May 22, 1934. M. SENDROWITZ 1,959,767

ADJUSTABLE BRUSH

Original Filed June 16, 1931

Fig. 1.

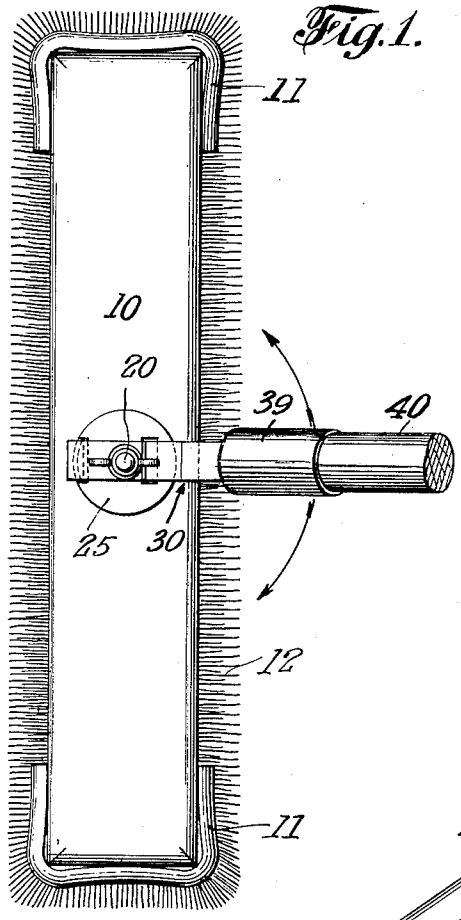


Fig. 3.

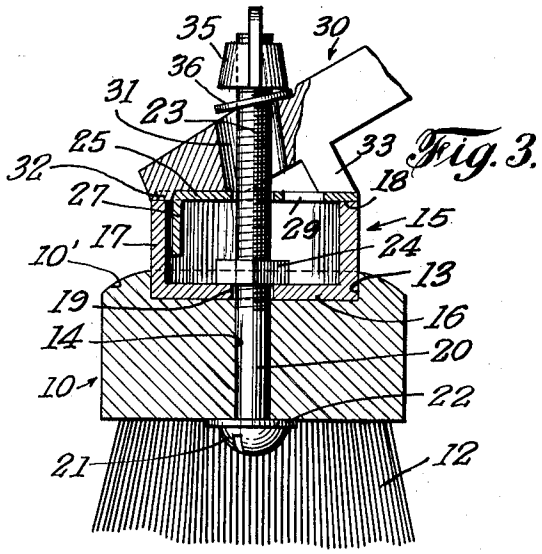


Fig. 4.

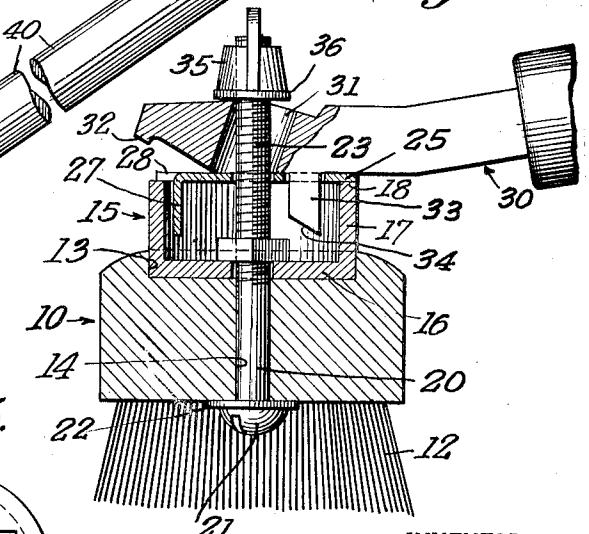


Fig. 2.

