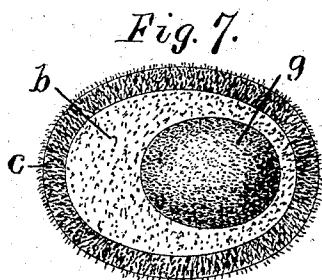
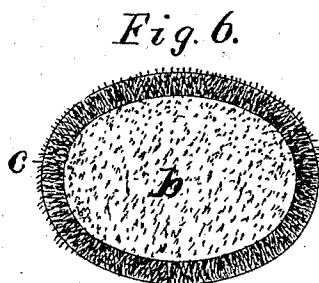
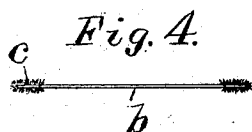
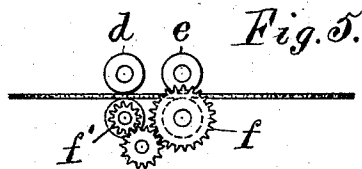
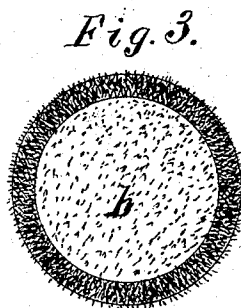
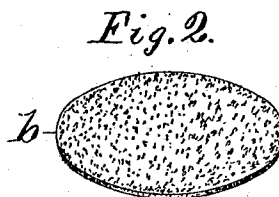
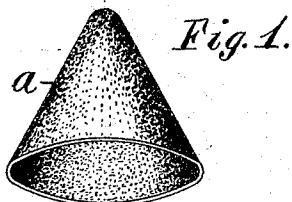


(No Model.)

G. YULE & W. A. BAGLIN.  
HAT BODY AND PROCESS OF MAKING SAME.

No. 497,083.

Patented May 9, 1893.



Attest:  
L. Lee,  
J. Van Nest Jr.

Inventors.  
G. Yule and W. A. Baglin,  
per Crane & Miller, Attys.

# UNITED STATES PATENT OFFICE.

GEORGE YULE, OF NEWARK, NEW JERSEY, AND WILLIAM A. BAGLIN, OF  
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## HAT-BODY AND PROCESS OF MAKING SAME.

SPECIFICATION forming part of Letters Patent No. 497,083, dated May 9, 1893.

Application filed October 16, 1891. Serial No. 408,905. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE YULE, residing at Newark, Essex county, New Jersey, and WILLIAM A. BAGLIN, residing in the city, county, and State of New York, citizens of the United States, have invented certain new and useful Improvements in the Manufacture of Hats from Flat Bodies, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of this invention is to facilitate the pouncing, the finishing, and the blocking of hats, and especially of napped hats having brims of irregular shapes with the flowing fur applied to the border of the brim upon the upper and lower sides. The improvements are especially applicable to such styles of ladies' hats as have a very low crown, and which at the present time are made with brims of very irregular widths and with the brim indented and corrugated in various shapes that are very difficult to pounce or finish upon the flange.

Heretofore it has been common in napping hat bodies, to form a conical body and felt the same in conical shape, and to then nap the brim by sticking and scalding the nap bat to the same by the usual means. Such a brim, when napped, is adapted to form a hat of circular or nearly circular shape; but where it is desired, as in fancy styles of ladies' hats, to project the brim upon one side of the crown much more than upon the other, it has been found necessary to trim the brim before napping the same; or to stretch one portion of the brim excessively after it was napped, and the nap upon the brim is thereby disfigured and loosened. It is obviously necessary, in making a hat with irregular brim, from a hat body formed and napped in conical shape, to thus stretch the brim excessively at given points; or to incur the waste involved in trimming the brim before napping the same.

The present invention furnishes a means of producing any desired irregular shape without trimming the edge of the body, or stretching the body excessively at any point.

