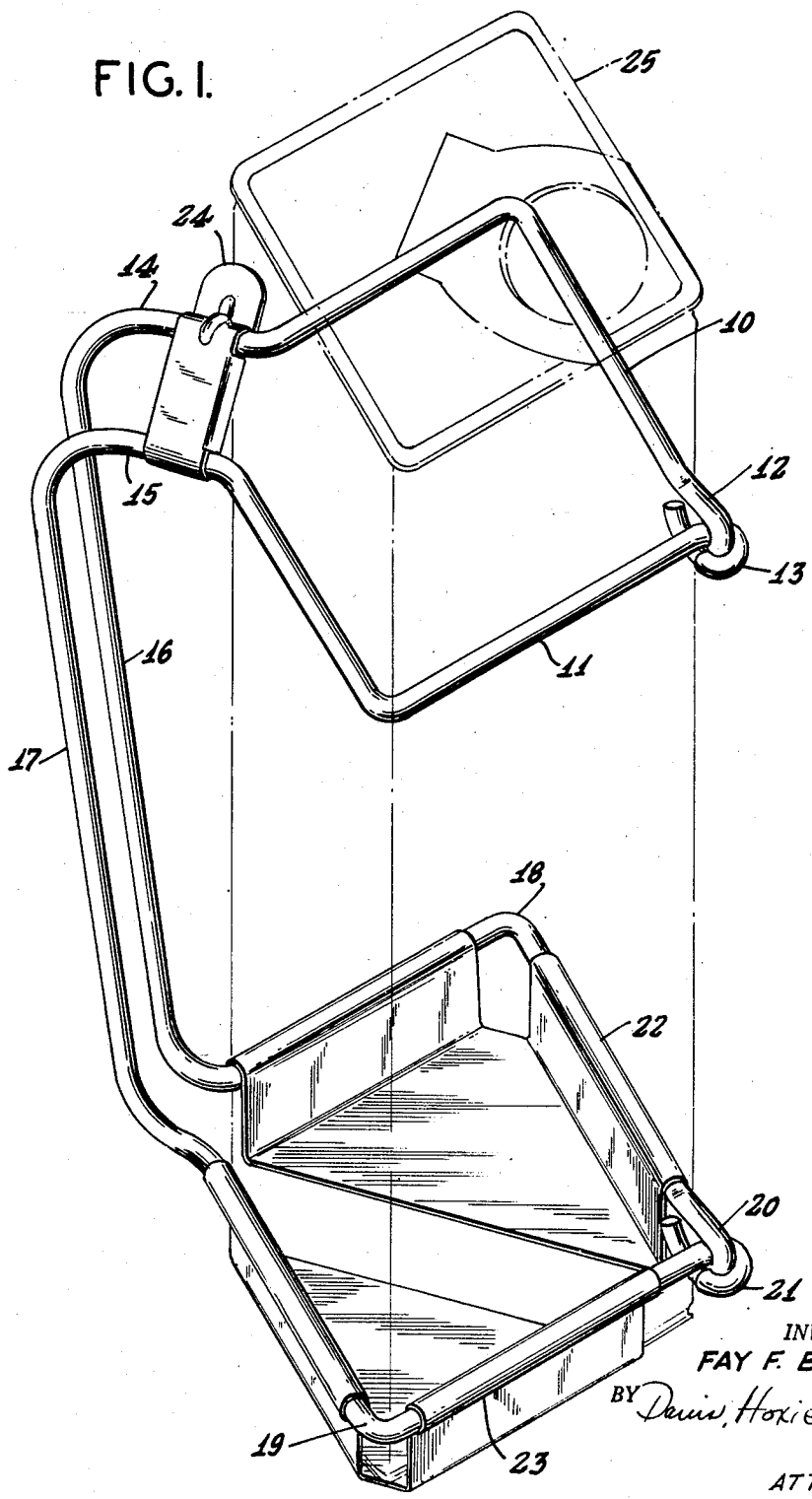
April 23, 1957 F. F. BROOKS 2,789,744

CONTAINER HOLDER

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FIG. 1.



INVENTOR.
FAY F. BROOKS
BY Davis, Hoxie & Faithfull
ATTORNEYS.

