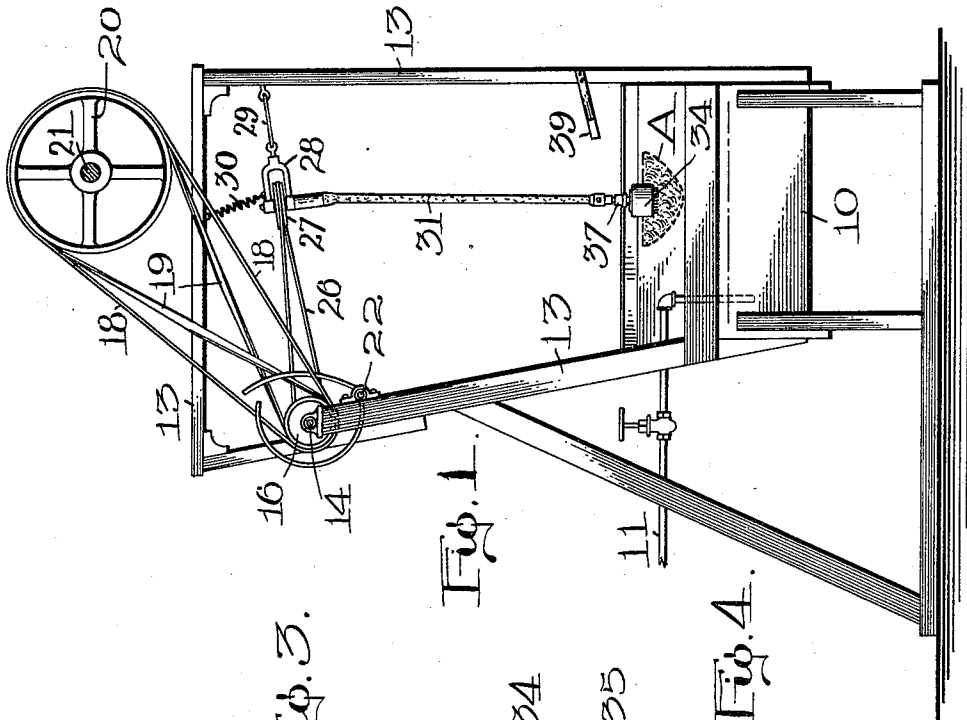
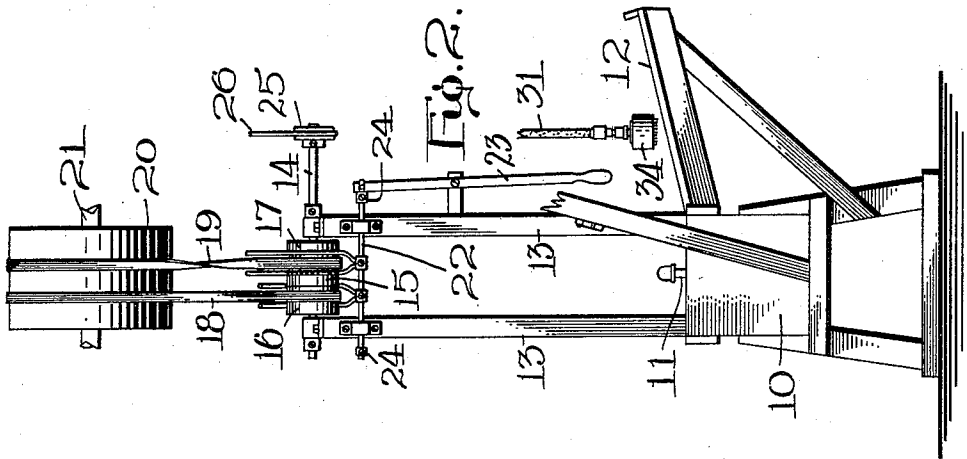
G. J. BARRY & F. BOMENBLIT.

HAT MACHINE.

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1,052,646.

Patented Feb. 11, 1913.



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UNITED STATES PATENT OFFICE.

