A hinged closure device for supporting a removable plastic bag adjacent to its mouth and for selectively holding the mouth of the plastic bag in an open position so that refuse, etc., may be placed into the plastic bag or in a closed position wherein the mouth of the plastic bag is closed and sealed.

4 Claims, 6 Drawing Figures
CLOSURE CONSTRUCTION FOR PLASTIC BAGS

BACKGROUND OF THE INVENTION

The present invention relates to an improved closure device, and more particularly, an improved closure device for supporting removable plastic bags and for selectively holding the bags in either an open position wherein refuse, etc., may be placed into the bags or in a closed position wherein the bags are closed and sealed so as to be substantially watertight and airtight. The improved closure device of the present invention is particularly useful for supporting and holding plastic bags used in hospitals, sanitariums, and the like, for collecting soiled clothes, dressings, and other refuse.

As is well known, bags of plastic material have, more and more, been used as a means for collecting refuse and the like since plastic bags have advantages, relative to conventional paper bags, in that they generally are more hygienic, convenient, and more aesthetic in appearance. As a result, plastic bags have been utilized for collecting refuse of any kind from homeseads, offices, consulting rooms, sanitariums and hospitals.

In the past, plastic bags have often been used as liners for conventional refuse dumping boxes. However, when plastic bags have been so used as liners in conventional dumping boxes there has been a problem in that there is no way to conveniently open and close the bags. In other words, the bags cannot be easily and readily opened to permit the depositing of refuse in them and cannot be maintained totally closed so that its contents will not be visible and so that disagreeable odors will not emanate therefrom.

All the above inconveniences can be obviated with the improved device of the present invention which permits plastic bags to be easily opened to allow refuse to be placed into the bags and to be tightly closed and sealed. In addition, the improved device of the present invention eliminates the need for conventional dumping boxes since the bags are completely supported by and suspended from the improved device of the present invention.

More specifically, the improved closure device of the present invention includes a first member which is adapted to be mounted on a wall or the like and which has a hinge means at one end thereof and a second member which has one and pivotally connected to the hinge means and arranged so as to permit the second member to pivotally move relative to the first member between a first position wherein the bag is closed and sealed and a second position where the bag is open so as to permit refuse to be placed within the bag. Each of the members includes means for removably securing a portion of the upper, open end of the plastic bag to the members so that the bag will be supported from the members. The second member is constructed so that it fits or is received within the first member when the members are in the first position and so that when the members are in the first position, the bag is substantially clamped between adjacent portions of the members thereby sealing the bag.

Accordingly, it is an object of the present invention to provide an improved closure device for supporting a plastic bag and for selectively holding the bag such that the mouth of the bag is open wherein refuse may be introduced into the bag or such that the mouth of the bag is closed and sealed.

This and other objects, advantages and characteristics of this invention may be appreciated through the following description of the preferred embodiment of the present invention which, for greater clearness and comprehension, has been illustrated with several drawings representing one of the preferred forms of the invention.

DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the improved closure device of this invention, showing the same closed;
FIG. 2 is a perspective view of the improved closure of this invention, showing the same opened;
FIG. 3 is an elevated frontal view of the improved closure device of this invention, one part of which is sectioned and with one of the attaching means of the side of the bag being shown removed from the device;
FIG. 4 is a lateral, elevated, cross-sectional view of the improved closure device of this invention, showing the device in an open position;
FIG. 5 is a view similar to FIG. 4, showing the device of this invention in a closed position; and
FIG. 6 is a partial perspective view of an end of the improved closure device of this invention, showing a variant of the closing means.

In all the figures the same reference numbers indicate the same parts.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As may be seen from the drawings, the improved closure device of the present invention comprises a pair of members a and b which are pivotally connected to each other so that the members may be moved from a closed position, such as shown in FIG. 1, to an open position, such as shown in FIG. 2. More specifically, the members a and b are pivotally connected together by means of a rod 1 which is secured by a pair of end nuts 2.

Member a constitutes the basis of the device and may be affixed to a wall or any other support either by screws, nails, rivets, or the like, which extend through openings 3. Alternatively, the member a could be secured to the wall or support by means of adhesive or the like. The complementary member b, as noted above, is movable relatively to the member a.

The member a has a generally elongated C-shaped (in cross-section) body including a back wall 4, a pair of spaced side walls 5 and an end wall 6. The side walls 5 project perpendicularly from the plane of the back wall 4 and are substantially parallel to each other. The walls 4, 5 and 6 are integral so that the member a is of a one-piece construction. The member b has a generally similar configuration to that of the member a with a back wall 8 and a pair of side walls 7 which project perpendicularly from the back wall 8 and which are generally substantially parallel to each other. However, in the member b, the distance between the outer surfaces of the walls 7 is slightly less than the distance between the inner surfaces of the walls 5 so that the walls 7 may fit snugly within the walls 5 for the reasons hereinafter explained.

Member b does not include an end wall, corresponding to the wall 6 in member a but, like the member a, the walls 7 and 8 are integrally formed in a one-piece construction.
The end wall 6 of the member a includes a conventional fastening means 9 which may be utilized to fit over the projection 10 formed on the back wall 8 of the member b. Preferably, the wall 6 has a notch 11 formed therein into which the projection 10 of the member b may fit. To assist movement of the member b with respect to the member a, a knob 12 is mounted on the outer surface of the wall 8 of the member b.

