F. E. KRESS.

FOLDING TOOTH BRUSH.

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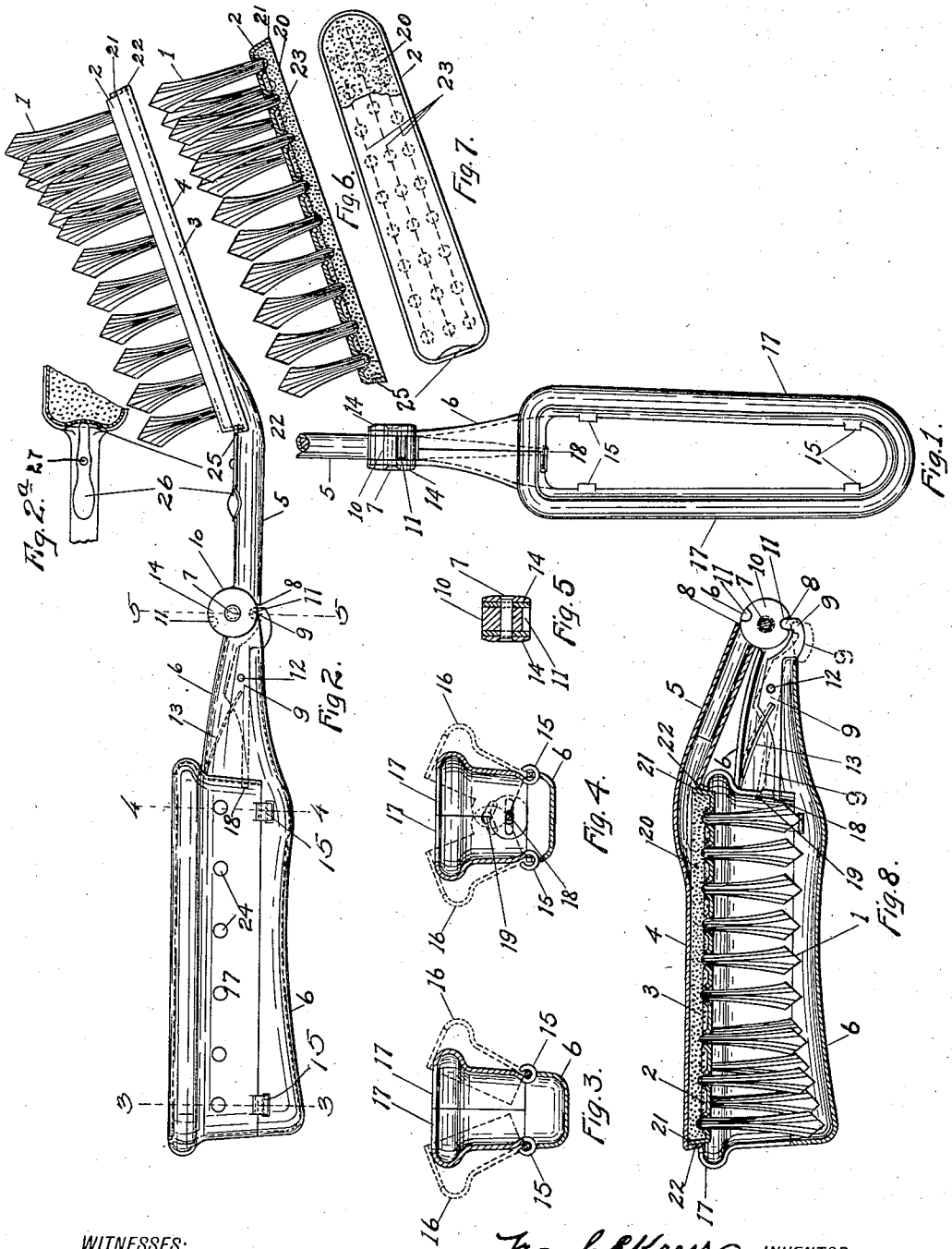
1,033,022.

Patented July 16, 1912.



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FRANK E. KRESS, OF DENVER, COLORADO.

FOLDING TOOTH-BRUSH.

1,033,022. Specification of Letters Patent. Patented July 16, 1912.

Application filed November 27, 1911. Serial No. 662,637.

