(No Model.)

S. W. MILLIGAN.

DUST PAN.

No. 604,064. Patented May 17, 1898.

Fig. 1.

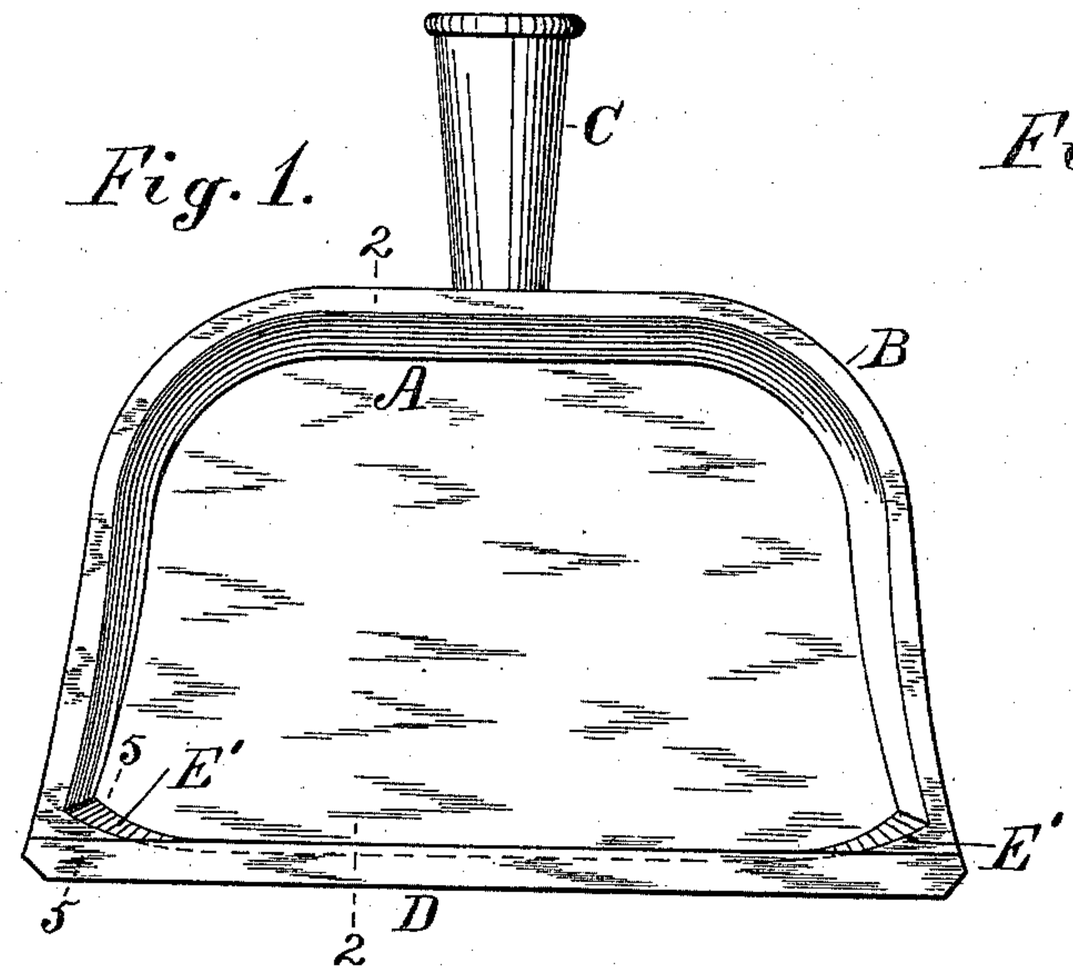


Fig. 2.

