

No. 645,592.

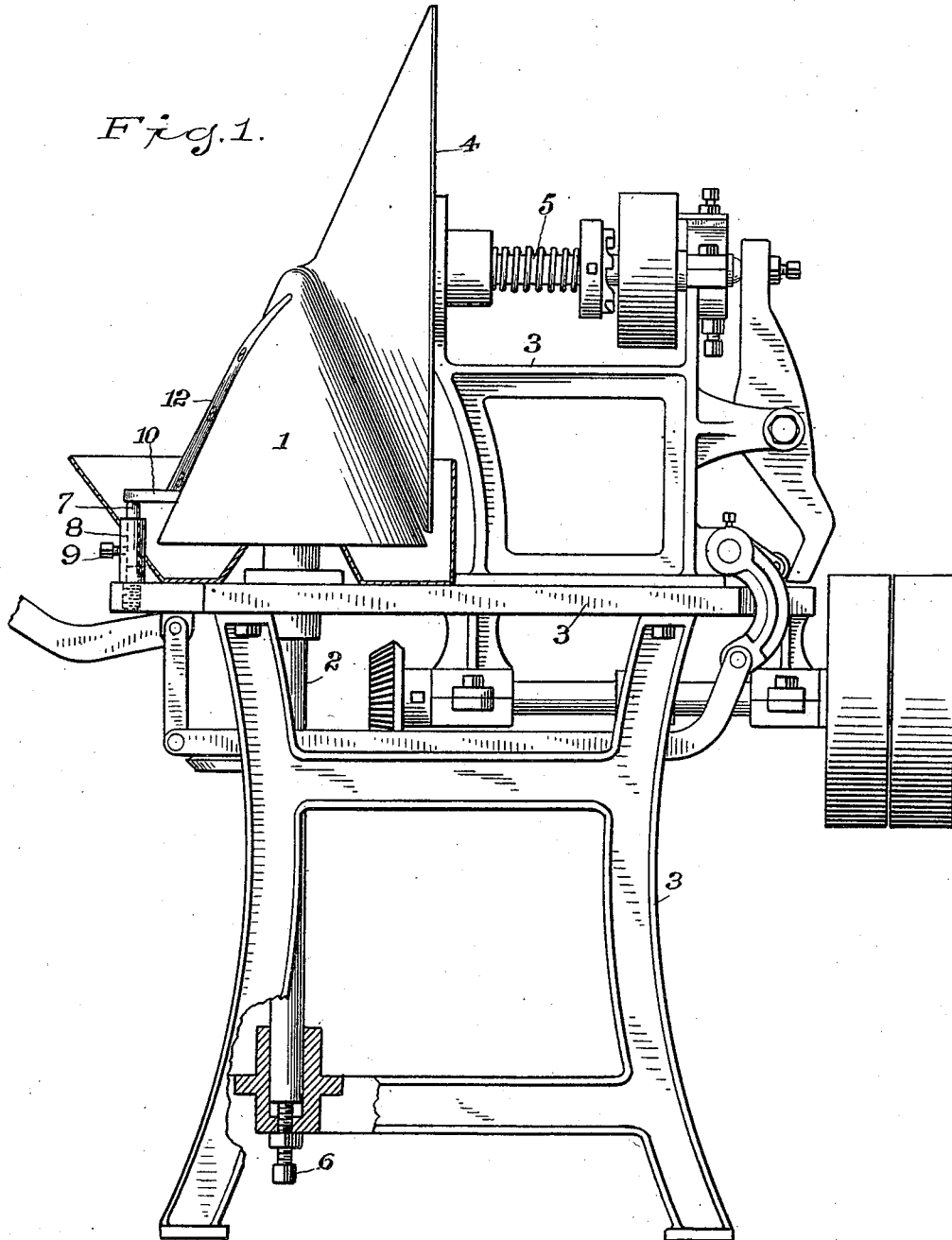
Patented Mar. 20, 1900.

L. R. HEIM.  
HAT CLEARING MACHINE.

(Application filed June 29, 1899.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES

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Fig. 2.