April 23, 1957 F. F. BROOKS 2,789,744

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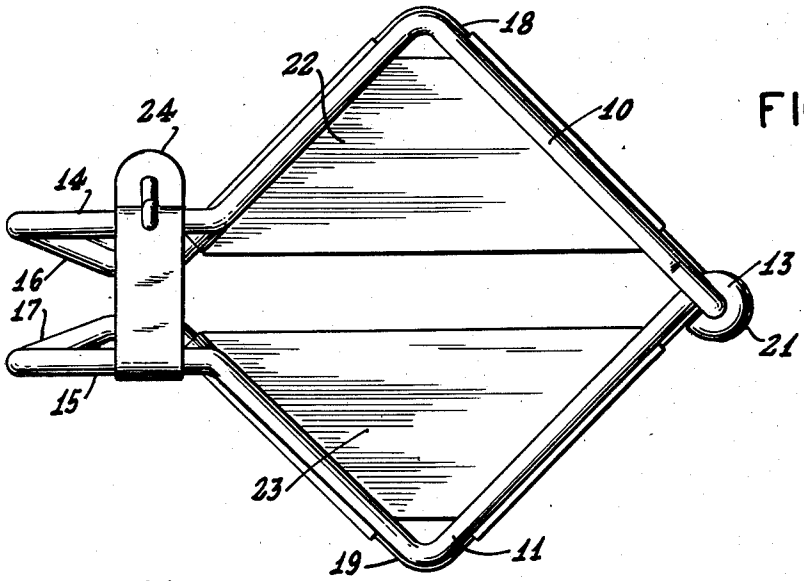


FIG. 2.

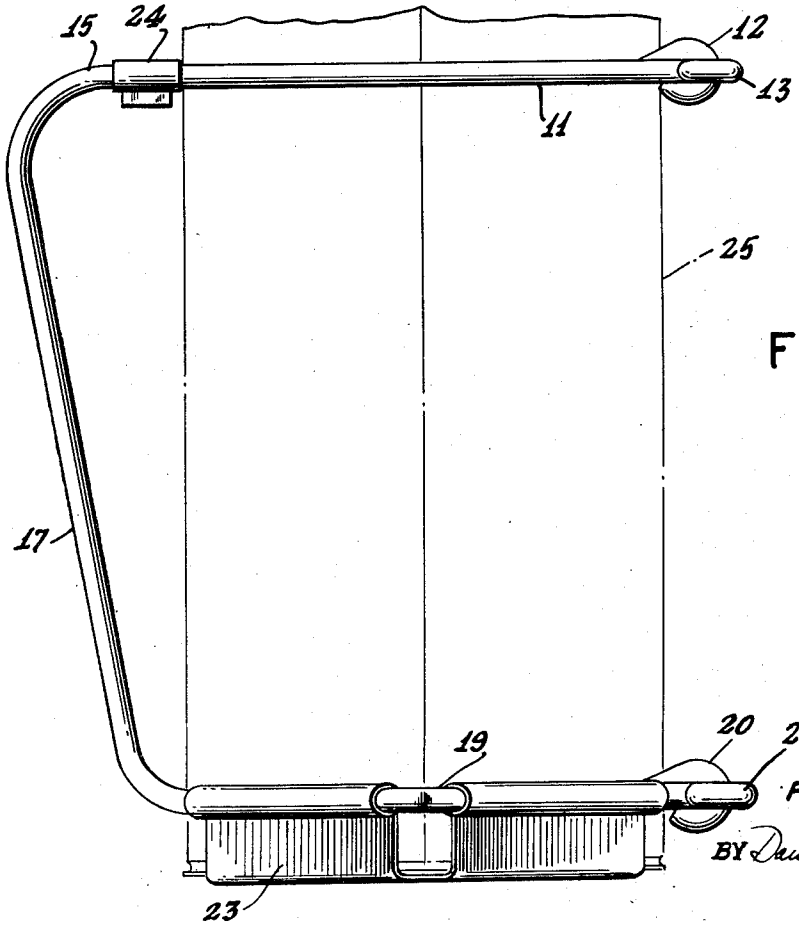


FIG. 3.