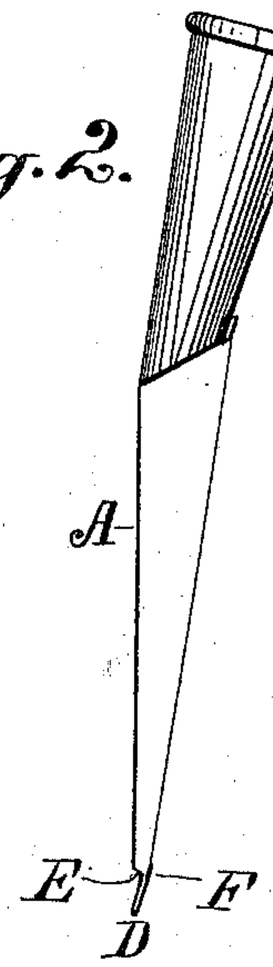


Fig. 3.

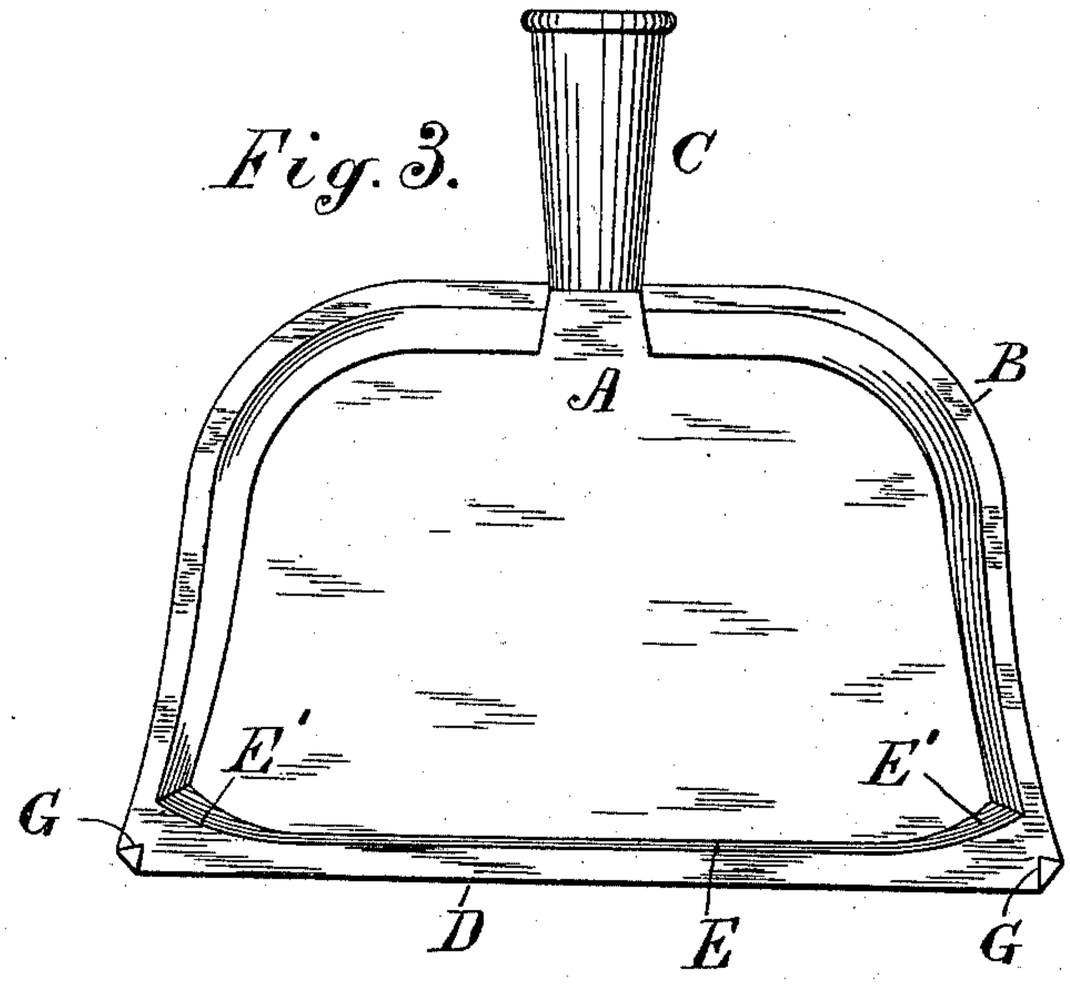


Fig. 5.

