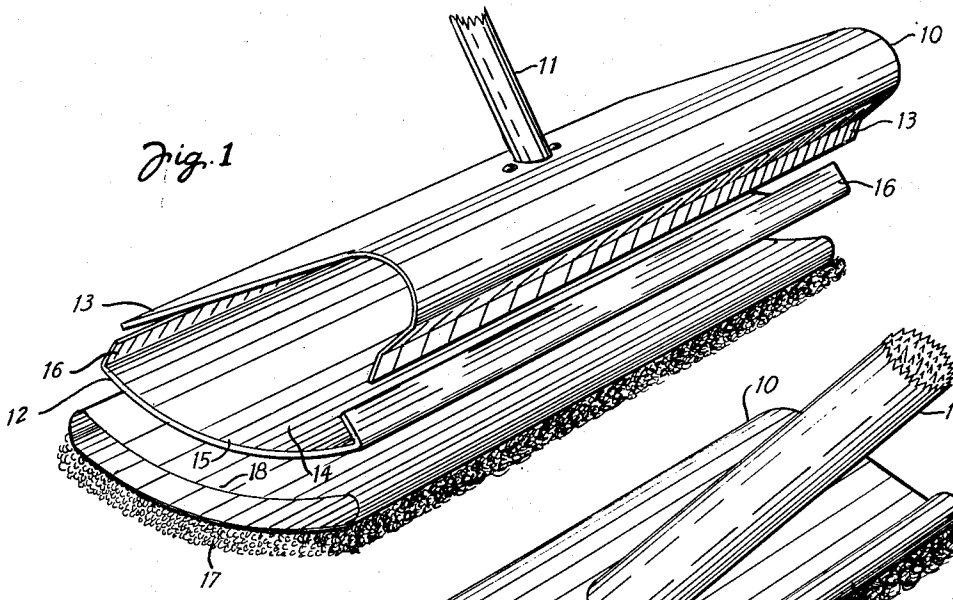
Nov. 13, 1951 R. C. KERSH 2,574,643

HOUSEHOLD APPLIANCE

Filed July 23, 1948

Fig. 1



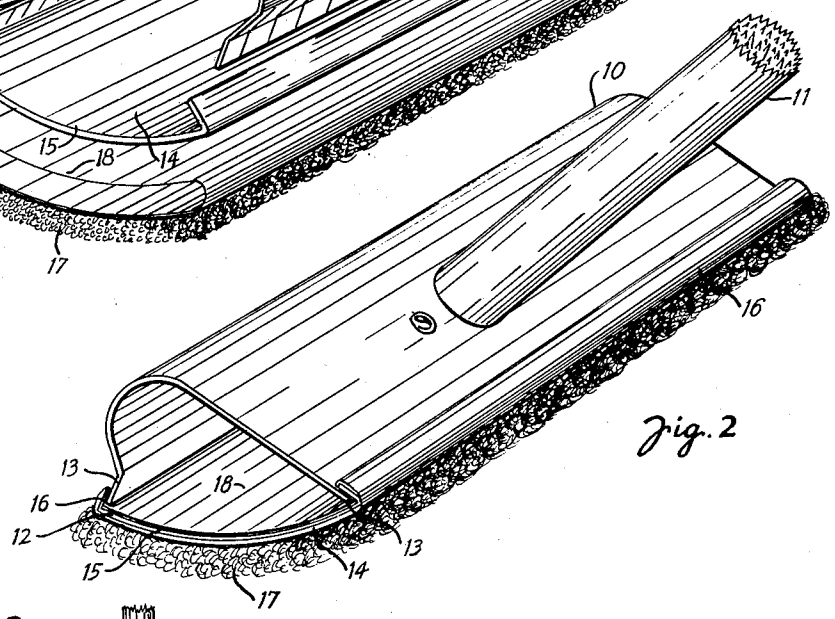


Fig. 2

Fig. 3

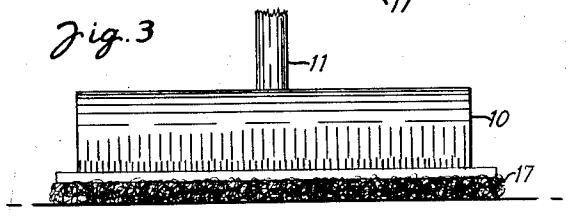
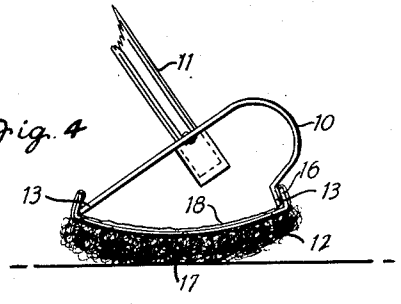


Fig. 4



INVENTOR
Ralph C. Kersh
BY Robert J. Leahy
ATTORNEY

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HOUSEHOLD APPLIANCE

Ralph C. Kersh, Mishawaka, Ind., assignor, by mesne assignments, to S. C. Johnson, Inc., Racine, Wis., a corporation of Wisconsin

Application July 23, 1948, Serial No. 40,222

2 Claims. (Cl. 15—231)

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This invention relates to improvements in household appliances, and more particularly to an applicator or holder which may be used to mount any one of a selected number of work elements adapted to be used for treating the surface of a work piece.

This application is a continuation-in-part of my co-pending application, Serial Number 5748 filed February 2, 1948 for Household Appliance, which application issued July 25, 1950, as Patent 2,516,396.

The primary object of the invention is to provide a simple, inexpensive, sturdy appliance of this character which is readily grasped and to which a work element may be applied quickly in a manner to be firmly held in desired position.

A further object is to provide a device of this character comprising a sheet metal member bent in generally semi-cylindrical form to provide a hand grip portion and having diverging sides terminating in gripping portions bent in diverging relation with respect to the hand grip or body portion, said gripping portions providing bearing surfaces for applying pressure and means adapted for locking engagement with a retainer and having a snap fit therewith. The gripping portions of the diverging sides are so positioned relative to the body portion that when pressure is exerted downward, the transmission of pressure through said sides is in an outward direction.

A further object is to provide a device of this character comprising a member having an integral hand grip terminating in gripping portions bent into diverging relation, a retainer of generally U-shape adapted to have a snap fit upon the hand grip portion, and a work piece carried by said retainer and locked or clamped between the margins of said U-shaped member and said handle flanges.

