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(54) **DETACHABLE HAND-GRIP FOR USE WITH SHOPPING BAGS AND THE LIKE**

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(57) **ABSTRACT**

An attachable and detachable hand-grip for carrying one or more plastic bags typically used in grocery stores, or other handle-bearing objects having thin loop-type handles, the hand-grip comprising an elongate base member defining a longitudinal channel that spans the length of the base member and having longitudinal edge portions on each side of the channel, and a closure member hingedly connected longitudinally to the base member so that the closure member and base member are able to articulate relative to each other about a longitudinal axis between an open position in which the channel is exposed enabling the placement or removal of the handles within the channel and a closed position in which the closure member abuts the edge portions of the base member to interfere with the channel for confining the handles within the channel.



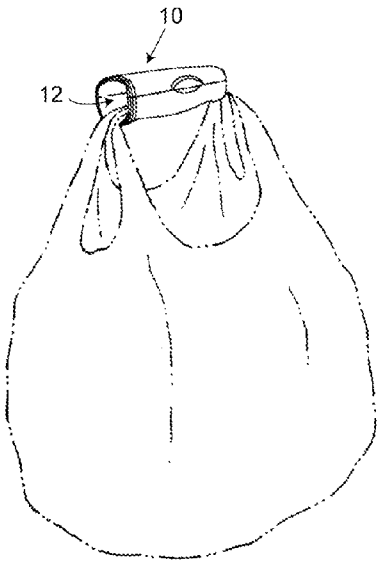


Fig. 1

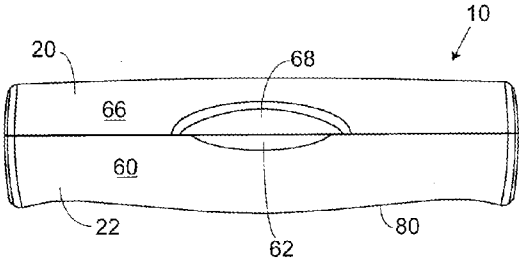


Fig. 2

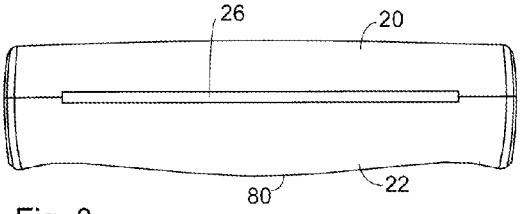


Fig. 3

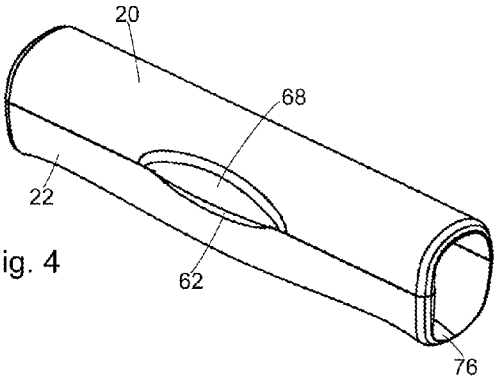


Fig. 4

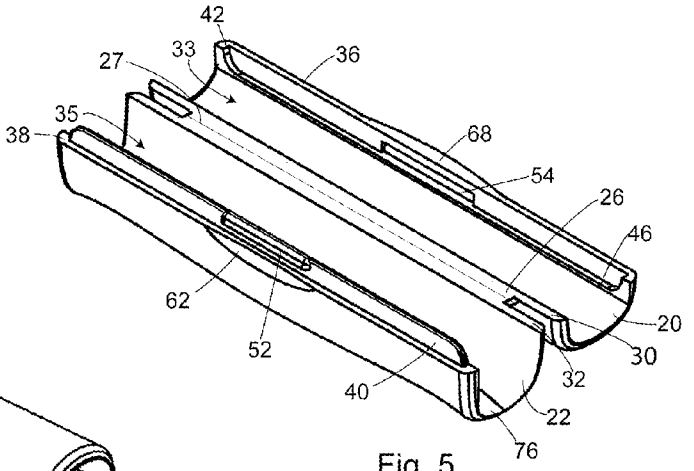


Fig. 5

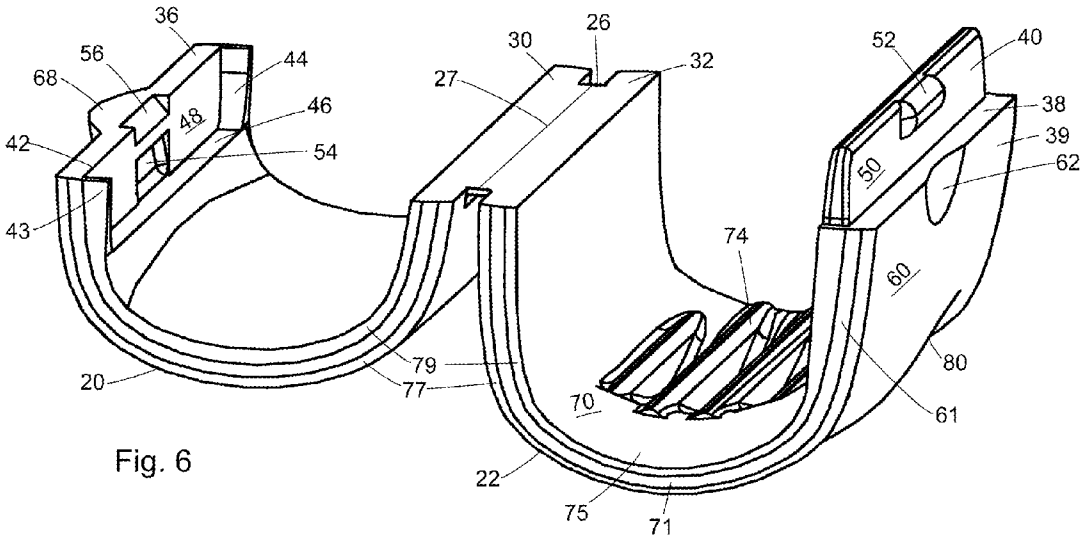


Fig. 6

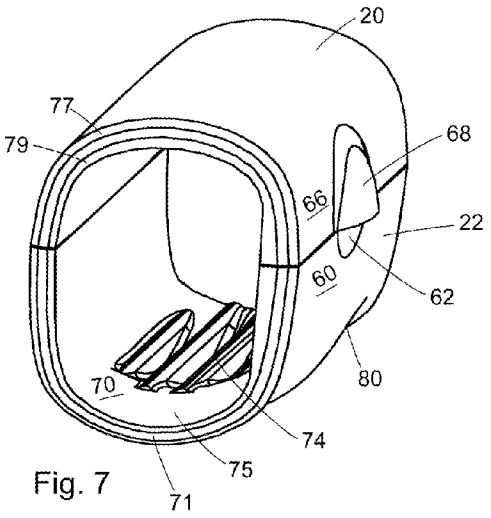


Fig. 7

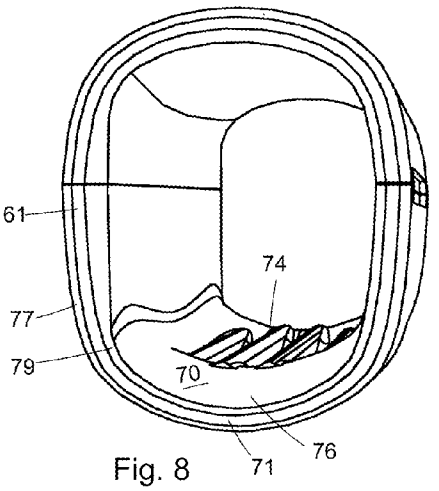


Fig. 8

DETACHABLE HAND-GRIP FOR USE WITH SHOPPING BAGS AND THE LIKE

BACKGROUND OF THE INVENTION

[0001] The present invention relates to attachable and detachable hand protecting grips for carrying one or more plastic bags typically used in grocery stores or other handle-bearing objects having thin loop-type handles.

