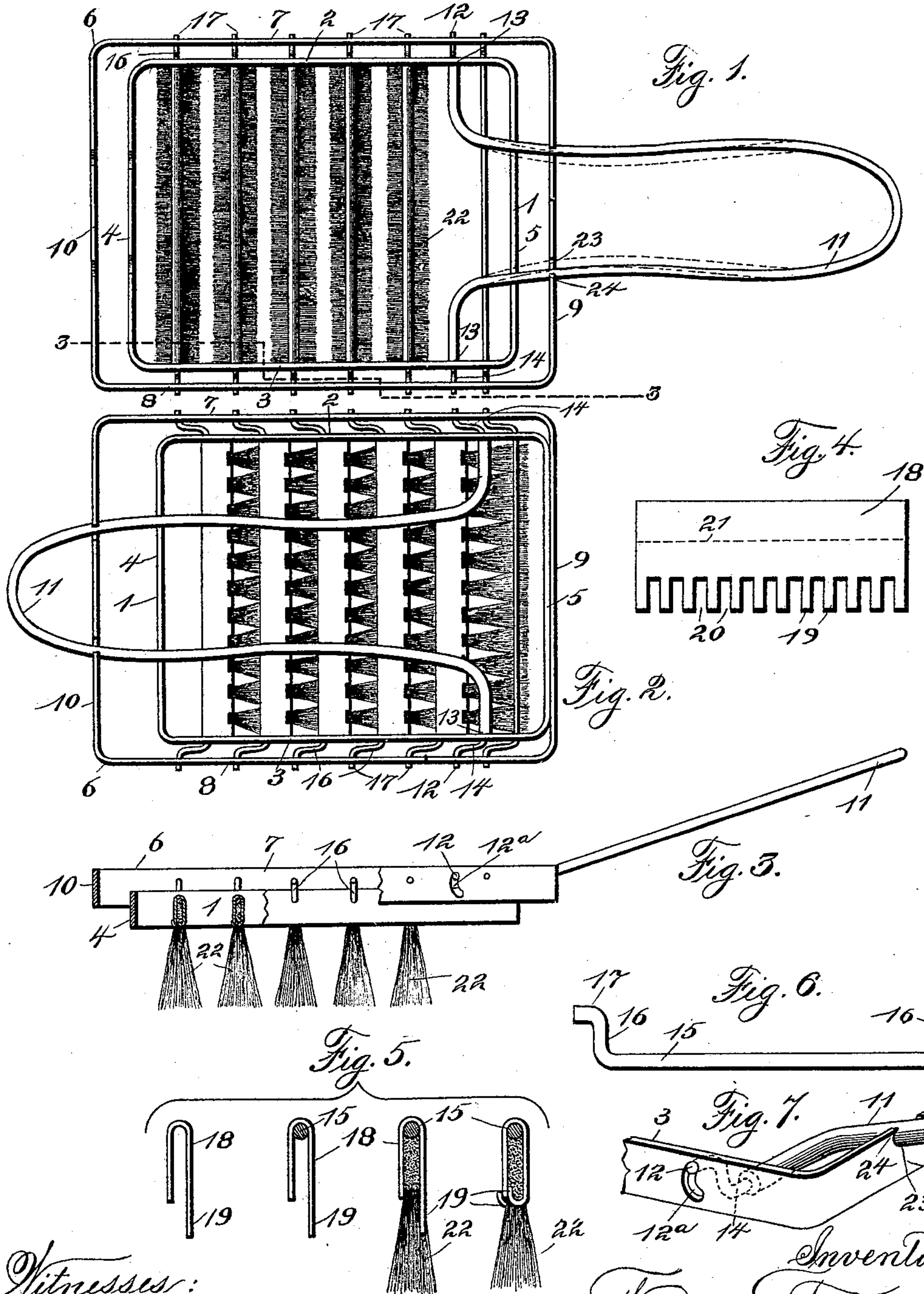


(No Model.)

W. E. FRANK.  
FOLDING BRUSH.

No. 516,483.

Patented Mar. 13, 1894.



Witnesses:  
John Enders jr.  
W. J. Sankey.

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Attorneys.



# UNITED STATES PATENT OFFICE.

WILLIAM E. FRANK, OF ST. LOUIS, MISSOURI.

## FOLDING BRUSH.

SPECIFICATION forming part of Letters Patent No. 516,483, dated March 13, 1894.

Application filed August 14, 1893. Serial No. 483,114. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM E. FRANK, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Folding Brushes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to an improved "folding brush" and consists in the novel arrangement, combination and construction of parts as will be more fully hereinafter described and designated in the claims.

