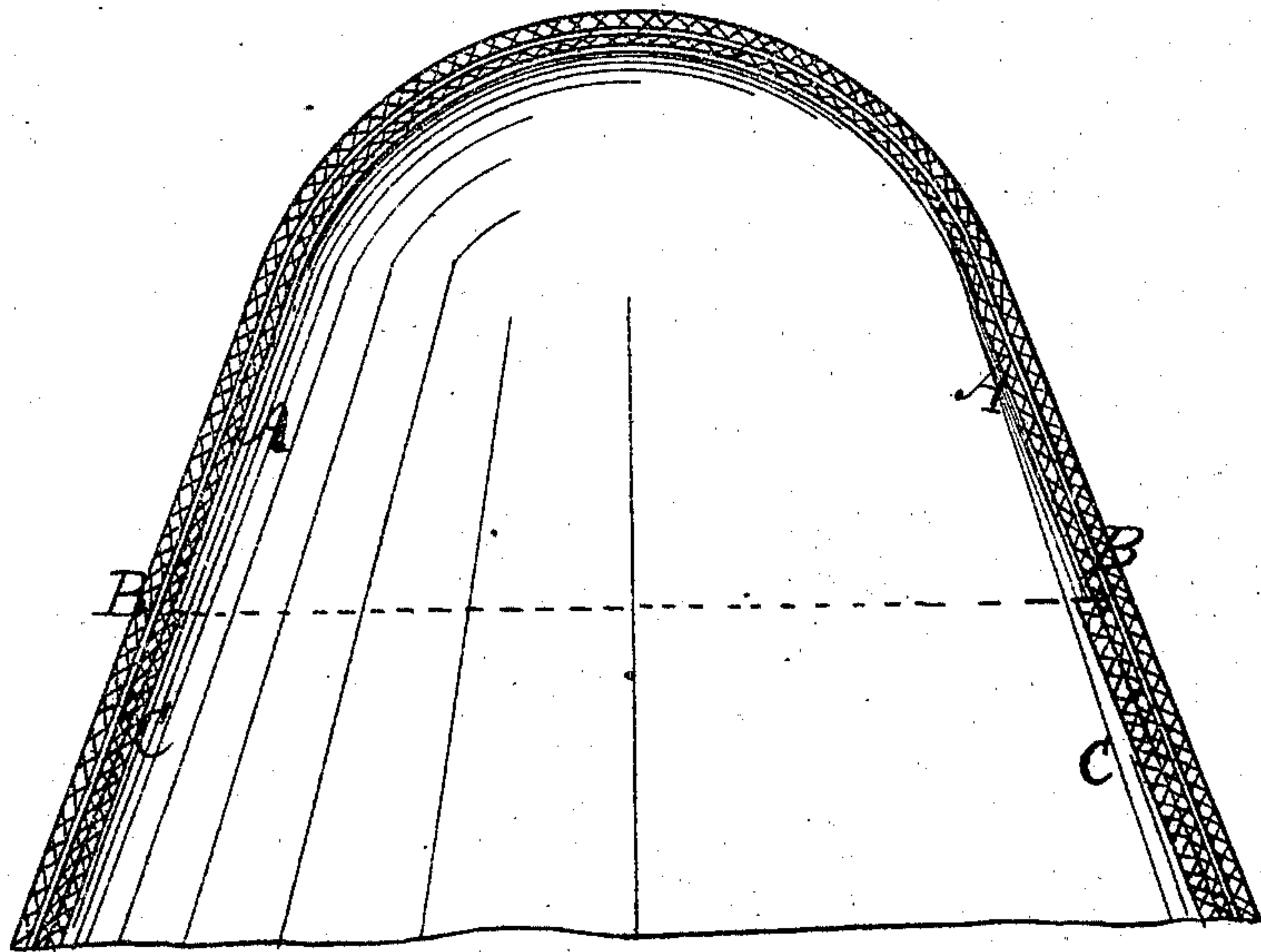


R. D. Hine.

Facing Wool Hat-Bodies with Fur.

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Patented May 19, 1868.



Witnesses:

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RALPH D. HINE, OF MATTEAWAN, NEW YORK.

Letters Patent No. 78,090, dated May 19, 1868.

IMPROVEMENT IN PROCESS OF FACING WOOL HAT-BODIES WITH FUR.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, RALPH D. HINE, of Matteawan, in the county of Dutchess, and State of New York, have invented a new and improved Method of Facing Wool Hat-Bodies with Fur; and I do hereby declare that the following is a full and exact description thereof, which will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

The figure represents a section of a complete hat-body, with the fur covering upon the outer or face-side, at B, and the under brim or fur facing at C.

Similar letters of reference indicate like parts in the drawings.