GEORGE J. BARRY AND FRANK BOMENBLIT, OF AMESBURY, MASSACHUSETTS, ASSIGNORS TO MERRIMAC HAT COMPANY, OF AMESBURY, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

HAT-MACHINE.

1,052,646.

Specification of Letters Patent.

Patented Feb. 11, 1913.

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To all whom it may concern:

Be it known that we, GEORGE J. BARRY and FRANK BOMENBLIT, citizens of the United States, both residing at Amesbury, in the county of Essex and State of Massachusetts, have invented a new and useful Hat-Machine, of which the following is a specification.

This invention relates to the art of preparing hat bodies by brushing up the nap to arrange the fibers at the surface smoothly and uniformly.

The principal objects of the invention are to provide means whereby this operation can be performed in much less time than under the present conditions of hand operation; to provide a construction supported by the ordinary tank or trough for carrying the mechanism; to provide a practicable and efficient form of mechanism for accomplishing these objects; and in general to provide a construction for this purpose of a simple, effective and inexpensive character.

Further objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawing, in which—

Figure 1 is a side elevation of a machine constructed in accordance with this invention; Fig. 2 is an end elevation thereof; Fig. 3 is a side elevation partly in central transverse section of the operating tool and connected parts; and Fig. 4 is a bottom plan view of the operating tool.

The invention is shown as applied to an ordinary form of tank or trough 10 having a steam supply pipe 11 extending into the same below the level of the water and provided with the usual inclined shelf 12 for supporting the hat body to be operated upon. Instead of treating the hat body by hand in the usual way this invention provides for certain mechanical operations performed by mechanism supported by and above said tank but controlled by the operator. For this purpose the tank is provided with a frame 13 extending upwardly therefrom and supported mainly by the tank. On this frame is located a horizontal shaft 14 provided with a tight pulley 15 and two loose pulleys 16 and 17. These pulleys receive

power from two belts 18 and 19, one of which is crossed, preferably passing over the same pulley 20 on a counter-shaft 21.

Located on the frame 13 is a shift rod 22 operated by a hand lever 23 which extends down into convenient position to be manipulated by the operator who stands near the shelf. This shift rod is provided with the usual devices for engaging belts and as will be obvious it can be shifted back and forth at the will of the operator so as to throw either one of the belts on the tight pulley or bring them both on the loose pulleys as indicated in Fig. 2. In this way the rotation of the shaft 14 can be reversed at will. On account of a couple of collars 24 fixed on the shifter rod 22 the operator does not need to pay any special attention to the length of the strokes which he gives the shifting rod 23, but can shift it on each motion to its limit.

On the shaft 14 is located a pulley 25, which by belt 26 drives a pulley 27 supported by bearings in a movable bearing frame 28. This frame is pivotally connected by a freely moving link 29 with the frame 13, and is also supported from above by the frame through a spring 30. By means of these connections it will be seen that this frame 28 is capable of a certain range of motions. It will be observed that the link 29 which is pivotally connected at each end is nearly horizontal, but not quite, and is substantially in alinement with the two pulleys 25 and 27. In this way it will be seen that the pulley 27 is movable in the plane of this line and is also movable to a slight extent up and down, this downward motion being resisted by the spring 30.

Connected with the pulley 27 is a flexible shaft 31 of any usual or ordinary construction. At the bottom it is provided with a rod 32 on which is a plate 33 to which is fixed a cylindrical block 34 having a circular section of card clothing 35 on the bottom thereof. This constitutes a brush for operating on the hat bodies. The rod 32 is provided with a circumferential groove into which projects the end of a screw or pin 36 on a collar 37. This does not bind the collar but leaves it free so that the shaft

can rotate in it, and the operator can grasp the collar to guide and control the operation of the brush. On account of the flexible shaft and the movable support for the pulley 27, the operator has full control of the brush and can manipulate it as he desires. A holder 39 is provided on the frame for supporting the lower end of the flexible shaft and brush when not in use.

