No. 676,540. Patented June 18, 1901.

E. C. JONES.

BROOM STAY AND FIBER SUPPORT.

(Application filed Oct. 1, 1900.)

(No Model.)

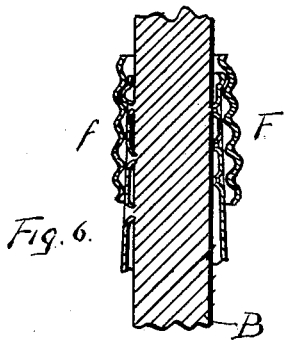

Fig. 6.

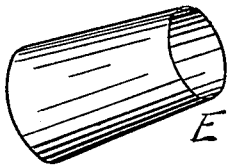

Fig. 7.

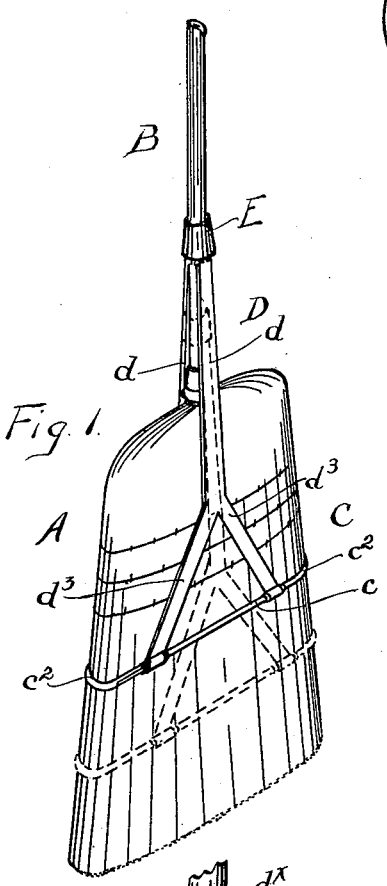

Fig. 1.

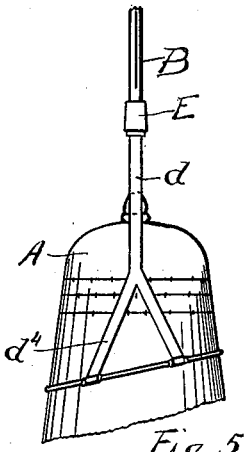

Fig. 5.

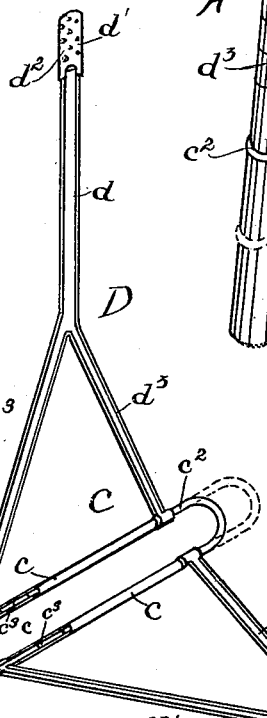

Fig. 2.

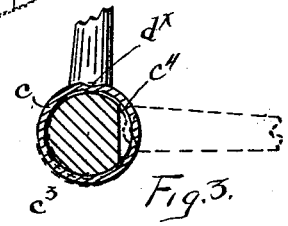

Fig. 3.

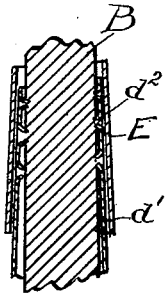

Fig. 4.

WITNESSES.

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UNITED STATES PATENT OFFICE.

EDWARD C. JONES, OF KANSAS CITY, MISSOURI, ASSIGNOR OF ONE-HALF TO HARLIN A. PONTIOUS, OF SAME PLACE.

BROOM-STAY AND FIBER-SUPPORT.

SPECIFICATION forming part of Letters Patent No. 676,540, dated June 18, 1901.

Application filed October 1, 1900. Serial No. 31,654. (No model.)

To all whom it may concern:

Be it known that I, EDWARD C. JONES, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a certain new and useful Improved Broom-Stay and Fiber-Support; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others to make and use the same, reference being had to the accompanying drawings, forming a part of this specification.

The objects of my invention are, primarily, to reinforce and stiffen the fibrous body of the broom at its junction with the handle; second, to confine the free ends of the fibers of the broom and prevent their spreading apart and lessen the uneven wear of the broom, and, third, to adjust the stay in position at any point upon the broom-handle.

The invention consists in the novel construction and combination of parts, such as will be hereinafter fully described, and specifically pointed out in the claims.

In the drawings, Figure 1 is a view in perspective of a broom with the invention applied thereto. Fig. 2 is a view in perspective of the novel broom-stay and fiber-support removed from the broom and shown in an open position. Fig. 3 is a transverse sectional view taken through the hollow fiber-support and the extensible end thereto, showing the means for retaining the ends in an adjusted position. Fig. 4 is a vertical sectional view taken through the adjustable upper ends of the broom-stay and a portion of the broom-handle, showing the projections upon the stay and the clamping-sleeve. Fig. 5 is a view of the invention as seen in Fig. 1, showing the fiber-support in an inclined position. Fig. 6 is a sectional view of a portion of the handle of the broom, showing an alternative means for securing the stay adjustably to the broom-handle. Fig. 7 is a detail view of the securing-ferrule to the broom-stay.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

Referring to the drawings, A represents the fibrous body of a broom, and B the longitudinally-extended handle.