A further object is to provide a device of this character adapted particularly for the application of fluid material to a working surface, comprising a hand grip portion, a retainer portion having a connection with the handle portion, and an applicator comprising porous absorbent material bearing against said retainer and held and confined in place by a tubular shaped sheet of porous material of greater strength than said absorbent material and of a width to project around the retainer and be clamped between the margin of the retainer and the locking elements on the handle member.

Other objects will be apparent from the following specification.

In the drawings:

Figure 1 is a perspective view of the device

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showing a representative unattached work element.

Figure 2 is a perspective view of the device illustrated in Figure 1 showing a representative attached work element.

Figure 3 is a front elevational view of the device illustrated in Figure 2.

Figure 4 is a side elevational view of the device illustrated in Figure 2.

Referring to the drawings, and particularly to Figure 1, the numeral 10 designates a body or hand grip member having a handle 11. The numeral 12 designates a retainer member. Both the body and retainer, 10 and 12, are preferably formed from sheet metal of sufficient thickness to retain their shape and also possessing the property of at least a limited amount of resilience.

The member 10 is bent transversely on a curve of large radius to provide an elongated curved portion assuming the form of an arc extended in the direction of its elongation and having tangent sides from which gripping portions 13 extend in outwardly diverging relation having outwardly projecting flat surfaces. One of the tangent sides is constructed substantially longer than the other and extends away from the arc to form an acute angle with the plane in which the edges of the gripping portions 13 lie.

The retainer 12 preferably comprises a plate 14 of substantially the same length as the member 10 which is bent transversely in concavo-convex form on an arc of large radius. The width of the plate 14 is greater than the width of the member 10 measured by the distance between the gripping portions 13 of the member 10. The plate 14 is bent at 15, and flanges 16 form the margins of said plate, said flanges being arranged in converging relation with their free inner ends spaced apart a distance substantially equal to the spacing of the tips of the gripping portions 13 on the handle portion 10.