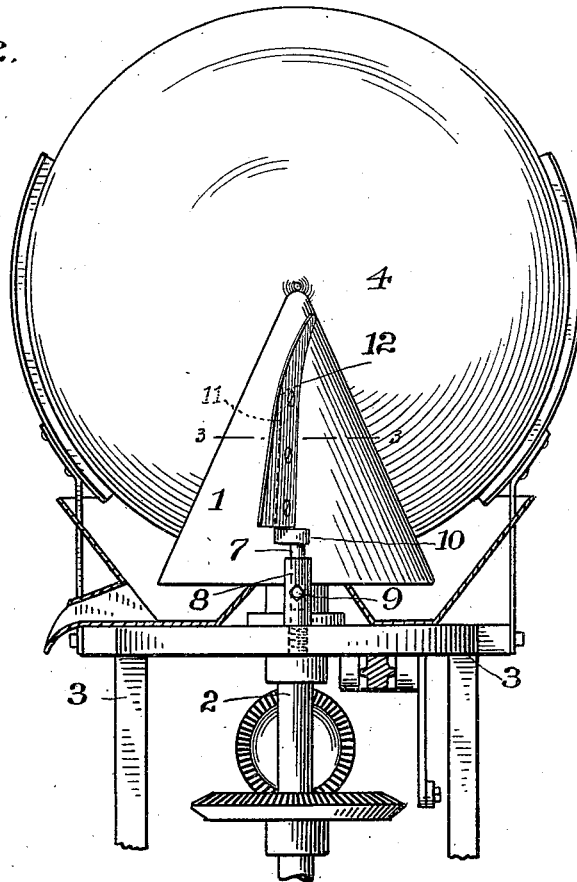
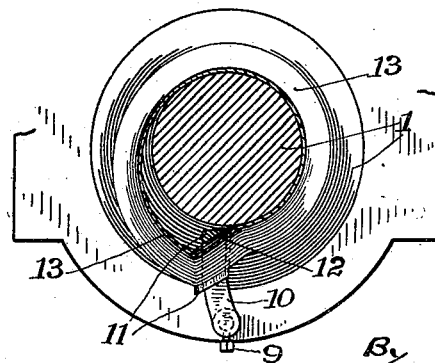


Fig. 3.



WITNESSES

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# UNITED STATES PATENT OFFICE.

LEWIS R. HEIM, OF DANBURY, CONNECTICUT.

## HAT-CLEARING MACHINE.

SPECIFICATION forming part of Letters Patent No. 645,592, dated March 20, 1900.

Application filed June 29, 1899. Serial No. 722,275. (No model.)

*To all whom it may concern:*

Be it known that I, LEWIS R. HEIM, a citizen of the United States, residing at Danbury, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Machines for Trenching Out Stiffening Compounds from Hats; 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.

My invention relates to certain new and useful improvements in machines for trenching out the stiffening compound from hats, and has for its object to render this operation exceedingly simple and comparatively clean, while at the same time the hats are prevented from sticking to the supporting-cone and are readily removed therefrom.

In my invention I have adopted the general construction of a well-known machine which has heretofore been used for the purpose of pinning out the water from the hats after the operation of sizing, and I will therefore not enter into a detailed description of such construction, but will simply call attention to the important changes and additions which I have made, which result in transforming the machine in a manner suitable for my purpose and so as to produce results heretofore never accomplished nor ever attempted with a machine of this description. I therefore do not wish to be understood as laying any claim whatever to the construction or operation of the elements which operate to effect the trenching out of the stiffening compound, since my invention is limited to the provision of appliances which act, in combination with the other parts of the machine, to prevent the hats from sticking to the supporting-cone and also to certain other minor details to which attention will hereinafter be called.

In the accompanying drawings, which form a part of this application, Figure 1 is a side elevation showing my improvement applied to the construction of pinning-out machine mainly shown and described in Letters Patent No. 546,453; issued September 17, 1895, to William H. Knowles; Fig. 2, a front elevation of such machine, and Fig. 3 a section at the line 3 3 of Fig. 2.

Similar numbers of reference denote like parts in the several figures of the drawings.

1 is the cone upon which the hats are placed and which is carried at the upper end of a vertical shaft 2, journaled in the frame 3 of the machine.

4 is the conical trenching-out disk, which is supported at the end of a horizontal shaft 5 in the usual manner and whose surface is parallel with the surface of the cone 1, so that when a hat is placed upon the cone and the disk is in close proximity thereto the rotation of such cone and disk will cause the liquid to be squeezed or trenched out of the hat.