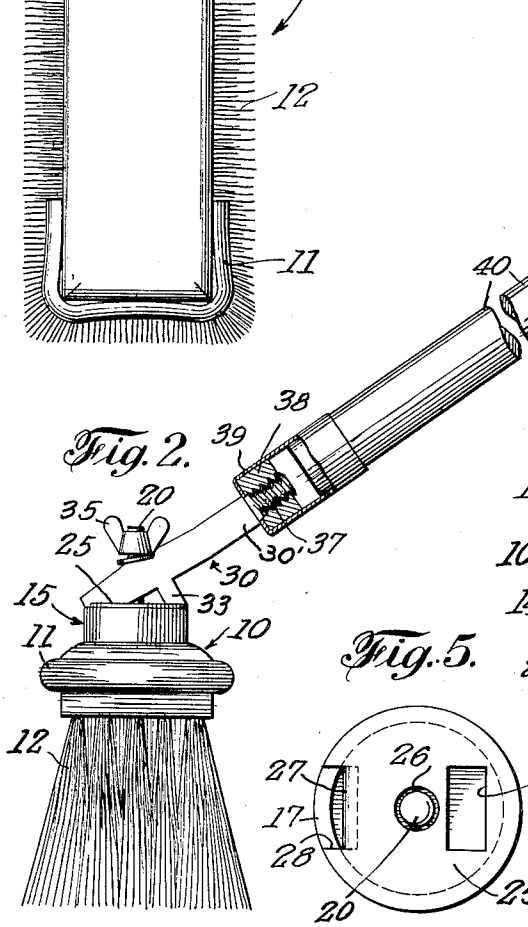


Fig. 5.

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UNITED STATES PATENT OFFICE

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ADJUSTABLE BRUSH

Max Sendrowitz, Brooklyn, N. Y.

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Renewed October 31, 1933

6 Claims. (Cl. 306—3)

My present invention relates to adjustable brushes and more particularly to devices of the general character specified which are used for sweeping the floor. It is one of the objects of my invention to provide an adjustable brush which is simple in construction, easy and economical to fabricate and assemble, which may be used under circumstances where ordinary brushes cannot be used, and which are exceedingly effective in cleaning normally inaccessible places.

In the accompanying specification I shall describe, and in the annexed drawing show an illustrative embodiment of the adjustable brushes of the present invention. It is, however, to be clearly understood that the adjustable brushes of the present invention are not to be limited to the aforesaid illustrative embodiment of the same, inasmuch as changes in construction, arrangement, etc. may readily be made within the exercise of the inventive faculties and within the spirit and scope of the claims hereto appended.

In the accompanying drawing, Fig. 1 is a top plan view of the aforesaid illustrative embodiment of the adjustable brushes of the present invention, the handle thereof being broken away.

Fig. 2 is a partial side elevational partial longitudinal sectional view of the same.

Fig. 3 is a transverse sectional view taken substantially through the center of the adjustable means and showing the aforesaid illustrative embodiment in one of its adjusted positions.

Fig. 4 is a like view showing the same in another of its adjusted positions; and

Fig. 5 is a top plan view of the rotatable arrangement employed in the aforesaid illustrative embodiment.

Before describing my invention in detail, it may be desirable to briefly refer to the prior art in the field to which the present invention relates, the disadvantages thereof, and the advantages of the present invention. Hitherto, brushes of the class referred to in the opening paragraph of this specification have consisted, for the most part, of a brush body in the form of a block which carried a multiplicity of bristles. Rising from the brush body, in a rigid manner, there was provided a handle at an angle of approximately 45°. The disadvantages of using such a device are obvious. There are many places, such as corners, which cannot be reached properly with a brush of the type just referred to inasmuch as the handle cannot be rotated with respect to the brush body. In addition, with brushes of this type, it is impossible to properly sweep beneath articles of furniture for the reason that the handle, being rigid, cannot be lowered to permit the same to pass beneath the furniture.

However, the present invention eliminates these disadvantages by providing an adjustable brush wherein the handle may be completely rotated in either direction with respect to the brush body and, if desired, the handle may be lowered so as to be in almost a horizontal plane so that the brush may be used to sweep beneath articles of furniture, etc.

