

(No Model.)

J. S. & R. M. SANGER.
APPARATUS FOR APPLYING TOOTH POWDER.

No. 533,560.

Patented Feb. 5, 1895.

Fig. 1.

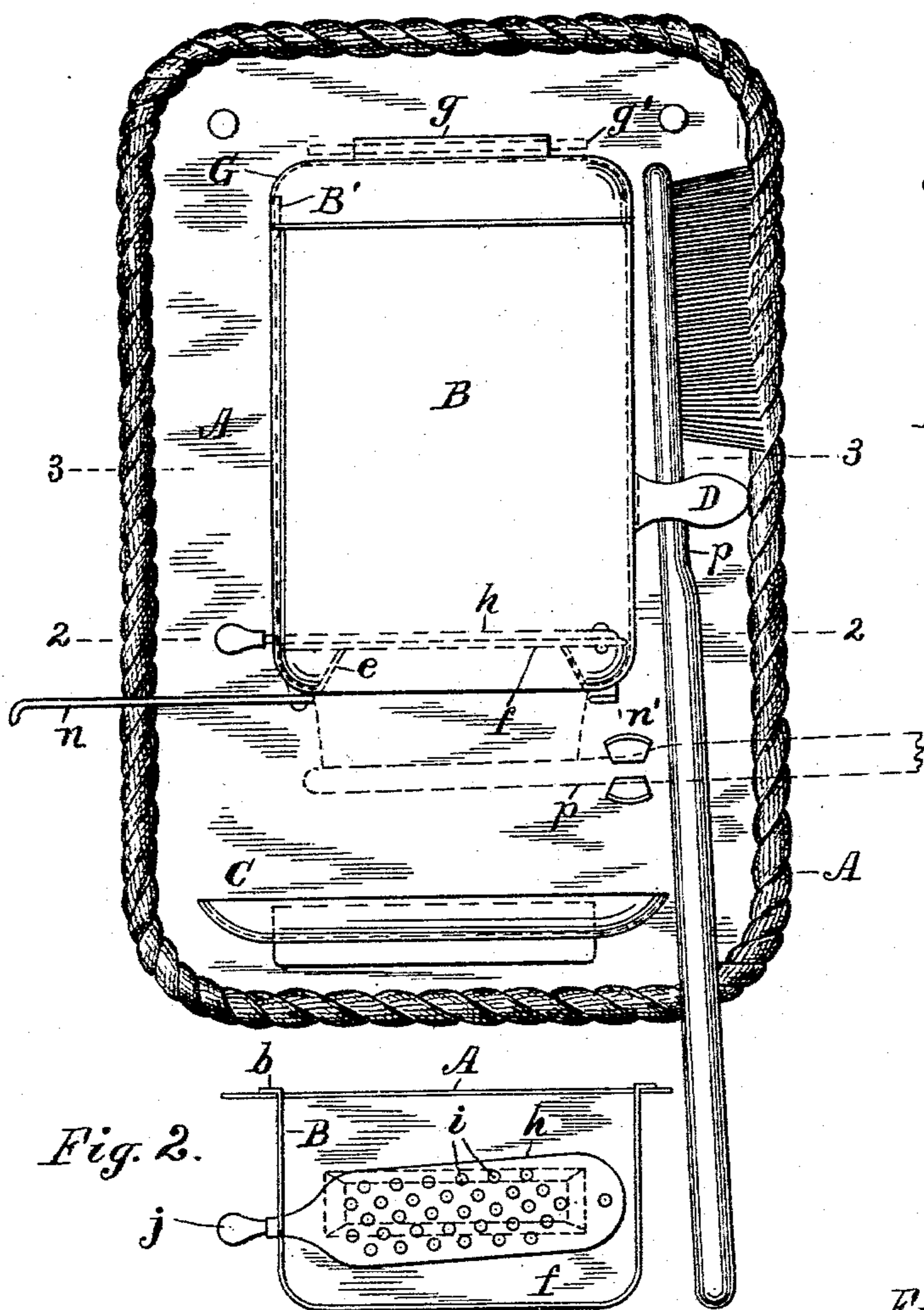


Fig. 2.

