No. 689,941. Patented Dec. 31, 1901.

A. R. WILSON.

BROOM.

(Application filed Apr. 20, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

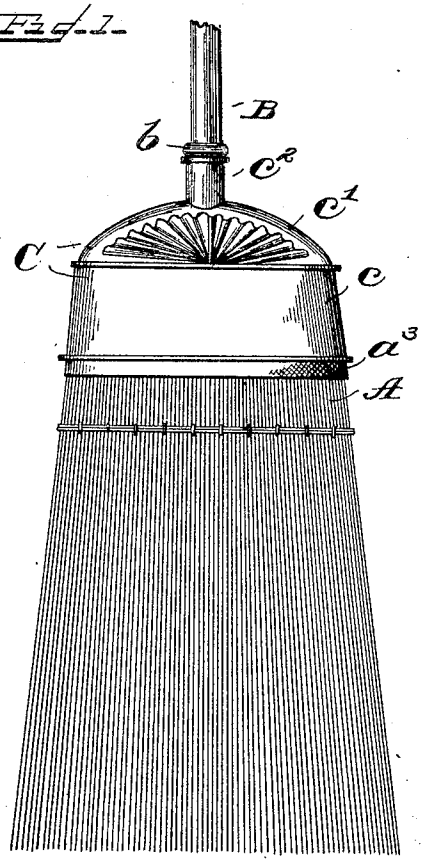


Fig. 2.

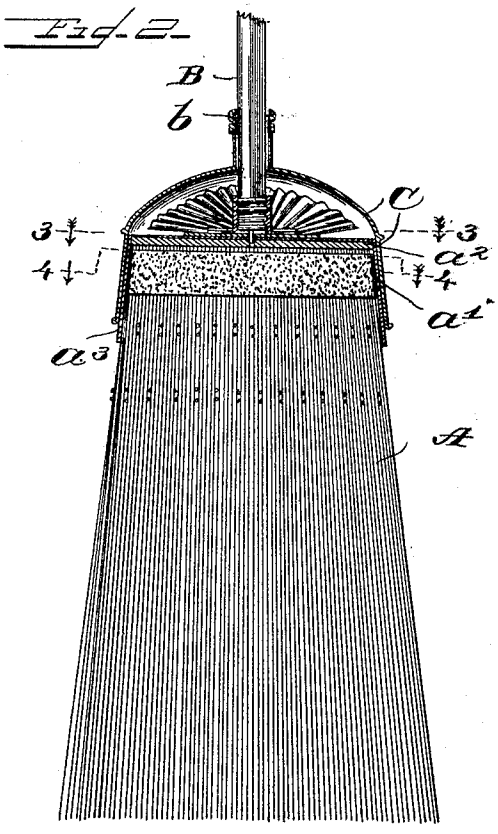


Fig. 3.

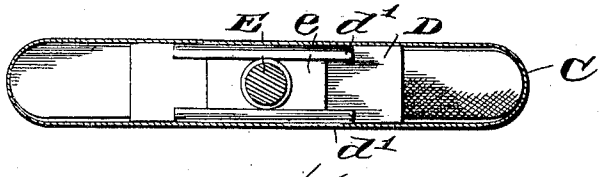
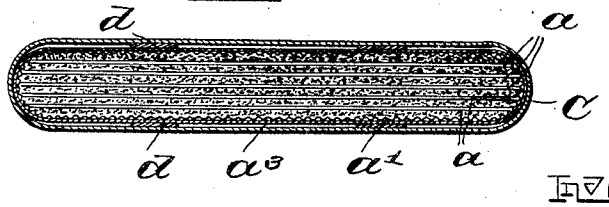


Fig. 4.



Witnesses.

G. A. Taubenschmidt,

J. H. Glendenning Jr.

Inventor.

Archibald R. Wilson

By Charles A. Sills

Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 689,941.

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A. R. WILSON.

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(No Model.)

2 Sheets—Sheet 2.

Fig. 5.

