R. HOUSTON.

DETACHABLE HANDLE BROOM.

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1,210,319. Patented Dec. 26, 1916.

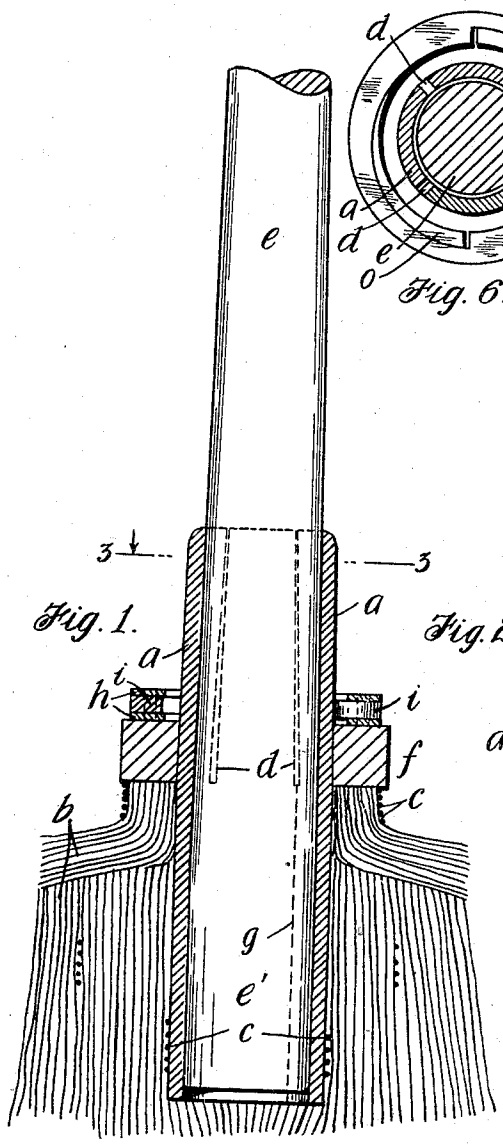


Fig. 1.

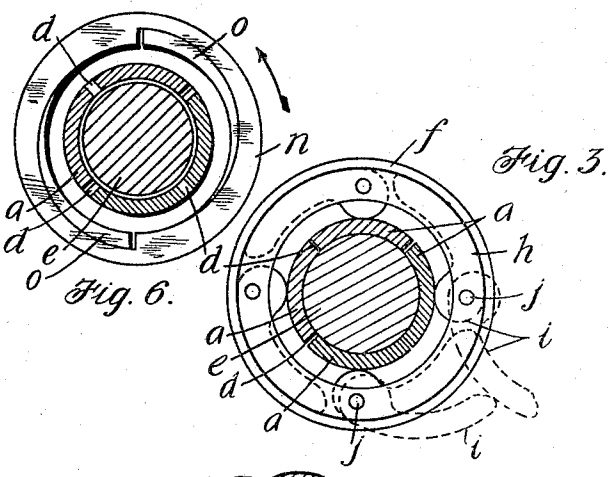


Fig. 6.

Fig. 3.

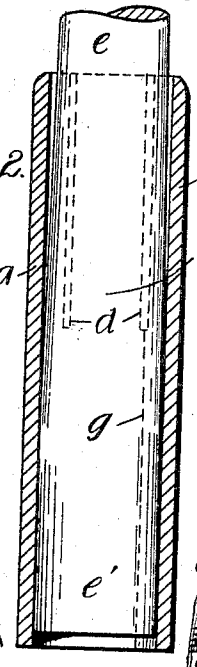


Fig. 2.

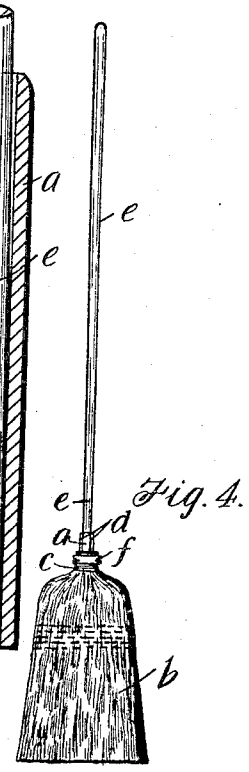


Fig. 4.

