E. J. MERICK.

Portable Broom-Head.

No. 162,490. Patented April 27, 1875.

Fig. 1.

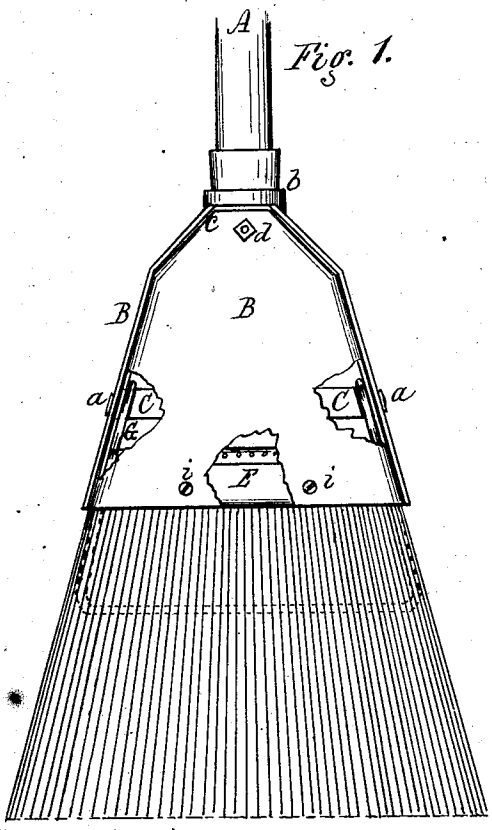


Fig. 2.

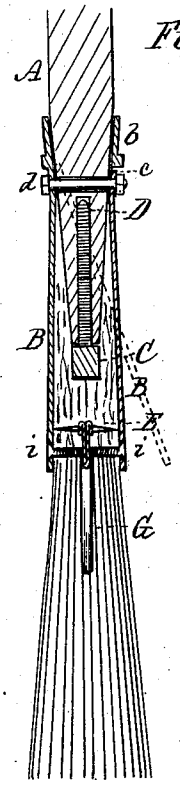


Fig. 4.

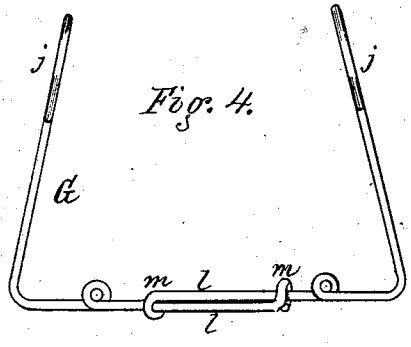
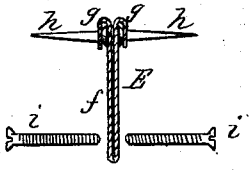


Fig. 3.



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UNITED STATES PATENT OFFICE.

ELDRIDGE J. MERICK, OF ROCHESTER, NEW YORK, ASSIGNOR TO HIMSELF AND BENNAJAH G. MERRICK.

IMPROVEMENT IN PORTABLE BROOM-HEADS.

Specification forming part of Letters Patent No. **162,490**, dated April 27, 1875; application filed January 10, 1873.

To all whom it may concern:

Be it known that I, ELDRIDGE J. MERICK, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Portable Broom-Heads; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same.

My invention consists of a broom-head, constructed, arranged, and operating as hereinafter described.

In the drawings, Figure 1 is an elevation of my improvement with a portion broken away to show the interior arrangement; Fig. 2, a vertical cross-section; Fig. 3, a cross-section of the retainer; Fig. 4, a plan of the wire-stiffener.

