

[72] Inventor **Robert Stuart Holden**
24 Coleman Rd., Glastonbury, Conn.
06033
 [21] Appl. No. **25,748**
 [22] Filed **Apr. 6, 1970**
 [45] Patented **Jan. 11, 1972**

3,286,752 11/1966 Duryee, Jr. 150/49

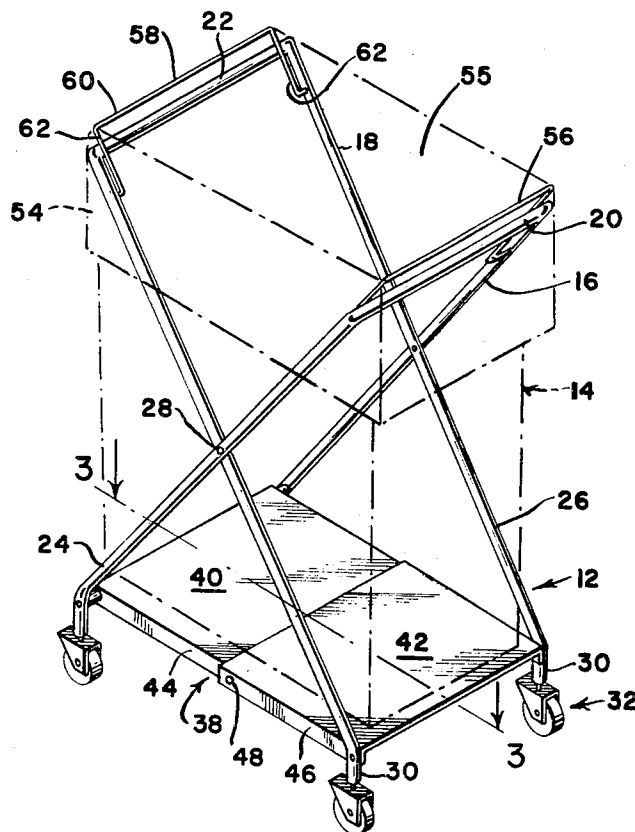
Primary Examiner—Leo Friaglia
Assistant Examiner—Winston H. Douglas
Attorney—Curtis, Morris & Safford

[54] **BAG CARRIER WITH CLOSABLE TOP**
7 Claims, 4 Drawing Figs.

[52] U.S. Cl. **280/36 R,**
 150/49, 248/98, 280/41 R
 [51] Int. Cl. **B62b 3/02**
 [50] Field of Search 280/35, 36
 R, 36 C, 41 R, 41 C, 42, 39, 40, 79.2; 150/49;
 248/95-101, 129, 134

[56] **References Cited**
UNITED STATES PATENTS
 2,847,227 8/1958 Lankford 280/42
 232,568 9/1880 Taber 248/101 X
 241,765 5/1881 Wever 150/49
 1,148,761 8/1915 Day 150/49

ABSTRACT: A bag-holding and carrying device formed by a pair of pivotally interconnected inverted U-shaped frame members having a bag supporting platform adjacent the base of the frame which is formed by a pair of pivotally interconnected overlapping plate members adapted to maintain the stability of the device when the frame members are pivoted to an open or extended configuration. Each frame member is provided with a pivotally mounted baillike member having a bight portion extending upwardly along and beyond the top of its associated frame member which is adapted to support a bag inserted in the device and supported at its top by a turned-down cuff portion which extends over the bails and down around the periphery of the frame members. The bail members may be swung together so as to carry the opposite sides of the bag together and close the bag. The cuff portion of the bag then can be pulled to open the bag.



