

(No Model.)

C. VERO.  
PROCESS OF VENEERING HATS.

No. 522,539.

Patented July 3, 1894.

Fig. 2.

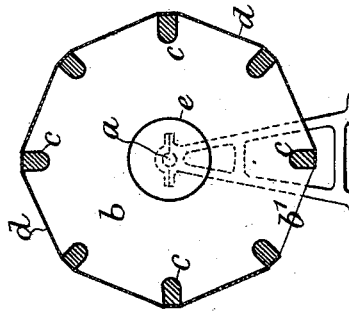
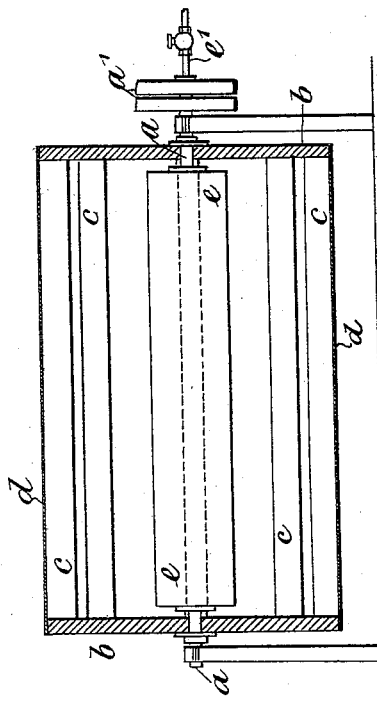


Fig. 1.



Witnesses  
B. W. Miller.  
H. E. Davis

Inventor  
Charles Vero.  
By his Attorneys  
Baldwin Davidson & Mgt.

# UNITED STATES PATENT OFFICE.

CHARLES VERO, OF ATHERSTONE, ENGLAND.

## PROCESS OF VENEERING HATS.

SPECIFICATION forming part of Letters Patent No. 522,539, dated July 3, 1894.

Application filed January 30, 1894. Serial No. 498,489. (No specimens.)

### *To all whom it may concern:*

Be it known that I, CHARLES VERO, manufacturer, a subject of the Queen of Great Britain, residing at Atherstone, in the county of Warwick, England, have invented certain new and useful Improvements in Processes of Veneering Hats, of which the following is a specification.

When making hard and soft felt hats with a surface of fine fur material known as plating or veneering there is much difficulty in preventing the inequalities of the body beneath appearing through the veneer and if no real felting process is employed there is difficulty also in causing the veneer to adhere to the body so firmly as not to be disfigured by pressure and friction in transport or wear. On the other hand in all measures heretofore taken to felt the fur veneer firmly in earlier stages to the body have caused the finer material to penetrate into the substance of the body in place of remaining upon the surface.

I make a hat body in the usual way either from wool or from fur or from a mixture of the two. It is made in the ordinary conical or sugar loaf-form; it is felted and it is stiffened as required with proofing. I submit this hat body to heavy pressure in the machine well known as a "hatter's hydraulic press," which consists of a metal mold of the same conical shape as the hat body and a flexible watertight bag to the interior of which water under pressure can be admitted. The hat body being heated to soften the proof is placed in the mold, the bag is inserted within it and secured by placing the cover on the mold; finally the water under pressure is admitted to the bag. The pressure is applied to the body within the mold in the usual way. I then after removing the hat body from the mold dress the surface of the hat body with glass paper so as to remove all irregularities, coarse hairs, kemps and burrs to obtain as fine a face as possible. I next proceed to plate or veneer the hat body with short or powdered fur. I use the fur of hares, rabbits or other animals cut very short or reduced by grinding in a machine to a short staple.

The plating operation is best conducted by placing the hat body in a cylindrical chamber of wood or metal the walls of which are lined with fustian or such like fabric, of fiber

which will not felt. The cylinder lined with fustian cloth is constructed between two similar disks of wood or metal also lined with fustian and each about four feet in diameter; these disks form ends to the cylinder, they are fixed on a horizontal axis at about five feet apart. The cloth lining is supported between the disks by wooden bars extending from disk to disk parallel to the axis. These bars are covered and padded with fustian.

