

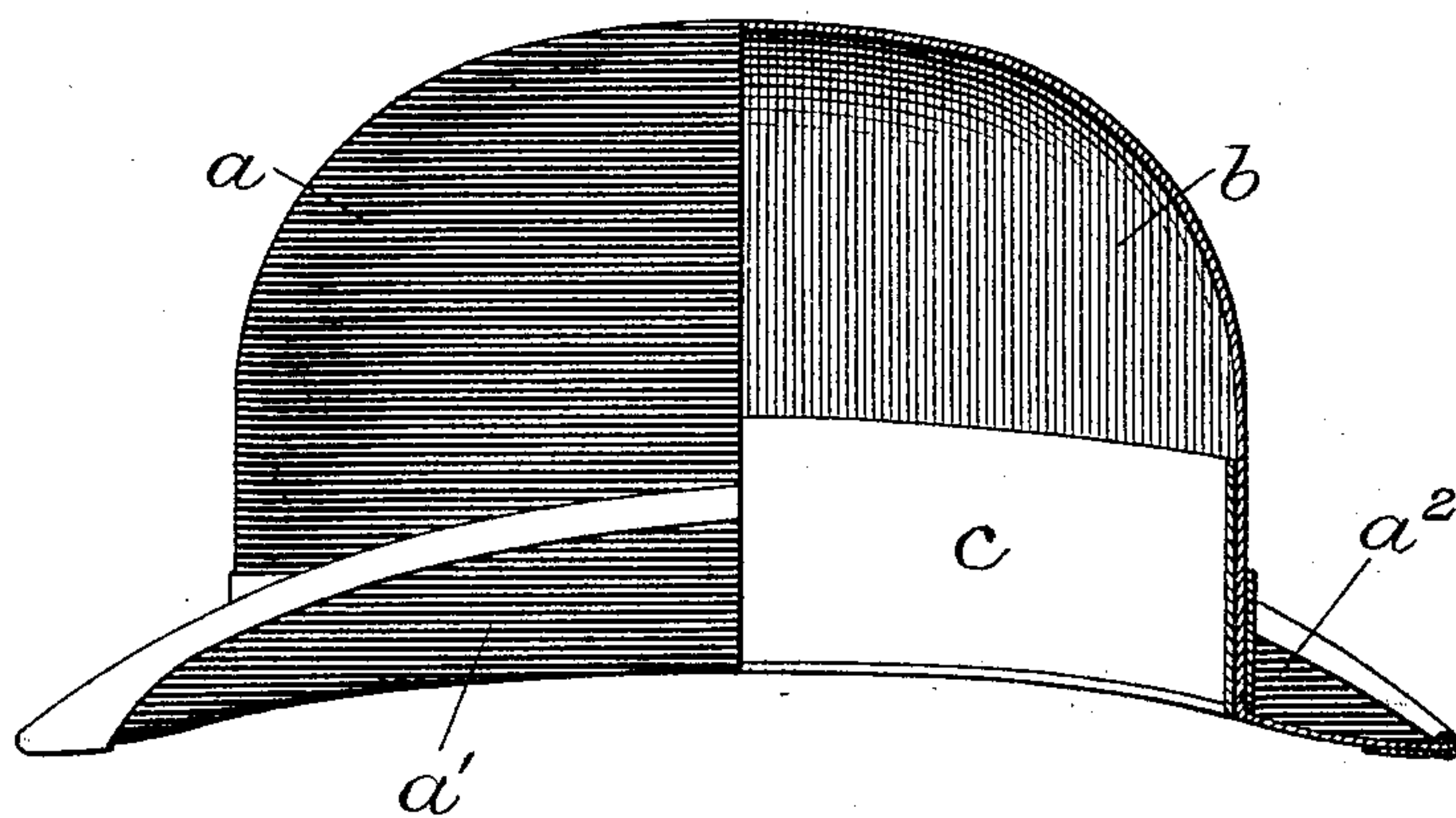
No. 615,944.

Patented Dec. 13, 1898.

W. D. ZERFFI & F. G. RIEDEL.  
FUR OR WOOL HAT.

(Application filed Nov. 13, 1897.)

(No Model.)



Attest:

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# UNITED STATES PATENT OFFICE.