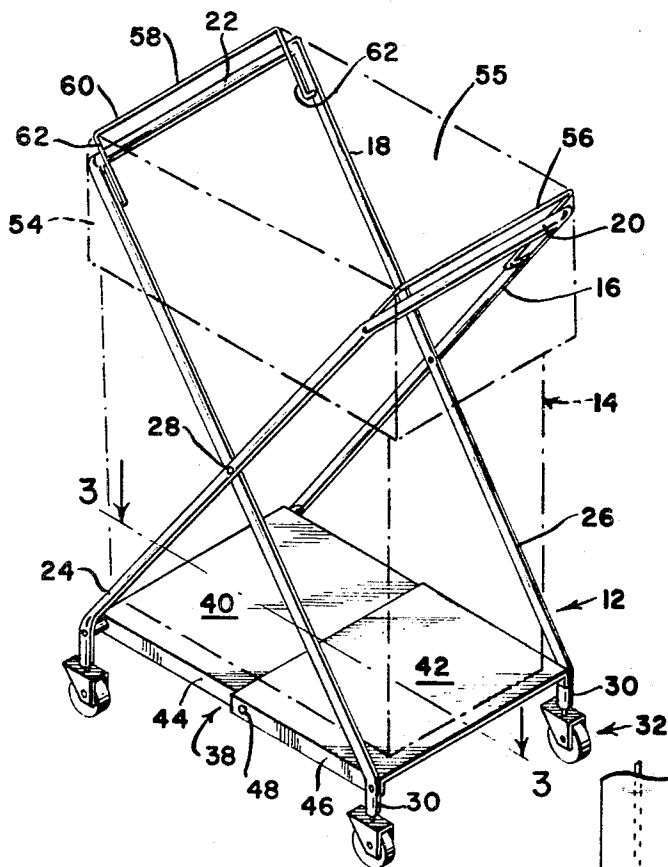


Fig. 1

Fig. 3

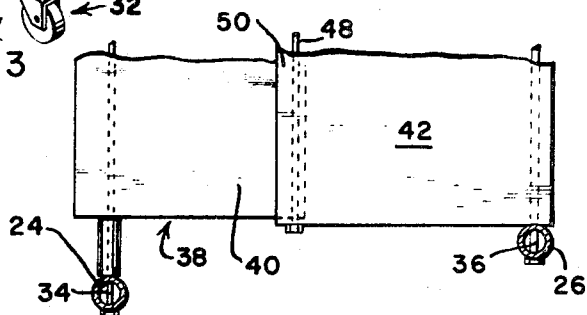


Fig. 2

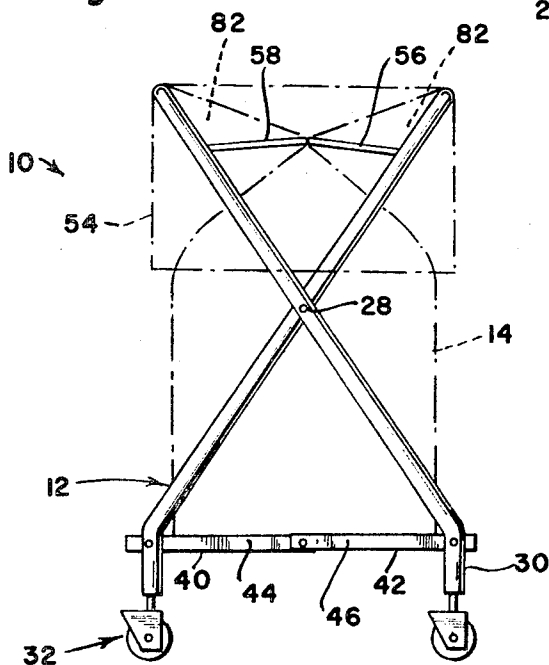
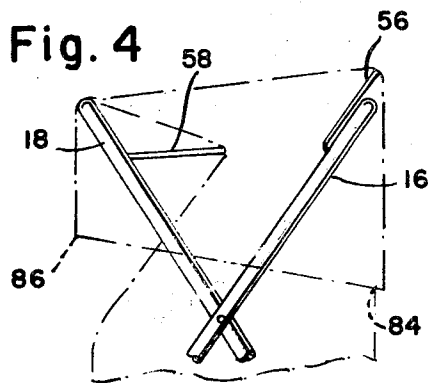


Fig. 4



INVENTOR.
ROBERT Stuart Holden
 BY
Curtis, Morris & Safford
 ATTORNEYS

BAG CARRIER WITH CLOSABLE TOP

This invention relates to a bag-holding and carrying device for use in collecting and conveying articles such as bedding or laundry in a hotel or hospital, and in particular to a mobile carriage for closing and readily reopening the top portion of the bag to permit articles to be deposited therein.