To all whom it may concern:

Be it known that I, FRANK E. KRESS, a citizen of the United States, residing at Denver, county of Denver, State of Colorado, have invented certain new and useful Improvements in Folding Tooth-Brushes, of which the following is a specification.

This invention relates to certain improvements which I have made in the folding tooth-brush disclosed in my patent of February 15, 1910, No. 949,540.

These improvements will now be described in connection with the accompanying drawing, in which—

Figure 1 is a bottom plan view of the handle portion when closed, Fig. 2 is a side elevation of the complete brush open, Fig. 2ª is a partial plan view of Fig. 2, Fig. 3 is a cross-section of the handle on the line 3—3 of Fig. 2, Fig. 4 is a cross-section of the handle on the line 4—4 of Fig. 2, Fig. 5 is a cross-section of the handle pivot on the line 5—5 of Fig. 2, Fig. 6 is a longitudinal section through the bristle-carrying plate, Fig. 7 is an underneath plan view of the same, and Fig. 8 is a longitudinal section through the brush when folded.

As in my patented brush, the handle is made in two parts 5 and 6, pivoted together at 7, the part 5 carrying the bristles and the part 6 being U-shaped and constituting a casing for the bristles when the brush is folded. Also, as before, the handle part 6 has its sides formed of wings 17 pivoted to it. These pivots or hinges I now form by punching and bending the side walls of the part 6 and the lugs 15 of the wings 17, and engaging them together, as clearly shown in Figs. 3 and 4. 24 represent ventilating holes in these wings. One of my present improvements consists in the provision of means for automatically opening and closing said side wings when the brush is folded.

9 represents a spring trigger pivoted at 12 in the part 6 and engaging with its rear or left-hand end in slotted lips 18 formed on said side-wings 17. The front end of the trigger is rounded to engage in notches 11 formed in the hinge-block 10, carried at the end of the part 5 and turning on the pivot-pin 7 between the side walls of the U-shaped part 6, 14 representing washers in which the ends of said pivot-pin are riveted. As usual the trigger serves to hold the brush in both open and closed positions, 13 representing a spring secured to the trigger 9 and bearing against the top of the part 6. The trigger also serves to open and close the wings 17 automatically.

When the part 5 is turned on the pivot to fold the brush, the round nose of the trigger is forced out of the notch 11 against the pressure of the spring 13, whereby the other end of said trigger is raised, the effect of which is to open the wings 17, that is, to swing them into the dotted line position of Figs. 3 and 4. When the brush reaches the folded position of Fig. 8, the nose of the trigger snaps into the opposite notch 11 and the wings are closed into the full line position.

The front end of the part 5 is enlarged to form a dished head 4, the walls 3 of which are slightly inclined inwardly. In this head is placed the plate or head 2, of inverted pan-shape and the walls 21 of which are slightly flared outwardly to make a tight fit with the walls 3 of the head. To further secure the pan 2 in the head, I provide a locking device, consisting of a finger 26, pivoted at 27 on the part 5 and engaging in a recess 25 in the end wall of the pan.

The bottom of the pan 2 has openings punched in it for the reception of the bristles 1 and is filled with a composition 20 which sets and holds the bristles firmly in place. A wire 23 passes through the folded ends of the bristle tufts to assist in maintaining them in position.

It will be seen that my improved brush embodies all the advantages of my previously patented brush and that, in addition, it has certain novel features which render it still more convenient and serviceable.

Having thus described my invention, what I claim is:—

1. A folding tooth-brush, the handle part of which forms a casing for the bristles when the brush is closed, said part comprising laterally swinging sides, a spring trigger for holding the brush either in open or closed position and means on said sides engaged by said trigger whereby said sides are automatically opened when the folding is commenced and closed when it is completed.

2. In a folding tooth-brush, a handle part provided with pivoted sides to form a casing for the bristles, and means to hold the brush either opened or closed, said means

at the same time acting to automatically open and close said sides as the brush is folded and opened.

3. A folding tooth-brush comprising in combination a head part and a handle part pivoted together, a spring trigger to hold said parts either in alinement or in folded relation, and side wings pivoted to said handle part and having slotted projections engaging said trigger, whereby said wings are swung outwardly when the brush is being folded or opened and inwardly when the brush is fully closed or opened.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK E. KRESS.

Witnesses:
J. VINCENT WOOD,
E. A. BROWN.