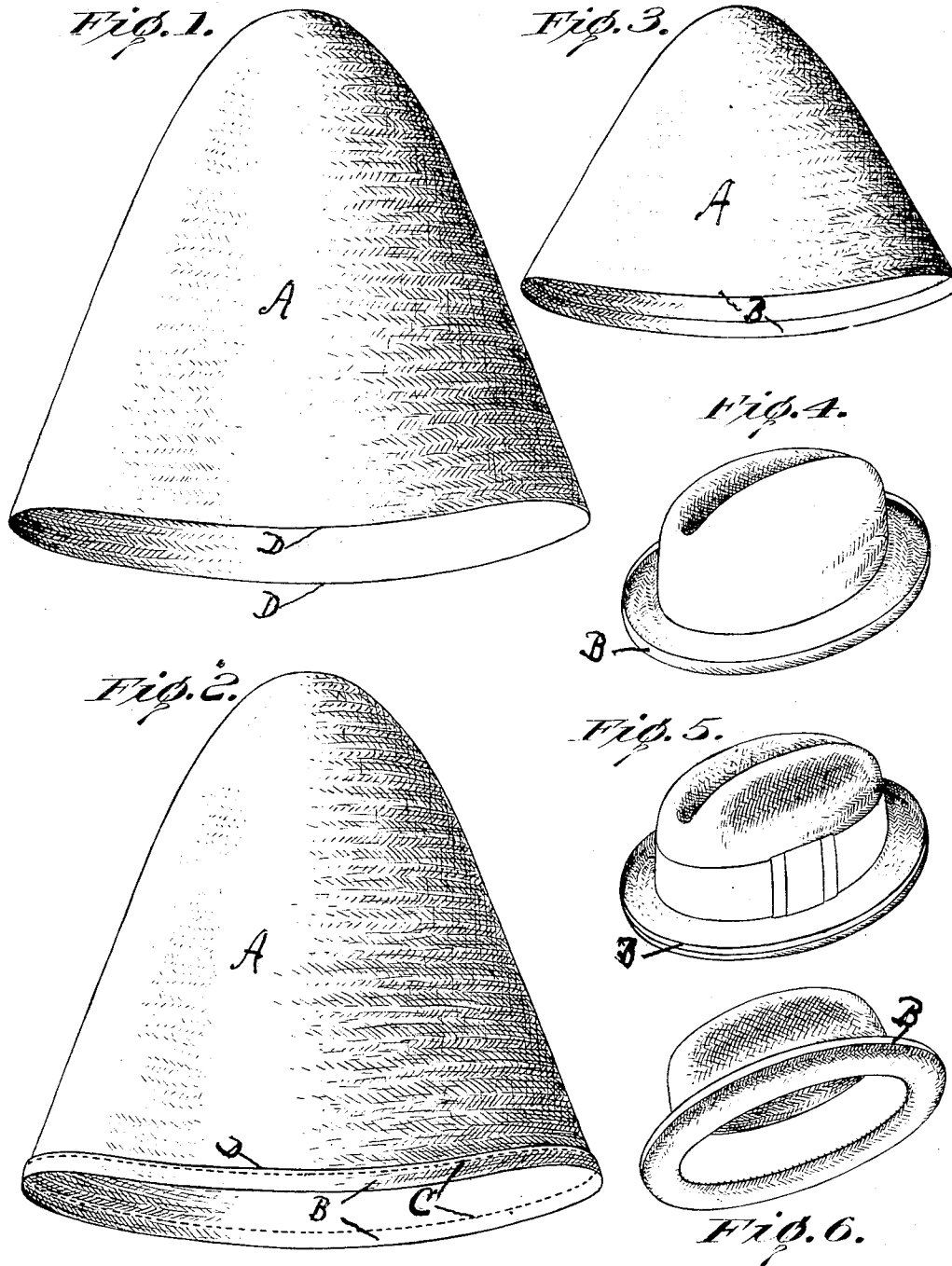


J. CAVANAGH.
HAT.
APPLICATION FILED FEB. 1, 1912.

1,053,973.

Patented Feb. 25, 1913.



Witnesses:
H. A. Hickman
Frank C. Egan

John Cavanagh Inventor
By his Attorney
Eugene P. Ryan & Associates

UNITED STATES PATENT OFFICE.

JOHN CAVANAGH, OF NORWALK, CONNECTICUT.

HAT.

1,053,973.

Specification of Letters Patent.

Patented Feb. 25, 1913.

Application filed February 1, 1912. Serial No. 674,809.

To all whom it may concern:

Be it known that I, JOHN CAVANAGH, a citizen of the United States of America, residing at Norwalk, in the county of Fairfield and State of Connecticut, have invented new and useful Improvements in Hats, of which the following is a description.

This invention relates to both soft and stiff felt hats and other articles which require a finished edge, which are made by felting fur or fiber; and has for its objects: 1st. To make a finished edge on the brim of a hat, or other article, which will be a superior substitute for the edge made by binding with a narrow strip of silk or other fiber. 2nd. To eliminate the stitching now required when the edge is turned after the sizing is complete, which are liable to come out or break, and thus destroy the effect; and in place thereof, to make a folded felted edge which holds the brim in better condition, giving greatly improved wearing qualities. 3rd. To make an improved felt hat or other article.