The use of collapsible mobile frames which are adapted to support flexible canvas sacks for collection of bedding, laundry or similar articles in hotels, hospitals, or other public institutions is known in the art. However, it is often desirable for the top opening in such sacks to be closed for aesthetic or sanitary reasons. In particular, for example, when hamper-type devices of this character are used in hospitals where it is desirable to maintain clean and sterile conditions the soiled laundry contained within the hamper must be isolated from the surroundings. On the other hand, the bag must be readily reopened so that additional articles may be readily inserted.

Accordingly, it is an object of this invention to provide a simple and improved apparatus for supporting a refuse bag or the like which permits the user to close the top opening thereof. A further object of the invention is to provide an improved carriage apparatus for supporting flexible bags for receiving soiled clothes and the like. A still further object is to provide for the above with an arrangement which is completely sanitary and which is adaptable for use in hospitals and other institutions and public places to promote sterile conditions therein. Another object is to provide an efficient and dependable means for opening a bag for filling and yet permitting it to be readily closed and reopened. It is yet another object of this invention to open and close the top portion of a hamper-type bag in a manner to maintain sanitary conditions.

In accordance with the preferred embodiment of the present invention there is provided a collapsible frame including a pair of generally U-shaped members which are pivotally interconnected to form an X-frame. The free ends of the U-shaped frame members include caster wheels by which the frame is adapted to be supported on a flat surface such as a floor. The lower portion of the frame adjacent to the caster wheels includes a collapsible platform which forms a support for a flexible sack received over the frame and maintains the structural stability of the frame when the frame is in its fully opened position. The top portions of each of the frame members is provided with a generally U-shaped bail member pivotally mounted thereon such that their bight portions extend above the bight portions of the U-shaped frame members. A flexible collecting bag is inserted between the frame members to rest on the platform and its upper portion is turned down over the bails and the top portion of the U-shaped frame members to form a cuff around the periphery of the frame and to provide a generally rectangular bag top opening. The bail members engage the under-surface of the turned down cuff portion and are adapted to urge the cuff material towards the interior of the frame as they are pivoted downwardly to close the bag opening.

The construction of the preferred embodiment as well as the advantages thereof will become further apparent from the following specification when considered in conjunction with the accompanying drawing wherein:

FIG. 1 is a perspective view of the bag-holding and carrying apparatus of the present invention, with the bag illustrated in phantom for clarity;

FIG. 2 is a side view of the device seen in FIG. 1 with the bail members in their closed position;

FIG. 3 is a sectional view of the frame platform with parts broken away, taken on line 3—3 of FIG. 2; and

FIG. 4 is a side view, similar to FIG. 2, of the top portion of the bag-holding apparatus with one of the bail members in the closed position and the other in the open position.

Referring to the drawings and in particular to FIGS. 1 and 2, there is illustrated a bag-holding and carrying cart 10 constructed in accordance with the present invention.

Cart 10 includes a main frame or carriage 12 which is adapted to support a flexible bag 14, illustrated by dotted lines

in the drawings. Carriage 12 is formed by a pair of inverted U-shaped frame members 16 and 18 having generally horizontally extending bight portions 20 and 22 respectively. Frame members 16 and 18, in the preferred embodiment, are formed of tubular metal construction and include pairs of leg members 24 and 26 respectively, which are pivotally interconnected by bolt members 28 intermediate their ends, whereby the frame members may be pivoted relative to each other to form a generally X-shaped carriage. The lower ends of arms 24 and 26 include angularly offset portions 30 in conjunction with which conventional casters 32 are mounted for free rotary movement in portions 30 to facilitate movement of the carriage in any direction over a supporting surface or floor.