[0002] A large number of retail establishments provide their customers with inexpensive plastic shopping bags for carrying merchandise. Plastic shopping bags typically include two loops of plastic material extending from the upper rim of the bag, the loops being adapted to be used as handles for carrying the bag and its contents. However, when the contents of the bag are relatively heavy, the loops exert considerable pressure on the hand of the person carrying the bag, which can cause significant discomfort or injury. The problem is compounded when more than one bag is carried in one hand. Heavily laden plastic bags press deeply into the fingers and sides of the user's hand. Not only can this situation be painful, but joint and muscle strain and diminished blood circulation in the hand may result. Many other products in the marketplace are packaged or loaded into containers having thin, narrow handles of various types. As an example, paint cans have thin wire handles which can also cause significant discomfort or injury to the user's hand.

[0003] Accordingly, there is need for an improved attachable and detachable hand-grip for carrying one or more plastic bags typically used in grocery stores or other handle-bearing objects having thin loop-type handles, such as paint cans. The preferred hand-grip should be inexpensive to manufacture and should be durable for repetitive use. It is also desirable that the hand-grip be small in size so that it is easy to carry unobtrusively, and it should also evenly distribute bag load over the gripping fingers of a user so as not to cut or cause discomfort to the user's hand. An ideal hand-grip should be able to securely engage the handles of a number of plastic grocery bags, and the bags should not be able to be inadvertently dislodged from the hand-grip, yet installation and removal of the device should require little or no effort.

SUMMARY OF THE INVENTION

[0004] In one aspect of the present invention, there is provided a hand-grip for carrying the handles of one or more plastic shopping bags typically used in grocery stores or other handle-bearing objects having thin loop-type handles, the hand-grip comprising an elongate base member defining a longitudinal channel that spans the length of the base member and having longitudinal edge portions on each side of said channel, and a closure member hingedly connected longitudinally to the base member such that the closure member and base member are able to articulate relative to each other about a longitudinal axis between an open position in which the channel is exposed, enabling the placement or removal of the handles within the channel, and a closed position in which the closure member abuts said edge portions of the base member to interfere with the channel for confining the handles within the channel. In some embodiments, the hand-grip further includes a releasable latch mechanism that cooperates with the closure member and the base member for maintaining the device in the closed position. The latch mechanism may comprise a flange extending upward from the base member and a corresponding and complimentary recess in the closure member that receives the flange as the device is articulated into the closed position. And a protrusion may be provided on a face of the flange and a corresponding indentation may be provided on the recess that receives the protrusion when the flange is received in the recess to provide a releasable interlocking fit between the flange and the recess.

[0005] In some embodiments of the present invention, the base member and closure member are molded from rigid thermoplastic material as one unit and the hinged connection between the base member and closure member comprises a pliable band of thermoplastic material that connects the base member and the closure member. As well, the base member may be semitubular and the channel semicylindrical and defined by the walls of the base member, and the longitudinal edge portions may comprise a base hinge edge to which the closure member is hingedly connected and a base latch edge from which said flange extends.

[0006] In another aspect of the present invention, there is provided a hand-grip for carrying the handles of one or more plastic shopping bags typically used in grocery stores or other handle-bearing objects having thin loop-type handles, comprising a semitubular base member defining a longitudinal semicylindrical base channel and having a first base edge on one side of the base channel and a second base edge on the other side of the base channel, and a semitubular closure member defining a longitudinal semicylindrical closure channel and having a first closure edge on one side of the closure channel and a second closure edge on the other side of the closure channel, the first closure edge being hingedly connected to the first base edge such that the closure member and base member are able to articulate relative to each other about a longitudinal axis between an open position in which the base channel is exposed to enable the placement or removal of the handles within the base channel and a closed position in which the closure member interferes with the base channel for confining the handles within the base channel. The base member and the closure member may be dimensions such that in the closed position the second closure edge and second base edge abut each other to enclose the base channel.

