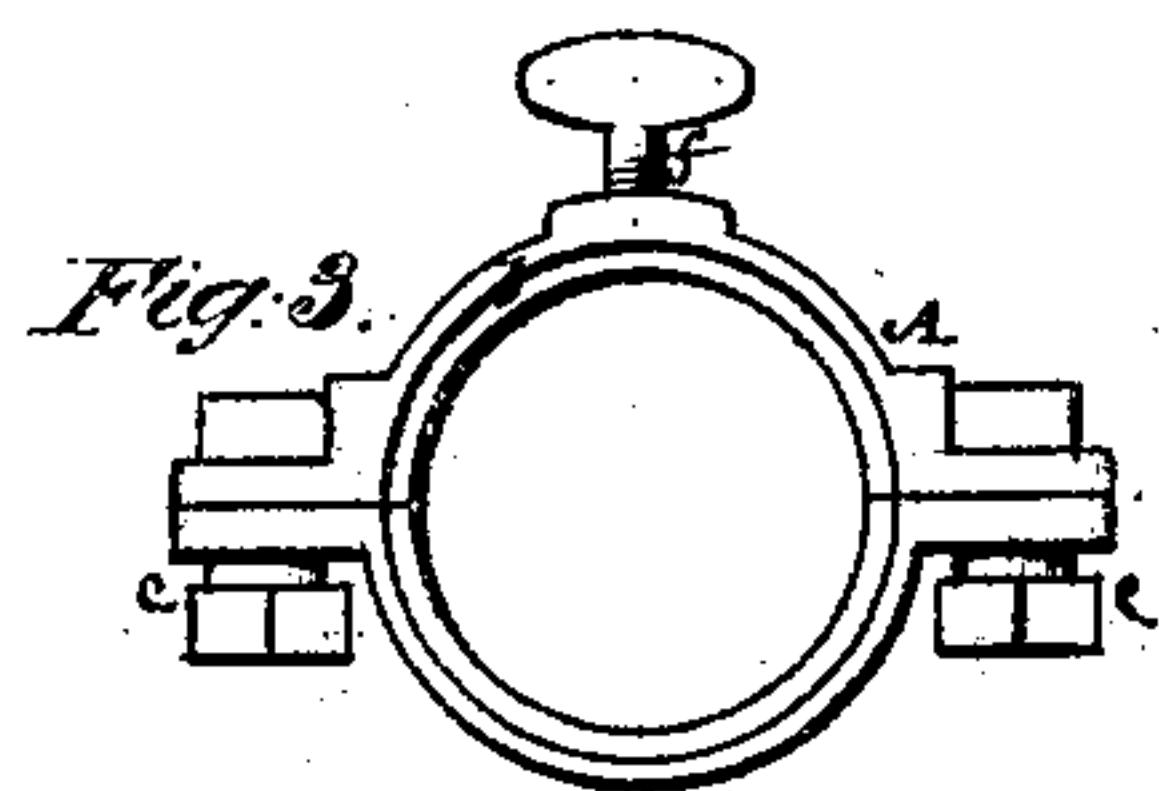
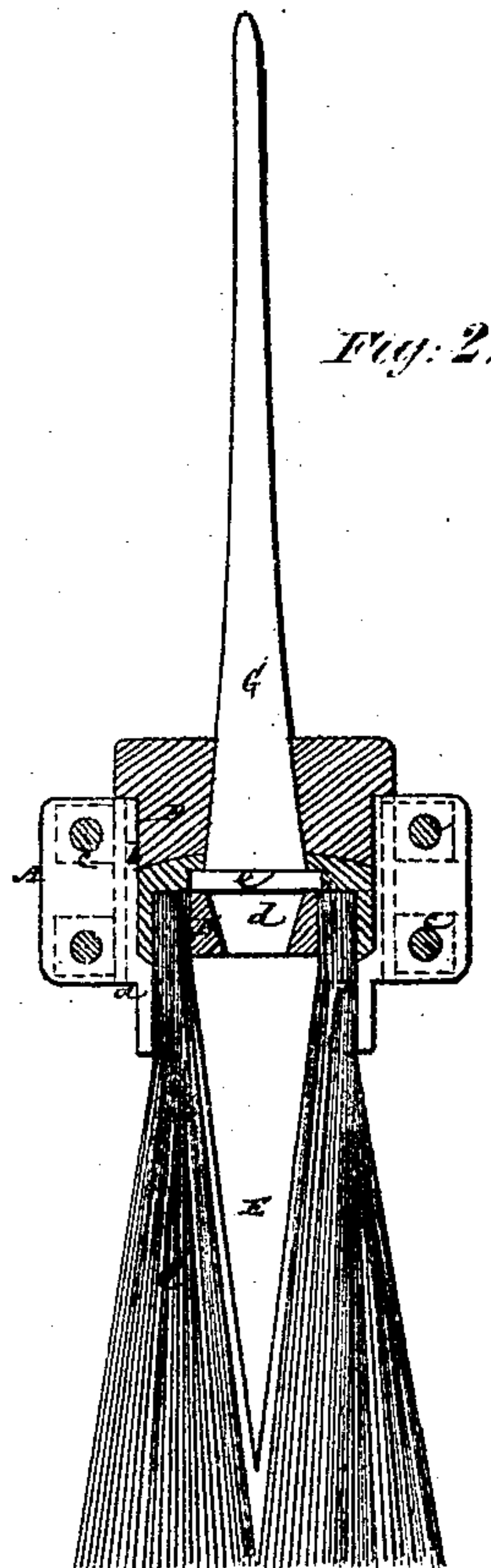