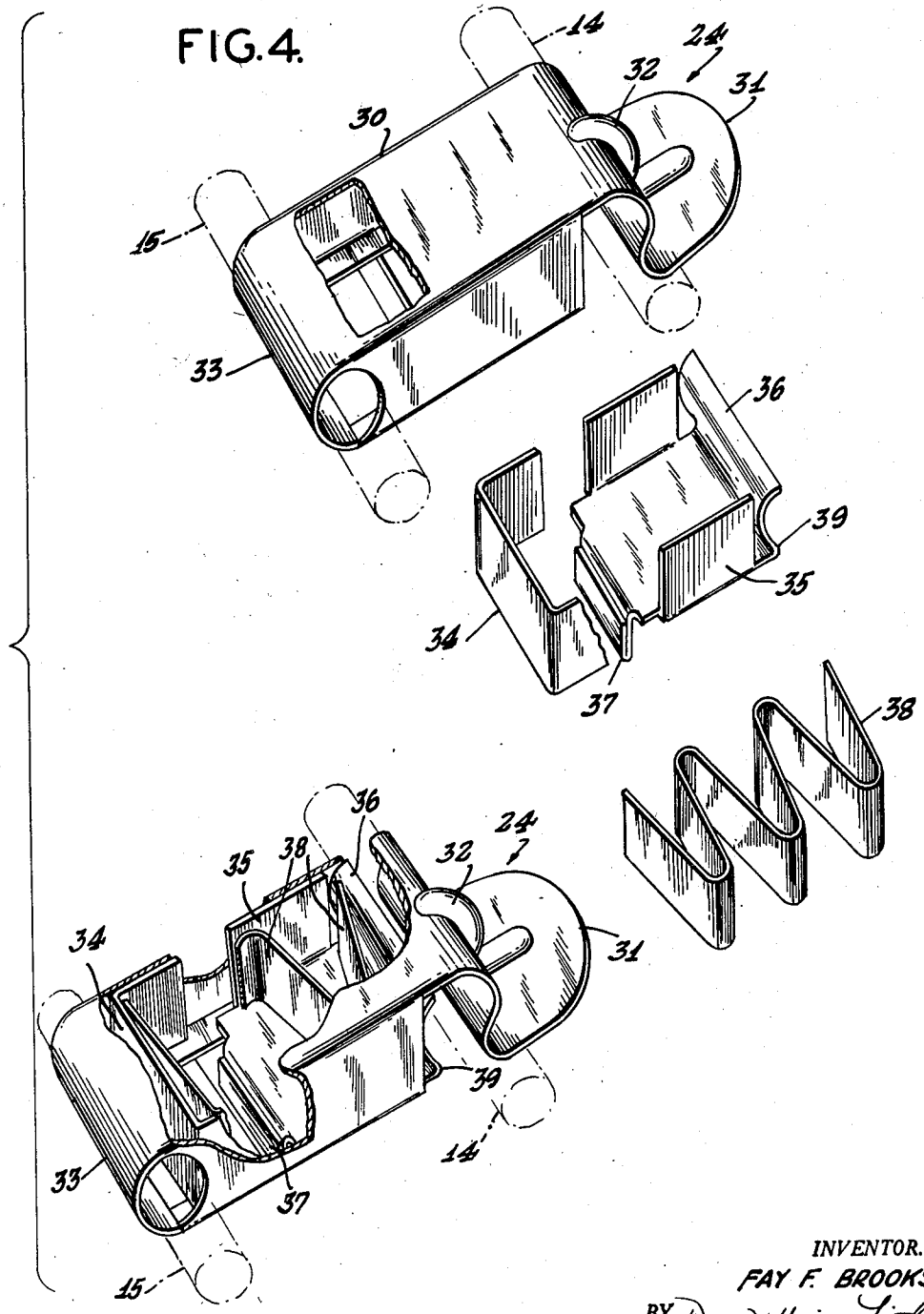
INVENTOR.
FAY F. BROOKS
BY Davis, Hoxie, Faithfull
ATTORNEYS.

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FIG. 4.



INVENTOR.
FAY F. BROOKS
BY David, Horie & Littlefield
ATTORNEYS.

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2,789,744

CONTAINER HOLDER

Fay F. Brooks, Unadilla, N. Y.

Application September 13, 1956, Serial No. 609,614

4 Claims. (Cl. 224—45)

This invention relates to detachable holders for carrying structurally weak or compressible containers, or containers which have slippery surfaces.