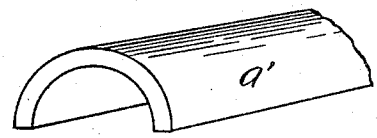


Fig. 5.

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DETACHABLE-HANDLE BROOM.

1,210,319. Specification of Letters Patent. Patented Dec. 26, 1916.

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To all whom it may concern:

Be it known that I, Ross Houston, a citizen of the United States, and a resident of Tacoma, county of Pierce, and State of Washington, have invented a certain new and useful Improvement in Detachable-Handle Brooms, of which the following is a specification.

The call for a broom having a detachable handle is, in the first place, based upon the desire to bring about a decrease in the cost of a broom to the manufacturer, and also to the consumer. To this end, it is desirable that the handle of the broom be not thrown away and wasted after the broom-head has become unfit for use and service; for the handle is an appreciable item in the cost, and is capable of outlasting any number of broom-heads. In the next place, such construction is also desired from the standpoint of convenience, and decrease in cost of transportation from manufacturer to dealer, or consumer.

The difficulty in obtaining the desired result lay in the providing of means both efficient and simple for detachably fastening the handle in the broom-head; the simplicity of the means bearing, of course, directly on the cost of manufacture, for it would be a difficult thing to increase the present cost of a broom to the consumer, and have the broom meet with favor on the market. With regard to the efficiency of the means, it is to be said that it is indispensable that the broom-head be rigidly fastened on the handle, so that the broom whole will retain the solidity found in the broom made with a fixed handle; and such solidity must continue throughout the use of the broom. Furthermore, the handle must not be worn by its attachment to, or removal from, the broom-head, for otherwise the neatness of the appearance of the broom as a whole will be lost, and the life of the handle shortened.

The above-mentioned desirable ends I attain by my invention, the general features of which are the following: The broom-head is formed on a hollow core, and the latter has an end projecting beyond the broom-head, which projecting end is slotted longitudinally substantially the full length thereof. The said hollow core constitutes a socket for the broom handle. The butt end of the handle is made with an inward taper so that said slotted end of the core may be contracted about said tapered portion of the butt of the handle, and thereby securely fastening the broom-head on the handle. After the handle has been inserted in its said socket, the projecting slotted end of the core is contracted about said tapered butt end of the handle, by suitable means, thus securely fastening the broom-head on the handle.

The details of construction of my invention are hereinafter fully described with respect to the accompanying drawings, in which—

Figure 1 is a vertical sectional view showing my improved broom head and detachable handle in their attached position; Fig. 2 is a view similar to Fig 1, showing the hollow core of the broom-head core, and the inwardly tapered butt end of the detachable broom-handle inserted in said core, but not locked therein. The locking devices and broom-head body are omitted from this view; Fig. 3 is a horizontal section on the line 3—3 of Fig. 1, showing means for contracting the slotted end of the hollow core about the tapered butt end of the handle; the broken lines of this figure illustrating the action of said means; Fig. 4 is an elevation of a broom embodying the features of my improved construction; Fig. 5 is a perspective view of a portion of the molding strip from which my improved hollow broom-head core is made; and Fig. 6 is a view similar to Fig. 3, but showing another type of means for causing the contraction of said slotted end of the core for the one shown in the other drawings.

The core of my broom-head comprises the two supplementary sections of half-round molding *a*, *a*, the parting line between these sections being indicated by *g*, in Figs. 1 and 2. These sections are placed together so as to form a cylindrical core and are held firmly in such related position by the wire *c*, which is wound tightly around said core. The broom-head body *b*, is fixed on the core in the usual manner. The upper end of the core projects above the broom-head, and the projecting portion is provided with dia-

metrical, longitudinal slots *d*, which permit this end of the core to be contracted. The extreme upper end of the core is chamfered off so as to present a finished appearance. The detachable broom-handle *e* is of the usual tapered construction, the lower or butt end *e'* being chucked so as to form a true cylindrical body of a diameter which will give said handle end a close fit in the lower end of the core, and leave an inwardly tapered portion above said cylindrical portion. A felt buffer-washer *f* encircles the core at the upper end of the broom-head.

