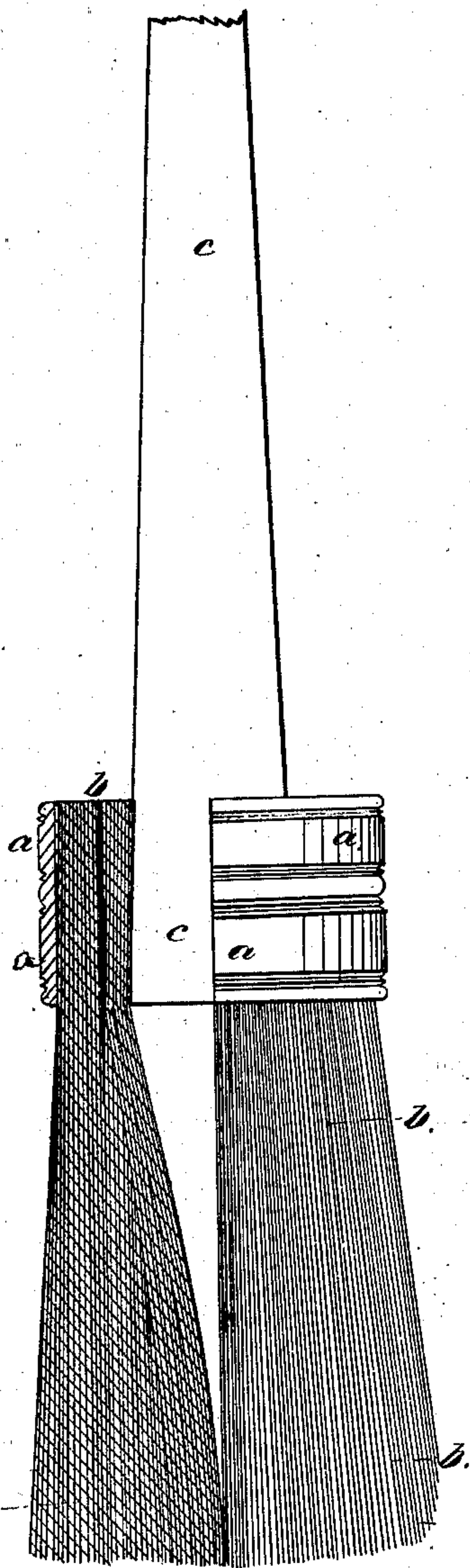


*F. McLaughlin,*

*Brush,*

*N<sup>o</sup> 69,008.*

*Patented Sept. 17, 1867.*



*Witnesses.*

*M. W. Frothingham*

*L. H. Latimer*

*Inventor:*

*Francis M. Laughlin*

*By his Atty*

*Crosby Halsted & Gould*



# United States Patent Office.

FRANCIS McLAUGHLIN, OF BOSTON, MASSACHUSETTS.

*Letters Patent No. 69,008, dated September 17, 1867.*

## IMPROVED BRUSH.

*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, FRANCIS McLAUGHLIN, of Boston, in the county of Suffolk, and State of Massachusetts, have invented an improvement in Brushes; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention, sufficient to enable those skilled in the art to practise it.

This invention relates to that variety of brushes in which the bristles and handle are confined together by a ferrule, or by a binding-wire or string, a familiar example of such a brush being a house-painter's common brush for paints and varnishes.

Metal, when used either as a ferrule or ring, or as a binding-wire, is objectionable, because of its tendency to corrode, and when a wooden handle is used in connection therewith there is no elasticity in the binding metal to follow the shrinkage of the wooden handle and to keep the bristles closely confined to such a handle. When string or cord is used to bind the bristles to the handle, moisture causes the string or cord to shrink, often to such extent as to break the cord asunder, and when a wooden handle is used, (and the use of wood for handles is more common than the use of any other substance in most bristle brushes, and for most purposes is the preferable material,) the same moisture which causes shrinkage of the binding-string or cord causes the handle to swell, thus increasing the liability of the binding to burst or break.

Now, my invention consists in making use of vulcanized rubber, or compounds with rubber vulcanized, in the form of a ring or ferrule, for binding and confining the bristles of the brush between the ring or ferrule and the brush-handle. The process of vulcanization of the rubber or the rubber compound should be carried to such an extent that the ring or ferrule, while so hard as to come under the classification of "hard rubber," will not have all its elasticity destroyed, it being desirable to have the ferrule expand or stretch a little upon the driving of the wedge-like handle into and through the centre of the body of the bristles, so that if the handle shrinks, the ferrule, by virtue of its slight elastic property, will follow such shrinkage, and will continue to confine the bristles as closely as before the shrinkage.

The ferrule when made of the vulcanized material is not affected by any thermal changes to which in use bristle brushes are ever exposed, nor do hydrometric changes affect such ferrules in the least, nor are they oxidizable. Round brushes and brushes of a considerable degree of flatness may be thus made, and the tops of the bristles are scared with a hot iron, as usual, to prevent them from working downward in the ferrule.

The drawing shows partly in section and partly in elevation a brush embodying my invention. The ferrule, which is marked *a*, is made plain on its surface usually, and is of rubber, or of rubber compounds vulcanized to such an extent as to be hard and yet preserve a slight degree of elasticity. *b* represents the bristles, and *c* the wooden handle, which, being of wedge-like form, is driven through the centre of the mass of bristles inserted in the ferrule till the butt of the wedge is about on a line with the lower edge of the ferrule.

I claim a brush, made with a ferrule of vulcanized rubber or its compounds, substantially as described.

FRANCIS McLAUGHLIN.

Witnesses:

J. B. CROSBY,

L. H. LATIMER.