

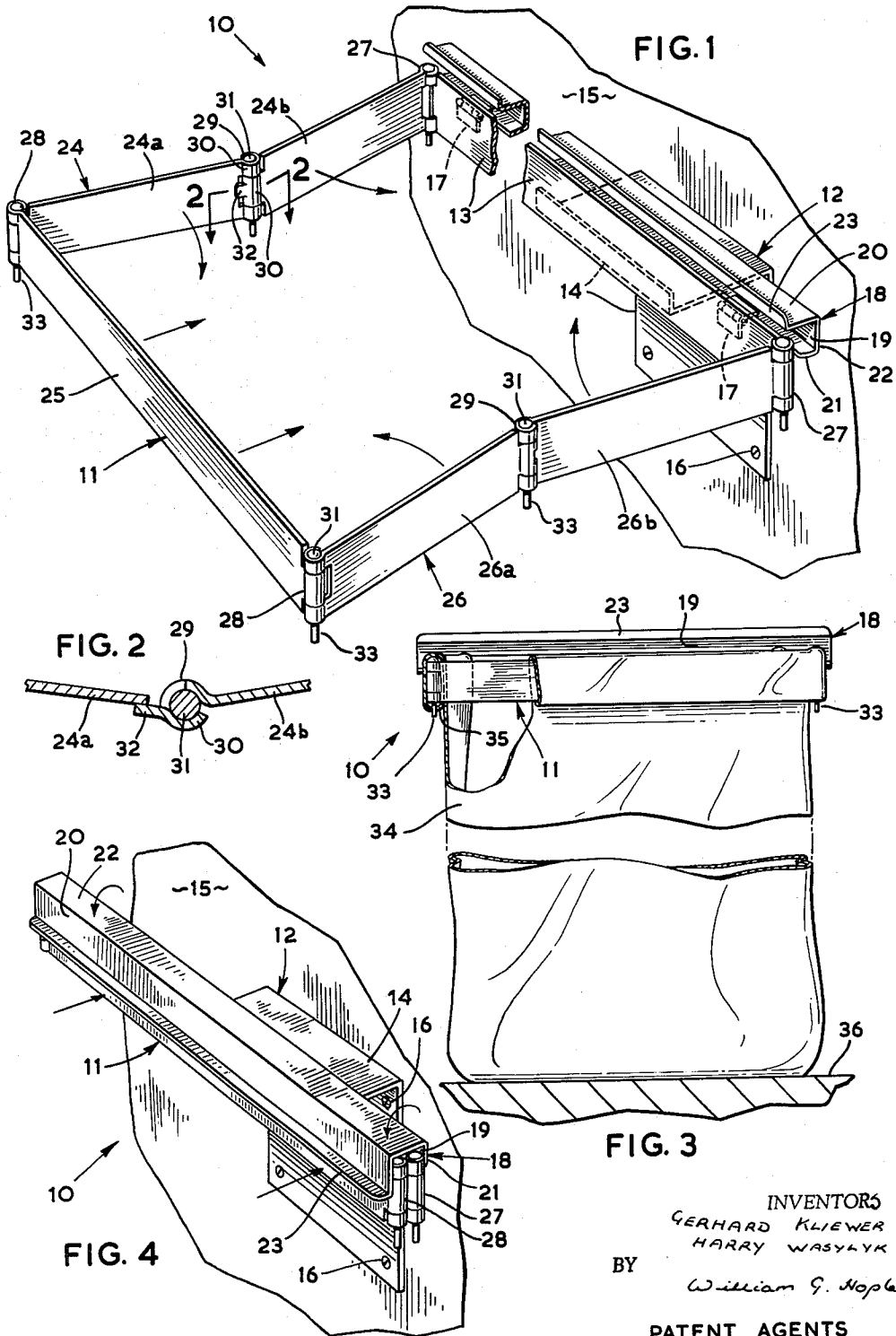
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GARBAGE BAG HOLDER

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GARBAGE BAG HOLDER

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This invention relates to a holder for garbage bags and the like. More particularly, this invention relates to a collapsible holder for garbage bags and the like.