C represents the broom-fiber support or band, which consists of separate horizontal tubes or guides *c c* on each side of the flat fibrous body of the broom and close in position thereto. The ends of tubes *c c* extend to within a short distance of the outer edges of the fibrous body of the broom, and with said ends are adjustably connected the ends c^3 c^3 of a curved rod or link c^2, which ends are parallel with each other and are slightly smaller in circumference than the distance around the inner side of the ends of tubes *c c* and extend a short distance within said tubes, as seen in Fig. 2.

D represents the broom-stay, which consists of the longitudinal plates *d d*, of sufficient rigidity, arranged upon each side of and in the direction of the length of the broom-handle B, and narrow in width. Upon the upper end of each plate *d* is an outwardly-curved plate *d'*, which extends part way around the handle B of the broom and is punctured from the outer side of the plate *d'* inwardly, forming sharp points d^2 on the inner side of said plate, which are extended toward the broom-handle, these points being made in any desired number and preferably in series the length of plate *d'*.

Extending around broom-handle B is a sleeve or ferrule E, the inner side of which is of the proper dimensions to extend around the plates *d' d'* and is slightly outwardly flaring in the direction of the lower end, so that when the ferrule is forced downwardly upon the plates *d' d'* the points d^2 are forced within the surface of the handle B of the broom. The lower end of the portion *d* of each stay *d* extends downwardly a considerable distance upon the flat side of the fibrous body A of the broom, so as to give strength to the said fibrous body A at its junction with the handle, and with said end are connected the upper ends of the branch plates d^3 d^3, the lower ends of which plates extend outwardly and downwardly in opposite inclined planes and in the direction of the ends of the tube *c* and are bent once around said tube a short distance from its ends and soldered rigidly to said tube. The outer side portions of the ends c^3 c^3 of the links c^2 are flattened in the longitudinal direction, as indicated at c^4 in

Fig. 3. In the outer and upper surface of the tubes c c at their extreme outer ends are the depressions $d^{\times}$, which in the inner side of the tube project inwardly and bind upon the curved sides of the ends c^3 c^3 of the links c^2, and when the stays d are in open position, as seen in Fig. 3, the projections are opposite the flattened portions c^4 of the ends c^3 c^3 of the links c^2. The stay-plates d d^3 when made from metal are given an increased rigidity by the turning inwardly of the outer edges of the plates; but the construction may be varied to attain the same result. In applying the invention to a broom the stays d d are extended in a horizontal position, which causes a partial rotation of the tubes c c on the ends c^3 c^3 of the links c^2 c^2, which action causes the projection $d^{\times}$ on the inner side of the tubes c c to take a position opposite the flattened portion c^4 of the ends of said links, and the links are in a position to be easily removed. One of the links c^2 being drawn from the tubes c c, the said tubes are placed on each side of the fibrous body A of the broom and the link replaced, in which movement the links are brought in close contact with the broom fiber. The stays d d are then extended upwardly and the plates d' d' brought close in position against the handle B, which movement secures or locks the links c^2 with the tubes c c. The ferrule or sleeve E on handle B is forced downwardly in position upon the plates d' d' and the said plates secured from movement.

In the application of the invention to a new broom the fiber-support is arranged in position a short distance upwardly from the free ends of the broom fibers, so as to retain the free ends in a compact body and prevent the breaking down of the fibrous body. The broom may then be used until the free ends of the fibers are non-yielding, when the ferrule E is removed from the plates d' d' and the fiber-support C moved upwardly the requisite distance and the plates d' d' secured to the handle B in the adjusted position. In order that the fiber-support may be applied to brooms of various thickness, the links c^2 are made of different sizes. In various grades of brooms whenever the junction of the handle with the fibrous body of the broom is not strong the invention reinforces the broom, so as to add increased usefulness thereto and at the same time enable the hard usage of the broom in the beating of carpets, to which use the broom is commonly applied. The broom stay or band C strengthens the fibers of the broom and contributes to the even wear of the broom. In the application of the invention to a broom which has been worn in order to draw the fibers together the fiber support or band may be inclined in position, as seen in Fig. 5, this position simply requiring the lengthening of one of the branch portions of the broom-stay, as seen at d^4, on each side of the fibrous body of the broom, the parts being rigidly connected with the fiber-support, as in Fig. 1. This arrangement enables a broom to be used either right or left handed and will not permit the broom to be worn in a direction contrary to the position of the fiber-support. Instead of a ferrule E, I may make the plates which secure the stays to the handle externally screw-threaded, as at f in Fig. 6, to which is fitted an internally-screw-threaded ferrule or sleeve F, the plate f having the engaging points entering the handle B, as in Fig. 1. The band C is adjustable to any width of broom.

Other modifications may be made within the scope of the invention.

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

1. The combination in a broom with its handle, of a combined fiber-supporting band extending around the fibrous body of the broom, and stay-plates extending upwardly therefrom, in the longitudinal direction of the handle, and projections upon and integral with the inner side and upper end of the stay-plates, and a clamping device upon said handle for said plates.

2. A fiber-support comprising separate guide-plates upon the opposite sides of the fibrous body of the broom, having guide-openings in the ends thereof, and links having their ends adapted to enter and telescope with the guide-openings in the ends of said guide-plates.

3. In combination with the fibrous body of a broom, of separate guide-tubes upon the opposite sides thereof, and links having interlocking ends adapted to telescope with the ends of said guide-tubes.

4. In combination with a broom, with its handle, of separate plates upon the opposite sides of the fibrous body of the broom having circular openings in the ends thereof, and curved rods connecting the ends of said plate, having their ends extending within the openings in said plates, and flattened, and projections upon said tubes applied to secure the ends of the links in position within the said openings, stay-plates extending from the handle of the broom, having branches connected with the said plates on the fibrous body of the broom, and projections upon the inner side of the stay-plates, in contact with the handle of the broom, and a ferrule, substantially as described.

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