Dec. 27, 1955 M. COCCO 2,728,099

SQUEEGEE

Filed Nov. 27, 1951

Fig. 1.

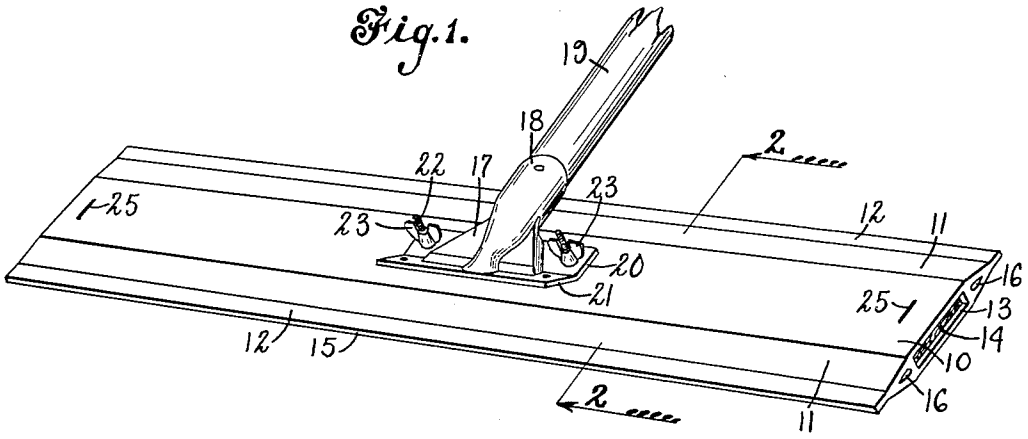


Fig. 2.

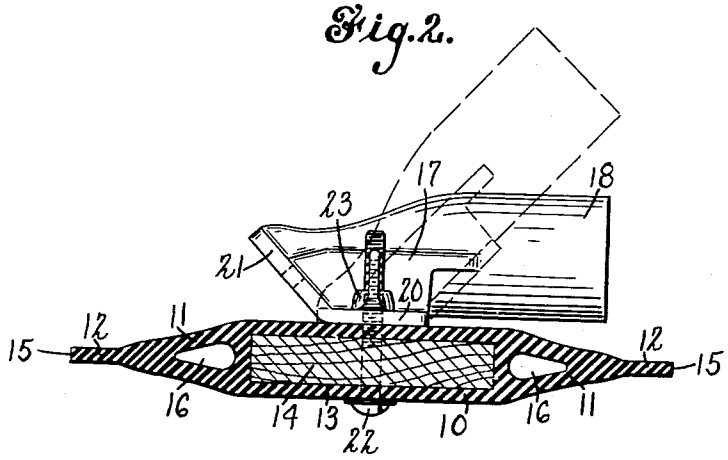


Fig. 3.

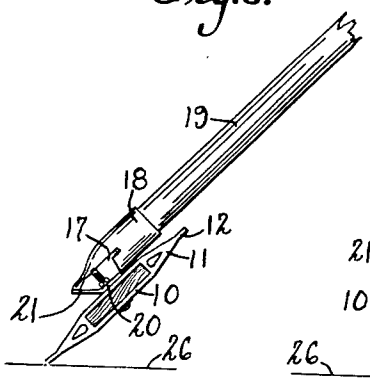
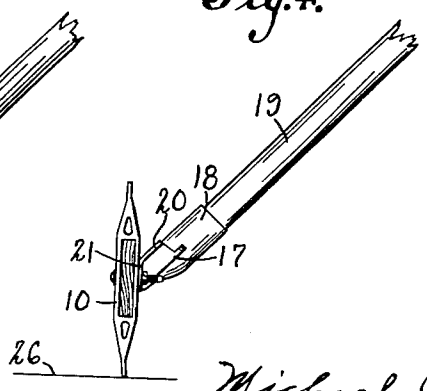


Fig. 4.



INVENTOR

Michael Cocco

BY

Rockwell & Barthelow

ATTORNEYS

United States Patent Office

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SQUEEGEE

Michael Cocco, Hamden, Conn.