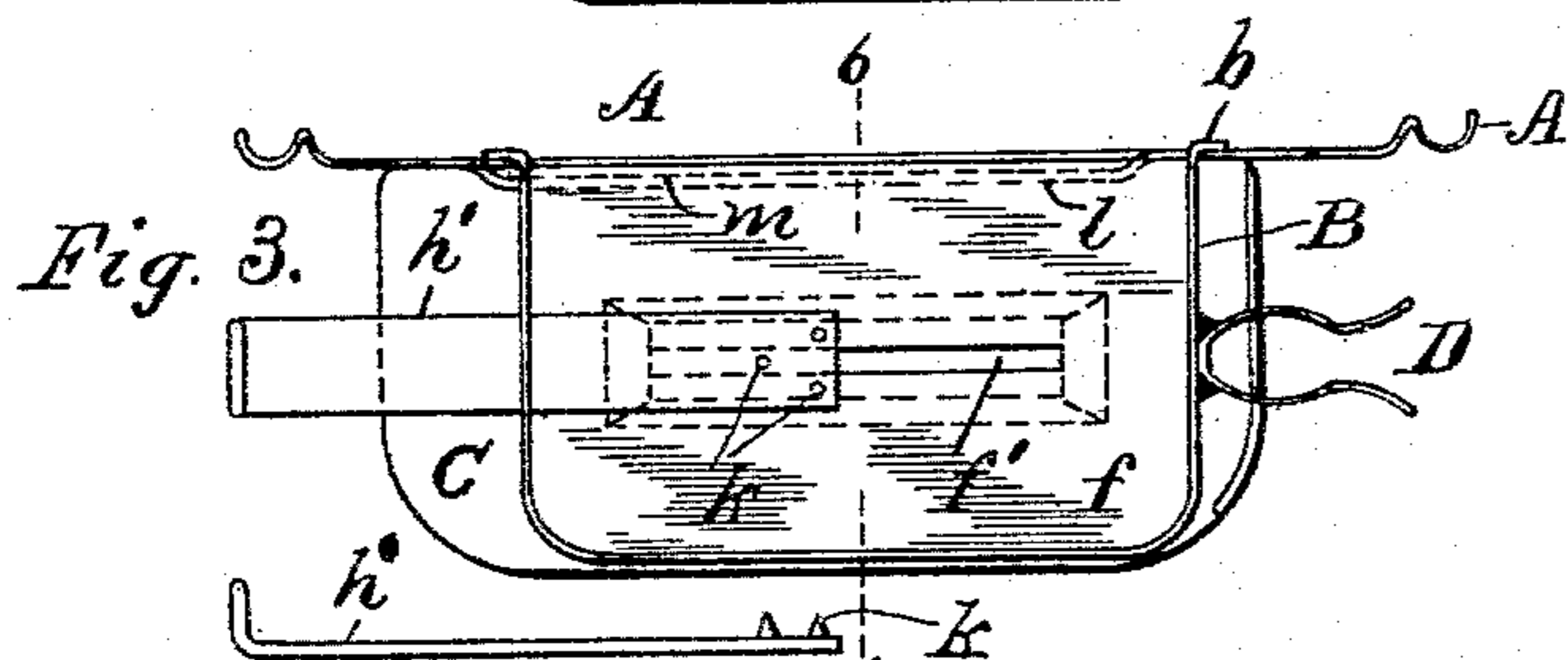


Fig. 4.

Fig. 5.