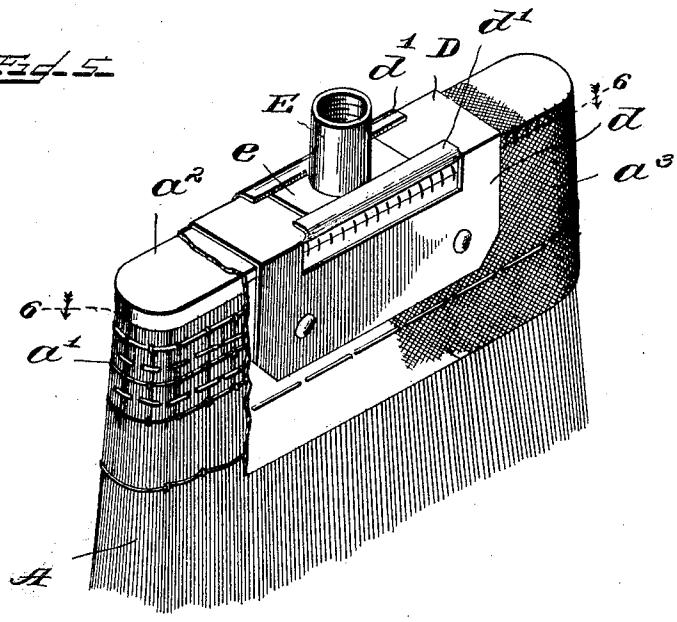


Fig. 6.

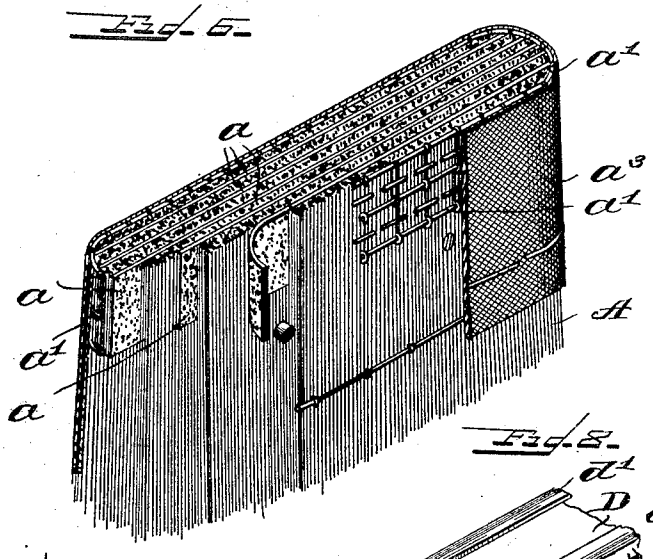


Fig. 7.

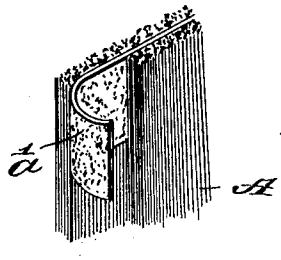
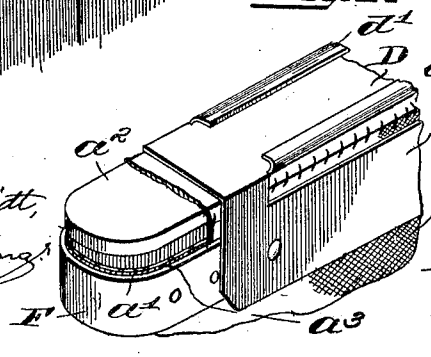


Fig. 8.



Witnesses.
G. A. Pauberschmidt,
J. H. Glendenning.

Inventor.
Archibald R. Wilson
By Charles W. Fiels,
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ARCHIBALD R. WILSON, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE SHIELD BROOM COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

BROOM.

SPECIFICATION forming part of Letters Patent No. 689,941, dated December 31, 1901.

Application filed April 20, 1901. Serial No. 56,795. (No model.)

To all whom it may concern:

Be it known that I, ARCHIBALD R. WILSON, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Brooms; and I do hereby declare that the following is a full, clear, and exact description of the invention, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part thereof.

This invention relates to improvements in brooms, and has for its object a light, strong, and durable construction whereby short broom-straw not heretofore available in the manufacture of brooms may be used.