[0007] In some embodiments, there is further provided a releasable latch mechanism that cooperates with the closure member and the base member for maintaining the device in the closed position. The latch mechanism may comprise a flange extending upward from the base member and a corresponding and complimentary recess in the closure member that receives the flange as the device is moved into the closed position. The latch mechanism may further include a protrusion on a face of the flange and a corresponding indentation on the recess that receives the protrusion when the flange is received in the recess to provide a releasable interlocking fit between the flange and the recess. In some embodiments, the flange extends from the second base edge and the recess is defined in the second closure edge. As well, the base member and closure member may be molded from thermoplastic material as one unit and the hinged connection between the base member and closure

member comprises a pliable band of thermoplastic material that connects the base member and the closure member.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] These and other features of the invention will become more apparent from the following description in which reference is made to the appended drawings wherein:

[0009] FIG. **1** is a perspective view of an embodiment of a hand-grip in accordance with the present invention shown as it would be used in carrying the handles of a plastic bag, which is shown in phantom;

[0010] FIG. **2** is a front elevational view of the hand-grip of FIG. **1** in a closed configuration;

[0011] FIG. **3** is a back elevational view of the hand-grip of FIG. **1** in a closed configuration;

[0012] FIG. **4** is a perspective view of the hand-grip of FIG. **1** in a closed configuration;

[0013] FIG. **5** is a perspective view of the hand-grip of FIG. **1** in an open configuration;

[0014] FIG. **6** is a perspective view of the hand-grip of FIG. **1** in an open configuration showing the two half portions being connected by an integral hinge;

[0015] FIG. **7** is a perspective view of the hand-grip of FIG. **1** from the side in a closed configuration showing the exterior back, and interior top, front and bottom of the hand-grip; and

[0016] FIG. **8** is a perspective view of the hand-grip of FIG. **1** from the side in a closed configuration showing the exterior front, and interior back and bottom of the hand-grip.

DETAILED DESCRIPTION

[0017] It is understood that the present disclosure is an exemplification of the principles of the invention and does not limit the invention to the illustrated embodiments. Therefore, specific details disclosed herein are not to be interpreted as limiting, but rather as a basis for the claims and as a representative basis for teaching one skilled in the art to employ the present invention.

[0018] Referring to FIG. **1**, there is shown an embodiment of a hand-grip **10** in accordance with the present invention in a closed position or configuration, as it would be used with the handles of a typical plastic shopping bag. The hand-grip provides a generally tubular body defining a longitudinal passageway **12** in which the handles of a shopping bag are held. Preferably, the hand-grip is dimensioned to fit within an average adult's hand. Thus, for example, hand-grip **10** is 9.0 centimeters in length and 1.8 centimeters in width, though it could be in the range of 7.0-11.0 centimeters length and 1.4-2.6 centimeters in width, or it could have other dimensions that would enable the hand-grip to be held in a user's hand, as would be apparent to persons skilled in the art.

[0019] Referring to FIGS. **2-8**, hand-grip **10** comprises a closure member such as semitubular upper half portion **20** and a base member such as semitubular lower half portion **22**, and the upper and lower half portions are hingedly connected to each other by a longitudinal integral hinge **26** along a first closure edge such as back edge **30** and a first base edge such as back edge **32**. The term "semitube" is used herein to refer to a partial tube that results from a longitudinal section through a hollow elongate body, and the term "semitubular" to refer to a body having characteristics of such partial tube. The upper half portion **20** defines a longitudinal, semicylindrical closure channel **33** and the lower half portion **22** defines a longitudinal, semicylindrical base channel **35**. The integral hinge **26** enables the two half portions **20** and **22** to articulate relative to each other about a longitudinal axis indicated by crease line **27** between a closed position or configuration as shown in FIG. **4** and an open position or configuration as shown in FIG. **5**.