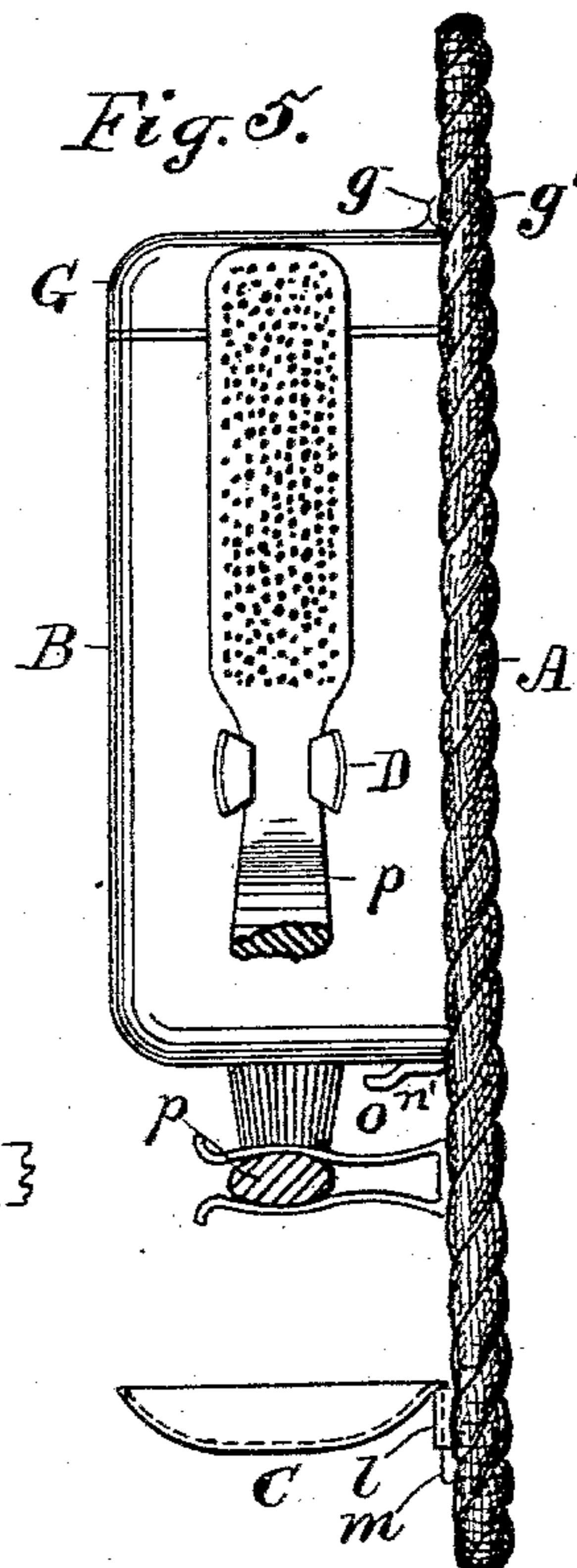