Collapsible garbage bag holders are known in the art, but, generally speaking, possess a number of disadvantages. Thus, some prior art types of garbage bag holders are arranged so that the collapsible arms thereof fold outwardly away from each other when the holder is collapsed rather than folding inwardly towards each other. Such garbage bag holders suffer from the disadvantage that the overall width of the holder is greater in the collapsed position than in the uncollapsed position thereof. In addition, in some cases the tendency may be for a garbage bag held by such a holder to collapse in the same way as the arms of the holder, i.e., with the sides of the bag folding outwardly away from each other rather than inwardly towards each other. A bag so closed has only two surfaces abutting each other at the closed end of the bag, whereas, if the sides of the bag folded inwardly towards each other, there would be four bag surfaces abutting each other at the closed end of the bag.

Other types of collapsible garbage bag holders make no provision for securing the holder in a closed position as by means of a lid. Still other types of prior art garbage bag holders support the garbage bag at only the four corners thereof and do not provide adequate support for the side walls of the bag between the front and back walls thereof.

Accordingly, it is an object of this invention to provide a collapsible garbage bag holder designed in such a manner that the collapsible arms of the frame thereof collapse inwardly towards each other, thereby requiring the side walls of the bag held by the holder to similarly collapse inwardly upon each other and also thereby causing the holder to be of the same width in the collapsed or uncollapsed positions.

It is an object of a preferred embodiment of this invention to provide a holder for garbage bags and the like of the type mentioned in the preceding paragraph which is provided with a lid which serves to firmly maintain the garbage bag holder in a closed position.

Another object of a preferred embodiment of this invention is the provision of a garbage bag holder as aforementioned which is provided with means to directly support the side walls of a garbage bag or the like.

In accordance with this invention there is provided a collapsible holder for garbage bags and the like which comprises frame means and support means for supporting the frame means, the support means including mounting means for mounting the support means on a wall, door or the like. The frame means comprise first, second and third arms. First hinge means are provided to hingedly connect the first and third arms to the support means at spaced-apart points. Second hinge means are provided to hingedly connect the second arm to the first and third arms. Third hinge means are provided in each of the first and third arms intermediate the first and second hinge means for hinging the first and third arms to collapse upon themselves during movement of the second arm towards the support means. Means are provided for constraining the first and third arms to collapse inwardly towards each other about the third hinge means when the second arm is furthest from the support means

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and is moved towards the support means. Means are provided depending from the holder for securing a garbage bag or the like thereto.

This invention will become more apparent from the following detailed disclosure taken in conjunction with the appended drawings, in which:

FIGURE 1 is a perspective view of a holder embodying this invention in its fully opened position;

FIGURE 2 is a section taken along line 2-2 in FIGURE 1;

FIGURE 3 is a front elevation of the holder of FIGURE 1 showing a garbage bag held thereby; and

FIGURE 4 is a perspective view of the holder of FIGURE 1 in fully closed position.

Referring now to the drawings, there is shown a collapsible holder 10 which consists of a frame 11 and a support 12.

Support 12 consists of an elongated bar 13 to which is secured a generally Z-shaped bracket 14 by any suitable means such as welding, for example. Bracket 14 constitutes a mounting device for mounting support 12 on a wall, door or the like 15, and to this end, bracket 14 has small holes therein in which mounting screws 16 are located.

Hingedly connected to support 12, and, more specifically, to bar 13, by means of hinges 17 is a lid 18 which is of generally U-shaped configuration and defines a channel 19 therein. Lid 18 has a front wall 20, a back wall 21 and a top wall 22. Projecting forwardly from front wall 20 is a tab or flange 23 which is designed to facilitate opening and closing of the lid.

Frame 11 is formed from three arms 24, 25 and 26, each of arms 24 and 26 consisting of two parts 24a, 24b and 26a, 26b respectively.

