Oct. 28, 1947. W. L. GROSCH 2,429,753

BROOM HANDLE MOUNTING

Filed June 11, 1945

FIG. 1

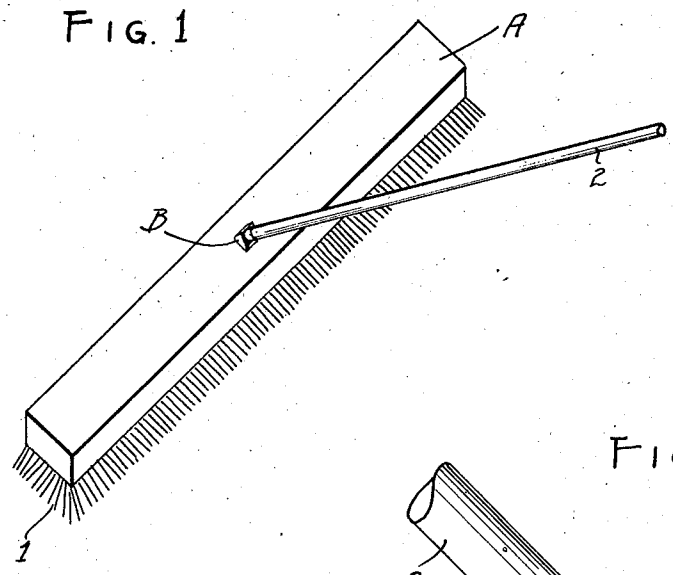


FIG. 2

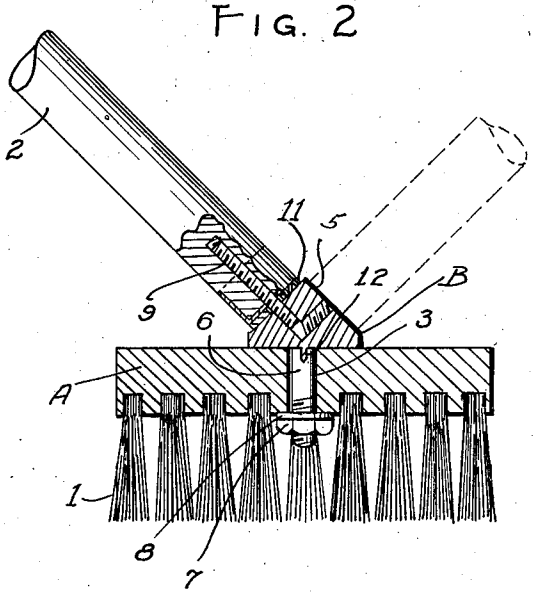
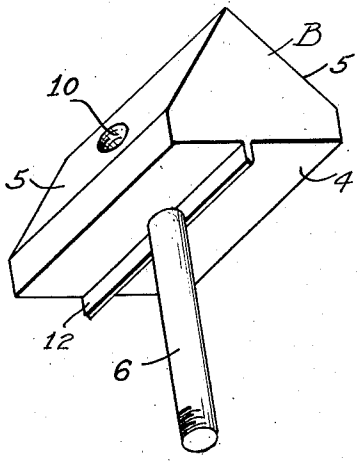


FIG. 3



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BROOM HANDLE MOUNTING

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1 Claim. (Cl. 306—6)

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The invention relates to improvements in push broom or brushes or the like, and more particularly to an adapter to be interposed between the same and the handle whereby the broom or brush is moved across the surface being cleaned.

The most important object of my invention is to provide a metal or other similarly strong material as an interconnection between the wooden brush head or broom head or block and the wooden handle generally employed, so that the life of the broom or the like is greatly lengthened and there is little danger of breakage of said wooden parts.

Another object of this invention is to so construct a device of the kind described, that the broom or brush head need have but a single handle-securing bore therethrough, and this bore being of smaller diameter than the pair of handle-receiving openings generally employed, to thereby not only strengthen the broom or brush, but permit of more usable surface in the face of said cleansing tool for bristles, straw, etc.

An added object of my invention is to so construct a mounting of the kind described, that the handle will not break off as easily as with those brushes in present use, the same being strengthened through use of my adapter having a pair of mutually inclined faces, each with threaded bores therein, so that a bolt may be threaded into the lower end of the handle and into either of said threaded bores, to permit the brush to be pushed from either side.

A further object of this invention is to so construct the handle-receiving adapter so that it will have means independent of the securing means between the adapter and brush head, to cut or bit into the material of the said head and thus prevent any possibility of accidental relative rotation between the adapter and head.

Additional objects of the invention are to provide means of the kind described, that will be extremely simple in cost, neat and attractive in appearance, strong and sturdy, of a minimum number of cheap and readily obtainable parts, and which will be otherwise satisfactory and efficient for use wherever deemed applicable.

Many other objects and advantages of the construction herein shown and described, will be obvious to those skilled in the art to which this invention appertains, as will be apparent from the disclosures herein given.

To this end, my invention consists in the novel construction, combination and arrangement of parts herein shown and described, and the uses

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mentioned, as will be more clearly pointed out in the claim hereunto appended.

In the drawings, wherein like reference characters indicate like or corresponding parts throughout the views,

Figure 1 is a perspective view illustrating a push broom embodying my invention;

Figure 2 is a transverse cross-section therethrough; and

Figure 3 is a perspective detail of the adapter element between the handle and the broom head or block.

