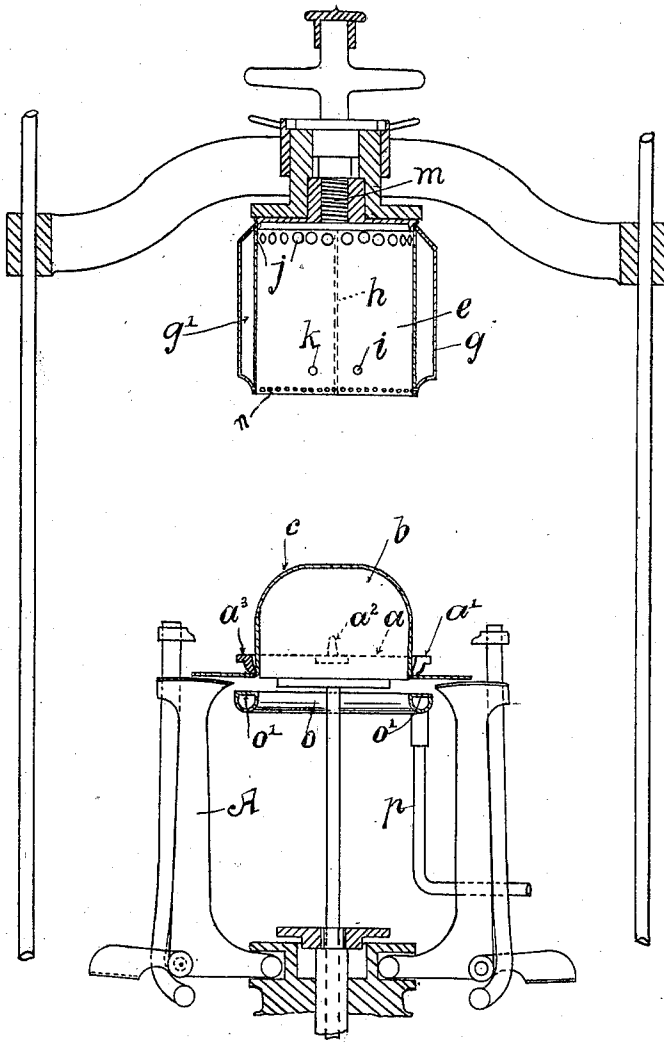


G. ATHERTON.
MACHINE FOR BLOCKING OR SHAPING HATS.
APPLICATION FILED OCT. 28, 1911.

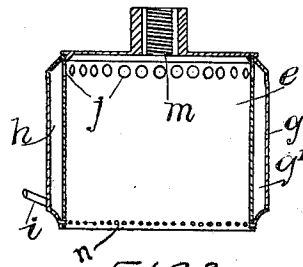
1,044,002.

Patented Nov. 12, 1912.

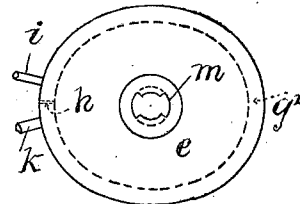
F I C. 1.



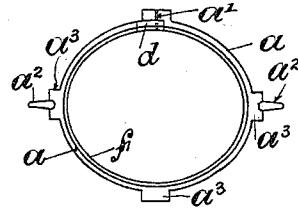
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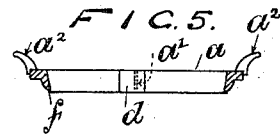
F I C. 3.



F I C. 4.



F I C. 5.



Witnesses.

John C. Sanders
John A. Percival

Inventor
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By his Attorney *Wm. M. M. M. M.*

UNITED STATES PATENT OFFICE.

GILES ATHERTON, OF STOCKPORT, ENGLAND.

MACHINE FOR BLOCKING OR SHAPING HATS.

1,044,002.

Specification of Letters Patent.

Patented Nov. 12, 1912.

Application filed October 28, 1911. Serial No. 657,298.

To all whom it may concern:

Be it known that I, GILES ATHERTON, a subject of the King of Great Britain and Ireland, residing at Virginia Mills, Higher Hillgate, Stockport, in the county of Chester, England, have invented new and useful Improvements in a Machine for Blocking or Shaping Hats, of which the following is a specification.

My invention relates to improvements in hat blocking and shaping machines generally, and is more particularly applicable to apparatus in which a hollow banding shell is brought down upon the hat body, the banding shell being reciprocated a number of times upon the hat brim with the object of producing a defined band on the hat, viz., pressing the brim to a well defined right angle to the sides of the crown. In practice it is found that this object is not always completely attained owing to various causes. For instance where a wooden hat block is used a certain space must be allowed between the banding shell and the block to allow for not only varying thicknesses of felt but possible expansion of the wood block when wet, although to a certain extent this might be overcome by using metallic hat blocks. The chief reason however for the defect appears to be due to the fact that each time the banding shell is raised the pressure of the same being removed from the hat body while it is still being stretched causes the hat body to resume to some extent its initial shape.