The lower portions 30 of each of the frame members 16 and 18 are joined and held in spaced relation by cross rods 34 and 36 respectively. These rods brace the lower portion of the frame members and also form pivotal supports for bag support platform 38. Platform 38 is formed by a pair of plate sections 40 and 42 each of which include downwardly extending side flange members 44 and 46 respectively. Plates 40 and 42 are pivotally mounted at one end to cross rods 34 and 36 respectively and in addition they are pivotally interconnected by cross rod 48 which extends between the flanges 44 and 46 on each side of the plates.

Plate 42 is somewhat longer than plate 40 and includes an extension portion 50 which overlies plate 40, as seen in FIG. 3. When frame members 16 and 18 are pivoted about bolts 28 to the fully opened position of the carriage, extension portion 50 of platform 42 engages plate 40 and thereby limits the extent of relative pivotal movement of the frame members to maintain the rigidity and stability of the carriage in its open configuration. At the same time, this construction will permit upward collapsing of platform 38 by relative pivotal movement of plates 40 and 42 when the bight portions 20 and 22 of frame members 16 and 18 are pivoted towards each other into the collapsed or storage configuration of the carriage (not shown).

Bag 14, which may be formed of canvas material or the like, is inserted between frame members 16 and 18 so that its bottom portion rests on platform 38 as seen in FIG. 1. The open end portion of bag 14 is adapted to be turned down over frame members 16 and 18 to form a peripheral cuff portion 54 which surrounds the exterior of the carriage and defines a generally rectangular bag top opening 55. Cuff portion 54 is supported on a pair of bail members 56 and 58 which are pivotally mounted respectively on frame members 16 and 18. Bails 56 and 58 as seen in FIG. 1, are each formed as generally U-shaped members having a bight portion 60 and a pair of downwardly extending leg portions 62. The leg portions 62 of each of the bail members are pivotally mounted in the downwardly extending legs 24 and 26 of their associated frame member such that their bight portions 60 will extend above the bight portions 20 and 22 of frame members 16 and 18 when the bails are moved past the vertical to a position adjacent bight portions 20 and 22 respectively of members 16 and 18. In this manner bag 14 is supported principally by the bail members and hangs downwardly on the carriage 10 from the generally rectangular top opening 55, while the bottom of the bag rests on platform 38 with its sidewalls held somewhat taught by the weight of the bag material.

With bag 14 installed in this manner its top opening 55 may be readily closed by merely manually pivoting bail members 56 and 58 towards each other to a generally horizontal position as seen in FIG. 2. Movement of the bails in this manner draws the opposite sides of cuff 54 upwardly over the bight portions 20 and 22 of frame members 16 and 18 and forms a pair of pockets 82 which surround the bail members. As seen in FIG. 2, the length of legs 62 of bail members 56 and 58 is such that their bight portions 60 will contact each other when they are in a substantially horizontal position to completely close the top of bag 14 and maintain the closure.

When it is desired to open the top of the bag it is merely necessary to pull down on the edges of cuff 54 on the side ad-

jacent the bails, as for example, at edges 84 and 86. Engagement of the fabric forming pockets 82 with the bails 56 and 58 causes each of the bails to swing back towards the bight portions of frame members 16 and 18 to move the bag to the open position shown in FIG. 1.

The provision of bail members 56 and 58 permits the bag to be opened and closed without touching the carriage frame and this carriage construction is particularly useful in hospitals or in other areas where clean and sterile conditions are required to be kept. Specifically, for example, in a hospital the metal frame of the carriage and the bag 14 may be thoroughly sterilized. Hence, when the bag is installed in the carriage, the maintenance of sterile conditions on the part of the handler is assured since he need only touch the sterile bag to open and close the top portion thereof. In addition, the bails 56 and 58 by closing the top of the bag insure against inadvertent admission of unwanted material into the bag and also prevents inadvertent discharge or removal of contaminated articles from the bag. Moreover, no separate cover portion requiring sterilization is necessary by this construction and when the bag is filled, it is simply removed and cleaned for reuse while a separate bag is inserted in the carriage so that the carriage may be maintained in continuous use.

Under some circumstances it may be desirable to provide only a small opening in the top 55 of bag 14. This is illustrated in FIG. 4 and is effected simply by pivoting one of the bail members, e.g., 56. By pulling downwardly on edge 84 only bail member 56 will move to its upright position whereas bail member 58 will be maintained in its relatively horizontal position until its associated edge 86 is also pulled downwardly.