Referring now more in detail to the aforesaid illustrative embodiment of the adjustable brushes of the present invention and with particular reference to the drawing illustrating the same, the numeral 10 generally designates a rectangular block which constitutes the brush body. This block is provided with the upper beveled edges 10′ and the short sides and corners thereof are fitted with resilient bumpers 11 so that should the body 10 come in contact with furniture, etc. the same will not be scratched or otherwise impaired. The underside of the block 10 is provided with a multiplicity of bristles 12 and the upper side thereof is provided exactly in the center with a bore 13 which extends just a short distance below the upper surface of the block, which bore communicates with another bore 14 of reduced diameter, the latter bore passing completely through the block. Tightly fitting within the bore 13 is a cup 15 consisting of the disk-like base 16 and the peripheral flange 17 having the bearing surface 18 on the upper edge thereof. The base 16 of the cup 15 is provided with a central opening 19 and passing through this opening and also through the bore 14 of the block 10 to extend a short distance above the bearing surface 18 of the flange 17, is a rod 20 having a head 21, there being provided, on the rod, intermediate the head 21, and the lower surface of the block 10, a washer 22. The upper portion of the rod 20 is threaded at 23 and is receptive of a nut 24 adapted to retain the cup 15 in position within the bore 13.

Rotatably mounted on the rod 20 and wipingly engaged on the bearing surface 18 of the flange 17 is a disk 25 provided with the oversized central opening 26 and a tongue 27 struck downwardly therefrom so as to engage the inner surface of the flange 17 to guide the disk during its rotation, the space provided by the struck-down tongue presenting a notch 28. Opposite the notch 28, and on the other side of the central opening 26, the disk 25 is provided with a rectangular slot 29.

Thus, while the cup 15 is retained rigidly connected with the block 10, the disk 25 may be completely rotated in either direction with respect to the cup.

I now provide an angle-adjusting member so that in addition to the handle, which will later be described, being rotatable with respect to the brush body, the same may also be raised or lowered as circumstances require. Such member, generally designated by reference character 30, is provided with an oversized opening 31 by means of which the same is rotatably engageable on the rod 20, the front end of the member 30 being provided with a lug 32 adapted, under certain conditions, to be engaged in the notch 28 of the disk 25. Opposite the lug 32, and on the other side of the opening 31, the member 30 is provided with a leg 33 the lower end of which is provided with a contact surface 34 by means of which the member 30 may be supported in its raised position, as will later be seen.

The member 30 is retained in either of its adjustable positions by means of a wing nut 35 and washer 36 which are engageable on the threaded portion 23 of the rod 20. The member 30 is completed by a handle-carrying portion 30' having at the outer end thereof a thread portion 37 of reduced size which is engaged in a cylindrical bushing 38 supported by a metallic sleeve 39 which, in turn, is carried by an elongated wooden handle 40.

This completes the description of the aforesaid illustrative embodiment of the adjustable brushes of the present invention. While the mode of assembly and use of the same are thought to be obvious from the foregoing description, the same may be briefly summarized as follows:

After providing the block 10 with the bristles 12, the cup 15 is lowered into the bore 13 and thereafter the rod 20 carrying the washer 22 is inserted through the bore 14 of the block 10 and through the cup 15 by way of the oversized opening 19. The nut 24 is then secured in place to hold the cup 15 rigidly with respect to the block 10. Thereafter the disk 25 is mounted upon the rod 20 so that the same wipingly contacts the bearing surface 18 of the flange 17 of the cup 15, the tongue 27 engaging the inner surface of the flange 17 so as to guide the disk 25 during its rotation. The angle-adjusting member 30 is then mounted upon the rod 20 through the opening 31 so that the lug 32 will engage in the notch 28 and the surface 34 of the leg 33 will contact the upper surface of the disk 25 adjacent the outside of the slot 29. Finally the washer 36 is positioned on the rod 20 and the ensemble is held in the adjusted position shown in Fig. 3 of the drawing by the wing nut 35. The brush is now ready for ordinary use, the handle being disposed at an angle of approximately 45° with respect to the brush body. In view of the engagement between the lug 32 and the member 30 and the notch 28 of the disk 25, the entire handle 40 may be completely rotated in either direction together with the disk 25 with respect to the cup 15 and hence the brush body 10. If it is found necessary to sweep beneath an article of furniture, etc. and the angle at which the handle 40 is disposed will not permit the brush to be moved beneath the furniture, the wing nut 35 may be loosened, the member 30 slightly raised on the rod 20 so that the lug 32 will become disengaged from the notch 28 and the leg 33 will drop into the slot 29 and extend within the cup 15. Upon retightening the wing nut 35, the brush will be in the position shown in Fig. 4 of the drawing, at which time the handle 40 will extend substantially horizontally thus permitting the brush to be readily moved beneath the article of furniture. In this position, too, by reason of the engagement of the leg 33 in the slot 29, the entire handle may be rotated in either direction with respect to the brush body.

