(No Model.)

A. A. WILLETS.

BROOM HEAD.

No. 489,841. Patented Jan. 10, 1893.

Fig 1

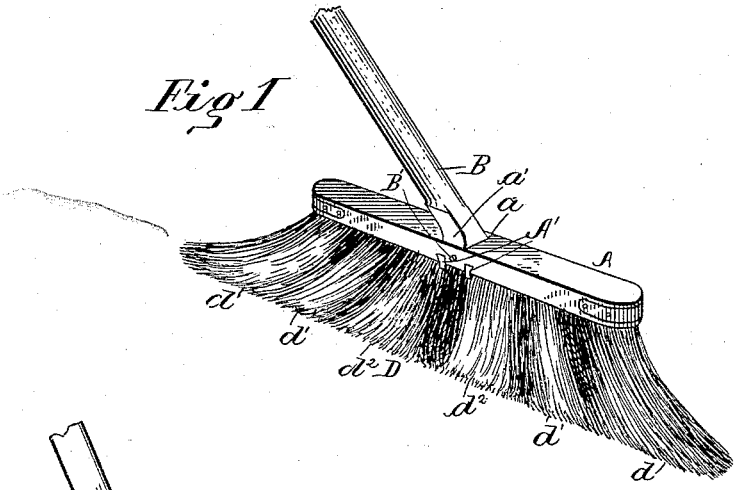


Fig 2

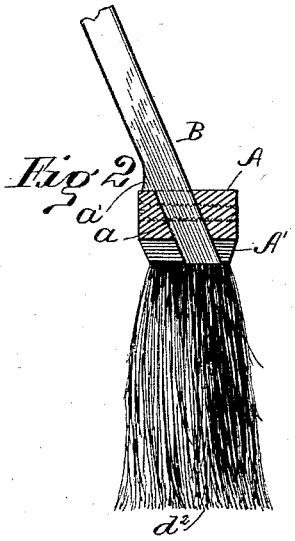


Fig 3

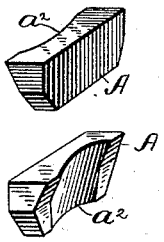


Fig 5

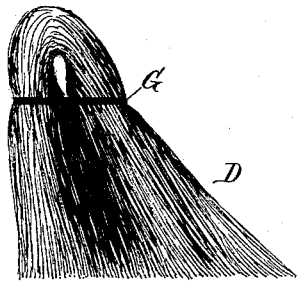
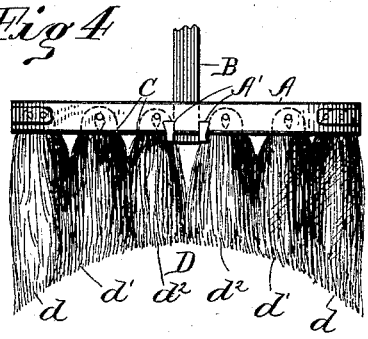


Fig 4



Witnesses
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UNITED STATES PATENT OFFICE.

ABNER A. WILLETS, OF McKEESPORT, PENNSYLVANIA.

BROOM-HEAD.

SPECIFICATION forming part of Letters Patent No. 489,841, dated January 10, 1893.

Application filed July 2, 1892. Serial No. 438,802. (No model.)

To all whom it may concern:

Be it known that I, ABNER A. WILLETS, a citizen of the United States, residing at McKeesport, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Broom-Heads; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improvement in "broom heads" and it consists in the construction and arrangement of parts hereinafter described and definitely pointed out in the claims.

The aim and purpose of this invention is the provision of an improved broom head, both durable and inexpensive, so arranged that a relative large amount of surface to be swept may be covered with a small amount of material, and which will be efficient and thoroughly satisfactory in its work. These objects are attained by the construction illustrated in the accompanying drawings wherein like letters of reference indicate corresponding parts in the several views in which.

Figure 1 is a perspective view of a broom showing the same in a position for use. Fig. 2 is a cross section through the center of the head. Fig. 3 is a detail of a cross piece. Fig. 4 is an elevation of the head, and Fig. 5 is a detail view of one of the tufts of fiber.

In the construction of this broom I employ a manila fiber or its known equivalent. This fiber is taken in what is known as its "farmed" state subjected to a bath of alum water and thoroughly washed. It is then passed between two wringer rolls and thoroughly dried, thus leaving the fiber clean and free from all splinters and detached pieces. In constructing a broom head of this material I first take a flat base strip A, which is provided with a handle B, through this strip A, a series of apertures C are formed, preferably three on each side of the handle arranged in line, and in proximity to each other. In these apertures are placed the tufts of fiber D, the same being arranged as follows:—The fiber of the outer or end tufts d are of greater length than fiber of the inner tufts d' d^2 and are of uniform length. These fibers are folded or looped in an uneven manner, that is the outermost fibers are drawn out and folded at a point midway between their centers and inner ends while the inner fibers are folded in a decreased irregularity and the center or innermost fiber approximates a central fold. By this means the tuft has its upper end formed into an incline, and is placed in the strip A, with the short ends nearest the handle. The inner tufts d are formed with a less incline than the outer tufts while the tufts d^2 are substantially straight at their outer ends. By this means a brush head is formed with a concaved sweeping face or edge, as shown in Fig. 4. The manner of securing the tufts in the strip is to insert the folded ends into the apertures and pass a fastener or nail F^4 through the strip A, laterally, over the fiber. The fiber being first bound together by a suitable band G, which encircles the loop adjacent its end.

By making the head of the manila fiber, and with a concaved sweeping edge I secure a very lasting or durable broom, the yielding nature of the material preventing the same from cracking or breaking and the irregularity or inclination of the outer tufts form a greatly extended sweeping surface as shown in Fig. 1. The extent of sweeping surface being practically three times greater than the length of the strip A.

A further advantage gained by the above described head, is that but a single row of tufts is necessary, thereby greatly decreasing the weight of the broom.

The strip A has an inclined rectangular opening a therein, in which the tongue of the handle is fitted, there being a shoulder a' on the upper side, the handle which rests on the top of the strips. The handle is secured in the strip by a screw B′ which passes through the strip and handle.

To prevent the wall between the inner apertures and opening a from breaking, and to further give an increased bearing for the sides of the end of the handle, I place two lateral cross-pieces, A′ in suitable grooves formed in the strip A, at the sides of the opening a. These pieces are dovetailed into the strip and form the upper side walls of the openings, their edges projecting beyond the face of the

strip. Their outer sides are formed with curved seats a^2 in which the inner tufts rest. By this means the handle is securely held in place and the base strip strengthened at its weakest point.

I am aware that other fibers, commonly known as rope fibers may be used and the precise form of construction varied without in the least departing from the nature and principle of my invention.

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

1. In a broom head the combination with a handle and base strip having perforations therein of a brush having a concaved brushing edge, with fibers of increased length at the outer ends, substantially as described.

2. In a broom the combination with a base strip having a single row of apertures therein, and a central rectangular opening, a handle fitted in the central opening, tufts in the apertures and lateral reinforcing strips A′ fitted into the strip on each side of the central opening, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ABNER A. WILLETS.

Witnesses:
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