In the drawings: Figure 1 is a plan view showing the brush open ready for use. Fig. 2 is a plan view of the brush folded. Fig. 3 is a section on the line 3—3 of Fig. 1. Fig. 4 is a plan view of a blank made use of in carrying out my invention. Fig. 5 is an end elevation of a series of these blanks showing how they are put together. Fig. 6 is a detail view of one of the block-bars which is used in carrying out my invention. Fig. 7 is a perspective view of one corner of the frame showing the connection of the handle thereto.

1 indicates the main stationary inner frame which is constructed with parallel side bars 2 and 3 and parallel end-bars 4 and 5.

6 indicates an outer frame which is constructed with parallel side-bars 7 and 8 and parallel end-bars 9 and 10.

Pivotaly mounted in one end of the frame 1 is a handle 11 which is U-shaped in plan-view, the ends being bent outwardly and are in alignment with each other the ends 12 being reduced which forms a shoulder 13. The ends 12 are provided with bearings adjacent the shoulder 13 in the side-bars 2 and 3 of the stationary-frame 1. These ends 12 are bent so as to form cranks 14 and their outer ends are mounted in curved slots 12<sup>a</sup> which are formed in the side-bars 7 and 8 of the frame 6. (See Fig. 3 for illustration.)

Pivotaly mounted in the side bars of the stationary frame 1 is a series of parallel rock-bars 15, the ends being bent so as to form a crank 16, the outer projecting end 17 of said crank is pivotaly mounted in the side-bars 7 and 8 of the outer-frame 6.

18 indicates a blank which is constructed upon one edge with a series of parallel teeth 19 and bristle openings 20 formed between

said teeth. These blanks are connected to the rock-bar 15 by being bent their entire length on the dotted line 21 in Fig. 4.

In Fig. 5 I have shown blanks the one at the left bent as required to engage the rock-bar 15, and the next view to the right shows it connected to said rock-bars. In the third view from the left I have shown how the bristles are connected to said blank. In the last view from the left I have shown the teeth 19 bent down and clamping the bristles 22. Each alternate tooth is lapped over the opposite side of the blank and clamps said blank against the engaged ends of the bristles and the remaining teeth are bent so as to engage the clamped end and the bristles 22, which holds them permanently in place. Formed in the end bars 9 and 10 of the outer frame 6 are notches 23 which are provided with overhanging projections 24. These notches are engaged by the handle 11 while it is in a folded or closed position and act to hold said handle either open or closed.

The operation is as follows: In Figs. 1 and 3 the brush is shown open ready for use, and when it is desired to close the same in the position shown in Fig. 2, the operator presses the sides of the handle 11 inwardly as shown in dotted lines in Fig. 1 which disengages said handle, from the notches 23 which allows said handle to be turned over upon the brush. By the end of said handle being pivotaly connected to the stationary-frame 1 and the crank 14 of said handle being pivotaly connected in the slot 12<sup>a</sup> in the outer frame when the handle is turned over it will move the outer frame, which will cause the bristles of said brush to close as shown in Fig. 2, thus making it very convenient to carry or pack.

What I claim is—

1. The improved folding brush, comprising an outer frame, an inner frame loosely mounted in said outer frame, a series of rock-bars 16 mounted parallel in said inner frame and provided with a crank at each of their ends, which engages a bearing in the side bars of said outer frame, and said rock-bars each carrying brush material, a handle U-shaped in plan view and pivotaly connected to said inner frame, the ends of said handle being bent outward in alignment with each other, cranks



formed on said ends of said handle, said outer frame having curved slots in its side bars which are engaged by the cranks on said handle, and overhanging projections 24 on the 5 opposite end-bars 9 and 10 of said outer frame in position to be engaged by said handle while it is in either a folded or closed position to hold said handle either open or closed, substantially as herein specified.

10 2. A folding-brush consisting of a frame 1, a frame 6 mounted thereon, a series of vertical rock-bars 16 mounted in said frame 1, cranks formed on each end of said rock-bars which are constructed to engage the side bars 15 of the outer-frame, blanks 18 bent to engage the rock-bars 15, parallel teeth 19 formed on one edge of said blanks, each alternate tooth

bent so as to overlap the opposite edge of the blank, the remaining teeth bent so as to engage the bristles 22, a U-shaped handle having its adjacent ends bent outwardly and in alignment with each other, cranks 14 formed on or fixed to the ends thereof, the fixed ends mounted in bearings in the inner frame 1 and the outer end of said cranks being mounted in curved slots 12<sup>a</sup> formed in the sides of the outer-frame, substantially as set forth. 25

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

WILLIAM E. FRANK.

Witnesses:

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W. J. SANKEY.