This completes the description of the mode of employing and operation of the aforesaid illustrative embodiment of the present invention. It will be noted from all the foregoing that the adjustable brushes of the present invention readily overcome the disadvantages of the prior art set forth in earlier portions of this specification and afford certain advantages likewise discussed in earlier portions of this specification. Other superiorities and advantages of the devices of the present invention will be readily apparent to those skilled in the art to which the present invention relates.

What I claim as my invention is:

1. In a device of the class described, a brush body having bristles, a handle rotatably associated with said brush body, a cup member rigidly associated with said brush body, a disk rotatably cooperable with said cup member, said disk being provided with a notch in the periphery and a slot in the body thereof, a tongue carried by said disk to guide the rotation thereof, and means intermediate said brush body and said handle engageable with said disk through notch or slot thereof so as to provide for the manual adjustment of the angle of elevation of said handle with respect to said brush body.

2. In a device of the class described, a brush body having bristles, a handle rotatably associated with said brush body, a cup member rigidly associated with said brush body, a disk rotatably cooperable with said cup member, an angle-adjusting member consisting of a handle-carrying body, a lug on said body engageable with said disk to connect said body and disk in one adjusted position, and a leg on said body to support the latter in the first adjusted position and to connect said body and disk in the remaining adjusted position.

3. In a device of the class described, a brush body having bristles, a handle rotatably associated with said brush body, a cup member rigidly associated with said brush body, a disk rotatably cooperable with said cup member, said disk being provided with a notch in the periphery and a slot in the body thereof, a tongue carried by said disk to guide the rotation thereof, and an angle-adjusting member intermediate said brush body and said handle engageable with said disk through notch or slot thereof so as to provide for the manual adjustment of the angle of elevation of said handle with respect to said brush body.

4. In a device of the class described, a brush body having bristles, a handle rotatably associated with said brush body, a cup member rigidly associated with said brush body, a disk rotatably cooperable with said cup member, said disk being provided with a notch in the periphery and a slot in the body thereof, a tongue carried by said disk to guide the rotation thereof, and an angle-adjusting member intermediate said brush body and said handle engageable with said disk through notch or slot thereof so as to provide for the manual adjustment of the angle of elevation of said handle with respect to said brush body, said angle-adjusting member

consisting of a handle-carrying body, and means on said body engageable with said disk through the notch or slot thereof to constitute a connection therebetween.

5. In a device of the class described, a brush body having bristles, a handle rotatably associated with said brush body, a cup member rigidly associated with said brush body, a disk rotatably cooperable with said cup member, a tongue carried by said disk to guide the rotation thereof, and an angle-adjusting member intermediate said brush body and said handle to adjust the angle of elevation of said handle with respect to said brush body, said angle-adjusting member consisting of a handle-carrying body, a lug on said body engageable with said disk to connect said body and disk in one adjusted position, and a leg on said body to support the latter in the first adjusted position and to connect said body and disk in the remaining adjusted position.

6. In a device of the class described, a brush body having bristles, a handle rotatably associated with said brush body, a cup member rigidly associated with said brush body, a disk rotatably cooperable with said cup member, an annular flange on said cup, a tongue on said disk cooperable with said flange to guide the rotation of the latter, and an angle-adjusting member intermediate said brush body and said handle to adjust the angle of elevation of said handle with respect to said brush body, said angle-adjusting member consisting of a handle-carrying body, a lug on said body engageable with said disk to connect said body and disk in one adjusted position, and a leg on said body to support the latter in the first adjusted position and to connect said body and disk in the remaining adjusted position.

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