Where a brim of irregular shape is desired the improvement consists in sizing the felt by proper manipulation, into a flat disk, then

napping the same, then stretching the flat disk if required, to give its margin the desired irregular shape, and then blocking the disk to produce the crown upon the disk. I prefer to "form" the hat body in conical shape and then "felt" it into a flat disk for the reasons described herein. Such a process greatly reduces the cost of manufacture and incidentally secures many advantages in respect to the quality of the product. A flat body of felt is liable, in working, to become slightly dished or raised at the middle; but its elasticity admits of pressing it into contact with a flat surface.

The term "flat body" or "flat nap bat" signifies herein a body or nap bat adapted for pressing, holding, or working upon such a surface.

In the annexed drawings, Figure 1 represents in perspective the hat body formed in conical shape. Fig. 2 represents a flat disk of felt, in perspective. Fig. 3 is a plan of the flat body with a fur border of uniform width around the edge. Fig. 4 is a transverse section of the same; Fig. 5 a diagram representing the body with drawing rollers applied thereto; Fig. 6 a plan of the body when stretched to an oval form; Fig. 7 a plan of the body with the crown blocked near one edge of the same; and Fig. 8 an edge view of the same. Fig. 9 is a perspective view of the hat shaped with a broad brim in front and a narrow corrugated brim at the rear edge.

*a* is the conical body, *b* the flat body, *c* a napped border upon the edge of the same, *d* the drawing rolls in Fig. 5, *e* the feed rolls, and *f, f'* cog-wheels to rotate the drawing rolls at a higher speed than the feed rolls.

*g* is the crown of the hat, and *h* the corrugations in the brim in Fig. 9.

The invention is preferably practiced as follows. The body is formed in conical shape, shown at *a* in Fig. 1, and is then felted or sized so as to shrink the tip in much more than the edge until a flat circular disk is produced, as shown in perspective at *b* in Fig. 2. Such disk may be shrunk to a perfectly circular form, as shown in the plan in Fig. 3, and the nap may then be stuck to the raw edge of such disk and thereby adhere and cover the edge of the body more perfectly

than if the same were trimmed. Flat annular nap bats may then be formed by suitable means, and scalded upon the upper and lower surfaces of the disk *b* at its edge, forming a nap of uniform width around the edge of the flat body. The body, while in this shape, may be pounced and finished, and if required, may then be stretched by steaming the body and subjecting it to any suitable agency, as the rolls shown in Fig. 5; in which, by speeding the rolls *d* to a suitable degree above the speed of the feed rolls *e*, the body may be stretched in any direction without defacing the nap, or altering the width of the same. The body may then be blocked to form the crown *g* at any point upon the body, as in the eccentric position shown in Figs. 7 and 8, and the brim may then be shaped upon a flange of suitable pattern, by means of a "sand-bag" or other suitable agency.

The napping of the felt, while in a flat disk, greatly facilitates the application of the napping bat and the scalding of the same to fix the fur in the hat body, and greatly cheapens this stage of the manufacture; as a much larger number of such flat disks than conical bodies, can be rolled in a cloth and operated upon at the same time in the scalding operation. The flat disk of felt may also be stretched into an oval shape with much greater facility than a body of conical shape, to form an irregular shaped brim; as such a stretching operation may be readily effected by means of a pair of drawing rollers set in front of a pair of feeding rollers and rotated at a quicker speed; while the stretching of a conical body can only be effected by protracted labor and subjecting the brim at one side of the tip to a very great strain.

The difference in the cost of the bodies arises chiefly from the fact that a conical hat body can only be blocked with the hat crown substantially in the center of the tip, whereas the crown may be formed in any part of a flat disk and thus at a much greater distance from one edge of the brim than another.