Heretofore it has been usual to use the longest broom-corn of the best quality in constructing house-brooms, and it is a matter of common knowledge that with brooms so constructed only a very small part of the brush material is available for use before the broom is worn out and the handle and the major part of the brush are thrown away as useless.

My invention provides means for not only utilizing cheap straw, known as "shorts," in a brush of novel construction, but also includes means for detachably securing the same to a handle. Said brushes are comparatively inexpensive, and when one is worn out it may be discarded and another fitted to the handle, thereby reducing the expense of brooms to one-third of what they now cost.

In the drawings, Figure 1 is a front elevation of a broom embodying my invention. Fig. 2 is a vertical section of the same. Fig. 3 is a section taken on line 3 3 of Fig. 2. Fig. 4 is a section taken on line 4 4 of Fig. 2. Fig. 5 is a perspective view, partly broken, of a brush embodying my invention. Fig. 6 is a section, partly broken, taken on line 6 6 of Fig. 5. Fig. 7 is a detail of means for holding the straw from pulling out of the brush. Fig. 8 is a fragmentary perspective view of the top of the brush, partly broken, and illustrating an additional means for holding the straw.

As shown in said drawings, A indicates the brush portion of the broom.

B indicates the handle.

C indicates a casing, preferably of sheet metal, adapted to receive the upper end of a brush and together therewith to be rigidly secured upon a handle.

The brushes are designed to be constructed as separate articles of manufacture entirely independent of the handle and casing and, as shown, are constructed of relatively short broom-straw or like material rigidly secured in said brush. In the construction illustrated a layer of broom-straw is first laid down of sufficient width to form the desired broom. A strip of emery-cloth a or other abrasive material, as indicated in Figs. 4 and 6, is laid upon the said first layer, and another layer of the broom-straw is laid above said abrasive material. Successive layers of broom-straw separated by a strip of abrasive material are thus laid down until a thickness necessary to form a desired broom is obtained. Said abrasive strip may be abrasive on but one side and folded, as indicated, or may be coated on both sides, as indicated in Fig. 7. A strip of wire-netting or other reticulated material (indicated by a') is next drawn tightly about the brush, as indicated in Figs. 5 and 6, and rigidly secured in position, and the brush is sewed through and through, the threads passing through the apertures in said reticulated material and through the corn and the abrasive material interposed between the layers of corn. The head of the brush is then trimmed, and a rigid plate a^2, corresponding in shape and size with the head of the brush, is placed thereon, as indicated in Figs. 5 and 8. A cap or sheath a^3, of canvas or other suitable material, is drawn over said plate and downwardly on the brush, as indicated in Fig. 5, and stitched through and through the brush, thereby forming a rigidly-secured sheath for the upper end of the same. Means are provided on said brush for rigidly securing the same, with the casing C, on the handle B. D indicates a metallic clip, as shown, of sheet metal, provided with downwardly-depending side flanges d, adapted to be secured on opposite sides of the brush by riveting the same together through the brush. Said clip is provided at the top with parallel inwardly-turned flanges d' d', forming at the top of the same

a channel adapted to receive and retain the plate *e*, rigidly secured on the lower end of the screw-threaded ferrule E. (Shown in Figs. 2 and 5.) It will be seen that said brush tapers upwardly in wedge form, both on opposite sides and opposite edges. The casing C comprises a lower tapering part *c*, complemental in form to the upper end of the brush and adapted to receive the same, and an upper part *c'*, which inclines inwardly to a central axial ferrule c^2, preferably flanged at the top, as indicated in Fig. 2. The handle B is provided with screw-threads at its lower end complemental to the screw-threads in the ferrule E and is provided adjacent thereto with a rounded collar *b*, preferably of resilient material, such as rubber or the like. Said collar is so disposed on the handle that when the end of the brush is inserted in the lower end of said casing said collar *b* will engage on the flanged end of the ferrule c^2 when the screw-threads on the end of the handle first engage in the screw-threads in the ferrule E. Obviously screwing the handle into the ferrule acts to draw the brush upwardly in the casing to the position indicated in Fig. 2, with the effect (owing to the shape of said brush and casing) of wedging the same firmly therein. The friction of said collar *b* on the top of the ferrule c^2 acts to prevent the broom-handle from unscrewing. If desired, also, the ferrule E may be given a slight interior taper, with the effect of jamming the screw-threaded portion of the handle therein. For the purpose of holding the inner end of said handle rigid with respect to the brush an axial pin is provided through the plate a^2 axially of the ferrule E, so that when the brush is drawn into the casing by means of the handle said pin engages in the top of said brush. The said casing may be ornamented in any desired manner. It may in some instances be desirable to provide a metallic band F, as indicated in Fig. 8, which is folded around the upper end of the brush over the wire-netting and is drawn tightly about the same and riveted through and through the broom.