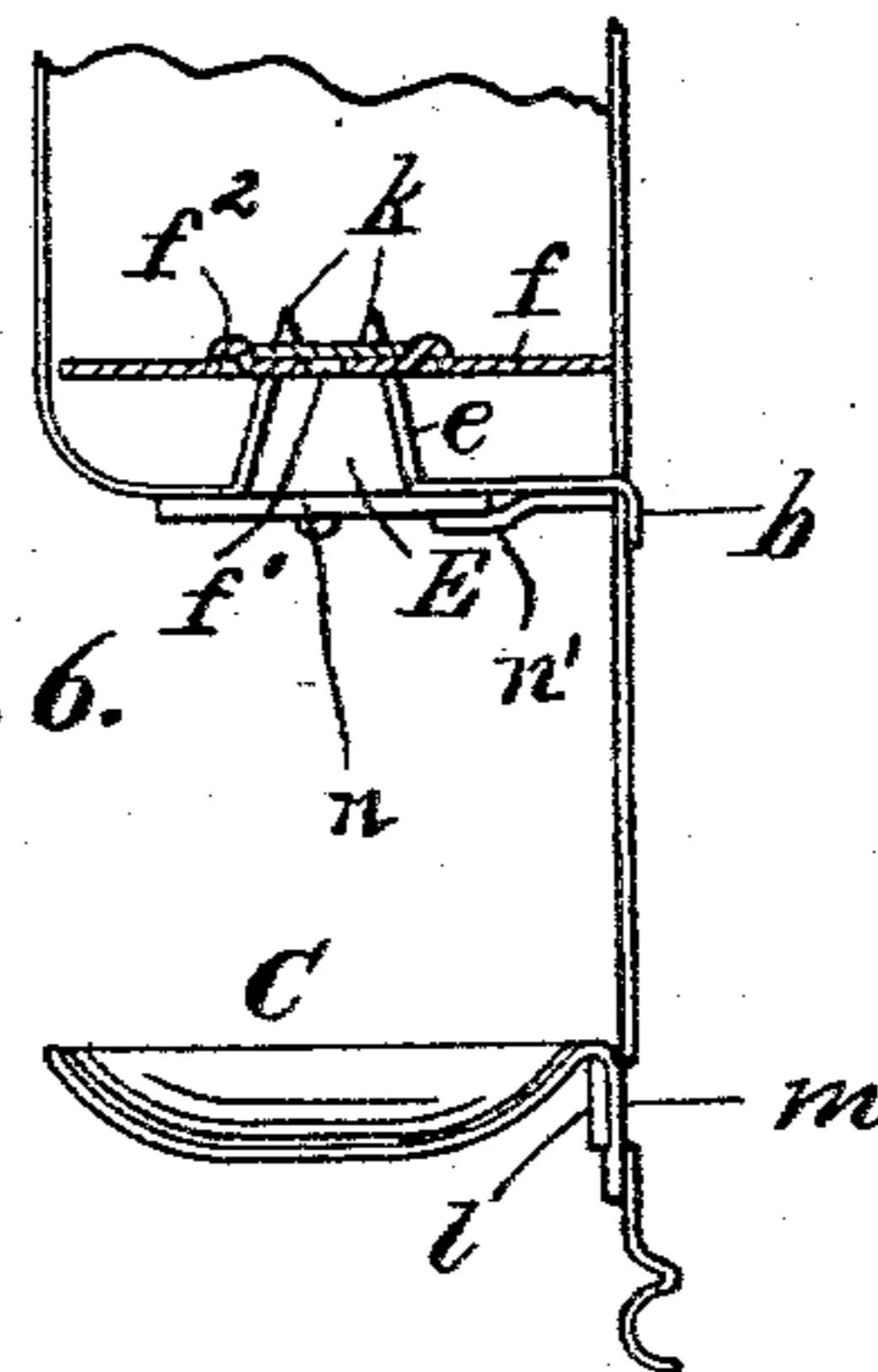