It is well known that in sizing a conical body down to a flat disk, a great deal more work is required to shrink the tip of the body than the brim, and the tip is consequently thickened up and hardened, while the brim remains loose and open, and thus especially adapted to receive the fur, when napped. The loose and open character of the brim also adapts it especially to stretch freely into an oval or irregular shape; while the thickening and shrinking of the tip adapts it to endure the strain to which it is subjected when the hat is blocked and the crown is raised upon the felt. With a body of flat form, the crown may evidently be raised at any point, and the irregular width of the brim may thus be produced in great part by the location of the crown and without stretching the brim.

Where it is desired to produce a hat with a napped edge, or narrow fur border *c* of uniform width upon the upper and under sides

of the brim, it is obvious that such a border may be readily napped upon a perfectly flat body, as shown at *b* in Fig. 2; and that such a border will retain its width upon the edge of the body during any stretching operation which would be required in the process described; as the raising of the crown eccentric to the brim obviates the stretching of the brim in a very great degree, to produce brims of irregular shapes.

A very great advantage results from the napping of the body in the form of a flat circular disk, in the manufacture of hats napped upon the brim only, as such a disk may be readily shrunk to a circular form, and pounced and finished in the flat form at a very slight expense and much more perfectly than in any other shape. The concentric shape of the nap upon the border of a disk, such as is shown in Fig. 3, permits the cutting away of the fur upon the inner edge of the nap during the pouncing operation, to make the fur border of perfectly uniform width. After the flat body is thus pounced and finished it is blocked to form the crown at the desired point, and the brim is then shaped upon a flange of the required pattern.

Heretofore, it has been common in finishing ladies' hats with brims of corrugated and irregular shape, to first shape the brim upon the hat flange and to then finish the same by using irons of different shapes adapted to press the brim into all the indentations of the flange.

The present improvements permit the finishing of the hat brim before it is shaped, and thus enable the operator to exert a great deal more pressure upon the felt and to operate more uniformly upon all portions of the brim; whereas the finishing of the brim upon a flange of indented character renders it impossible for the workman to properly finish the brim in many parts, and the appearance and durability of the felt is correspondingly impaired.

From the above description it will be seen that the napping and finishing of the flat hat body may be performed with equal ease whether the body be formed initially from a conical bat or from a bat formed by depositing the fur fibers on a flat surface.

As the methods of manufacturing napped hats have heretofore required the use of highly skilled labor, it will be seen that our improvements greatly cheapen the manufacture of such bodies by employing the body and the nap bat in a flat form, in which form the workmen and the machines which he is required to use may operate with much greater ease and rapidity.

As the process and product are inseparable, we have claimed both herein; the hat body in all the different stages described herein being entirely new as an article of manufacture.

It is already common in hat manufacture for one party to form the hat bodies, and other parties to size or nap, or finish the same,

and a conical hat body sized into a flat disk is therefore adapted for sale or for use in the manufacture of plain or napped hats, and may be manufactured and sold, independently of the other processes required to finish it. A flat hat body formed by our process from a conical bat is necessarily shrunk in a much greater degree in the middle portion than upon the edge, and is thus readily recognized by those skilled in the art as a new article of manufacture resulting from such a process. In like manner, a flat hat body with a nap fixed in the raw edge of the body is also easily recognized as a new article of manufacture, and also a flat body pounced and finished before the crown is pressed in the same.

The flat hat body claimed herein may be made by cutting a piece of suitable shape from a flat web of felt.

We are aware that it is common to press flat pieces of felt and various woven fabrics in molds to form hats, or foundations upon which ladies hats, may be made, and we do not therefore claim that such step in our process is new.

What we claim as new is partly, the treatment of the hat body in a flat form by pouncing and finishing tools before the body is blocked into any shape whatever, and thus greatly reducing the cost of such operations; the flat disk of felt being rotated about its axis, and the pouncing and finishing tools thus operating in circular lines extended around the whole body. Such an operation is much more effective and much more economical than operating upon a conical felt folded into a flat sectoral shape, as has been common in many processes in the manufacture of hats.