Liquids, such as milk and oil, and powdered material, such as sugar and salt, are commonly sold in frail containers made of cardboard or other flexible materials having an opening from which the contents may be poured. These containers have been found in practice to be difficult to handle, partly due to the changing center of gravity of the material within the container as it is periodically emptied and partly due to the somewhat frictionless character of the outer surface, making it difficult to obtain a firm hold especially when the container is to be poured by a user's hand which may be wet. The containers also may provide a slipping surface due to the condensation of the moisture from the warmer room air on the cooler surface of the container. Such containers also may become so weakened from prolonged use as to become easily punctured or ruptured so as to be unusable.

In the past many holders for such containers have been made with many undesirable limitations. Many have the general form of wire straps engaging the outer surfaces of the container and dependent upon the friction produced by the user's grasping the handles thereon for support and gripping action. Some holders are unsatisfactory because the squeezing action of the user breaks down or crushes the collapsible containers since there is no control or limit of the squeezing pressure applied by the user. Generally, the holders known heretofore are unreliable since holding action is not positive, causing accidents in the kitchen due to the container slipping from the holder. Further, many devices formed either of wire frames or of sheet metal do not last with extended use due to the bending action on the members causing strain and early breakage.

It is the general object of this invetnion to provide a detachable, as distinguished from separate, handle structure for containers which obviates the disadvantages of handles known heretofore.

It is a further object to provide one container holder which can be used for paper or glass bottles interchangeably by merely changing the form of the wire member.

It is a still further object to provide a container holder into which a container may be inserted without lifting the container from its resting platform.

A still further object is to provide a holder which has a positive non-slipping gripping action on the container during use.

It is a feature of this invention that the handles provided are long enough to be grasped at a position along the vertical or long dimension of the container to compensate for the changing center of gravity of the contents as poured from the container. It is a further feature of the invetion that the members which are pivoted for the insertion and removal of the container are adapted for long life and stability during use, being kept in proper alignment whether in the opened or closed position.

It is a more specific object of the invention to provide a sanitary holder which is easily cleaned and prevents accumulation of dirt and fluids during use.

A more specific feature of the invention is a latching assembly easily operable for maintaining the closed position of the handle assembly when a container is inserted in the holder. The locking assembly is adapted to prevent any distortion of the container which might occur if excessive pressure were to be applied to the handles by the user. At the same time it serves the additional function of preventing the clamping members holding the container from being loosened while being used and yet maintaining a firm hold on the container to prevent any slip of the container from the holder.

It is a further feature of the latching assembly that it is braked so as to prevent free rotation of the latching device when it is in the opened position.

It is still a further feature of the invention that the handle portion is adapted for a wedging action on the user's hand so that, for example, if the weight of the container would initially cause the handle to slip down the user's hand, the hand would be wedged into a more firm gripping position. This feature of a tapered handle provides an ease in handling since the long tapered handle is adapted to any size hand.

In general, the invention comprises a pair of matched pivotally connected wire frame members adapted to firmly grip or clamp a container of fluids or free flowing solids. The members include a pair of wire members used as the handles for the user connecting the upper wire members which enclose the upper portion of the container to the lower wire members which enclose the lower portion of the container. Also included is a pair of matched plate members attached to the lower wire members and arranged to form a shallow receptacle for supporting the weight of the container and for protecting the base portion of easily punctured or worn paper containers. A latching assembly is pivotally connected with a braking action to one of the wire handle members and positioned to a locking position by latching on to the other of the wire handle members.

In the drawings:

Fig. 1 is a perspective view of the assembled holder;

Fig. 2 is a top view thereof;

Fig. 3 is a side elevation view of the assembly; and

Fig. 4 is an exploded perspective view of the latching device.

In the drawings like reference numerals refer to identical parts.

A pair of elements 10 and 11 are formed from rigid wire, e. g. aluminum, to provide the upper frame or skeleton section substantially surrounding an upper portion of a rectangular or square container 25. The members 10 and 11 are formed in a horizontal plane with respect to the base of the container 25 and are located at about two-thirds of the height of the container. A pair of mutually perpendicular eye hooks 12 and 13 are formed at the end of the members 10 and 11 to operatively engage each other to form a hinge for the members to be swung or operated thereafter in the horizontal plane. Eye hook 12 is formed in a vertical plane and eye hook 13 is formed in a horizontal plane. The eyes are formed to maintain members 10 and 11 in a horizontal plane in the opened or closed position, by forming eye hook 12 so that the center of its opening is on the longitudinal axis of member 10 while the center of eye hook 13 is off the longitudinal axis of member 11.