Fig. 6.



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APPARATUS FOR APPLYING TOOTH-POWDER.

SPECIFICATION forming part of Letters Patent No. 533,560, dated February 5, 1895.

Application filed September 22, 1894. Serial No. 523,773. (No model.)

To all whom it may concern:

Be it known that we, JOHN S. SANGER, residing at Orange, and RODERICK M. SANGER, residing at East Orange, Essex county, New Jersey, citizens of the United States, have invented certain new and useful Improvements in Apparatus for Applying Tooth-Powder, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The object of this invention is to furnish a convenient means of preserving the tooth powder, and applying it to the brush; and it may also afford a means of sustaining the brush when not in use.

The invention consists primarily of a back piece adapted to hang upon a wall, a tooth powder receptacle projected from the front side of such back piece with an outlet above the bottom of the receptacle, a movable screen for discharging the powder, and a tray projected from the back piece below the outlet and held removably thereon.

The invention will be understood by reference to the annexed drawings, in which—

Figure 1 is a front elevation of the entire apparatus. Fig. 2 is a partial sectional view of the same on line 2, 2, in Fig. 1. Fig. 3 is a plan in section on line 3, 3, in Fig. 1, showing an alternative construction for the screen. Fig. 4 is an edge view of the screen shown in Fig. 3. Fig. 5 is a side elevation of the apparatus with tooth brushes supported in the clips and upon the guide, the handles of the brushes being broken. Fig. 6 is a vertical section of the lower part of the apparatus on line 6, 6, in Fig. 3.

A is the back piece which is formed of a sheet metal plate with beaded border and hollow back. The border is drawn with diagonal lines to represent an imitation of a cable pattern. The back piece carries upon its front side the sheet metal receptacle B which may be attached to the back piece by lugs *b* (shown in Figs. 2 and 6) extended through openings in the back piece and clinched behind the same. The receptacle has a cover G which is jointed to the back piece by hinge *g* and pin *g'* located within the hollow back. The cover is fitted tightly to a flange B' upon

the top of the receptacle. The outlet E in the bottom of the receptacle is formed with upturned flanges *e*, as shown in Fig. 6, which support a discharge plate *f* having a discharge opening *f'*. A screen *h* or *h'* is fitted movably upon the plate above such opening to prevent the discharge of the powder until desired, and such screen may be formed with holes *i*, as shown in Fig. 2, or be arranged to uncover the opening *f'*, as shown in Fig. 3. The screen *h* is pivoted at one end, and has a handle *j* projected through the side of the receptacle at the opposite end, to vibrate it thereby; as the tooth powder packs in such manner that it falls through the holes *i* only when the screen is in motion.

Where a perforated screen is merely vibrated over the opening in the discharge plate, the opening may be made as large as the outlet at which the brush is applied; but where the screen is withdrawn from the opening, as in Fig. 3, the opening is made quite narrow, as shown at *h'*, to restrict the discharge in the desired degree.

The screen *h'* is fitted between ribs *f²* upon the plate *f*, as shown in Fig. 6, and is formed upon its upper side at the inner end with several pins *k* adapted to loosen the powder when the screen is slid endwise, as shown in Fig. 3, thus loosening the powder temporarily and securing a sufficient discharge of the powder through the opening *f'*.

The back piece A is formed, below the receptacle, with a loop *l* which is pressed forward from the metal of the holder, and the tray C is shown with a foot *m* bent downwardly to fit within such loop, thus securing the tray detachably upon the holder below the outlet E.

The holder is provided near one end of the outlet E with clips forming a guide *o* to hold the tooth brush handle *p*, as shown in Figs. 1 and 5, so as to support the bristles of the brush beneath the outlet E.

The flanges *e* which support the discharge plate *f* a little distance above the bottom of the receptacle, are preferably converged inward, as shown in Figs. 2 and 6, and the chamber or passage between the discharge plate and the outlet is thus expanded outwardly.

The outlet is made a little smaller than the usual area of the bristles upon the tooth brush, to wholly prevent the bristles from crowding into the chamber or passage.

5 The elevation of the discharge plate above the bottom of the receptacle not only forms a closed chamber for the diffusion of the powder between the discharge plate and the flange, but it thus prevents the bristles of the
10 brush from coming in contact with the plate.

As it is common to wet the brush before applying the powder, the water upon the brush if allowed to touch the discharge plate, would cause the powder to stick in the discharge
15 opening and thus render the apparatus inoperative. The construction therefore provides effectively for holding the wet bristles at a suitable distance below the discharge plate, while it prevents the loss of powder which
20 would result if it were not confined in a closed chamber.

A sufficient supply of powder can be discharged through an opening much smaller than the surface of the bristles, and the flaring form of the outlet produced by the inwardly converging flanges *e* thus permits the
25 scattering or diffusion of the powder over the bristles as it is discharged through the opening *f* by the movement of the screen. Such scattering being effected in a diffusion chamber, the loss or waste of powder is almost
30 wholly prevented.