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1 Claim. (Cl. 15—245)

This invention relates to scrubbing or cleaning devices, and more particularly to a device adapted for cleaning floors or similar surfaces, and also for spreading a coating of material over such floors such as paint or the like. It will, however, be understood that the principles of this invention may be applied to similar devices used for other purposes.

In general, the device of the present application comprises a scrubbing blade having a handle to which the blade is attached, the blade being provided with flexible wiping edges of rubber or the like similar to the type of device sometimes called a squeegee.

For cleaning floors, a device of this kind must be relatively strong and durable, and, while it is desirable that it possess some flexibility, it should not be too limber but should be sufficiently stiff to exert the required pressure upon the surface to be cleaned. Also, the device should be capable of being manufactured economically without the use of an excessive amount of rubber or neoprene or other relatively scarce material.

In the present device I provide a blade which is hollow in form so that the portion of the blade formed of neoprene, for example, may be relatively small. The blade is provided with a through channel within which may be inserted a stiffening member of wood or the like, which member also provides a firm securing means by which the handle may be secured in place.

Upon each side of the central opening through which the stiffening member is inserted, the blade is tapered or gradually reduced in thickness toward the two working edges, the portion immediately adjacent the edge being relatively thin or of narrow width so that it will possess considerable flexibility, and these portions of the blade are of substantially uniform thickness for a distance inwardly from the extreme edges.

Between such portions of the blade and the central channel is the portion which is tapered in thickness, and in each of these portions of the blade adjacent the central opening is provided a relatively small through channel so as to provide a relatively narrow web on each side of the channels. These through channels which provide the relatively narrow web on each side thereof reduce the amount of neoprene or other material which is required, and at the same time give the blade the proper amount of flexibility at this portion.

I find that a blade constructed in this manner may be employed for scrubbing or cleaning floors, and is particularly valuable in connection with floors of rooms or buildings of considerable size such as garages, factories, laboratories, or the like. I also find that a device of this kind is useful in spreading paint upon concrete floors and may be used successfully as a paint brush when it is desired to apply a coat of paint to surfaces of relatively large area.

In that it is advantageous for the blade of the device to be held at different angles to the surface being operated upon when the device is used as a scrubbing or cleaning device and when it is used for applying paint, I provide a handle bracket with two attaching surfaces, one of these surfaces lying at a different angle with respect to the handle socket than the other so that with the handle held at approximately the same angle to the floor, the blade of the device will occupy a different angle with respect to the floor in one case than in the other.

One object of the present invention is to provide a new and improved cleaning, scrubbing and paint-applying device.

A further object of the invention is to provide a device of this character which is particularly useful in connection with floors of relatively large area.

Still another object of the invention is to provide an improved cleaning, scrubbing, or paint-applying device having a blade of natural or synthetic rubber, which blade will be stiffened along its central portion so that it may possess the required rigidity and at the same time a handle member may be rigidly secured to the blade.

Still another object of the invention is to provide a scrubbing or paint-applying device having a handle bracket comprising a handle socket and a pair of attaching portions, one of which is at an angle to the other so that a handle may be attached to the device in different positions.

To these and other ends the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a perspective view of a cleaning or paint-applying device embodying my invention;

Fig. 2 is a sectional view on line 2—2 of Fig. 1;

Fig. 3 is a side elevational view showing the device with the handle secured thereto in one position; and

Fig. 4 is a view similar to Fig. 3 showing the handle in another position.

To illustrate a preferred embodiment of my invention, I have shown in the drawings a cleaning or paint-applying device comprising a blade of generally rectangular form, this blade comprising a central body portion **10**, a tapered portion **11** at each side of the body portion, and an edge flange **12** upon each side of the tapered portion.

As shown more especially in Fig. 2 of the drawings, the central body portion **10** is hollow and provided with a through opening **13** of substantially rectangular shape so that a stiffening member **14** may be inserted in this opening. This stiffening member may be of wood or any suitable material and serves to stiffen or make rigid the central portion of the blade or the zone of the blade which lies midway between the two edge flanges **12**.

