C. E. L. HOLMES & W. E. LAWRENCE.

HORSE-BRUSH.

No. 185,749. Patented Dec. 26, 1876.

Fig. 1.

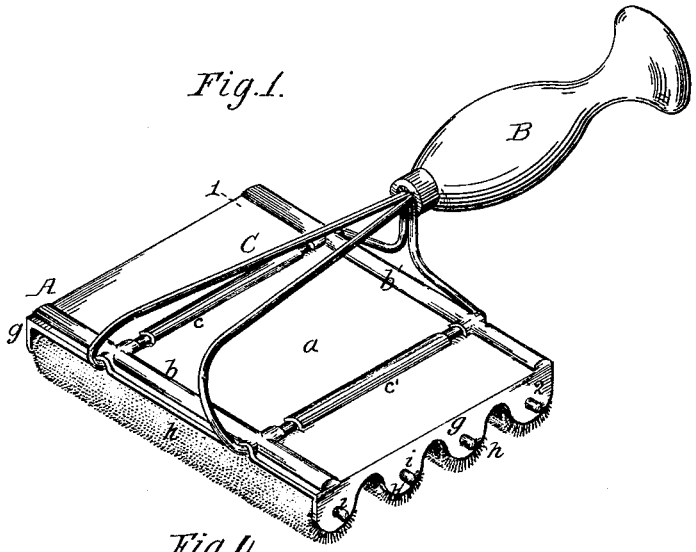


Fig. 4.

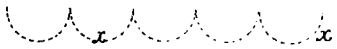


Fig. 2.

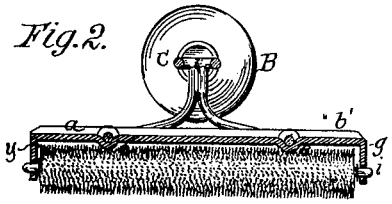
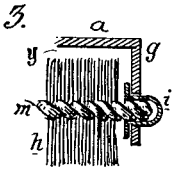


Fig. 3.



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their attorney

UNITED STATES PATENT OFFICE.

CHARLES E. L. HOLMES AND WILLIAM E. LAWRENCE, OF NEW YORK, N. Y.

IMPROVEMENT IN HORSE-BRUSHES.

Specification forming part of Letters Patent No. **185,749**, dated December 26, 1876; application filed November 8, 1876.

To all whom it may concern:

Be it known that we, CHARLES E. L. HOLMES and W. E. LAWRENCE, of the city, State, and county of New York, have invented Improvements in Horse-Brushes, of which the following is the specification:

The object of our invention is a horse-brush constructed, as fully described hereafter, to facilitate its manipulation, increase its efficiency, render it more durable, and reduce the expense of manufacture; and these objects we attain by the construction shown in the drawing, in which—

Figure 1 is a perspective view of the improved brush; Fig. 2, a transverse section on the line 1 2, Fig. 1; Fig. 3, an enlarged section of part of the brush; and Fig. 4, a diagram, showing the contour of the brush-face.

The brush consists of the body A, side handle B, and back grasping device C, which, in the present instance, is in the form of a wire frame extending above and across the back *a*, and serving to support the handle B in its position. The back *a* consists of a cast or malleable metallic plate, strengthened by edge-ribs *b b'* and cross-ribs *c c'*, formed in the present instance by striking up or bending the thin metal, the ribs *c c'* being cut, and portions bent down near each edge, forming pockets *e e* for receiving the lower wires or rods of the frame C. These rods, thus extended partly above and partly below the back *a*, serve to impart increased rigidity thereto, while the construction adopted permits the manufacture of a finished brush at a slight expense. The ends of the back plate, which may be continuous or open, (the openings being for ornamentation or for the passage of dust,) are bent down to form flanges *g g*, which, when the back is a continuous plate, inclose a recess, *y*, for containing and protecting the inner portions of the brush, and the latter, in the present instance, consists of cylinders formed of bristles and twisted wires. Three, four, or more parallel cylinders, *h h'*, are used, the ends of the wire shafts having their bearings in the ends or flanges *g g*, and being covered by metallic thimbles *i*, which prevent the wires from untwisting and present a finished appearance. The brush-cylinders are placed so close together that the bristles interlock, preventing independent revolution and stiffening the brush, but not interfering with the necessary adjustment when sufficient force is applied.

The brush thus constructed may be grasped by the handle B, by the back handle or grasping device C, or by inserting the hand beneath the latter and grasping the back *a*, thus rendering the brush peculiarly serviceable for a horse-brush, for which purpose it is desirable to hold it in several different ways.

The combination of several interlocking cylinders forms a ribbed brush-face having the contour shown in the diagram, Fig. 4, permitting a greater penetration than can be attained by a uniformly flat surface.

When the faces of the cylindrical brushes become spread or worn, new faces may be presented by turning the cylinders, the upper portions, when a back plate, *a*, is used, having been inclosed and protected by the back and flanges *g g*, and when the entire surface is destroyed the shafts may be removed and new brush-cylinders inserted.

The metallic back is not only rigid and light in weight, but is impervious to moisture and cannot shrink or split like the ordinary wooden backs used for this class of brushes.

By setting the brush with the ribs of the face at right angles to the handles the direction in which the brush is moved in operation bends the bristles round, instead of to and from, the shafts, parallel thereto, preventing them from being matted together with less liability of detaching them.

Without confining ourselves to the precise construction of brush or handle shown and described,

We claim—

1. A brush having a side handle, B, and a handle, C, elevated above the back, forming a space beneath for the admission of the hand, and serving to retain the hand in contact with the back of the brush, substantially as set forth.

2. The combination of the metallic back or frame *a*, provided with a handle and the brushing face, as specified.

3. The combination of the brush back or frame and brushing-face secured detachably thereto, as and for the purpose specified.

4. The back *a*, having grooves or pockets for wires or rods connected to the handle and extending above and below the back, substantially as specified.

5. A brush provided with a back having the side flanges *g g*, between which the brushing-cylinders *h* are arranged, as set forth.

6. The combination, in a brush, of a series of interlocking brush-cylinders, arranged transversely to the handle, and a back or frame carrying said cylinders, as specified.

7. The combination, with the twisted-wire brush-shafts, of thimbles *i*, covering the ends of the shafts, as specified.

8. The combination of the brushing-face and the back *a*, consisting of a metal plate with ribs *b b'*, *c c'*, and flanges *g g*, as set forth.

9. The combination of the back *a* and cylindrical brushes *h*, adapted to be rotated as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

C. E. L. HOLMES.
WM. E. LAWRENCE.

Witnesses:
CHARLES D. RIDGWAY,
HENRY WAGNER, Jr.

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