The hat bodies are prepared each with a string across the base to prevent them entering one into the other during their revolving. In this state the bodies about twelve at a time, are placed in the cylinder together with a sufficient quantity of short or powdered fur. There is a fustian door about one foot deep across from disk to disk also lined by which the hat bodies are put in and taken out from the cylinder. The cylinder is turned slowly by manual labor or by means of a driving belt passing around a pulley on its axis. A speed of twenty revolutions per minute will be found suitable and in about fifteen minutes the plating operation will be complete. Around the axis and within the chamber I provide a casing about twelve inches in diameter which is also covered with fustian. To this casing I can admit steam as the plating operation proceeds better and quicker when the hat bodies and the short or powdered fur are warm; but the heat employed must not be sufficient to soften the proofing and render the hat bodies so limp as to cause them to wrinkle or to lose their shape.

In order to keep the hat bodies for semi-hard or soft hats in form while in the plating cylinder it is advisable that they should be stretched over and fastened on light frames of wire work or strong proofed bodies.

The rotation in the cylinder causes the plating to be even over the surface of the bodies.

At the end of the plating operation the hat bodies are removed from the plating cylinder and the superfluous short fur is shaken off, but a sufficient quantity is firmly attached to form a good veneer. In order to felt this veneer to the hat body without however causing it to penetrate beneath the surface I make use of the apparatus well known to hatters as the "cup and cone hardener," it consists of a hollow copper cone of the form of the hat

body, it is finely perforated all over and steam is admitted to its interior; it is covered with a felt jacket and around this a cloth is wrapped. Over the cone thus padded on the surface the hat body with the veneer upon it is placed. Another metal cone as a cover descends on and over the hat body but with a soft cloth between the two. The top cone does not fit tightly and it receives from the mechanism a short but quick "jigging" movement. After treatment in this well known machine for about one or two minutes the veneer will be felted and properly fixed on the body. By repeating the operations the hat body may be doubly or trebly veneered or plated if desired. The bodies are then piled in piles of two or three dozen and placed in a steam chest and subjected to steam under pressure for one or two hours. In addition to veneering soft hats I further harden them on a flat hardener as is well understood. I also sometimes give them one or more rounds by hand or in a planking machine.

The finishing operations are of the ordinary description.

The annexed drawings show the plating cylinder.

Figure 1 is a longitudinal section and Fig. 2 is a transverse section.

*a* is the axis, *a'* a belt pulley upon it.

*b b* are the disks fixed upon the axis.

*b'* is a door.

*c c* are the padded bars parallel to the axis connecting the disks.

*d d* are the walls of the cylinder covered with fustian or like fabric.

*e* is the steam casing around the axis covered with fustian and *e'* is a pipe by which steam is supplied to it.

What I claim is—

1. The process of veneering hard or soft felt hat bodies with short or powdered fur which consists in consolidating by pressure the felted hat body while it retains its con-

cal form, then cutting the face of the hat body to a fine surface, then covering or plating the hat body with finely divided fur and afterward felting the hat body and the fur together in the presence of steam substantially as described.

2. The process of veneering hard or soft felt hat bodies with short or powdered fur which consists in consolidating the felted hat body by pressure while it retains its conical form, then cutting the face of the hat body to a fine surface, then rolling the hat bodies in powdered fur while avoiding contact with any hard surface, and afterward firmly felting the hat body and the fur together substantially as described.

3. The process of veneering hard or soft felt hat bodies with short or powdered fur which consists in consolidating the felted hat body by pressure while it retains its conical form, then cutting the face of the hat body to a fine surface, then covering or plating the hat body with finely divided fur, then felting the hat body and the fur together, then again covering or plating the hat body with fur and finally again felting the hat body and the fur together substantially as described.

4. The process of veneering hard or soft felt hat bodies, with short or powdered fur which consists in consolidating the felted hat body while it retains its conical form, then cutting the face of the hat body to a fine surface, then covering or plating the hat body with finely divided fur, then felting the hat body and the fur together, then piling the hat bodies one on another and steaming them, substantially as described.

CHARLES VERO.

Witnesses:

HUME C. PINSENT,  
*Birmingham, Notary Public.*

JAMES STOBIE,  
*63 Murdock Road, Handsworth, Birmingham.*