My present invention consists in using in conjunction with each of the varying sizes of hat blocks a metallic ring split in one part of its periphery to make it elastic or flexible to a certain extent, and also further relates to improvements in the banding shell, the improvements being illustrated in the accompanying drawings, in which,

Figure 1 shows an elevation, partly in section, of so much of the apparatus as is necessary to illustrate my improvements. Fig. 2 is a sectional elevation of the banding shell at right angles to Fig. 1. Fig. 3 is a plan view thereof. Fig. 4 is a plan view of the new metallic ring, and, Fig. 5 is a section of the same.

In carrying my invention into effect I provide a metallic ring *a* in conjunction with each size of hat block *b* as mentioned above, the ring *a* being split at *a'* to render it elastic or expansible to some degree.

These expansible rings *a* I make to a close fit with the hat block *b*. The hat body *c* is placed first on the block *b* and the ring is then, by means of suitable handles *a²* with which it is provided, placed over the hat and forced down to position as shown in Fig. 1 by the banding shell when the machine is put in motion, the expansibility of the ring readily permitting this to be done. The split in the ring *a* is masked by a thin plate *d* brazed or soldered at one end to the ring, and in order to prevent the ring, when hot, from damaging the hat body by drawing out the proof, the ring may be covered with felt or the like. The hat brim is or may be clamped and stretched by the clamping and stretching device *A*. The banding shell *e* on its descent comes into contact with the ring *a* or with a suitable number of projections *a³* formed on the ring, and forces the ring down upon the brim of the hat. The banding shell is reciprocated as usual and each time acts as a plunger or a hammer upon the ring, which remains firmly in position and produces a perfectly defined band on the hat. To assist this the lower edge of the ring *a* is made comparatively sharp as shown at *f* although the bottom edge may, if desired, be left square. Hats blocked by this method can be taken directly to the hydraulic press without the necessity of an intermediate hand operation, which was required with hats imperfectly blocked by machines in use prior to my invention. Further, by providing the requisite number of sizes, and half sizes, of such loose brass rings, one, or at most two reciprocating steaming or banding shells need only be provided instead of a separate shell for each size of hat.

An improvement in the construction of the banding shell is used under my invention in the operation of blocking hats by dry steam only. This consists in providing the banding shell *e* with an external casing *g* of such diameter as will leave a cavity *g'* around the banding shell. A vertical wall or partition *h* is provided between the banding shell and the outer casing. Toward the lower edge of the banding shell steam is introduced within the cavity through a pipe *i* at one side of this vertical partition. The steam fills the cavity and enters the banding shell by holes *j* made toward the top of the shell. The water of condensation is swept around the bottom of the cavity and is

blown out through a pipe *h* at the other side of the partition *h*.

The banding shell is or may be made adjustable toward or from the hat block and is secured in position by an interrupted screw fastening *m*. The bottom edge of the banding shell extends below the bottom of the outer casing to permit it to act upon the loose ring on the hat block. This bottom edge is preferably perforated or slotted at *n* to allow steam to pass from within the banding shell to act upon the hat brim, and to assist in this object the inner surface of the ring *a* may be slightly beveled as shown in the drawings to allow steam to pass between the inner surface of the ring and the hat body. A steam ring *o* is also provided with perforations *o'* on its upper surface and fed with steam by a pipe *p* so that steam may act upon the under surface of the hat brim.

I declare that what I claim is.

1. In machines for blocking and shaping hats the ring *a* made with a split in one part of its periphery to render it expansible, for use in fitting over the hat body on the hat block in combination with a banding

shell to act upon the ring, substantially as described.

2. In combination in apparatus of the indicated nature, a hat block for the hat body, a ring *a* made with a split in one part of its periphery to render it expansible, fitting over the hat body on the block, a steam ring *o* disposed below the hat block, and a banding shell adapted to act on the ring *a*, substantially as described.

3. In machines of the indicated kind, a banding shell *e* an external casing *g* surrounding the banding shell to form a cavity, means to conduct steam from the cavity into the interior of the banding shell and also to the hat brim, a vertical partition *h*, a pipe to conduct steam to the cavity at one side of the partition and a pipe at the other side of the partition to carry off water of condensation, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GILES ATHERTON.

Witnesses:

ERNALD SIMPSON MOSELEY,
ALFRED STUART YATES.