Although the illustrative embodiment of the present invention has been described herein with reference to the accompanying drawings which illustrate a canvas bag used in conjunction with a metal carriage, it is to be understood that the invention is not limited to the precise embodiment described herein, and that other materials may be used and that various changes and modifications may be effected therein by one skilled in the art without departing from the true scope or spirit of this invention.

What is claimed is:

1. A bag-holding device comprising, a pair of inverted U-shaped frame members pivotally interconnected intermediate the free ends of their respective legs and their bight portions, a caster wheel mounted at each of the free ends of the legs of each of said inverted U-shaped members, a pair of inverted U-shaped bails, each of said bails being pivotally connected at their free ends to the leg members of a respective one of said frame members adjacent the bight portion of said member, whereby the bight portion of each of said bails extends beyond the bight portion of its associated frame member and said bails are swingable towards a substantially horizontal position wherein their respective bight portions are adjacent each other, and a platform mounted on said frame members adjacent said caster wheels, said platform including, a first section pivotally connected to one of said frame members and a second section pivotally connected to the other of said frame members, said first and second sections being pivotally interconnected centrally of said frames whereby said second section overlaps said first section when said frames are extended to maintain said device in an extended position.

2. A device as defined in claim 1 wherein the bight portions of said frame members define a generally rectangular opening

when said frame is extended, said device further including a bag inserted in said opening having its free edge turned down over all said bight portions to form a cuff, whereby said bag engages said bail members and is adapted to close said opening when said bails are pivoted to a substantially horizontal position intermediate said frame members.

3. A device as defined in claim 2 wherein a portion of said bag encloses each of said bails in said substantially horizontal position, whereby the application of a pulling force on said cuff will effect a frictional engagement of said bag portions and said bails to cause said bails to open and move to a vertical position.

4. A bag-holding and carrying device comprising, a pair of inverted generally U-shaped frame members, means pivotally interconnecting the complementary legs of said frame members intermediate their respective free ends and bight portions, caster wheels rotatably mounted in the free ends of said legs for supporting said device, first platform means pivotally mounted between the legs of one of said frame members, second platform means pivotally mounted between the legs of the other of said frame members, means pivotally interconnecting said first and second platform members centrally of said frames in overlapping relation, whereby said device is adapted to be maintained in a relatively rigid and stable configuration, and a pair of inverted U-shaped bail members pivoted respectively to each of said frame members adjacent said bight portions and swingable towards a substantially horizontal position wherein the bight portions of said bail members are adjacent each other.

5. The device as defined in claim 4 including a bag inserted between said frame members with its bottom portion supported by said platform, said bag including a free edge portion turned down over said bight portion and said bail members to define an open receptacle, whereby said bag engages said bail members and is adapted to close the opening of said receptacle when said bail members are pivoted to said substantially horizontal position.

6. A mobile carriage for a bag member comprising, a wheeled carriage defining a support means for a bag, said carriage having a pair of opposed upstanding frame members and a pair of inverted generally U-shaped bail members pivotally mounted respectively upon said frame members, each of said bail members being swingable from a position abutting its respective frame member towards a substantially horizontal position wherein the bight portions of said bail members are adjacent each other, a bag having a free edge portion turned down over said frame members and said bail members to define an open receptacle and being adapted to close the top of said receptacle when said bail members are pivoted to said substantially horizontal position.

7. A bag-holding device comprising, a frame construction having a pair of top parallel sides defining a bag holding zone therebetween, a pair of inverted U-shaped bails pivotally mounted at their free ends to said frame construction adjacent said top parallel sides with the bight portions of said bails extending beyond said frame construction along said parallel sides, a bag engaging said bail members and supported thereby with a generally rectangular opening, each said bail member being pivotable between a first position adjacent its associated top parallel side and a second substantially horizontal position wherein the bight portions of said bail members are adjacent each other to respectively open and close said bag opening.

* * * * *

65

70

75