Arms 24 and 26, more specifically the ends of parts 24b and 26b respectively thereof, are hingedly connected to bar 13 at spaced-apart points by hinges 27. Arms 24 and 26, more specifically the ends of parts 24a and 26a respectively thereof, are hingedly connected to the ends of arm 25 by hinges 28. In each of arms 24 and 26 a hinge 29 is provided and separates the two parts making up each arm. Preferably hinge 29 is positioned one-half-way between hinges 27 and 28.

The construction of hinges 29 is best seen in FIGURE 2 where it can be seen that each part 24a and 24b of arm 24 is provided with a hinge knuckle 30 through which a hinge pin 31 is inserted. A part 32 of the hinge knuckle 30 of part 24b of arm 24 is cut out of the hinge knuckle and bent away therefrom to form a tab. As best seen in FIGURE 2, but also apparent in FIGURE 1, tab 32 abuts against part 24a when the holder is in its fully opened position. Tab 32 therefore serves as a stop. It will be understood that hinge 29 between parts 26a and 26b of arm 26 is constructed with a tab 32 which abuts against part 26a when the holder is in its fully opened position. The effect of tabs 32 is to prevent the two parts of arms 24 and 26 from coming into 180° alignment with each other when the holder is opened to its fully opened position. Thus, when the holder is collapsed by pushing arm 25 towards support 12 in the direction indicated by the arrows in FIGURE 1, arms 24 and 26 not only are obliged to collapse in such a manner that the parts of the respective arms collapse upon each other, but also in such a manner that the arms collapse inwardly towards each other, as shown by the arrows in FIGURE 1. In this connection, it should be appreciated that arms 24 and 26 preferably are of the same length, and arm 25 preferably is of the same length as bar 13.

As best shown in FIGURE 1, pins 33 are formed by the extensions of the various hinge pins of hinges 27, 28 and 29. These pins 33 serve as the means for securing a garbage bag 34 (FIGURE 3) to holder 10. As best

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shown in FIGURE 3, bag 34, which may be of a thermo-plastic material such as polyethylene or polypropylene, for example, is secured to holder 10 by turning the edges 35 of the bag over arms 24, 25 and 26 and punching pins 33 through the turned-over edges. As best shown in FIGURE 3, holder 10 preferably is mounted on a wall, door or the like at a height such that the bottom of bag 34 is permitted to rest against the ground or a floor 36. This may not be necessary where small bags 34 are being employed, however, or where the bag has walls of sufficient thickness that the bag can be adequately supported by holder 10 alone when full of refuse.

In using a collapsible holder embodying this invention, a bag 34 is secured thereto in the manner previously noted, and the bag holder normally is in the collapsed position shown in FIGURE 4 to prevent odours from escaping from the bag. When it is desired to add refuse to the bag, or to remove the bag from the holder, lid 18 is opened by lifting up tab 23, and arm 25 is pulled away from wall 15 to open the holder. To this end a small handle may be mounted on arm 25 at a position which is below tab 23 when lid 18 is in the closed position. In order to close holder 10, arm 25 is pushed towards support 12 until the frame is completely collapsed. Lid 18 then is pivoted downwardly over the collapsed frame in such a manner that arm 25 and collapsed arms 24 and 26 are positioned in channel 19 and are held therein by wall 20 of lid 18 which bears against arm 25.

It is important to note that when frame 11 is collapsed the width thereof is no greater than the width of the frame in the fully opened position. Furthermore, the collapsing of arms 24 towards each other forces the side walls of bag 34 to collapse inwardly towards each other thereby providing four thicknesses of wall material at the top of bag 34 when the bag is closed. In addition, the side walls of bag 34 are directly supported by the extensions of hinge pins 31.

While preferred embodiments of this invention have been disclosed herein, those skilled in the art will appreciate that changes and modifications may be made therein without departing from the spirit and scope of this invention as defined in the appended claims.