Wire members 10 and 11 are extended substantially parallel to each other at portions 14 and 15 and are curved downwardly and inwardly tapering to the lower section of the assembly. Handle members 16 and 17 are curved out into a horizontal plane parallel both to the

base of the container and the upper members 10 and 11 to form a shape adaptable to surround and snugly fit the container shape 25 when the holder assembly is in the closed position. The ends of lower members 18 and 19 are terminated in eye hooks engageable with each other to form a pivot or hinge action identical to the upper member eye hooks 12 and 13. A pair of matching base or bottom members 22 and 23 are formed from a pair of unitary plates generally in the form of a hollow receptacle conforming to the base section of the container 25. The upper portion of the sides of each of the base members 22 and 23 are formed to grip around the straight portions of the wire members 18 and 19. The flat bottom section of these members 22 and 23 are adapted to leave a slot between them when the assembly is in a closed position. Members 22 and 23 hold the container in a firm, non-sliding position, protect the bottom of the container, and prevent dirt or wax from paper type containers from soiling the refrigerator or serving surfaces.

A latch assembly 24 is pivotally attached to one of the extended members 15 and is adapted for latching on to the other extended member 14.

An exploded perspective view of latch assembly 24 is shown in Fig. 4. The housing or body portion 30 of the latch is comprised of a unitary plate formed with a full top section and two full side sections, each of which is bent under to form a partial bottom section. One end of the top section is formed into a finger tab portion 31 with a ribbed section 32 for strengthening the portion between the body 30 and finger tab 31. The opposite end 33 of the top section is curved to partially surround and provide free rotation with the extension member 15. A U-shaped retaining or braking plate 34 is slidably inserted within the body 30. The outer or convex side of the brake is engageable directly with the wire member 15. The surrounding portion 33 is adapted to allow for the engagement of the brake 34 with the wire member 15. Latch member 35 is formed of a unitary plate and is slidably inserted within the housing 30. Curved end portion 36 is adapted to partially surround and engage the other extension member 14. The bend 39 is made sharp so as to grip the handle wire into socket opening of body 30 preventing the handle wire from being kicked out fortuitously. The bend 39 being forced against the wire handle by the action of the spring 38 continuously and firmly keeps the handle into the socket for sure locking action. A tab 37 perpendicular to the planar portion of latch member 35 provides a means for limiting the sliding movement of the latch member 35 by a transverse slot formed in the bottom section of housing 30. The movement of latch member 35 is thereby prevented while it is disengaged from member 14 from closing up the opening into which extension member 14 is latched in the closed or locked position. A compression spring 38 formed from a coil or leaf in an accordion shape is inserted in the housing within the concave side of the brake 35 and the convex side of portion 36 of latch member 35. The spring 38 exerts pressure in the two longitudinal directions simultaneously bearing against the brake 34 and curved portion 36 of latch member 35.

The latch assembly in the closed position over the wire handle 14 is so adapted in its dimensions so as to cause the body portion members 10, 11, 18 and 19 to firmly clasp the container in the holder assembly and yet prevent the user by excessive squeezing from collapsing if not breaking the container therein. More specifically, the distance between members 14 and 15 is maintained by the portion 33 and the wire receiving portion between the body 30 and finger tab 31. The spring 38 tends to maintain the maximum separation by pressing wire member 14 to the outer side of the opening whereas the tab 37 limits the minimum closing distance in which latch member 35 can be moved.

The material of the wire members and the bottom plates may be made of anodized aluminum or may be formed from thermoplastic or thermoset resins or plastics. Advantageously, the portions of the assembly which may contact enameled surfaces are made of anodized aluminum thereby obviating marking the surfaces with annoying scratches or marks similar to that made by a lead pencil. The several components of the locking assembly 24 are preferably made of cadmium plated steel for protection against rust and corrosion and also for durability.

The contour of the frame members 10 and 11, 18, 19, 22 and 23 are understood to conform to the shape of the container to be used. Accordingly, whether the container is square, circular or of an irregular shape the members may be adapted to conform thereto as required.