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## FUR OR WOOL HAT.

SPECIFICATION forming part of Letters Patent No. 615,944, dated December 13, 1898.

Application filed November 13, 1897. Serial No. 658,477. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM DOUGLAS ZERFFI and FREDERICK GEORGE RIEDEL, subjects of the Queen of Great Britain, residing at Stockport, in the county of Chester, England, have invented certain new and useful Improvements in the Manufacture of Fur or Wool Hats, of which the following is a full, clear, and exact description.

The invention relates to the manufacture of gentlemen's fur or wool hats with a view to producing different colors on different parts thereof. Thus we propose to make the inside of a different color from the outside, whereby we obviate the necessity for a lining, and thereby make the hat lighter in weight than a lined hat and more attractive in appearance than the ordinary unlined hat. We obtain these results in the following manner, the details of which may, however, be varied according to the effect desired to be produced.

In order to obtain a light-colored inside to a black felt hat, we take the "proofed" hat-bodies that have already been dyed black with any of the ordinary anilin-blacks and treat the part required to be of a lighter shade than the others in the following manner: We make a caustic solution, which may be composed of the following chemicals and materials or their equivalents in about the proportions stated: two pounds of tin salt, one pound acetic acid, and one pound acetate-of-soda crystals. To the above we add the whole of the following solution, composed of four pounds acetic acid, eighteen pounds water, and four pounds wheat-starch. The whole of the above are well mixed together and form a paste with which the parts of the hat which are required to be of a lighter shade than the others are brushed over. After this the hat-bodies are subjected to steam in a steaming-chest for a period of about twenty-five to thirty minutes. They are then washed out in cold water. The parts of the hat-bodies that have been so treated are now of a clear light shade, while the other parts retain their original color, and the hat-bodies thus treated are now ready for blocking and finishing in the ordinary way.

In order to produce a variety of shades in

the insides of hats, we add to the first dye-bath dyestuffs (such as alizarins, &c.) which are not affected to the same extent by the caustic solution.

We would here remark that we do not confine ourselves to the precise details herein given for imparting two different colors or shades to hat-bodies by the process of dyeing, as such may be varied without departing from the peculiar character of our invention.

In the accompanying drawing, illustrating our invention, we have shown in conventional form a derby hat half in elevation and half in section.

In the drawing the exterior of the crown (marked *a*) and the under and upper surfaces of the brim (marked, respectively, *a'* and *a''*) are of the same color—say black—while the inside of the crown (marked *b*) is of a different color—for example, light brown.

*c* is the sweatband.

Having fully described our invention, what we desire to claim and secure by Letters Patent is—

1. The improvements in the manufacture of gentlemen's fur and wool hats consisting in first dyeing and proofing a hat-body in the usual way, say black, second, brushing over those parts of the hat-body which are required to be of a lighter shade with a caustic paste, third, subjecting the hat-body so treated to steam, fourth, washing it out in cold water, fifth, blocking and finishing in the ordinary way, substantially as herein set forth.

2. The improvements in the manufacture of gentlemen's fur and wool hats consisting in first dyeing a hat-body in a bath containing dyestuffs (such as alizarins), second, proofing the same in the ordinary way, third, brushing over those parts of the hat-body which are required to be of a lighter shade with a caustic paste, fourth, subjecting the hat-body so treated to steam, fifth, washing it out in cold water, sixth, blocking and finishing in the ordinary way, substantially as herein set forth.

3. The improvements in the manufacture of gentlemen's fur and wool hats consisting in first dyeing and proofing a hat-body in the usual way, second, brushing over those parts



of the hat-body which are required to be of a lighter shade with a caustic solution consisting of two pounds of tin salt, one pound acetic acid, one pound acetate-of-soda crystals, to  
5 which is added the whole of the following solution, composed of four pounds acetic acid, eighteen pounds water and four pounds wheat-starch, third, subjecting the hat-body so treated to steam, fourth, washing it out in  
10 cold water, fifth, blocking and finishing in

the ordinary way, substantially as herein set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

W. D. ZERFFI.  
F. G. RIEDEL.

Witnesses:

WM. JAS. STEPHENS,  
FREDK. WHATMOUGH.