A represents the handle, and B B the jaws. The latter are made of sheet metal or any other suitable material, and extend down so as to form a socket, which incloses and clamps the upper part of the broom-stuff. They are pivoted together at *a* by screws, which pass through both thicknesses and strike into a cross-head, C. By this means the jaws may be thrown open, as indicated by the dotted lines in Fig. 2, for the insertion of the broom-stuff. The cross-head C extends entirely across the inside of the socket; and to the upper side of the cross-head is attached a rigid screw, D, upon which screws the end of the handle. The end of the handle is made tapering to form a wedge, and passes through a corresponding socket, *b*, which is formed on one of the jaws B, the upper end *c* of the other jaw simply resting against it loose, and being pressed out by the wedge action of the handle in entering. The jaws thus form levers working on the pivots *a* as a fulcrum; and when the broom-stuff is all arranged in place the closing of the jaws clamp it, and a screw or bolt, *d*, is then inserted through a hole formed through the handle and the upper ends of the jaws. The whole is then firmly secured together. Beneath the cross-head, and within the lower ends of the jaws, is located a retainer, E, which consists of a strip of metal bent double, as shown at *f*, and leaving its upper edges *g g* folded or turned over in opposite directions to inclose nails or brads *h h*, which are inserted from the inside, standing outward in opposite directions, as shown in Fig. 3. The heads of the nails or brads are inclosed between the upper folds of the retainer, and therefore cannot escape. This retainer is located across the socket formed by the jaws, and the nails or brads pointing in opposite directions strike into and hold the broom-stuff from being drawn out when clamped by the jaws. They are also of importance in holding the broom-stuff properly spread, and preventing any slipping or derangement of the same. The teeth or nails might be attached permanently to the jaws themselves, standing inward to catch and hold the broom-stuff, but they would not be so effective, for the reasons hereinafter stated. When the retainer is in place and the broom-stuff fully clamped screws *i i* on opposite sides are screwed through the jaws into the lower flange of the retainer. I prefer to use two screws on a side, dividing the space properly, the opposite screws being so located that they will not interfere.

I employ for long broom-stuff a wire-stiffener, G, the ends of which pass up into the socket formed by the jaws, and have loops *j j* fitting over the screws *a a*, while the head extends centrally through the broom-stuff, and by resting below the lower edges of the jaws serves to stiffen the broom. The upper ends are made to adjust up and down by means of the loops *j j*, and are clamped in any position by the screws *a a*. The head is also made to adjust to different widths of the broom by making it in two lengths, *l l*, overlapping each other, and having loops or eyes *m m*, which slide, respectively, upon the opposite lengths, as clearly shown in Fig. 4. As the stiffener is drawn up in the jaws the head will be contracted in its width by the sliding together of the parts constituting the head, and as the ends are let down from the jaws the head will correspondingly expand. The device is, therefore, adjustable to brooms of different lengths, and it will adapt itself to place automatically. This device forms one feature of my invention.

The method of applying the broom-stuff is

as follows: The handle is removed and the jaws opened, as indicated by dotted lines in Fig. 2. A layer of broom-stuff, constituting one-half the broom-head, is then laid flatwise inside one of the jaws, being suitably spread. The retainer E is then inserted, the teeth on one side being passed through the broom-stuff already laid. The other layer of broom-stuff is then inserted on top the upper layer of teeth of the retainer; and when the full amount of the material is applied the jaws are closed by the insertion of the wedging end of the handle into socket *b* and the forcing out of end *c* by said handle. When the jaws are fully closed the screw or bolt *d*, and the screws *i i*, are applied, as before described, and the broom is complete.

A great advantage of the separate retainer E is that it allows the broom to be built up in two distinct layers, one after another, and therefore with great uniformity and evenness, which could not be so well done if the teeth were attached fast to the jaws themselves. It also holds the corn better, and is more effective in preventing lateral displacement.

This broom, from the great ease with which the broom-stuff is applied, can be put up even by a child, and requires no trimming off of the lower ends, which is the case with most portable brooms.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The cross-head C, screw D, wire-stiffener G, and the retainer E, constructed of a metallic plate or sheet bent double, and having the folds *g g* turned to inclose the headed nails or teeth *h h*, the whole combined with the wedging-handle A and pivoted jaws B B, in the manner and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

Witnesses: ELDRIDGE J. MERICK.
R. F. OSGOOD,
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