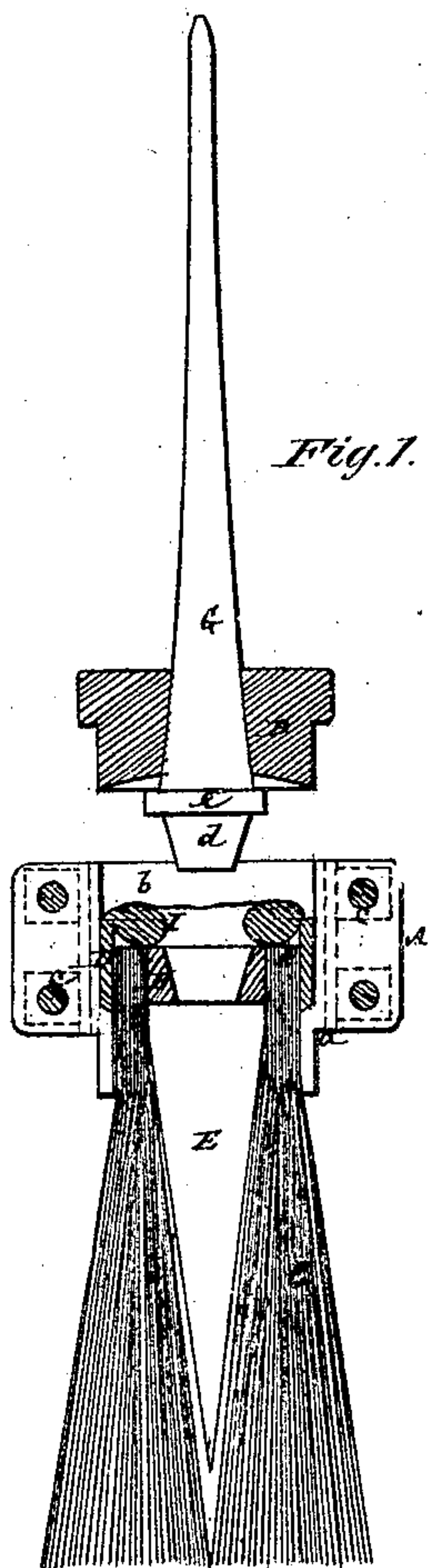