What we claim as our invention is:

1. A collapsible holder for garbage bags and the like comprising: frame means and support means for supporting said frame means, said support means including mounting means for mounting said support means on a wall, door or the like; said frame means comprising first, second and third arms; first hinge means hingedly connecting said first and third arms at spaced-apart points to said support means; second hinge means hingedly connecting said second arm to said first and third arms; third hinge means in each of said first and third arms intermediate said first and second hinge means and for hinging said first and third arms to collapse upon themselves during movement of said second arm towards said support means; means preventing the collapsible parts of each of said first and third arms on either side of said third hinge means from coming into 180° alignment in the open position of said holder and for constraining said first and third arms to collapse inwardly towards each other about said third hinge means when said second arm is furthest from said support means and is moved towards said support means; in the closed position of said holder the second arm being located in front of the first and third arms and the first and third arms being collapsed upon themselves behind the second arm; and means depending from said holder for securing a garbage bag or the like thereto.

2. A collapsible holder for garbage bags and the like comprising: frame means and support means for supporting said frame means, said support means including mounting means for mounting said support means on a wall, door or the like; said frame means comprising first, second and third arms; first hinge means hingedly connecting said first and third arms at spaced-apart points to

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said support means; second hinge means hingedly connecting said second arm to said first and third arms; third hinge means in each of said first and third arms intermediate said first and second hinge means and for hinging said first and third arms to collapse upon themselves during movement of said second arm towards said support means; in the fully opened position of said frame means said second arm being spaced further from said support means than in any other position of said frame means, in the fully closed position of said frame means said second arm being positioned in front of said first and third arms and closer to said support means than in any other position of said frame means and being spaced from said support means by the collapsed parts of said first and third arms on either side of said third hinge means; stop means adapted to abut one of said parts of each of said first and third arms during movement of said second arm from said fully closed to said fully opened position of said frame means for preventing said parts of each of said first and third arms from coming into 180° alignment and for constraining said first and third arms to collapse inwardly towards each other when said frame means are collapsed from said fully open to said fully closed position thereof by forcing said second arm towards said support means; and means depending from said holder for securing a garbage bag or the like thereto.

3. A collapsible holder for garbage bags and the like comprising: frame means and support means for supporting said frame means, said support means including mounting means for mounting said support means on a wall, door or the like; said frame means comprising first, second and third arms, said first and third arms being of equal length; first hinge means hingedly connecting one end of each of said first and third arms to said support means; second hinge means hingedly connecting the other ends of said first and third arms to the opposite ends of said second arm; third hinge means in each of said first and third arms substantially one-half way between said first and second hinge means and for hinging said first and third arms to collapse upon themselves during movement of said second arm towards said support means; in the fully opened position of said frame means said second arm being spaced further from said support means than in any other position of said frame means, in the fully closed position of said frame means said second arm being positioned in front of said first and third arms and closer to said support means than in any other position of said frame means and being spaced from said support means by the collapsed parts of said first and third arms on either side of said third hinge means; stop means adapted to abut one of said parts of each of said first and third arms during movement of said second arm from said fully closed to said fully opened position of said frame means for preventing said parts of each of said first and third arms from coming into 180° alignment and for constraining said first and third arms to collapse inwardly towards each other when said frame means are collapsed from said fully open to said fully closed position thereof by forcing said second arm towards said support means; and means depending from said holder for securing a garbage bag or the like thereto.

4. A collapsible holder for garbage bags and the like comprising: frame means, support means for supporting said frame means, said support means including mounting means for mounting said support means on a wall, door or the like; said frame means comprising first, second and third arms; first hinge means hingedly connecting said first and third arms at spaced-apart points to said support means; second hinge means hingedly connecting said second arm to said first and third arms; third hinge means in each of said first and third arms intermediate said first and second hinge means and for hinging said first and third arms to collapse upon themselves during movement of said second arm towards said support means; in the fully opened position of said frame means said second arm being spaced

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further from said support means than in any other position of said frame means, in the fully closed position of said frame means said second arm being positioned in front of said first and third arms and closer to said support means than in any other position of said frame means and being spaced from said support means by the collapsed parts of said first and third arms on either side of said third hinge means, stop means adapted to abut one of said parts of each of said first and third arms during movement of said second arm from said fully closed to said fully opened position of said frame means for preventing said parts of each of said first and third arms from coming into 180° alignment and for constraining said first and third arms to collapse inwardly towards each other when said frame means are collapsed from said fully open to said fully closed position thereof by forcing said second arm towards said support means; means depending from said holder for securing a garbage bag or the like thereto; a lid; and means hingedly connecting said lid to said support means, said lid being adapted to fold over said second arm and the collapsed parts of said first and third arms on either side of said third hinge means when said frame is in the fully closed position thereof with the collapsed parts of said first and third arms sandwiched between said second arm and said support means and to grip said second arm.