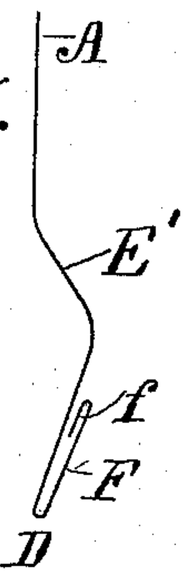


Fig. 4.

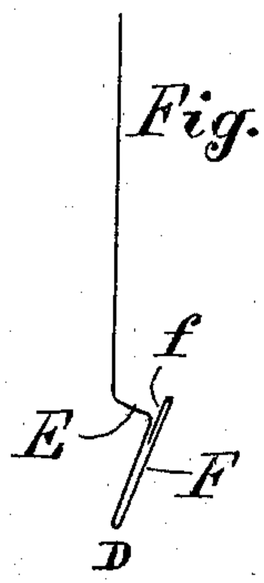
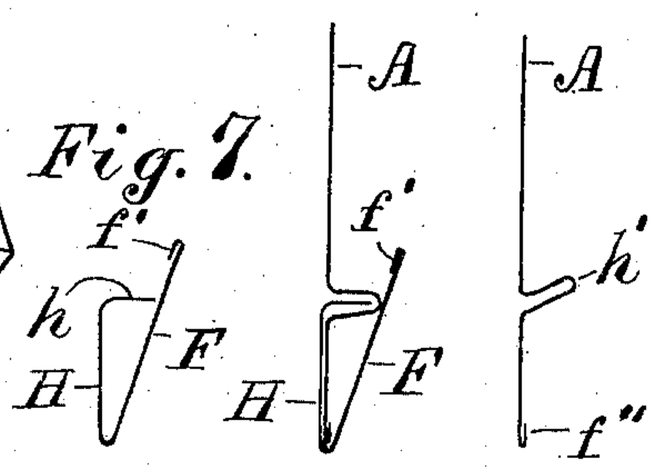


Fig. 6.

Fig. 8.

Fig. 7.



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UNITED STATES PATENT OFFICE.

STEPHEN W. MILLIGAN, OF BROOKLYN, NEW YORK.

DUST-PAN.

SPECIFICATION forming part of Letters Patent No. 604,064, dated May 17, 1898.

Application filed December 22, 1896. Serial No. 616,634. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN W. MILLIGAN, a citizen of the United States, residing at Brooklyn, county of Kings, State of New York, have invented certain new and useful Improvements in Dust-Pans, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

The present invention relates to that class of flat dust-pans which are formed with a flat bottom and raised or upturned edge upon three sides of the same, adapted to retain the dirt when swept over the front edge of the pan. In such pans a projecting handle is attached to the side of the pan opposite the front edge, and the latter edge is held in contact with the floor or other object while the dust is swept from the floor over such edge upon the flat bottom of the pan. The front edge of such pans is frequently bruised and defaced, and when distorted in form is unable to fit closely upon the floor and it is impossible to gather the dirt from the floor effectively upon the pan.

The object of the present invention is to provide a simple and inexpensive construction for stiffening the front edge of the pan and at the same time to facilitate the retention of the dirt in the pan and its removal from the pan when desired. I stiffen the front edge of the pan by stamping a shoulder upwardly from the bottom of the pan parallel to such edge and quite close to the front edge, and find in practice that the front edge can be most effectively stiffened by placing the shoulder not more than one-tenth the width of the pan from such edge. To prevent the accidental displacement of the dirt from the pan when the same is tipped, I find it necessary to form a sharp corner upon such shoulder, which I effect, in connection with a means for still further stiffening the edge of the pan, by bending a flange backwardly from the front edge over the upper side of the shoulder and projecting such flange over the shoulder very slightly. The flange is not projected over the shoulder far enough to form any receptacle or pocket, as I have found that dirt which is moist or wet is liable to stick in such pocket and foul the pan; but the flange is projected over the shoulder a small fraction of an inch, which has the effect of merely sharpening the shoulder and catching upon the dirt or dust in the pan if it attempts to slip over the shoulder.

