

(No Model.)

E. SHAW.
BROOM.

No. 501,370.

Patented July 11, 1893.

Fig. 1.

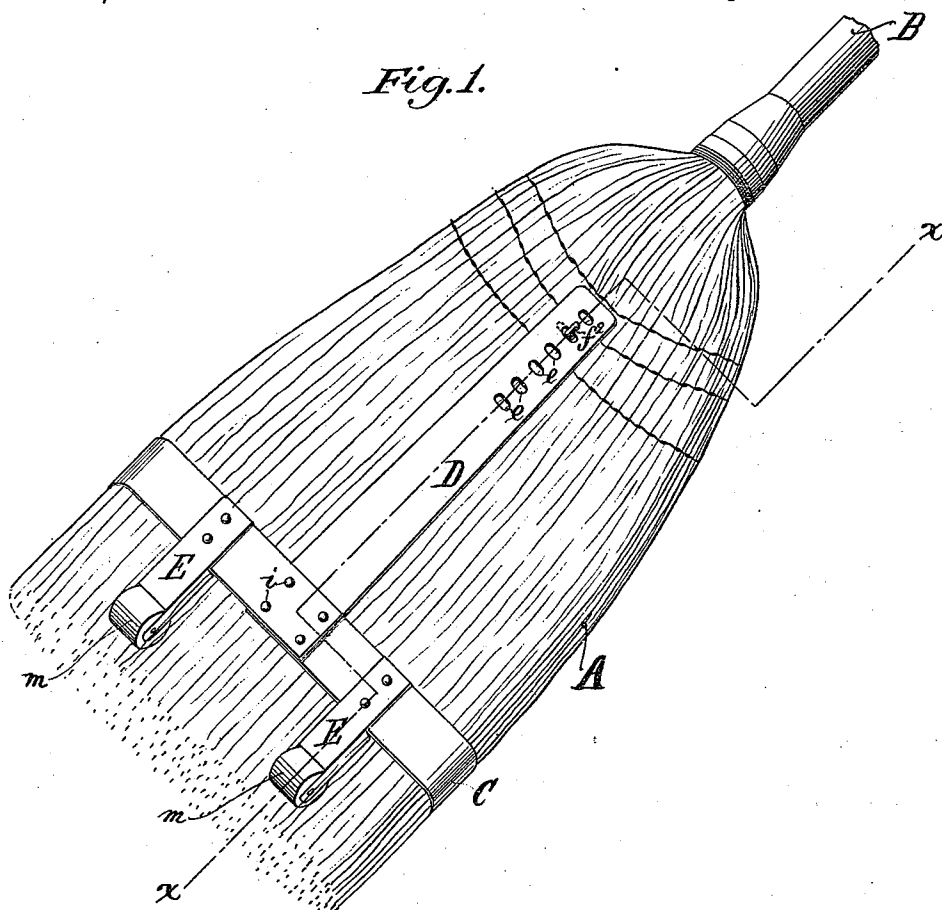
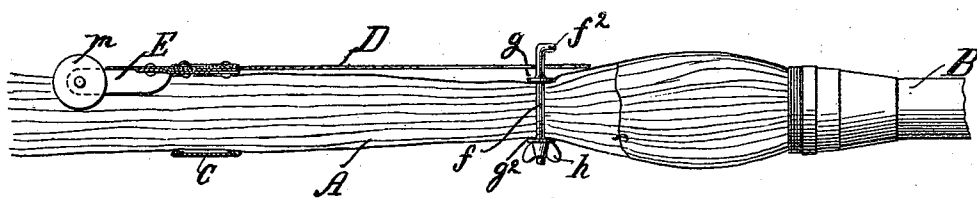


Fig. 2.



Witnesses:-

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UNITED STATES PATENT OFFICE.

EDGAR SHAW, OF SWAMPSCOTT, MASSACHUSETTS.

BROOM.

SPECIFICATION forming part of Letters Patent No. 501,370, dated July 11, 1893.

Application filed May 25, 1893. Serial No. 475,415. (No model.)

To all whom it may concern:

Be it known that I, EDGAR SHAW, of Swampscott, in the county of Essex and State of Massachusetts, have invented a certain new and useful Improvement in Brooms; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

My invention has for its main object to provide a means for lightening the draft, and, consequently, lessening the hand labor in the use of the ordinary straw broom in common use, and to this main end and object my invention consists in a device adapted to be applied to every straw broom, and operating to lessen the frictional contact of the broom with the carpet, or floor, by the intervention of anti-friction rollers carried by said device; all substantially as will be hereinafter more fully explained and as will be most particularly pointed out in the claims of this specification.

To enable those skilled in the art to which my improvement relates to understand and practice the same, either in the precise form of device herein shown, or under some modification of my invention, I will now proceed to more fully describe my improvement, referring by letters to the accompanying drawings which form part of this specification, and in which I have shown my invention carried out in that form of device, which I have so far practically employed.

In the drawings, Figure 1 is a perspective view of an ordinary straw broom having my invention applied thereto. Fig. 2, is a section of the broom, and attached devices, taken on the dotted line *x, x*, of Fig. 1.

In both figures the same part will be found always designated by the same letter of reference.

A represents the straw, or body-portion of an ordinary broom, such as very common in the market and in general use, and provided, as usual, with a handle B, a portion of which is broken away in the drawings, in order that the remaining part of the broom may be on a larger scale.