Obviously, brooms constructed in accordance with my invention may be of any desired size or material and may be utilized for any desired purpose. Clearly also the brush when it has become worn may be detached from the handle, another replaced thereon, and the worn brush utilized for scrubbing and many other purposes.

Many of the details or features illustrated in the construction above described are not essential to the carrying out of the broad features of my invention when separately considered. The scope of the invention will be set forth in the concluding claims, and it is understood that the omission of an element or the omission of a particular feature of any of the elements mentioned in any given claim is intended to be a formal declaration that the omitted elements or features are not essential to the invention therein covered.

I claim as my invention—

1. A brush comprising a plurality of layers of brush material, a flexible strip of abrasive material located transversely between the layers at one end thereof, and a reticulated strip drawn tight about said end of the brush acting to bind the layers of brush material and the abrasive material rigidly and permanently together.

2. A broom-brush comprising a plurality of layers of brush material, a flexible strip of abrasive material laid transversely of the brush material at one end thereof between and in engagement with successive layers and a permanently-secured casing of reticulated material and textile material acting to bind said ends of the brush.

3. A broom-brush embracing a plurality of layers of brush material provided transversely at one end with abrasive strips between and engaging successive layers, a band fitting tightly about said ends of the brush and acting to permanently bind said parts together, a plate against which the ends of the brush material abut and permanently secured to the brush and a sheath inclosing said plate and a part of the brush and permanently bound to the brush.

4. A broom-brush embracing a plurality of layers of brush material provided at one end with transverse abrasive strips between and engaging successive layers, a strip of reticulated material drawn tightly about said end of said brush and acting to permanently bind the parts together, a plate against which the ends of the brush material abut and permanently secured to said brush and a sheath inclosing said plate and a part of said brush and rigidly bound to the brush, said brush tapering upwardly.

5. In a broom, the combination with an integral handle having screw-threads on its lower end of a downwardly-opening flaring casing adapted to receive the lower end of the handle, a brush having its upper end formed to correspond with the casing, a removable threaded socket-piece secured on said brush within the casing adapted to be engaged by said threaded end of the handle and a fixed part on the handle engaging against the casing whereby rotation of the handle acts to draw the end of the brush within the casing and rigidly secure the same therein.

6. In a broom the combination with a brush provided at its upper end with guides, a screw-threaded ferrule removably secured between said guides, a handle provided at one end with screw-threads adapted to engage those within said ferrule and a metallic casing adapted to rigidly engage said brush and a part on said handle and acting to hold said parts from relative movement.

7. The combination with an end-threaded integral handle of a rigid collar thereon, a

downwardly-opening casing adapted to receive the screw-threaded end of the handle and adapted to be engaged by said collar, a brush, a rigid plate permanently attached to the brush, a removable socket-piece secured at the upper end of the brush and inclosed within the casing and adapted to receive the screw-threaded end of the handle whereby rotation of the handle acts to draw said brush upwardly within the casing.

8. In a broom, the combination with an upwardly-tapering brush of a removable central socket-piece attached to the top of the brush, a handle adapted to be removably secured in said socket and provided with a part extending therethrough into the brush and a casing complemental with the tapered end of the brush and adapted to receive the end of the brush and the socket-piece and through which the end of the handle extends into engagement in the socket-piece and against which the handle acts to rigidly secure the brush therein and a pin on the end of the handle which projects through the socket-piece into the brush.

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

ARCHIBALD R. WILSON.

Witnesses:
C. W. HILLS,
L. J. DELSON.