Our invention consists partly, in a particular treatment of the felt (namely, the shrinking of a conical body into a flat disk) whereby the center of the disk is fitted in a peculiar manner for subsequent treatment in the blocking operation; by which the body performs new functions under the blocking operation, and possesses new qualities subsequent thereto. The fibers in the center part of such a felt are in a different condition from those in a piece of felt formed by sizing a flat bat; and, when blocked, are restored in some degree to their original condition and relations in the conical felt. The body when blocked is thus of better quality than when made of a body which has not been previously sized into a flat disk from a conical shape.

We are also aware that hats have been cut in two around the band after blocking, and the crown and brim flattened separately to facilitate printing and embossing upon the same; the parts being subsequently blocked and cemented together at the band to form a hat. Such a process effects no saving in the manufacture, as it necessitates twice blocking the hat. The very object of our invention is to obviate such a double treatment of the hat body, which we effect by making the whole hat body flat and rotating it upon its axis, so

as to nap, or pounce, or finish the body before it is blocked at all.

We hereby disclaim the old methods which we have referred to.

Having thus set forth the invention, what is claimed is—

1. The process herein described for making hats, which consists in first felting the entire hat body by suitable means into a flat circular disk, second, pouncing and finishing the same in lines concentric with the border of the circular disk, and finally blocking the hat to produce the crown, substantially as herein set forth.

2. The process herein described for making hats, which consists in first felting an entire conical hat body by proper manipulation into a flat circular disk, second, pouncing and finishing the same in lines concentric with the border of the circular disk, and finally, blocking the hat to produce the crown, substantially as herein set forth.

3. The process herein described of making napped hats, which consists in first felting a conical hat body by proper manipulation into a flat circular disk, second, napping the same, and thirdly, blocking the hat to produce the crown upon such flat disk, substantially as herein set forth.

4. The process herein described of making napped hats, which consists in first felting an entire conical hat body by proper manipulation into a flat circular disk, second, napping the same, thirdly, stretching the flat disk to give its margin the desired shape, and, fourthly, blocking the hat to produce the crown, substantially as set forth.

5. The process herein described of making napped hats, which consists in first felting an entire conical hat body by proper manipulation into a flat circular disk of felt, second, forming a nap bat to fit the disk, third, sticking and scalding the same to the flat disk of felt, and fourth, blocking the hat to produce the crown in the desired location, substantially as herein set forth.

6. The process herein described of making napped hats which consists in first felting an entire conical hat body by proper manipulation into a flat circular disk of felt, second, forming an annular nap bat to fit the flat disk of felt, third, sticking and scalding the same upon the margin of the flat disk, fourth, pouncing and finishing the flat disk, and fifth, blocking the hat to produce the crown in the desired location, substantially as herein set forth.

7. As a new article of manufacture, a flat circular hat body having the middle portion shrunk in a much greater degree than the edge, as and for the purpose set forth.

8. As a new article of manufacture, a flat circular hat body having the middle portion shrunk in a much greater degree than the edge, and having a nap upon the surface, substantially as herein set forth.

9. As a new article of manufacture, a flat

circular hat body having the middle portion shrunk in a much greater degree than the edge, and having a nap fixed in the raw edge of the body, substantially as herein set forth.

5 10. As a new article of manufacture, a flat circular hat body having the middle portion shrunk in a much greater degree than the edge, having a nap upon the border, and having the remainder of the surface of the body  
10 pounced and finished, substantially as herein set forth.

11. As a new article of manufacture, a flat circular hat body having the middle portion shrunk in a much greater degree than the  
15 edge, having an annular nap fixed in the raw edge of the body, and having the remaining

surface of the body pounced and finished, substantially as herein set forth.

12. As a new article of manufacture, a flat circular hat body having the middle portion  
20 shrunk in a much greater degree than the edge, and having the surface pounced and finished, as herein set forth.

In testimony whereof we have hereunto set our hands in the presence of two subscribing  
25 witnesses.

GEORGE YULE.  
WILLIAM A. BAGLIN.

Witnesses:

THOS. S. CRANE,  
JOSEPH PHELPS.