It will also be seen from the cross-sectional view in Fig. 2 that the tapered portions **11** are reduced in width from the central portion **10** outwardly until they merge with the edge flanges **12**. The latter, as will be obvious, provide the wiping edges **15** which contact the floor or surface which is being cleaned or to which a coating such as paint is being applied. It will be understood that, as will be later explained, the handle may be reversed in direction with respect to the blade so that either of the edges **15** may be used as desired.

Within each of the tapered portions **11** there is provided a through opening **16**, which openings are also tapered outwardly so that the thickness of material on each side of the opening is substantially uniform. It may also be noted that the flanges **12** are of substantially uniform thickness for some distance inwardly from the wiping edges **15**.

The thickness of material increases gradually from the inner portions of the flanges **12** until it is separated into two portions by the openings **16**. The provision of these openings renders this portion of the blade more flexible than if it were solid and of the same thickness, and at the same time renders it more flexible than if the same

amount of material were used in the blade without the provision of the opening. Thus, the blade has the required rigidity and also the required flexibility. It is, of course, more flexible at the region of the wiping flanges **12** which contact the floor or the surface.

I provide a handle bracket designated by the numeral **17** which may be secured rigidly to the blade. The bracket is provided with a handle socket **18** to receive the handle **19** of usual form. It is also provided with a pair of attaching flanges **20** and **21**.

These flanges have substantially flat lower surfaces to be applied to the exterior surface of the central portion **10** of the blade so as to lie flatly thereagainst, and it will be noted particularly from Figs. 1 and 2 that the lower surface of the member **20** stands at an angle to that of the lower surface of the flange **21**. The handle may be secured in place by fastening members such as bolts **22** passing through the central portion of the blade and through the stiffening member **14**, and also through openings in the flanges **20** and **21**, the bolts being threaded to receive wing nuts **23** to secure the handle securely in place.

As shown in full and dotted lines in Fig. 2, the handle may be secured to the blade in two positions so as to vary the angle of the handle with respect to the general plane of the blade. As shown in full lines, the flange **20** is secured to the blade, and the handle socket **18** is substantially parallel to the surface of the blade. As shown in dotted lines, the surface **21** is secured to the blade, and the handle stands at an angle of substantially 45 degrees to the general plane of the blade. It will, of course, be understood that the handle may be reversed with respect to the blade so that either of the wiping edges **15** may be employed and the angle varied regardless of which edge is employed.

It will be obvious that the blade of my device may be formed by an extrusion or molding operation, for example, and may be extruded with the central opening **13** and the channels **16** provided therein. It may be so made in any length desired and thereafter cut into the required length which is required for the squeegee. The stiffening member **14** may also be cut to the proper length and inserted in the opening **13** and secured in place by any suitable means, such as staples **25**.

In Fig. 3 of the drawing the handle bracket is shown

as secured to the blade by means of the flange **20**, and it will be noted that with the handle in the normal position in which it would be held by a user, the blade stands at an angle of about 45 degrees to the floor line, the latter being indicated at **26**. In Fig. 4 of the drawing the handle is secured to the blade by means of the flange **21**, and the device has been turned so that the blade is directed away from the operator and with the handle at approximately the same angle as shown in Fig. 3, the blade stands at approximately right angles to the floor. It will be used in this latter position for scrubbing operations while used as shown in Fig. 3 for paint spreading, for example.

While I have shown and described a preferred embodiment of my invention, it will be understood that it is not to be limited to all of the details shown, but is capable of modification and variation within the spirit of the invention and within the scope of the claim.

What I claim is:

In a device of the character described, a blade comprising an elongated member of flexible material having a body portion with a longitudinal opening therethrough substantially centrally of the blade, a stiffening member in said opening, a portion, tapered in thickness, on each side of said body portion, a wiping flange projecting outwardly from the outer edge of each tapered portion, into which flanges said tapered portions merge, each of said tapered portions being provided with an opening spaced outwardly from said first-named opening extending the length of the blade and said openings being tapered in cross sectional shape to provide for substantially uniform thickness of material at each side thereof, a handle secured to the blade, and each of said flanges being of substantially uniform thickness throughout its width.

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