- 10 The operation of the device will be understood readily. The operator dips the hat body A in the tank and then places it on the shelf. Then he shifts the lever 23 to one side or the other to start the brush, and
15 with his other hand he grasps the collar 37 and guides the brush to cause it to operate on the surface of the hat body. He then continues to shift the lever 23 back and forth at short intervals so as rapidly to reverse the direction of rotation of the brush,
20 thus getting a most rapid operation on the hat body, and permitting him to perform in five minutes a finishing operation that by the old hand methods requires about an
25 hour.

While we have illustrated and described a preferred embodiment of the invention, we are aware that many modifications can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims. Therefore, we do not wish to be limited to all the details of construction herein shown and described, but

- 35 What we do claim is:—

1. In a hat machine, the combination with a tank and shelf for supporting hat bodies, of a frame supported by the tank and extending upwardly therefrom, a shaft carried by said frame, means for rotating said shaft, a brush connected with and operated by said shaft and located over the shelf for brushing a hat body on said shelf, flexible driving and supporting means for the brush
45 located above it, and resilient means for holding said driving means up.

2. In a hat machine, the combination with a tank and shelf inclined upwardly from one side thereof, of reversible rotatable means
50 supported by the tank from above and hanging down over the shelf for brushing a hat body on the shelf.

3. In a hat machine, the combination of a frame, a shaft carried by said frame, means for rotating said shaft, a pulley supported by said frame but free to move with respect thereto, means for transmitting power from the shaft to said pulley, and a brush connected with and operated by said pulley and located below it for brushing a hat body.
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4. In a hat machine, the combination with a tank and shelf, of a frame supported by the tank and extending upwardly therefrom, a shaft carried by said frame, means for
65 rotating said shaft, a pulley supported by

said frame but free to move with respect thereto, means for transmitting power from the shaft to said pulley, and a brush connected with and operated by said pulley and located below it over the shelf for brushing
70 a hat body on said shelf.

5. In a hat machine, the combination of a frame, a shaft on the frame, means for rotating the shaft, a bearing frame having bearings, a link for connecting said bearing frame movably with the first named frame, resilient means for supporting the bearing frame from the first named frame, a pulley on the bearing frame for receiving power from said shaft, and a flexible shaft connected with said pulley and having a brush on the end.
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6. In a hat machine, the combination of a flexible shaft, means for rotating it alternately in opposite directions, a rod connected with the lower end of said shaft, a cylindrical brush body mounted on said rod and having card clothing on the bottom thereof, said rod having a circumferential groove therein, and a collar on the rod having a screw extending into said groove to hold the collar loosely in position therein.
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7. In a hat machine, the combination of a rod, a cylindrical brush body mounted on said rod and having card clothing on the bottom thereof, said rod having a circumferential groove therein, and a collar on the rod having a screw extending into said groove to hold the collar loosely in position therein.
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8. In a hat brushing machine, the combination with a tank or trough, of a shelf inclined downwardly toward the tank for receiving the hat body to be operated upon and draining the water back into the tank, and universally movable power-operated means supported over the shelf for brushing the hat body thereon.
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9. In a hat brushing machine, the combination of a tank, and a shelf at the side thereof on which the hat body to be treated can be supported outside the tank, of a brush depending from above over the tank and having a brushing surface on the bottom thereof, and means for rotating said brush on a vertical axis.
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10. In a hat brushing machine, the combination of a tank and a shelf at the side thereof for supporting a hat body outside the tank, of a pulley located over said shelf, a brush depending from and rotatable with the pulley, yielding means for holding the pulley up and also holding the brush above said shelf, said yielding means being readily extensible to permit the brush to be moved down on the shelf, and means for rotating the pulley in all positions thereof.
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11. In a hat brushing machine, the combination of a tank and a shelf at the side thereof for supporting the hat body outside the tank, a driving pulley mounted at an ele-
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vation, a pulley connected therewith and driven thereby and movably supported above said shelf, a flexible shaft depending from the second pulley, a brush mounted on
5 the end of the flexible shaft, and means for normally holding the brush above the surface of said shelf.

In testimony whereof we have hereto set

our hands, in the presence of two subscribing witnesses.

GEORGE J. BARRY.
FRANK BOMENBLIT.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."