[0020] In the preferred embodiment, hand-grip **10** is made of injection molded thermoplastic, such a Polypropylene (PP) or Polyethylene (PE), and it is molded as one unit with the upper half connected to the lower half by the integral hinge, in which case the hinge comprises a pliable band of thermoplastic material connecting the two halves and being of a thickness that enables the band of material to bend along a longitudinal crease **27** repeatedly without breaking. Such hinge is commonly referred to in the plastic molding industry as a "living hinge". For example, in an embodiment of the hand-grip **10** molded from PP or PE, the thickness of the walls of the upper and lower halves could be in the range of 3-5 mm to provide a desired rigidity to the hand-grip, and the hinge could be in the range of 0.4-0.5 mm to provide the desired pliability to the hinge. However, it will be appreciated that the present invention may be practiced using other material and thicknesses.

[0021] Manufacture of the hand-grip by thermoplastic injection molding is preferable since it is efficient and cost effective, especially in an automated environment using multi-cavity molds. However, it will be appreciated that the present invention may be manufactured using other materials and methods that provide the desired rigidity to the hand-grip, and in some embodiments of the invention, the hinge may be a moveable joint or mechanism that connects the upper and lower halves in a manner so as to enable them to articulate relative to each other as described herein.

[0022] A second closure edge such as front edge **36** and a second base edge such as front edge **38** are provided with a releasable latching mechanism that enables the two front edges **36** and **38** to be latched together when the hand-grip **10** is placed in the closed configuration to maintain the device in this closed configuration until unlatched by the user. The latching mechanism prevents the hand-grip **10** from becoming unintentionally separated from the plastic bag handles during use when the bag or bags is set down. Such unintentional separation is undesirable for the case where the user sets down the bags for only a short time and intends to pick them up again, for example, after placing the bags in a car trunk during a shopping trip and then carrying the bags from the car to the home.

[0023] With particular reference to FIGS. **5-6**, the releasable latching mechanism in the illustrated embodiment comprises an elongate flange **40** that extends along an internal side of front edge **38** of lower half portion **22** and a corresponding and complimentary recess **42** provided in an internal side of front edge **36** of upper half portion **20** for receiving the flange **40** therein. The flange **40** is approximately one half of the thickness of the front edge **38** and it is coplanar with the front wall portion **39** that is adjacent the front edge **38** of the lower half. The recess **42** is defined in front edge **36** of the upper half by side wall portions **43** and **44**, ledge **46** and internal face **48**. The depth and thickness of recess **42** is complimentary to the height and thickness of flange **40** such that the flange is closely received within the recess, and the front edges **36** and **38** of the upper and lower halves respectively abut each other when the hand-grip is in

the closed configuration. Midway on the outer surface **50** of the flange is provided a semicylindrical tab **52**, and at a corresponding location on the face **48** of the upper half, adjacent to ledge **46**, is provided a complimentary shaped indentation **54** that receives tab **52** and acts as a catch for the tab when the flange **40** is within the recess **42** in the closed configuration of the device. A cam face **56** if provided midway on front edge **36** to facilitate the insertion of the tab **52** into indentation **54** during the act of closing the device, whereby the rounded surfaces of tab **52** function as cam followers when coming into contact with cam face **56**, causing the tab (hence the flange) to deflect inward and allow the tab to clear front edge **36**.

[0024] With reference to FIGS. **2**, **6** and **7**, in order to facilitate the unlatching of the two halves by the user and to enable the device to be opened into its open configuration, the outer face **60** of the front wall of the lower half portion **22** has a concave depression **62** which provides a grip for the user's thumb of one hand, and the outer face **66** of the front wall of the upper half portion **20** has a truncated convex protrusion **68** which provides a grip for the user's thumb of the other hand, thereby providing means by which the user can pry the two halves apart. By pressing inward on concave depression **62** to deflect the front wall of the lower half **22** inward to enable tab **52** to clear indentation **54**, and at the same time by prying upward on convex protrusion **68**, the front edge of the upper half may be unlatched from the front edge of lower half, and the device articulated into its open configuration.