In operation, the assembly is placed on a horizontal support, the latch 24 being disengaged from member 14 and the two sections are swung apart, being pivoted at the eye hooks 12, 13 and 21, 22, respectively, sufficiently to receive the container. The container is inserted between the handle members 16 and 17 to rest on the flat portion of the base members 22 and 23. Alternatively, in order to obviate handling the container, the featured construction of the half sections allows the user to slip the opened half-sections around and under the container resting on a surface, thereafter to close the assembly so as to cause base members 22 and 23 to slide under and firmly support the base of the container.

The handle members 16 and 17 are then drawn together pivoting about the eye hooks to firmly enclose and grip the container 25 around its base and upper portion. The latch member 24 is then easily snapped into position, latching on to member 14 by pressure on finger tab 31 or the body 30 proper. The user grasping the handle members 16 and 17 can then easily manipulate the container to any desired pouring position by lifting and tilting without any fear of the container slipping from the hands or from the holder.

The braking feature prevents the latch member 24 from annoyingly rotating freely about the member 15 in the open position since the brake member 34 is braked into the position after opening or releasing the latching section from the wire member 14. The latch remains in that position so that the user can easily reengage the latch after the insertion of a replacing container.

The feature of the long handle members 16 and 17 allows for the adjustment by the user of the position of grasp to compensate for the changing center of gravity of the contents as the container is periodically emptied, thus further assuring a positive non-spilling and non-dripping manipulation of the container by the user.

Although the embodiment of the invention described is directed to a container 25 in which the pouring spout is located on a corner, it is understood that if a container having a spout located along a side other than a corner is to be used, the members 10, 11, 18 and 19 may be formed into a square instead of the diamond shape of the embodiment in which the eye hooks would be disposed along one side and the extension members 14 and 15 would be bent from along the opposite side thereto.

I claim:

1. In a detachable holder for compressible containers, a pair of unitary pivotable wire members adapted to engage the sides of a container, each of said wire members including a semi-peripheral portion adapted to snugly enclose substantially all of the periphery of said container adjacent to the base and less adjacent to the top of said container, each of said portions being arranged in a plane parallel to said base, a straight wire handle portion integrally connecting the base and top portion generally running along the height dimension of said container, said straight wire handle portion being formed by an extension of said top portion external to the surface of the container

and curving downward thereafter tapering toward the lower surface of said container and thence inwardly as the extension of said base portion, a plate member rigidly attached to each of said base portions and formed as a shallow receptacle for the base portion of said container, rendering thereby a substantial stabilizing support for each of said unitary pivotable wire members, said pair of unitary pivotable wire members terminating in mutually engageable eye hooks disposed along the top and base peripheral portions, respectively, and a latching assembly rotatably attached to one of said extension portions of the top portion and attachable by latching means to the other of said extension portions, said latching assembly including means for braking the free rotation about the attached portion when the latching assembly is not attached to the attachable portion.

2. In a holder assembly according to claim 1 wherein said latch assembly includes a body formed from an integral sheet of metal and including a top wall, side walls projecting from said top wall and a bottom wall projecting from said side walls, one end of said top wall having an extension portion for rotatable attachment to one of said top extension members, the other end of said top wall having an extension formed as a resilient finger operated latch for attachment to the other of said top extension members, a spring, a U-shaped brake member and a latch member operably related within said body to brake the free rotation about the attached extension member and to resiliently bear aginst the latch member when the latch assembly is attached to the other extension member.

3. A holder assembly according to claim 2 wherein said latch means is provided with limiting means whereby

the latch portion of said means is prevented from closing up the space for receiving the other top extension member when the latch assembly is in the open position, said means comprising a vertical tab extended perpendicularly to the sliding direction of said latch member and through a slot in the bottom of said housing.

4. A removable handle for containers comprising a matched pair of unitary substantially rigid wire members formed to an upper and lower portion to engage when the handle is closed the sides of a container, eye hook pivoting means for detachably retaining said body portions around a container, a pair of spaced wire handles integrally joining said upper and lower portions, a pair of plate members shaped to form when the handle is closed a shallow receptacle attached to the lower portions for supporting the weight of a container, and a latching assembly rotatably attached to the top-most portion of one of said spaced wire handles and manually operable locking means including a hook for engaging the other of said spaced wire handles at a corresponding position, said latching means including spring pressure means for both braking the rotation of said latching assembly about said one spaced wire handle and preventing the manually operable locking means from closing the opening of said hook for receiving the other of said spaced wire handles when the latch assembly is in the opened position.

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