In making stiff Derby felt hats, for example, a cut edge shows the shellac, and shows white. I eliminate the edge, by felting it into the brim, both in stiff hats and in soft hats.

My invention may be usefully illustrated by the drawings made part of this specification, in which—

Figure 1 shows a hat body from the cone after it is given several rounds in the sizing cloth, to give it stability sufficient to handle and to hold a turn, and may be about 18x20 inches in size. Fig. 2 is the same hat body after the edge has been turned over and one row of stitches is run in to hold the edge folded to the body, and is not cut parallel to the line of stitches, though it may be. Fig. 3 shows the same hat body sized to the proportions required for a finished hat, whereby the folded edge is felted into the brim and becomes part of the body, whether the stitches have been drawn out before the sizing and felting is complete, or remain in the edge and become part of the felt. Fig. 4 is the same hat body with the edge folded over and felted into the brim, but is, in addition, sized, blocked, and flanged, ready for trimming by applying the hat band, sweat band, lining, tip, labels, and the like, or any of them. Figs. 5 and 6 are my improved hat finished and trimmed ready for the market.

A is the hat body.

B is the fold at the edge.

C is a row of stitches holding the fold flat against the hat body, in order that the fold may be felted into the hat body by further sizing and felting.

D is the natural edge, or the cut edge of the hat body, which partially or wholly disappears in the body of the hat by the time the sizing and further felting are complete; and in good factory practice this edge requires no cutting after the stitches are run in to bring the edge of the hat body into parallelism with the line of stitches; but this edge D may be cut parallel with the line of the stitches if the natural edge is not substantially parallel with the stitches without cutting.

A hat body is formed upon a copper cone perforated with small holes, within which is an air exhaust pipe, the whole located in a closed chamber with glass windows, into which, but outside of the cone, the hatters' fur or wool, as the case may be, is blown in a cloud on a current of air, in which the copper cone slowly revolves. The air is exhausted from within the cone, thus depositing the fur or fiber on the outside of the cone in a thin sheet, evenly, fiber matting upon fiber, until the requisite thickness of the hat body is obtained. It is then about thirty inches long and cone-shaped, and is removed from the copper cone for further treatment.

Hat bodies begin as a felt cone direct from the copper cone, about thirty inches long, the walls of which are very thin, but the fur or fiber matted together. The sizing consists in taking the hat body from the hot water bath onto the plank, one or several hat bodies packed flat together and then rolling them up in a cloth, and rolling them back and forth, with pounding upon the plank until the fibers creep together and the fabric thickens and shrinks, until it reaches the size of the finished hats, but still in the shape of a cone, as shown in Fig. 3.

The hat body from the cone is delicate and may be easily pulled apart, and thus destroyed; but that it may be handled without injury, it is first given several rounds in the sizing cloth, giving it stability sufficient to hold a turn, and is then in the condition and of the size shown in Fig. 1. The edge is then turned over and one row of stitches is run in to hold the edge folded on the body as in Fig. 2. The edge may then be cut with

reference to the line of stitches, and is then returned to the sizing plank, where the hat body is sized in the usual way to the proportions required; and in this sizing, the fold is firmly felted into the brim and becomes integral therewith through and through, no longer showing, except obscurely, the original edge of the hat body, but only a thickened edge, having all the qualities of a fold. Before the sizing is complete, the stitches may or may not be pulled out and the sizing afterward continued, obliterating the impressions in the edge where the stitches were, or if the stitches are left in, they become part of the felt.

Hitherto, it has never been thought possible that a hat could be formed with the edge turned over and felted in to the brim, or that any felt fabric could be felted to another felt fabric; but I have discovered that by making the fold in the early stages of the sizing, this may be done, and that by so doing, a turned-edge hat may be made, the fold integral with the brim as though made in one felting operation, and yet showing the turned edge and obscuring the inner edge. In all hats hitherto made, the hats are sized first and then the edge formed by first folding and then running several rows of stitches around the edge, the hat being completely sized before the edge is put on.

My invention is also applicable to stiff hats, where the turned edge takes the place of the binding, and forms a clean, turned

edge with a desirable advantage over the regular edge; and in stiff hats, the cut edge always shows the stiffening, which appears as a white streak, since it must be cut after the stiffening has been put in the body.

It is well known that felting cannot be carried on without limit. A thinner fabric of larger surface than the finished product may be made in any of the well known ways, in which the raw material may be evenly distributed over that surface. Then, if of sufficient body to hold the fold, by stitches or otherwise, the fold may be made and the sizing resumed; but the fold must be made before the sizing is complete, or else the fold will not be felted into the body of the fabric as called for by my invention. But the fold may be made at any early stage in the sizing, wherever more felting and sizing is required sufficient to felt the fold and the body together to the desired extent.

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

A felt hat having a turned-edge which is felted into the body of the hat.

In witness whereof, I have hereunto set my hand and affixed my seal, at the city, county and State of New York, this 26th day of January, 1912.

JOHN CAVANAGH. [L. s.]

In presence of—

ISABEL R. RICHARDS,
H. N. DIKEMAN.