

UNITED STATES PATENT OFFICE.

HAWLEY PARTRICK, OF SOUTH NORWALK, CONNECTICUT, ASSIGNOR OF
ONE-HALF HIS RIGHT TO ALDEN SOLMANS, OF SAME PLACE.

IMPROVEMENT IN STIFFENING HATS.

Specification forming part of Letters Patent No. **219,303**, dated September 2, 1879; application filed
July 25, 1879.

To all whom it may concern:

Be it known that I, HAWLEY PARTRICK, of South Norwalk, in the county of Fairfield and State of Connecticut, have invented a certain new and useful Improvement in Stiffening Hats, of which the following is a specification.

In the manufacture of hats which are stiffened with an alkaline solution of shellac known as "water-stiffening," it has been necessary to treat the hat, after being stiffened and dried, and before blocking it, with a solution of vitriol for the purpose of what is known as "setting" the stiffening. The hat is then immersed in water for several hours, in order to wash out the vitriol, which would otherwise injure the hat.

The object of my invention is to provide a stiffening which shall be self-setting, thereby dispensing with the ordinary operation of setting by a vitriol bath; and to this end the invention consists in a stiffening compound composed of an alkaline solution of shellac and ether.

In carrying out my invention any water stiffening composed of an alkaline solution of shellac may be used.

A stiffening which I have used with good results is composed as follows: I take pulverized borax, say, about eight (8) pounds, and dissolve in boiling water. While boiling I add about sixty (60) pounds of gum-shellac and about six (6) pounds of rosin, and afterward allow the compound to boil gently for about six (6) hours. I then add about fifteen (15) gallons of water, to reduce to the proper

density for use. This compound is preferably mixed in a vat or kettle heated by a steam-coil. While the mixture is still hot, but not quite up to the boiling temperature, I add about one and one-half ($1\frac{1}{2}$) pints of sulphuric ether of the commercial strength, the ether being poured in while the compound is very slowly stirred, the steam being gradually shut off from the coil as the mixing proceeds to prevent the compound from boiling over. After the ether has been all poured in, the compound is allowed to simmer for about half an hour, and after cooling is ready for use. The hats, after this stiffening has been applied, may be taken to the drying-room, and after being dried may be blocked; or they may, if desirable, be blocked immediately after stiffening.

By my invention a considerable saving of time and labor is effected, and the use of vitriol or sulphuric acid, which is more or less injurious to the hats, is dispensed with.

Although I prefer to use sulphuric ether, nitric or other ether might be used as a substitute therefor.

What I claim as my invention, and desire to secure by Letters Patent, is—

A hat-stiffening compound composed of an alkaline solution of shellac and ether, substantially as specified.

HAWLEY PARTRICK.

Witnesses:

J. D. HUNTINGTON,
HENRY PHILIPSON.