The means by which the detachable broom-handle *e* is secured i nthe broom-head core, consists of a pair of parallel rings *h*, and cam locking levers *i*, pivoted on the pins *j*, between said rings. When the cam locking levers *h* are in their inactive position, as indicated by the broken lines of Fig. 3, the device may be readily slipped over the core, and when said locking levers are thrown over center to the position shown in full lines of Fig. 3, they will contract the projecting slotted end of the core about said tapered portion of the butt end of the handle, thereby securely fastening the broom-head on the handle.

The enlarged end *e'* of the handle *e* will prevent the handle from being withdrawn from the core until the cam locking levers are again placed in their inactive state and the surface contact between the core and the handle will hold these parts rigidly together.

In Fig. 5, *a'* represents a section of a molding strip from which the broom-head core is made.

An alternate locking device, which may be substituted for the one shown in the other drawings, is shown in Fig. 6. In this device, *n* is a ring, the interior face of which is made with spiral recesses in which are seated the spiral wedges *o*. When the ring *n* is turned in the direction indicated by the arrow in Fig. 6, and the wedges *o* held stationary, the latter will be forced inward so as to contract the end of the core and thereby lock the handle in place as previously described.

Since the core is made of wood and of considerable length, it will not mar the handle, and the pressure of the clamping means is applied to the core of the broom-head, which is a part of the discarded broom-head.

Applicant preferably makes his core of a plurality of members having longitudinal abutting faces, because such construction has a tendency to facilitate the contraction of the slotted projecting end of the core about the tapered portion of the butt end of the broom-handle; and such construction further tends, simultaneously with the contraction of the upper end of the core, to expand the lower end of the latter, and in so doing tends to tighten the binding of the broom-head on the core, and adds to the strength and durability of the broom-head.

I claim:

1. A broom-head including a hollow core having a longitudinal bore, the broom-head being formed on said hollow core and the latter constituting a socket for the handle of the broom, said handle having a tapered butt-end, the hollow core projecting beyond the broom-head, and such projecting portion being longitudinally slotted substantially the full length thereof, whereby said slotted end of the core is adapted to be given a locking contraction about the tapered butt end of the broom handle.

2. A broom-head including a hollow core having a longitudinal bore and made of a plurality of members having longitudinal abutting faces, the broom-head being formed on said hollow core and the latter constituting a socket for the handle of the broom, said handle having a tapered butt-end, the hollow core projecting beyond the broom-head, and such projecting portion being longitudinally slotted substantially the full length thereof, whereby said slotted end of the core is adapted to be given a locking contraction about the tapered butt end of the broom-handle.

3. A broom consisting of a broom-head including a hollow core having a longitudinal bore and made of a plurality of members having longitudinal abutting faces, the broom-head being formed on said hollow core, and the latter constituting a socket for the butt end of the handle of the broom, the hollow core projecting beyond the broom-head and such projecting portion being longitudinally slotted substantially the full length thereof, a broom handle inserted in said hollow core, the handle having an inwardly tapered portion adjacent to its butt end, and means for contracting said slotted end of the hollow core about said tapered portion of the broom handle, said means at the same time causing the lower ends of the hollow members to expand in the broom material.

4. A broom consisting of a broom-head including a hollow core having a longitudinal bore and made of a plurality of members having longitudinal abutting faces, the broom-head being formed on said hollow core, and the latter constituting a socket for the butt end of the handle of the broom, the hollow core projecting some distance beyond the broom-head and such projecting portion being longitudinally slotted substantially the full length thereof, a broom handle inserted in said hollow core, and means for contracting said slotted end of the hollow core about the butt end of the broom handle, said means at the same time tending to cause the lower ends of the core members to expand in the broom material.

5. A broom-head made with a hollow core having a longitudinal bore made of a plurality of members having longitudinal abutting faces, the broom-head being formed on said hollow core and the latter constituting a socket in which to insert the butt end of the handle of the broom, said hollow core projecting some distance beyond the broom head, such projecting portion being adapted to be contracted about and for locking engagement with the butt end of the handle inserted in said socket, and such contraction at the same time tending to cause the lower ends of said core members to expand in the broom material.

ROSS HOUSTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."