C. C. ABBOTT.

DUST COLLECTING ATTACHMENT FOR BROOMS.

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917,701. Patented Apr. 6, 1909.

Fig. 3.

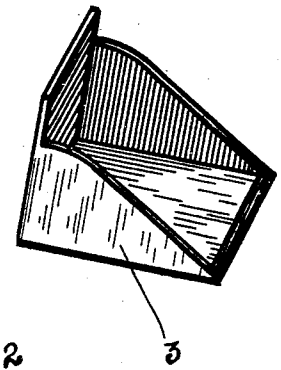
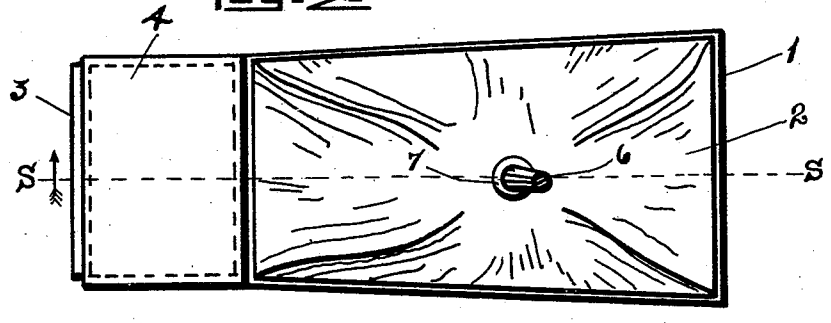


Fig. 1.

Fig. 2.



WITNESSES:

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DUST-COLLECTING ATTACHMENT FOR BROOMS.

No. 917,701. Specification of Letters Patent. Patented April 6, 1909.

Application filed February 20, 1908, Serial No. 416,829. Substituted for application filed May 24, 1907. Serial No. 375,499.

To all whom it may concern:

Be it known that I, CARRIE C. ABBOTT, a citizen of the United States, residing at Fruitport, in the county of Muskegon and State of Michigan, have invented new and useful Improvements in Dust-Collecting Attachments for Brooms, of which the following is a specification.

My invention relates to improvements in dust-collecting devices to be used in connection with brushes or brooms in the sweeping of floors and carpets, and its object is to provide such a device in simple and effective form, as hereinafter pointed out.

In the accompanying drawings, Figure 1 is a vertical cross-section on the line *s*—*s* of Fig. 2, showing also the broom in operative position. Fig. 2 is a top plan view of the device, and Fig. 3 is a view of the dust pan removed.

1 and 2 represent the inclosing case. The lower portion of this case forms a supporting frame for the upper portion of the casing, such upper portion being in the shape of a flexible bag. As much of the side walls may be made solid in form and as much flexible as may be desired, but I have shown a construction having the lower portion of the casing rectangular with rigid side walls of paper, board, or some such material, or thin sheet metal, and extending up from the floor somewhat less than the height of the ordinary broom. At one end of this lower portion 1 I extend the same upwardly into the dust-settling chamber 4. The bottom of the casing 1 is left open, but the bottom of the chamber 4 is closed by the dust pan 3, which, in the drawing, I have shown for convenience in the removable form. By making this dust-settling chamber somewhat higher than the main portion of the casing 1, I provide room for the air driven by the broom to enter, and a settling chamber outside of the direct action of the air so driven, in which there will be no violent agitation of the air and in which the dust will fall to the bottom.

In order to permit the free action of the brush or broom, it is necessary that at least the upper part of the broom-inclosing structure should have flexible walls so that the broom may move back and forth within the structure. For this purpose I provide the bag of cloth or similar flexible material which is attached at its lower edges in a substantially dust-tight way to the upper edge of the casing or frame 1 and at its upper end is gathered so as to leave an orifice just sufficient for the insertion of the broom handle. This orifice is preferably surrounded by an elastic band 7 which will cause the bag 2 to adhere to the broom handle at this point.

5 represents a broom of ordinary construction having the usual handle 6.

8 is a downwardly projecting partition serving to divide the main portion of the casing 1 from the settling chamber 4 and prevent the air which is driven into the chamber from circulating out again into the casing 1, and thus carrying the dust back again into the casing.

9 represents a lip or shoe carried by the partial bottom 10 and resting quite closely against the floor or carpet and directing the dust away from the floor and up into the dust pan 3. 10 is a partial bottom for the casing at this end, or any kind of a cross-bar carrying the shoe 9 and properly supporting the dust pan 3.

11 11 are shoes or slides of any suitable form upon the lower edge of the case, permitting the device to slide easily over the floor or carpet. 12 represents the floor line upon which these slides rest, or the level to which they may normally sink into the carpet.

In the operation of this device the broom handle is inserted from below through the band 7 and the device is then moved over the floor, the broom being operated with a sweeping motion in the usual way. The dust and dirt driven from the surface of the floor or carpet by the action of the broom are carried forward into the dust pan and chamber 4. In this chamber the motion of the air is checked, giving the dust opportunity to settle to the bottom of the chamber into the dust pan. The flexible portion of the side walls of the inclosure permits the broom to be moved backward and forward on the carpet and to have the necessary slight rising and falling motion in order that the sweeping may be accomplished. In this manner the dust is all retained within the inclosing device and substantially all of it, together with the heavier dirt, is driven to and settled within the dust pan 3.

I have shown the side walls of the casing

attached together rigidly at the corners, so as to make the lower portion of the broom-inclosing structure firm and non-collapsible, and this form of construction has certain evident advantages. I find it very desirable also to construct the side walls of this lower rigid portion of the surrounding structure of a somewhat tapering form, so that they tend to approach each other, as shown in Fig. 2. By this construction the broom can be freely moved in the rear part of the casing, while, as it passes forward in the sweeping motion, the sides of the broom come in contact with the sides of the casing and such contact in the continued forward motion of the broom becomes closer and closer as the broom wedges into the casing. It therefore makes a substantially air tight contact and tends to create a vacuum in that portion of the casing which is behind the broom in this motion. This draws in under the edge of the casing behind the broom all nearby dust and dirt, and these, upon the next stroke of the broom, will be swept forward into the settling chamber and dust pan. In this way instead of the device scattering dust in all directions, it draws the dust to it and a room can be completely and thoroughly swept and substantially no dust will escape so as to require further attention.

Having thus described my invention, what I claim to have invented and desire to secure by Letters Patent, is—

1. In a dust-collecting device for brooms, a rigid broom-surrounding frame, a flexible bag extending above such frame, means for attaching the same at its lower end to such frame, means for confining the same at its upper end in close connection with the broom handle and a dust-settling chamber carried by such frame.

2. In a dust-collecting device for brooms, a rigid inclosing frame having non-parallel side walls, a flexible bag, at its lower end attached to and carried by such frame, and at its upper end closely confined around the broom handle and a dust-settling chamber carried by the narrower end of the non-parallel side walls.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CARRIE C. ABBOTT.

Witnesses:
A. C. DENISON,
A. J. JONES.