[0025] With reference to FIGS. **6-8**, the inside surface **70** of the bottom wall **71** of the lower half **22** is provided with parallel longitudinal ribs **74** that are recessed into the bottom wall. The ribs **74** provide strength and rigidity to the bottom wall, which takes the brunt of the weight of the bags transmitted through the bag handles, while enabling less material to be used in the bottom wall for reduced overall weight and material costs of the device.

[0026] In order to reduce the stressing of the plastic bag handles by the bottom wall during use of the device in conjunction with heavily laden bags, the inside wall portions **75**, **76** adjacent the openings on the bottom wall **71** are angled downward. As well, the circumferential edges **77** and **79** around the openings are beveled. The outer surface **80** of the lower half **22** is also ergonomically shaped to conform to an average user's hand for added comfort.

[0027] To use the hand-grip **10**, a user grips the device with both hands and positions a thumb in the concave depression **62** and a thumb on the convex protrusion **68**. The user then presses inward on the concave depression **62** to deflect the front wall **61** of the lower half **22** inward, enabling tab **52** to clear indentation **54**, and at the same time pries upward on convex protrusion **68** to unlatch the upper half from the lower half. With the device in the open configuration, the user then places the device around the handles of one or more shopping bags (or any other like handle) in a manner that the handles are located within the base channel **35** defined by the lower half **22**. The user then articulates the upper half **20** towards the lower half **22**, and upon contact between the respective front edges, presses the two halves together until the tab **52** of flange **40** snaps into the indentation **54**. In the closed configuration, the upper half interferes with, blocks or encloses the base channel, and the hand-grip is thereby securely attached to the handles of the shopping bags (or the like) and is ready to be used in carrying the bags. Prior to lifting the bags using the hand-grip, the user rotates the hand-grip so that the bag handles are located with base channel **35** of the lower half. This may not be necessary at all times, but since the lower half is reinforced with ribs **74**, it is more suited to withstanding heavier loads. To remove the hand-grip, the user opens the device as described above so that the upper half is clear of the base channel and then removes the shopping bag handles from the device.

[0028] While the above description and illustrations constitute preferred or alternate embodiments of the present invention, it will be appreciated that numerous variations may be made without departing from the scope of the invention.

1. A hand-grip for carrying the handles of one or more plastic shopping bags typically used in grocery stores or other handle-bearing objects having thin loop-type handles, the hand-grip comprising:

an elongate base member defining a longitudinal channel that spans the length of the base member and having longitudinal edge portions on each side of said channel and a bottom wall that defines the bottom of the base channel and having end portions adjacent the ends of the base member wherein each end portion is angled downward relative to the remainder of the bottom wall toward the adjacent end of the base;

closure member hingedly connected longitudinally to the base member such that the closure member and base member are able to articulate relative to each other about a longitudinal axis between an open position in which the channel is exposed enabling the placement or removal of the handles within the channel and a closed position in which the closure member abuts said edge portions of the base member to interfere with the channel for confining the handles within the channel.

2. The device as claimed in claim claim **1** wherein the bottom wall further includes longitudinal reinforcement ribs for strengthening the bottom wall.

3. The device of claim claim **2** further comprising a releasable latch mechanism that cooperates with the closure member and the base member for maintaining the device in the closed position wherein the latch mechanism comprises a flange extending upward from the base member and a corresponding and complimentary recess in the closure member that receives the flange as the device is articulated into the closed position.

4. The device of claim claim **3** wherein the latch mechanism further includes a protrusion on a face of the flange and a corresponding indentation on the recess that receives the protrusion when the flange is received in the recess to provide a releasable interlocking fit between the flange and the recess.

