

Feb. 16, 1932.

A. SCHAFF

1,845,196

VACUUM ARTICLE HOLDER

Filed Jan. 23, 1930

Fig. 1

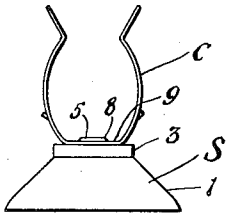


Fig. 2

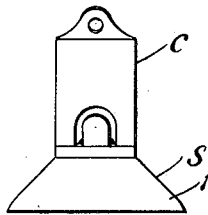


Fig. 3

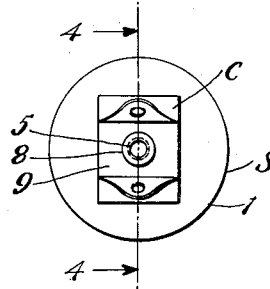


Fig. 4

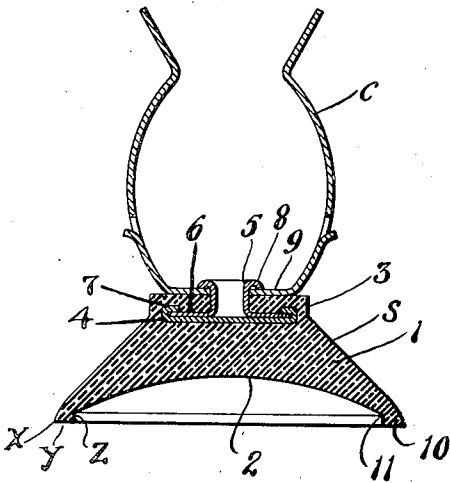


Fig. 5

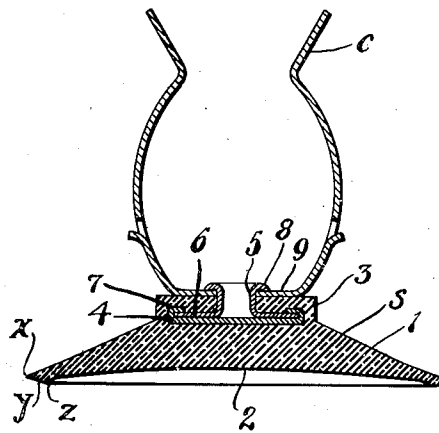
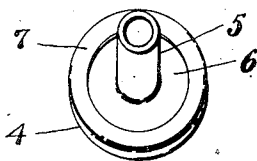


Fig. 6



INVENTOR

Alvinzo Schaff

BY

Philip Fowyer Rice King

ATTORNEYS

UNITED STATES PATENT OFFICE

ALMANZO SCHAFF, OF WATERBURY, CONNECTICUT, ASSIGNOR TO SCOVILL MANUFACTURING COMPANY, OF WATERBURY, CONNECTICUT, A CORPORATION OF CONNECTICUT

VACUUM ARTICLE HOLDER

Application filed January 23, 1930. Serial No. 422,692.

This invention relates to certain improvements in article holders in which there is provided a suction cup or cups which can be applied to a smooth surface, such as glass, enamel and the like, and which cup is provided with means for holding an article.

It is the especial object of the present invention to provide an improved suction cup with an article supporting member so associated therewith that the member is securely and rigidly held in place, and a cup construction which can be easily formed and have the article supporting member rigidly associated therewith so that a simple and cheap device is produced but one which at the same time performs the functions for which it is intended.

It is a further object of the invention to improve the suction face of the cup so that a better grip will be obtained by the cup on the surface with which it is used than with prior constructions, so far as known to me.

With these and other objects not specifically referred to, the invention consists in certain novel parts, arrangements and combination which will be described in connection with the accompanying drawings and the novel features pointed out in the claim hereunto annexed.

In these drawings,—

Figure 1 is a side view of a construction embodying the invention;

Figure 2 is a view similar to Figure 1 taken from the opposite side;

Figure 3 is a plan view of the constructions shown in Figures 1 and 2;

Figure 4 is a sectional view on an enlarged scale of the improved construction, the section being taken on line 4—4 of Figure 3;

Figure 5 is a view similar to Figure 4 showing the position of the parts of the cup when applied to a support, and

Figure 6 is a perspective view of the member associated with the cup for supporting an article.

Referring now to these drawings, the suction device, generally marked S, has been shown in Figures 1 to 3, more or less diagrammatically, as supporting an article which is shown in the form of a clip C. It will be

understood, however, that articles of various character may be used, and that the clip shown has been selected as illustrative only of one use to which the invention may be applied.

Referring now to Figures 4 to 6, which show the invention in a preferred form, the suction device will include a suction cup having a body 1, which is hollow or cupped out to provide a suction face 2. This suction cup of body 1 is preferably provided with a thickened portion, shown in the form of a boss 3, this being moulded, with the body, of rubber or like resilient material. In order to afford a firm support for the article, the body of the cup is provided with a strengthening member which is embedded, as shown, in the thickened part of the body. While this strengthening member may vary to some extent, it is shown in the form of a metal plate 4, this plate being embedded in the material of the cup, this construction strengthening the cup so that it will support articles of considerable weight.

Also carried by the cup is a supporting member, which may vary widely in construction. In the particular construction illustrated, this member is in the form of a short tubular member 5 having a base 6, and in the preferred construction, as shown, this tubular member has a part associated with the strengthening plate and is likewise embedded in the material of the body of the cup. In the particular construction illustrated, this is effected by forming a flange 7 on the plate 4, which is turned in over onto the upper surface of the base 6 of the tubular member 5, thus locking the parts together.

In assembling the parts, the tubular member and the base may be associated, as shown in Figure 3, and the parts then embedded in the material of the body of the cup when the body is formed. The tubular member may act as a support for the article carried thereby in various ways. In the particular construction shown, where the article is a clip, the clip may be secured by turning down the upper edge of the tubular member, as shown at 8, over the base 9 of the clip.

In constructions embodying the invention

in its best form, the suction surface of the cup will be so formed that a very firm grip of the cup on the surface to which it is attached will be obtained, and particularly on a surface which may have irregularities. It has been found in practice that by forming the cup with a suction rim 10, the inner side of which is formed with a shoulder, indicated at 11, a very strong adherence of the cup to the surface with which it is used may be obtained. Thus, referring first to Figure 4, in which the parts are in normal position, there are three points x , y , z , the point x being the outer edge of the rim of the cup, and the point z being the shoulder, with point y affording a surface intermediate the outer and inner edges of the points x , z . Now, when the cup is applied in suction relation with a smooth surface, it will be seen that the point x moves slightly upwardly, whereas the point z moves slightly downwardly, thus providing a flat contact point at y which can be pressed into firm gripping relation with a somewhat irregular surface, so that the cup is held in firm adherence to the surface to which it has been applied.

While the invention has been shown as used with but a single cup, it will, of course, be understood that as many cups as necessary to support a desired article may be used, such, however, not having been shown, as unnecessary for an understanding of the invention. While the invention has been shown and described in its preferred form, it will be understood that certain variations may be made in the construction and arrangement of the parts, in the strengthening member and in the way in which the article to be supported is secured to the cup, and that such changes and variations are to be permitted without departing from the scope of the invention as defined in the appended claim.

What I claim is:

In an article of the class described, a suction cup having a suction face and a thickened body, a plate embedded in the body and having an inturned flange, and a supporting member having a base secured under the flange and a part extending beyond the cup for supporting an article.

In testimony whereof, I have hereunto set my hand.

ALMANZO SCHAFF.

55

60

65