Any surplus powder is caught by the tray C, and as the tray is held detachably by the
35 foot *m*, it may be readily removed from the holder to throw out the powder or restore it to the receptacle.

Spring clips D are shown projected at one side of the receptacle to engage the neck of
40 the tooth brush handle, and thus support the tooth brush when not in use. The whole device furnishes a convenient means of storing and applying the powder and of sustaining the tooth brush in readiness for use.

45 To close the outlet tightly, so as to prevent the leakage of powder in transporting the receptacle, we provide a swinging gate *n* of form similar to the screen *h*, pivoting the same to the bottom of the receptacle at one
50 end of the outlet, and fixing a catch *n'* to the receptacle and to the opposite end of the outlet, to press the gate closely against the outlet. The gate is shown open in Fig. 1, and closed in Fig. 6, to prevent the discharge of
55 the powder. The gate is shown as a thin flat plate, and the catch is formed as a sloping lug adapted to crowd the gate upward against its seat upon the receptacle, when the edge of the gate is forced beneath the lug. The
60 gate thus affords a cheap and effective means of closing the outlet tightly.

From the above description it will be seen that the diffusion chamber is a very important feature of an apparatus for applying
65 powder economically to a moistened tooth brush. To form such chamber in a suitable

manner, the outlet should correspond to the shape of the tooth brush and be made a little smaller than the area of the bristles, to prevent their admission to the chamber. In such
70 construction, the movable screen forms in reality the top of the diffusion chamber, as it affords, when not in use, a partition between such chamber and the powder in the receptacle above.

Having thus set forth the nature of the invention, what is claimed herein is—

1. As a new article of manufacture, the sheet metal back piece A provided upon one side with the receptacle B having the outlet
80 in the bottom with movable screen, and the back piece having the loop *l* below such outlet, and the tray C adapted to project from the back piece, and provided with the foot *m* bent downwardly and fitted removably within
85 the loop, as and for the purpose set forth.

2. As a new article of manufacture, the back piece A provided upon one side with the receptacle B having the outlet in the bottom with movable screen, and the tray C projected from the back piece and attached removably to the same below the outlet, and the spring clips *o* projected from the back piece below the outlet and arranged to support the tooth brush against the outlet when
95 applying the powder, substantially as set forth.

3. As a new article of manufacture, the tooth powder receptacle B having in the bottom the outlet E corresponding in shape to
100 the outline of the tooth brush bristles, and provided with a diffusion chamber above such outlet, a discharge plate having a discharge opening and fixed at the top of the diffusion chamber, with a screen fitted movably to the
105 plate, the whole arranged and operated to provide, with the brush applied to the outlet, a closed space between the screen and brush, within which the powder is scattered upon its discharge from the receptacle, substantially as herein set forth.

4. As a new article of manufacture, the tooth powder receptacle B having in the bottom the outlet E corresponding in shape to
115 the outline of the tooth brush bristles, and provided with a diffusion chamber above such outlet, a discharge plate fixed at the top of the diffusion chamber and provided with a slot, as *f*, the screen *h'* fitted to move longitudinally over the slot upon the upper side of
120 the discharge plate and extended outward through the wall of the receptacle, and the pin *k* projected from the upper side of the screen *h'* over the slot to loosen the powder, substantially as herein set forth.

5. As a new article of manufacture, the tooth powder receptacle B having in the bottom the outlet E corresponding in shape to
130 the outline of the tooth brush bristles, and provided with a diffusion chamber above such outlet, a discharge plate having a discharge opening and fixed at the top of the diffusion

chamber, with a screen fitted movably to the plate, the swinging gate *n* pivoted to the bottom of the receptacle at one end of the outlet, and the catch formed of the sloping lug
5 *n'* at the opposite end of the outlet, as herein set forth.

In testimony whereof we have hereunto set

our hands in the presence of two subscribing witnesses.

JOHN S. SANGER.

RODERICK M. SANGER.

Witnesses:

J. M. SANGER,

THOMAS S. CRANE.