The arrangement of these parts is such that the retainer 12 may be applied to the body portion 10 either by longitudinal sliding of the parts or by a snap fit. It will be observed in this connection that the formation of the body member 10 with its diverging gripping portions 13 provides resilience and permits the gripping portions 13 to be sprung outwardly to permit the leading or free edges of the flanges 16 to snap thereover when the parts are applied together in a direction perpendicular to the face of the retainer 12. The advantages of the snap-on type of application will be referred to hereinafter. It will be apparent also that the curved plate 14 of the re-

tainer constitutes a spring member and that the curvature of this member may be such that it exerts an inward spring pressure acting against the outward pressure of the body 10 when the parts are assembled, thereby insuring a snug tight interlock of the parts when assembled. It will further be observed that the parts are so proportioned that when the outer faces of the gripping portions 13 of the body 10 fit between the flanges 16 and bear against the inner faces thereof, two points of continuous longitudinal engagement are provided between the body 10 and the retainer 12, such lonigtudinal line of engagement being between the gripping portions 13 and flanges 16. This serves to solidly connect the parts together, to prevent loose play therebetween, and to provide for multiple continuous lines of engagement at which the pressure applied to the handle 11 or body part 10 is transmitted to the retainer part 12. The handle 11 projects substantially perpendicularly from the longer side of the body portion 10 and is positioned substantially equidistant from the ends of the elongated body portion. It is also necessary that the handle 11 rise from a position closer to the point at which the longer side is tangent to the arc than to the edge of the gripping portion 13 of the longer side. In other words, the center of that portion of the handle lying in the same plane as the longer side will be in the upper half of the longer side. In practice, the pressure exacted by the user is transmitted through the handle 11 and upon body 10 causing the diverging side of said body 10 to diverge said gripping portions into a tight fit with the inner faces of the flanges 16.

The embodiment shown in Figure 2 illustrates the mounting upon the device of an applicator for a liquid material. This applicator may comprise a plurality of sheets of disposable fibrous absorbent tissue superimposed in pad form 17 and bearing against the outer face of the plate 14 of the retainer in continuous engagement bent to conform to the contour of the retainer plate 14. The tissues may be formed of any material found suitable, of which a number of types are now available on the market and which are commonly used as cleaning tissues, facial tissues, disposable handkerchiefs and the like. These tissues may be formed of paper stock or cellulose stock and are bonded together in sheet form and are characterized by a low density or porosity which renders them highly absorbent. Such tissues have only a very low tensile strength and readily disintegrate when wetted so that they are readily disposable. It will be understood that the absorbent pad 17 may also be formed of other material, such as felted wool or cotton padding or other absorbent material of low tensile strength. The absorbent pad 17 may be of any desired thickness which is preferably uniform throughout its extent, said pad being of a length substantially equal to the length of the retainer 12, although it may be either shorter than said retainer, or, in the form illustrated in Figure 3, it may be slightly longer than said retainer and project beyond the ends thereof. The absorbent pad 17 is held in place by a cover sheet 18 which may be of tubular shape, have the same or greater length than the pad 17 and of greater width than said pad. The cover sheet 18 is formed of flexible absorbent material of greater tensile strength than the pad material 17. The sheet 18 may comprise a woven fabric sheet, such as a sheet of cloth, preferably cotton cloth, or it may be formed