The inner surfaces of the walls 4 and 8 of the members a and b, respectively, include elongated recesses whose internal lateral borders define grooves 14. The recesses 13 may be an integral part of the members or can be separate parts which are secured to the back walls of the members. Elements 15, having a slightly longer length than the recesses 13, are constructed so that their borders or side edges 16 are of the same configuration as, and may fit within, the grooves 14, as shown in FIGS. 4 and 5.

As noted above, the elements 15 are longer in length than the recesses 13. The purpose for this is so that the projecting portions of the elements 15 may be used for the manual insertion or removal of elements 15 from the recesses 13. Recesses 13 and the elements 15 constitute the means for attaching the borders of the mouth of the plastic bag to the members a and b, in the manner shown in FIGS. 4 and 5. More specifically, as shown in FIGS. 4 and 5, the portions of the side walls of the plastic bag are disposed between each of the elements 15 and their corresponding grooves 14 and are secured therein by cooperation between the side edges of the elements 15 and the grooves 14.

The improved closure device of the present invention shown in FIG. 6 utilizes a fixed attaching means 17 on the wall 6 of the member a' rather than the member 9. The member b' has an articulated lever means 18 with an eyebolt 19 which is adapted to fit over the means 17 and secure the member b' to the member a'.

As best seen in FIG. 5, when the member b is in a loading or bag open position, such as shown in FIG. 2, the mouth of the bag is open so that refuse or the like may be placed into the bag. However, when the member b is positioned adjacent to the member a, such as shown in FIGS. 1 and 5, the walls of the bag are substantially clamped between the lower walls 5 and 7 of the members a and b, respectively, thereby closing and substantially sealing the bag. When the bag is thus sealed, it is substantially watertight and odor cannot emanate from the interior of the bag. Moreover, the members may be locked in the bag closing position, i.e. the position shown in FIGS. 1 and 5, by the locking means 9 and 10, shown in FIGS. 1–3 or by the locking means 17 and 18 shown in FIG. 8.

From the foregoing it is evident that the improved closure device of the present invention provides an improved means for supporting plastic bags and for holding plastic bags in either an open position wherein refuse or the like may be placed into the bag or in a closed position wherein the mouth of the bag is sealed.

It is to be understood that the embodiment of the invention which has been described is merely illustrative of one application of the principles of the invention. Numerous modifications may be made to the disclosed embodiment without departing from the true spirit and scope of the invention.

We claim:

1. An improved closure device for supporting plastic bags and for holding plastic bags selectively in a first position wherein the mouth of the plastic bag is open so as to permit refuse and the like to be placed into the plastic bag or in a second position wherein the mouth of the plastic bag is closed and sealed, the improved closure device comprising: a first member adapted to be mounted on a wall means; hinge means mounted on one end of the first member; a second member pivotally connected at one end to the hinge means so that the second member may pivotally move, with respect to the first member, about the hinge means between the first and second positions; the first and second members each having a generally C-shaped cross-section including a back wall and two spaced side walls which project substantially perpendicularly from the back wall, with the distance between the projecting side walls of the second member being slightly less than the distance between the projecting side walls of the third member and with the first and second members arranged so that the projecting side walls of the second member fit within and closely adjacent to these projecting side walls of the first member when the first and second members are in the second position; first bag securing means carried by the first member and adapted to secure at least a portion of the plastic bag, adjacent to its mouth, to the first member; and second bag securing means carried by the second member and adapted to secure at least a portion of the plastic bag, adjacent to its mouth, to the second member.

2. An improved closure device for supporting plastic bags and for holding plastic bags selectively in a first position wherein the mouth of the plastic bag is open so as to permit refuse and the like to be placed into the plastic bag or in a second position wherein the mouth of the plastic bag is closed and sealed, the improved closure device comprising: a first member adapted to be mounted on a wall means; hinge means mounted on one end of the first member; a second member pivotally connected, at one end, to the hinge means so that the second member may pivotally move, with respect to the first member, about the hinge means between the first and second positions; means for sealing the plastic bag when the first and second members are in the second position; first bag securing means carried by the first member and adapted to secure at least a portion of the plastic bag, adjacent to its mouth, to the first member; and second bag securing means carried by the second member and adapted to secure at least a portion of the plastic bag, adjacent to its mouth, to the second member, the first and second bag securing means each including a recess means having internal lateral borders that define upper and lower grooves and an element which is adapted to fit within the recess means and to be retained therein by cooperation between the grooves and the side edges of the element, with the portions of the plastic bag being disposed between the recess means and the elements and secured there between by cooperation between the side edges of the elements and the grooves of the recess means.

3. The improved device described in claim 2, wherein the first member has a generally C-shaped cross-section and includes a back wall and two, spaced side walls which project substantially perpendicularly
from the back wall; wherein the second member also has a generally C-shaped cross-section and includes a back wall and two, spaced side walls which project substantially perpendicularly from the back wall, with the distance between the side walls of the second member being slightly less than the distance between the side walls of the first member and with the first and second members arranged so that the side walls of the second member fit within and closely adjacent to the side walls of the first member when the first and second members are in the second position.

4. The improved device described in claim 3 which includes means for retaining the first and second members in the second position.

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