Referring more particularly to the drawings, wherein I have illustrated a preferred embodiment of my invention A represents generally the head or block of a push broom, brush or the like sweeping implement, the same being of elongated form so that a relatively wide extent of floor may be swept with each stroke of said head, the head being most commonly of wood or similar light and inexpensive material, and able to withstand the use to which such implements are most oft put. The bristles or straw are indicated at 1, and are firmly held in place in spaced tufts or bunches embedded in the lower face of said head or block A.

2 represents the handle adapted to be firmly fastened at its lower end to said brush head, and whereby the cleansing tool may be manipulated across the floor as desired, said handle also preferably being of wood, for reasons well-known to the trade.

In order that the bristles or straw may wear evenly and enable the brush to give service as long as possible, efficiently, it has been common practice to bore two apertures into said head downwardly and inwardly toward one another from the sides of said head, so that the lower end of the handle may be removably insertable into either of said openings.

Said apertures or sockets are either tapered or threaded so as to detachably receive the correspondingly shaped lower end of the handle, but this type of interconnection has several drawbacks in actual practice.

First, the boring of these pair of handle-receiving openings, of about ⅞ inch bore, weakens the head materially across its mid-length, and nearly all breakage of heads occurs at this region.

Next, there is a tendency for instability of the interconnection between the head and handle, because wood used in such work quickly loses its original size, on account of absorbing moisture and drying out, repeatedly throughout the seasons, and through being knocked against walls,

furniture, fixtures, tools, etc., about which the broom is used, and the head becomes ill-fitting and wobbly, and increases the tendency to wear at such interconnection and in many cases breaks the handle or head, or both.

Further, and in order to leave the head as strong as possible, it has been the custom not to put bristles or straw tuft-holes in the region directly adjacent the handle-receiving holes, so that such portions of the head are ineffective and decrease the over-all efficiency of the brush per unit of length or area of the head or block.

I have so constructed the brush or broom head or block that, instead of the two rather large-bore holes or handle-receiving sockets therein, only a single and comparatively small-bore aperture 3 is provided, said aperture being approximately only about half the diameter of the usual bore and extending vertically through the block centrally of the width and length of the latter.

An adapter element B, made of some strong and sturdy material such as metal, for instance, is adapted to be interposed between the wooden handle and block to interlock the brush parts removably but firmly, in their work-relation, this adapter element being indicated as being approximately triangular in transverse cross-section, the base of the same being indicated at 4, and the pair of sides 5—5 converging thereabove.

The base 4 of said adapter element is shaped to correspond to the top surface of said block upon which it may be superimposed somewhat as shown, and in order to detachably clamp said element to said block, a fastening element such as the bolt or screw shown at 6 may extend through said opening 3 and interconnect fixedly or removably with said element, as desired. In the form shown, the element 6 is fixed to said element B and the free end, projecting below the lower face of the block is adapted to detachably receive a tightening nut 7 for drawing the block and adapter together into a unit. A washer or locking element 8 may be interposed between the nut and block to minimize the likelihood of displacement of said parts so held together.

A metal stud 9 is adapted to project axially beyond the lower end of said wooden handle, there being a ferrule made of metal enclosing said lower end of the handle, and preferably threaded to be threadedly engageable with the threads of the stud 9. The stud extends far enough into the handle end to give strength to the latter in this region.

Each of the faces of said adapter element that make up the pair of convergent faces 5—5, is provided with a threaded bore 10 thereinto, the axis of each bore being normal to the face 5, and the bores being of a size to detachably receive the projecting end of the screw or stud 9.

Obviously, the handle may be secured against either of the pair of inclined faces 5—5 of the adapter element, inasmuch as the screw 9 projecting axially beyond the handle end may be received selectively in either of said openings 10—10, so that the broom may be used to sweep from either side of the head or block. A lock washer 11 may be interposed between the handle and adapter to minimize rotation of the handle thereat.

The metal stud 9 greatly reinforces the handle adjacent its interconnection to the brush and

will prevent said handle from breaking off easily thereat. The shifting of the handle from one side of the brush to the other may be done simply and quickly, and there will be little or no sticking, splitting, warping or other deformation of parts thereat, inasmuch as the parts involved are of metal, and the threads of the metal parts will not strip or otherwise fail to function properly as if they were of wood construction.

In order to further reinforce the tendency against relative rotation of the block and the adapter, I have provided a rib or key 12 projecting downwardly from the face 4 of the adapter for substantially the full length of the latter, and if desired this rib may be sharpened or reduced in thickness at its free edge, so that when the adapter is clamped down against the brush or broom head, said rib will cut its way into the head for the slight depth shown, and will effectively interlock with the head to prevent the likelihood of any accidental rotational displacement between said head and adapter. Thus, it is seen that the handle held in said adapter so interlocked doubly with the block, will form a very rigid and effective maintenance of the parts in their work-relationship, and maintain the strength of the block constant throughout the life of the brush.

Having thus described my invention it is obvious that various immaterial changes and modifications may be made in the same without departing from the spirit of my invention; hence I do not wish to be understood as limiting myself to the exact form, arrangement, construction and combination of parts herein shown and described, except as limited by the art to which this invention appertains and the claim hereunto appended.

What I claim as new and desire to secure by Letters Patent is:

A separable adapter for mounting between the handle and the wooden head of a push broom or the like, comprising an element having a base and a pair of inclined sides thereabove, each of said sides having a threaded opening therein, said base having a transverse rib projecting downwardly from its lower surface, and a bolt member unitary with said base and said rib and extending downwardly beyond said rib, said bolt member provided with a threaded extremity to receive an adjusting nut for pressing said transverse rib into said wooden head upon adjustment thereof, the threaded openings in said inclined sides of the element being adapted to selectively receive a threaded extension on the handle.

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