C. F. Russet,

Manf Brushes.

No. 105,131.

Patented July 5. 1870.



Witnesses
Fred. Haynes
R. Chabau

Charles F. Russet

United States Patent Office.

CHARLES F. RUSSET, OF BROOKLYN, NEW YORK.

Letters Patent No. 105,131, dated July 5, 1870.

IMPROVED DEVICE FOR MANUFACTURING BRUSHES.

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, CHARLES F. RUSSET, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in the Manufacture of Brushes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing forming part of this specification, and in which—

Figures 1 and 2 represent vertical sections of apparatus or devices for manufacturing brushes in accordance with my improvement, and showing a brush at different stages of the work, as in the process of being made.

Figure 3 is a plan of a divided box used in the manufacture of the brush.

Similar letters of reference indicate corresponding parts.

My improvement relates to brushes, in which the bristles at the stock or handle end of the brush are imbedded or held in India rubber, gutta-percha, or any other suitable material or composition capable of assuming a plastic state, and of being afterward hardened, using, for the purpose of holding the brush while the inner ends of the bristles are being secured, a clamp or box.

The improvement is here shown as applied to the manufacture of a dust or painter's brush, but may, by a suitable change in the form of the devices, and other immaterial changes, so far as the principle of invention is concerned, be applied to the manufacture of other kinds of brushes; and

The invention consists in a novel process of manufacturing brushes, the bristles of which are secured as hereinbefore referred to, including a novel combination of means for the purpose, whereby the bristles and handle are held by a band or cap common to both, and composed of a material or composition of the description hereinbefore specified for holding the bristles.

Referring to the accompanying drawing—

To make a dust or painter's brush according to the invention, I use a vertically-divided clamp or box, A, which may be constructed with a shoulder, *a*, on the outside of its body, to facilitate its entry and support within and on the bed of any suitable press, and with an enlarged interior upper portion, *b*, corresponding in diameter to the size of the band or cap used to unite the bristles with the handle, and of a depth sufficiently in excess of that of the band to receive within it, from above, a follower, B.

The two halves of the box A being closed by their clamping-screws *c c*, and the box arranged in its place on or in the press, or, if desired, prior to placing the box, a proper quantity of loose bristles, C, bound tem-

porarily by a cord to hold them together, is passed through the box A from above to their requisite depth within the latter, as regards the ends of the bristles within the large portion *b* of the box, previously introducing, or preferably so, a ring, D, of the material used to make the band or cap, and disposing the bristles so that their upper ends lie some distance below the upper edge of said ring.

A wooden or metal wedge, E, of conical form, is then driven centrally through the bristles from above, till its upper end lies below the upper ends of the bristles within the box A, after which an inner ring, F, of similar material to the ring D, is introduced within the bristles on top of the wedge, that thus not only serves its ordinary purpose, after it has been extracted, of giving a spread configuration to the bristles, but also acts as a base and inner binding, as it were, in uniting the bristles and handle by the cap, as hereinafter described.

The interior of the ring F, I prefer to make of taper shape, to receive within it a tapering projection, *d*, from the lower end of the handle G, that is preferably formed with a collar, *e*, above such projection.

To facilitate description, the material used for the manufacture of the cap or band will here be referred to as gutta-percha, which, during the preliminary stages of the work, is kept in a soft or plastic state.

The handle G is passed upward through the follower B into the stem or stock of the press, with its lower end protruding below said follower.

Prior to bringing down the follower B within the enlarged portion *b* of the box A, an irregularly-shaped lump, I, of gutta-percha, opened in the center, is laid upon the tops of the bristles, after which the follower is brought down, and with it the handle, from the position represented in fig. 1, to that shown in fig. 2. This gives solidity and form to the cap, the several pieces comprising which, or ring D and lump I, when a ring is used in addition to the lump, are amalgamated or made to combine, and, the gutta-percha being suitably prepared, the whole afterward vulcanized, or, where the material is of a different nature, allowed to set.

To prevent slipping, and to secure proper retention of the parts when the material forming the cap, or cap and filling, is hardening or setting, as on removing the box A with the brush from the press, a set-screw, *f*, arranged in the side of the box, may be adjusted to lock the parts.

After the cap has properly set, the box A is opened and the brush removed, and the wedge drawn out from below.

A brush thus made needs no perforated plate or other metal binding about the band or cap, the bristles

are securely held in their places, and the handle, bristles, and cap or band firmly united, the process of manufacturing, too, being a simple and cheap one.

What is here claimed, and desired to be secured by Letters Patent, is—

The process, substantially as herein described, of making brushes by means of the divided box A, receiving within it the gutta-percha or plastic material of which the band or cap is to be formed, in combina-

tion with the follower B, carrying the handle G, and the wedge E, the whole being constructed and arranged for operation in relation to each other to unite the bristles with the cap, and the handle with them both, substantially as specified.

CHARLES F. RUSSET.

Witnesses:

FRED. HAYNES,
R. E. RABEAU.