In the operation of a machine of this construction for pinning out the water from the hats an arm or finger is sometimes secured to the frame of the machine, so as to extend at a distance from the cone, and the hat is placed on the cone and over this arm, so that the latter will hold the hat at that particular point away from the cone, whereby a tension on the hat is afforded which takes up the slack and prevents the formation of any creases during the pinning-out operation, and I wish to be understood as clearly disclaiming any such construction, since my invention presently to be described is clearly distinguished from devices of this sort. Also in pinning out water from the hats the pinning-out disk and cone are heated as a matter of necessity, in order to facilitate the expulsion of the surplus moisture, whereas in my improvement no heat is used, since it would be fatal to the trenching out of the stiffening compound from the hat. In my improvement the shaft 2 is capable of a free movement in its bearings and is supported at the bottom upon an adjusting-screw 6, so that it will be clear that the cone 1 may be adjusted nearer to or farther away from the disk 4 by the manipulation of this screw.

In adapting the cone-and-disk construction for the purposes of carrying out my invention I have discovered by experiment that it is absolutely necessary to pare the hat away from the cone, and the provision of devices for accomplishing this constitutes the main and important feature of my invention. I provide a pin 7, which is secured within a socket 8, rising from the frame 3 by means

of a set-nut 9, and from the upper end of this pin extends a short crank 10, to the end of which latter is secured a rib 11, which latter is so shaped and inclined to extend substantially parallel with the cone 1 and in close proximity thereto. To this rib 11 is secured a knife 12, which normally lies close against the surface of the cone, so as to scrape the latter during its revolutions. The hat 13 is placed over the cone and knife and as the disk and cone revolve to effect the pinning out of the stiffening compound the hat will stick closely to the cone, but will be pared therefrom by means of this knife, this operation of paring continuing so long as the cone is revolved. It will therefore be clear that not only is the hat continually pared from the cone, but that the latter will be scraped free from the thick and sticky stiffening compound, so that the cone is always kept clean and suitable for use in trenching out subsequent hats. The upper end of the knife may be extended so as to lie close to the extreme tip of the cone, although my experience has led me to believe that this is not necessary. Also the knife may be adjusted up and down along the cone by simply loosening the nut 9 and elevating or lowering the pin 7 to a new adjustment, and by swinging the crank 10 around the knife may be carried clear of the cone, or it will be evident that the pin may be removed from the socket, if desired. My paring-knife also removes all surplus stiffening from the inside of the hat as the latter is dragged over the back of the knife, and the knife may be readily cleansed at any time.

The tension-rod heretofore mentioned could never answer the purposes of my invention, as I have ascertained by actual trial, since it is impossible to drag or tear the stiffened hat from the cone without serious damage to the hat and without causing the cone to be coated with particles of fur and shellac, which gradually become matted together and render the cone unfit for use.

My invention is applicable to any machine for pinning out hats which employs a cone-support for the hat, because my paring-knife

coöperates solely with the hat-supporting cone itself.

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

1. In a machine for trenching out stiffening compounds from hats, the combination of a rotary cone-support for the hats, means co-operating with said support for accomplishing the trenching-out operation, and a knife lying lengthwise against the surface of said cone and capable of paring the hat therefrom during the rotation of said cone, substantially as set forth.

2. In a machine of the character described, the combination of the rotary cone-support for the hat, with the knife closely conformed to the surface of the cone substantially throughout its length and extending between the hat and cone whereby as the cone revolves the hat will be continuously pared therefrom, substantially as set forth.

3. In a machine of the character described, the combination of the rotary cone-support for the hat, with the stationary knife whose edge is in close contact with the cone substantially throughout the length of the latter and which extends between the hat and the cone at a predetermined point, whereby as the cone revolves the hat will be continually pared therefrom and the surface of the cone cleansed from the stiffening compound, substantially as set forth.

4. In a machine of the character described, the combination of the rotary cone-support for the hat carried by a vertical shaft capable of lengthwise adjustment, with the knife also capable of vertical adjustment and having its edge extending in close contact with said cone throughout substantially the length of the latter, substantially as set forth.

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

LEWIS R. HEIM.

Witnesses:

WILLIAM H. CABLE,  
HENRY M. ROBINSON.