The dirt may be readily removed from the pan by brushing it sidewise, as the sides of the pan are commonly made sloping and the dust is readily brushed over such sloping sides; but I also furnish a special construction to facilitate the removal of the dirt from the pan by inclining the shoulder backwardly from beneath the flange at the opposite front corners of the pan, thus forming the shoulder at such corners with a sloping face, up which the dirt can be readily brushed and discharged from the pan over the flange.

The invention will be understood by reference to the annexed drawings, in which—

Figures 1 to 5, inclusive, show the flange formed integral with the front edge of the pan, while Figs. 6 and 7 show a means of applying a separate flange. Fig. 1 shows the upper side of the dust-pan provided with my improvements; Fig. 2, an edge view of the same in section on line 2 2 in Fig. 1. Fig. 3 shows the bottom of the dust-pan, these three figures being drawn one-half of the natural size. Fig. 4 is a section of the edge of the pan, drawn of the natural size, the section being taken upon the same line as in Fig. 2. Fig. 5 is a section through the corner of the pan on line 5 5 in Fig. 1. Fig. 6 is a section showing the flange fitted to the edge of the pan by a tongue-and-groove joint; and Fig. 7 is a section of the flange detached from the edge of the pan, both these views being of the natural size. Fig. 8 is a section of the edge of the pan with loop-forming groove.

A is the body of the pan, and B the margin raised about the same to retain the dirt therein and provided with the handle C.

D designates the front edge of the pan, over which the dirt is swept, E a shoulder stamped upward from the bottom of the pan adjacent to the edge, and F the flange formed integral with the body of the pan and inclined backwardly into contact with the top edge of the shoulder E and projecting beyond the same to form a sharp corner upon the shoulder, as shown in Fig. 4. The edge of the flange is

preferably formed, as shown in Fig. 4, with a hem *f* before it is bent into contact with the top of the shoulder.

Near the opposite front corners of the pan the shoulder is inclined or curved backwardly—that is, toward the handle edge of the pan—as shown in Figs. 1 and 2 and designated E′, thus bringing the shoulder out from beneath the flange F by the widening of the space between the shoulder and the edge D.

The extreme corners G at the front edge of the pan are bent beneath the pan and flattened against its bottom, as shown in Fig. 3, thus locking the ends of the flange F securely to the body of the pan and greatly strengthening the corners of the pan, which are much exposed to injury and abuse, by the doubling of the metal at such points.

It will be readily perceived by reference to Figs. 2 and 4 that when the dust is brushed into the pan and passes over the flange F it is prevented from slipping out of the pan by the projection of the flange beyond the shoulder E, the sharp edge of such flange serving to retain a portion of the dirt and the edge of the flange serving to catch and hold the remainder. The flange is prevented from operating in this manner at the corners of the pan by the extension of the shoulder above the flange, as shown in Fig. 5. The shoulder is very much sloped at its ends, as shown at E′ in Fig. 5, and the removal of the dust from the pan is thus easily effected by brushing it toward the corners of the pan, where it may be readily pushed over the sloping shoulder E′ and slip over the flange F, which does not project beyond the shoulder at this point.

The flange in Figs. 1 to 5 serves to strengthen the edge D of the pan by its integral connection with the body A and the sharp bend which is given to the flange where it joins the body at the edge D, which produces a double thickness of the metal at such point.