5. The device of claim claim **3** wherein the edges of the ends of the base member are beveled.

6. (canceled)

7. A hand-grip for carrying the handles of one or more plastic shopping bags typically used in grocery stores or other handle-bearing objects having thin loop-type handles, the hand-grip comprising:

a semitubular base member defining a longitudinal semi-cylindrical base channel and having a first base edge on one side of the base channel and a second base edge on the other side of the base channel, and a bottom wall that defines the bottom of the base channel, wherein the

bottom wall includes longitudinally oriented reinforcement ribs for structurally strengthening the bottom wall; and

a semitubular closure member defining a longitudinal semicylindrical closure channel and having a first closure edge on one side of the closure channel and a second closure edge on the other side of the closure channel, the first closure edge being hingedly connected to the first base edge such that the closure member and base member are able to articulate relative to each other about a longitudinal axis between an open position in which the base channel is exposed to enable the placement or removal of the handles within the base channel and a closed position in which the closure member interferes with the base channel for confining the handles within the base channel.

8. The device as claimed in claim claim **7** wherein the base member and the closure member are dimensioned such that in the closed position the second closure edge and second base edge abut each other to enclose the base channel.

9. The device as claimed in claim claim **8** further comprising a releasable latch mechanism that cooperates with the closure member and the base member for maintaining the device in the closed position.

10. The device of claim claim **9** wherein the latch mechanism comprises a flange extending upward from the base member along substantially the entire length of the second base edge and a corresponding and complimentary recess defined in the closure member along substantially the entire length of the second closure edge that receives the flange as the device is moved into the closed position.

11. The device of claim claim **10** wherein the latch mechanism further includes a medial protrusion on a face of the flange and a corresponding medial indentation on the recess that receives the protrusion when the flange is received in the recess to provide a releasable interlocking fit between the flange and the recess.

12. (canceled)

13. The device as claimed in claim **11** wherein the base member and closure member are molded from thermoplastic material as one unit and the hinged connection between the base member and closure member comprises a pliable band of thermoplastic material that connects the base member and the closure member.

14. A hand-grip for carrying the handles of one or more plastic shopping bags typically used in grocery stores or other handle-bearing objects having thin loop-type handles, the hand-grip comprising:

a semitubular base member defining a longitudinal semicylindrical base channel and having a first base edge on one side of the base channel and a second base edge on the other side of the base channel, and a bottom wall that defines the bottom of the base channel and having end portions adjacent the ends of the base member wherein each end portion is angled downward relative to the remainder of the bottom wall toward the adjacent end of the base; and

a semitubular closure member defining a longitudinal semicylindrical closure channel and having a first closure edge on one side of the closure channel and a second closure edge on the other side of the closure channel, the first closure edge being hingedly connected to the first base edge such that the closure member and base member are able to articulate relative to each other about a longitudinal axis between an open position in which the base channel is exposed to enable the placement or removal of the handles within the base channel and a closed position in which the closure member interferes with the base channel for confining the handles within the base channel.

15. The device as claimed in claim **14** wherein the base member and the closure member are dimensioned such that in the closed position the second closure edge and second base edge abut each other to enclose the base channel.

16. The device as claimed in claim **15** further comprising a releasable latch mechanism that cooperates with the closure member and the base member for maintaining the device in the closed position.

17. The device of claim **16** wherein the latch mechanism comprises a flange extending upward from the base member along substantially the entire length of the second base edge and a corresponding and complimentary recess defined in the closure member along substantially the entire length of the second closure edge that receives the flange as the device is moved into the closed position.

18. The device of claim **17** wherein the latch mechanism further includes a medial protrusion on a face of the flange and a corresponding medial indentation on the recess that receives the protrusion when the flange is received in the recess to provide a releasable interlocking fit between the flange and the recess.

19. The device of claim **18** wherein an inside surface of the bottom wall further includes longitudinally oriented reinforcement ribs for strengthening the bottom wall.

20. The device as claimed in claim **19** wherein the base member and closure member are molded from thermoplastic material as one unit and the hinged connection between the base member and closure member comprises a pliable band of thermoplastic material that connects the base member and the closure member.

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