of synthetic material. One such synthetic material which is now available on the market, and which possesses the requisite porosity and strength, is felted from cellulose or paper fibers and vegetable fibers, such as cotton fibers, in such a manner as to provide the strength desired without substantial sacrifice of porosity. In other words, the cellulose fibers insure porosity and the long vegetable fibers, such as cotton fibers, impart strength to the sheet. These two materials are cited as illustrative, it being understood that any flexible sheet material having substantial tensile strength and porosity permitting it to absorb liquid may be used. The pad material 17 is placed upon the tubular cover sheet 18 at the center thereof so that the cover sheet 18 is positioned between the pad 17 and retainer plate 14. The pad 17, formed of felted wool or of any other matter of desired absorbent properties and capable of retaining its shape and form is secured to the tubular cover 18 formed of cloth, paper or any other suitable flexible sheet material. The cross-sectional size of the tube 18 is large enough to permit it to fit freely around the retainer 12, and to permit the flanges 16 of the retainer to receive and interlock with the gripping portions 13 of the body 10. In operation the retainer 12 is slid inside the sheet 18, whereupon the assembly of the parts 10 and 12 serve to draw the tubular cover 18 taut into firm non-slipping engagement with the interlocked parts 10, 12, it being understood that the cross-sectional size of the tubular cover 18 is carefully selected to insure that the cover 18 is so drawn taut by the parts 10, 12. This pad has the advantage of easy assembly and mounting, by virtue of the tubular cover 18. This pad may be made of inexpensive material of disposable character.

A device of the character described above has particular utility for household use in the application of wax, polishing material and other liquids to be applied to a work surface. The pad 17 may be wetted by the liquid and will absorb the same. Then as the assembled device is used, the application of pressure thereto will cause the liquids to be expelled from the pad uniformly for uniform application of the material to the working surface.

The advantage of this device is that, when the use of the device as an applicator has been completed, the pad may readily be removed and disposed of. A pad formed of this material is inexpensive and a number of pads can therefore be supplied with each container of the liquid material to be applied. Removal of the pad can be effected by separating the parts 10 and 12, as by sliding them longitudinally with respect to each other, so that when the retainer 12 is free from the body 10, the pad assembly 17, 18 may be removed from the retainer easily and quickly by sliding the tubular sheet material 18 with the pad 17 attached thereto off of the retainer 12.

It will be apparent from the above that the device provides a multi-purpose household appliance adapted for many different household uses, each characterized by convenience, simplicity, and avoidance of contact of the user with the working element. The device may be sold as a part of a set including the parts 10 and 12 and such other supplementary or auxiliary parts to be used therewith as the user may desire.

While the preferred embodiment of the invention has been illustrated and described herein, it will be understood that changes may be made in

the construction within the scope of the appended claims without departing from the spirit of the invention.

I claim:

1. A device of the character described consisting of a resilient sheet material bent longitudinally to define an elongated body portion, said body portion constructed to form an arc extended in the direction of its elongation with sides tangent with said arc and terminating in elongated gripping portions having edges lying in a common plane, one tangent side being substantially longer than the other and extending away from said arc to form an acute angle with the plane in which said edges lie, a handle projecting substantially perpendicularly from said longer side and positioned substantially equidistant from the ends of said elongated body portion and closer to the point at which said longer side is tangent to said arc than to said edge of the gripping portion of said longer side, said gripping portions so positioned relative to said arc that when pressure is exerted upon said handle, the transmission of pressure through said sides is in an outward direction, and a retainer member formed of resilient sheet material bent longitudinally in concavo-convex form to define a central bearing wider than the spacing between the outer edges of said gripping portions and elongated side flanges on said retainer converging at an angle to hold said gripping portions therebetween.

2. A device of the character described consisting of resilient sheet material bent longitudinally to define an elongated body portion, said body portion constructed to form an arc extended in the direction of its elongation with sides tangent with said arc and terminating in elongated gripping portions having edges lying in a common plane, one tangent side being substantially longer than the other and extending away from said arc to form an acute angle with the plane in which said edges lie, a handle projecting substantially perpendicularly from said longer side and positioned substantially equidistant from the ends of said elongated body portion and closer to the point at which said longer side is tangent to said arc than to said edge of the gripping portion of said longer side, said gripping portions so positioned relative to said arc that when pressure is exerted upon said handle the transmission of pressure through said sides is in an outward direction, and a retainer member adapted to carry a surface-treating element and formed of resilient sheet material bent longitudinally in concavo-convex form to define a central bearing wider than the spacing between the outer edges of said gripping portions and elongated side flanges on said retainer converging at an angle to hold said gripping portions therebetween.

RALPH C. KERSH.

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