I am aware that it is not new to fold backward or double the metal at the front edge of the pan to stiffen the same or to form a deep wedge-shaped pocket to retain the dirt, and I do not therefore claim the backward folding of the metal, except to produce the sharp corner upon the shoulder E by a very slight projection over such shoulder, as shown in Fig. 2.

In Figs. 6 and 8 the shoulder is shown formed in the body of the pan by stamping a deep groove adjacent to the edge, and the flange F is shown formed with a backwardly-extended plate H, having a tongue *h*, adapted to fit in such groove.

The flange, plate, and tongue are made integral and so bent as to hold the flange firmly against the top of the shoulder when slipped longitudinally upon the edge of the pan. Such separate flange may be made of scrap material of little value for other purposes and serves to strengthen the pan without adding to its cost. The opposite ends of the flange would be secured to the pan by folding the corners, as indicated at G in Fig. 3, or by any other suitable means.

The groove forms a fold *h′* parallel with the edge of the pan, which serves to greatly stiffen the pan, and may, if desired, be used in connection with an integral flange. In Fig. 6, showing the flange upon the edge of the pan, and in Fig. 8, which shows the body of the pan without the flange, the metal is still further stiffened by a close fold or hem *f″* upon the extreme outer edge.

It will be readily understood that the entire pan may be made of much lighter metal if the edge can by the means described be made stiffer than other parts of the pan, and the construction shown in the drawings accomplishes such object and secures the production of an equally good article at a lower cost.

I am aware that a metal strip has been extended across the front edge of a pan and secured to the tops of the sides to prevent them from spreading, and I do not therefore claim such a metal strip, nor an acute-angled pocket which is formed in such case in the front edge of the dust-pan, as the dirt, especially if moist, is liable to remain in the lower part of such pocket when the pan is emptied and to thus become foul.

The flange F in my construction is not employed to form any pocket, but is projected over the shoulder E a small fraction of an inch, so that the dirt can be removed wholly from the space behind the shoulder by a lateral movement of the brush without providing the inclination or backward curve of the shoulder at the corners of the pan, (designated E′ in Figs. 1 and 2.)

My invention comprises a pan with broad flat bottom having the shoulder E close to its front edge, in conjunction with the integral flange to form a sharp corner upon the shoulder, which prevents accidental displacement of the dirt, while both the shoulder and flange operate conjointly to stiffen the front edge of the pan and greatly increase its resistance to abuse.

The upper edge of the flange F is proportioned in my invention to form merely an acute corner upon the shoulder E, which could not be readily produced from the material in the bottom of the pan in stamping such shoulder.

I do not claim any construction adapted to form a pocket or receptacle upon the pan or any construction adapted to prevent any considerable quantity of dirt from slipping off of the pan if the same be tipped downwardly, as the object of my invention is solely to stiffen the edge of the pan and to produce a sharp corner upon the shoulder which is formed adjacent to the edge. Figs. 1 and 3 of the drawings show clearly that the shoulder is set backward from the edge a very small proportion (not over one-fourteenth) of the length of the pan upon its bottom side, and the shoulder is formed so closely to the edge of the pan as to

stiffen that portion exclusively where the pan is commonly defaced and injured the most.

Having thus set forth the nature of my invention, what I claim herein is—

1. A dust-pan provided adjacent to its front edge with the shoulder extended along such edge and inclined backwardly at its ends and a flange extended backwardly from the edge of the pan and projected over the shoulder excepting at its ends, to form a sharp corner along the middle portion of the shoulder, substantially as herein set forth.

2. A dust-pan provided along its front edge with the hem f'' and adjacent to the edge with the fold h' stamped upwardly from the bottom of the pan to form a shoulder parallel with the edge, and to stiffen the edge of the pan, and the separate flange F having the plate H formed integral therewith and provided with the tongue h fitted within the fold h', and the inner edge of the flange F projected slightly beyond the shoulder formed by the fold, substantially as and for the purpose set forth.

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

STEPHEN W. MILLIGAN.

Witnesses:
THOMAS S. CRANE,
L. LEE.