The device which I apply to the broom for the purpose of effectuating my invention, is composed, as shown, of a metallic, or sheet metal band-like portion C, which encom-

passes the straws of the broom, when properly placed in position, as shown, and is provided with a centrally projecting shank on one side of the broom, marked D, said shank having a series of oblong perforations *e*, some one of which is adapted to engage with the protruding bent end *f*² of a wire spindle, or shank *f*, which is forced cross-wise through the upper portion of the body of the broom, as clearly illustrated, and there fastened in place by a thumb-nut *h*, the said metallic shank *f* being formed with a permanent collar *g*, and a detachable collar *g*², between which collars the straw of the body-portion of the broom is clamped by the action of the nut *h*. On that side of the encircling, or embracing, band C, from which the shank D projects, are arranged two caster stands E, each of which carries a small anti-friction roller, or caster-wheel *m*, and the sizes and arrangement of the devices shown are such, it will be seen, that when the anti-friction device is applied to the broom, as shown, these anti-friction rollers *m, m*, will be located quite near to the lower end, or working edge of the mass of straw composing the broom, and will be somewhat embedded in the said mass of straw, all as clearly illustrated.

When a broom with my anti-friction device thus applied is used in sweeping, the broom is, of course, held in the proper position to bring the anti-friction rollers into contact with the floor, or carpet, to be swept, and the function and effect of said anti-friction rollers are to lessen the draft of the broom, and enable the sweeper to do the same work, with a vastly less expenditure of power, or hand labor.

In using a broom with this attachment, not only is all dragging or frictional strain; or, so to speak, the draft of the broom, lessened, by preventing an undue portion of the straw from coming into rubbing contact with the floor, or carpet; but the sweeping operation is actually improved, or the floor, or carpet, swept cleaner, than when the broom be used with any such attachment, and a greater amount of labor expended in the sweeping operation. Furthermore, as will be readily understood, the straws of the broom being bound together, or encircled, so to speak, by the band-like portion C of the device shown,

the efficacy of the working portion, or lower end of the broom is increased, and, at the same time the broom will wear better, or last longer. When, however, the working end, or portion, of the broom body wears down sufficiently to interfere with the successful operation of the broom, the device shown is adjusted, by setting the encircling band C higher up on the body of the broom, and effecting an engagement with a new and lower one of the oblong apertures *e*, which as shown, engage with the bent end *f*² of the permanently arranged shank *f*. This shank, it will be understood, is however, readily removable from the broom, so that when it may be desired to apply the anti-friction device to another, or new, broom, the user has simply to completely unscrew the thumb-nut *h*, so as to permit the escape of the washer *g*²; then pull out the collared shank *f*, and insert the device (in the manner and at about the location shown) in another broom.

In applying the device to a new broom, the handle of the broom is, of course, first inserted, or passed through the band-like portion C, which is then slipped down over the shank, and upper portion of the broom body, and into the proper position, in which an engagement is then effected between one of the oblong perforations *e*, and the protruding bent end *f*² of the shank *f*, and in effecting this engagement between the perforated shank D, and the protruding end of the device *f*, the latter is, of course, turned into the position indicated in dotted lines at Fig. 1, to permit the bent end *f*² to pass through one of the perforations *e*, after which the shank *f* is given a quarter turn to bring it into the position shown in full lines in said figure, and thus prevent any accidental disengagement of the parts. Whenever it may be desired to adjust the anti-friction device, by setting the band-portion C higher up on the broom, this shank *f* is, of course, again turned to permit a free disengagement from it of the perforated shank D, and, thereupon, the band-like portion C is pulled down past the lower end, or working portion of the broom to release the latter therefrom without bending, or breaking, any of the straws; after which the device is reapplied, in the same manner in which it would be applied to a new broom, as heretofore explained.

In making the anti-friction device shown, I have, in practicing my invention so far, manufactured the device of sufficiently stiff sheet iron, making the band-like portion C of one piece, preferably seamed on its edges to give it stiffness and rigidity, with the shank portion D composed of a separate piece of

sheet metal secured to the band-like portion C by rivets *i*, as plainly shown. And I have made the caster stands E, each of a single piece of sheet metal, cut out and formed into the shape shown, and secured by rivets *j*, as illustrated, to the band-like portion C of the anti-friction device.

The rollers *m* I have made of wood; but, of course, these stands may be differently formed, and the rollers be of different material, and the detail construction of the anti-friction device may be changed in various ways, without departing from the pith of my invention, which is based upon the idea of the application to the broom of an attachment provided with rollers, which partially support the weight of the broom, and take the pressure to which the broom is subjected by the sweeper, in forcing it down on to, and dragging it along over, the carpet, or floor, to be swept, this lightening the draft, and at the same time, improving the operation of the sweeping implement.

I, therefore, wish it to be understood that I do not limit my claim of invention to any precise device of the construction shown and described; but,

Having so fully described my invention that those skilled in the art can practice the same either in the form in which I have so far carried it into effect or by the use of an anti-friction device differing in detail construction from that shown and described, what I claim as new, and desire to secure by Letters Patent, is—

1. A device adapted to be applied to an ordinary straw broom, provided with anti-friction rollers, or draft-sustaining casters, and adapted to be held in place on the body-portion of the broom, substantially as and for the purpose set forth.

2. An anti-friction device adapted to be applied to the body-portion of a straw broom, formed, or provided, with anti-friction rollers operating as described, and means for detachably and adjustably holding the anti-friction devices at different points on the body of the broom, as the latter wears away, substantially as hereinbefore described.

3. In combination with an ordinary straw broom an anti-friction device, having an encircling, or binder-like band-portion C, within which the straw of the broom is confined, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my hand this 9th day of May, 1893.

EDGAR SHAW.

In presence of—

M. E. FOXTEN,
N. A. QUEENAN.