My invention has for its object to improve the method of facing wool hat-bodies with fur, in such a manner that while all the durability and beauty of a soft felted hat, made entirely of fur, are produced, the cost of manufacture is very materially lessened; and it consists in covering the wool hat-body, taken directly from the carding-machine, with fur upon its outer surface and under brim, before said wool body has been basined, planked, or felted. The body is then placed between cloths, and laid under a flat board or jigger, or any other suitable device in which a short, rapid, vibratory motion is combined with a slight pressure. This operation unites the fur covering to the surface of the wool body, without shrinking or felting the latter, but, on the contrary, enlarging it nearly one-third. The body is then shrunk into the proper size, in the usual manner, by basining, planking, or fulling, and when completed, a solid surface of fur is formed upon a wool body, equal in every respect to the hat-bodies composed entirely of felted fur. The fur surface is then pounced with pumice-stone, sand, or emery—a process necessary to complete a soft hat.

In felted hats, as usually constructed, the fur is mixed or mingled with wool-flock, and both blown together to form a body. By this method it will be seen that the fur and wool-flock are so completely mixed together that the surface of the body is composed of both fur and wool, and therefore incapable of being finished with a solid fur surface.

Felted hats have also been formed by blowing a quantity of fine fur or stock upon the cone, to form the under brim; then a portion of coarse fur or stock blown over the entire surface of the cone, covering the under brim; and lastly, a portion of fine fur or stock blown over the entire surface of the coarse fur or stock, and the whole hardened together in the usual manner.

By this process fur or stock only is blown to form the hat-body, as wool cannot be applied by the operation of blowing, neither can fur be blown upon the wool body, if first laid or spread upon the cone, as the wool body so obstructs the perforations in the cone as to render it incapable of holding the fur upon the surface of the wool.

This method of forming a body, it will therefore be seen, results in the formation of a solid fur hat, and not a wool body covered with a coating of fur.

Stiff hats have been manufactured, having the under side of their brim faced with long fur, but the body of the hat was first shrunk or sized to the required dimensions, and the fur, after having been bowed into a bat, laid upon the under side of the body, to form the under brim, and fastened thereto by striking or pounding the same with a brush dipped in hot water. This process is called napping, and does not, when completed, form a solid fur surface, but a nap only, irregularly distributed upon the under brim. It would, of course, be impossible to pounce this nap, as such operation would entirely destroy it.

It will be observed that this method relates only to the construction of stiff hats, and could not be applied to a soft felted hat, for the reason that, in order to produce the close, even surface of fur required, the hat must be pounced down, and the fur reduced to such an extent in length, that the body of fur left would not be sufficient to form an even, solid surface.

In the manufacture of stiff hats, another process has been employed, in which the body or bat of wool was made in two parts by bowing. These parts or halves were united together at their edges by felting, and together formed the cone or body, which was basined or partially felted in the ordinary manner. A fur covering was

then formed by the same process, and also basined. The basined fur covering was then placed over the basined wool with a brush and water, as hereinbefore described, and the basining or planking proceeded with until both were felted together.

This process bears no relation to my invention, as it is applicable to stiff or brush hats only, and not to soft hats, as known to the trade. It could not be used for the latter, as the fur, when put on the wool body, after said body has been basined, planked, or felted, will not work solid, but in irregularities and wrinkles.

In stiff hats the irregularities or wrinkles are not taken into consideration, as the shellac or other agents used in stiffening fill the interstices between the wrinkles. Moreover, the subsequent covering of nap screens them from observation. The presence of wrinkles or "grain," in soft hats, would render them valueless and unsalable.

By basining or planking the wool and fur bodies separately, or before being united, they are partially felted, and therefore the subsequent process of basining or planking together to complete the hat-body, cannot form a perfect unity between the two. By actual experiment, the fur has been found to separate itself from the wool, and, as a consequence, entirely ruin the hat. It is obvious, therefore, that a soft hat cannot be made by this process.

My invention relates only to improvements upon the method of manufacturing soft hats, and although a covering of fur placed upon wool, both having been previously basined or planked, has been used in the manufacture of stiff or brush hats, I have shown that it cannot be used in the manufacture of soft hats.

My invention, then, consists in applying the bat of fur to the bat of wool, taken directly from the carding-machine, before either has been shrunk, basined, planked, or felted, and after causing them to adhere together by slight pressure, shrinking and felting them down to the required dimensions to form a solid, even fur surface upon the outer side and under brim.

By putting the fur upon the hat-body before shrinking, basining, planking, or felting, the fur adheres more firmly to the wool body, and, when felted down, makes a solid, perfect felt, with the fur surface free from grain or wrinkles.

The cost of manufacture is so far reduced by my process as to supersede, in the trade, the manufacture of hats composed entirely of fur.

I do not claim broadly the covering of a wool body with a body of fur, but having thus described my invention,

What I do claim as new, and desire to secure by Letters Patent, is—

In the manufacture of soft hats, applying a bat of fur to a bat of wool, taken directly from the carding-machine, before either has been shrunk, basined, planked, or felted, and after causing them to adhere together by slight pressure, shrinking and felting them down to the required dimensions to form a solid, even fur surface upon the outer side and under brim, substantially as herein described.

R. D. HINE.

Witnesses:

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