5. A collapsible holder for garbage bags and the like comprising: frame means; support means for supporting said frame means, said support means including mounting means for mounting said support means on a wall, door or the like; said frame means comprising first, second and third arms, said first and third arms being of equal length; first hinge means hingedly connecting one end of each of said first and third arms to said support means; second hinge means hingedly connecting the other ends of said first and third arms to the opposite ends of said second arm; third hinge means in each of said first and third arms substantially one-half way between said first and second hinge means and for hinging said first and third arms to collapse upon themselves during movement of said second arm towards said support means; in the fully opened position of said frame means said second arm being spaced further from said support means than in any other position of said frame means, in the fully closed position of said frame means said second arm being positioned in front of said first and third arms and closer to said support means than in any other position of said frame means and being spaced from said support means by the collapsed parts of said first and third arms on either side of said third hinge means; stop means adapted to abut one of said parts of each of said first and third arms during movement of said second arm from said fully closed to said fully opened position of said frame means for preventing said parts of each of said first and third arms from coming into 180° alignment and for constraining said first and third arms to collapse inwardly towards each other when said frame means are collapsed from said fully open to said fully closed position thereof by forcing said second arm towards said support means; means depending from said holder for securing a garbage bag or the like thereto; a lid; and means hingedly connecting said lid to said support means, said lid being adapted to fold over said second arm and the collapsed parts of said first and third arms on either side of said third hinge means when said frame is in the fully closed position thereof with the collapsed parts of said first and third arms sandwiched between said second arm and said support means and to grip said second arm.

6. A collapsible holder for garbage bags and the like comprising: frame means; support means for supporting said frame means, said support means including mounting means for mounting said support means on a wall, door or the like; said frame means comprising first, second and third arms; first hinge means hingedly connecting said first

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and third arms at spaced-apart points to said support means; second hinge means hingedly connecting said second arm to said first and third arms; third hinge means in each of said first and third arms intermediate said first and second hinge means and for hinging said first and third arms to collapse upon themselves during movement of said second arm towards said support means; in the fully opened position of said frame means said second arm being spaced further from said support means than in any other position of said frame means, in the fully closed position of said frame means said second arm being positioned in front of said first and third arms and closer to said support means than in any other position of said frame means and being spaced from said support means by the collapsed parts of said first and third arms on either side of said third hinge means; stop means adapted to abut one of said parts of each of said first and third arms during movement of said second arm from said fully closed to said fully opened position of said frame means for preventing said parts of each of said first and third arms from coming into 180° alignment and for constraining said first and third arms to collapse inwardly towards each other when said frame means are collapsed from said fully open to said fully closed position thereof by forcing said second arm towards said support means; a plurality of pins depending from said holder for securing a garbage bag or the like thereto; a lid; and means hingedly connecting said lid to said support means, said lid being adapted to fold over said second arm and the collapsed parts of said first and third arms on either side of said third hinge means when said frame is in the fully closed position thereof with the collapsed parts of said first and third arms sandwiched between said second arm and said support means and to grip said second arm.

7. A collapsible holder for garbage bags and the like according to claim 6 wherein said first, second and third hinge means include hinge pins and said pins depending from the holder are extensions of the hinge pins.

8. A collapsible holder for garbage bags and the like comprising: frame means; support means for supporting said frame means, said support means including mounting means for mounting said support means on a wall, door or the like; said frame means comprising first, second and third arms, said first and third arms being of equal length; first hinge means hingedly connecting one end of each of said first and third arms to said support means; second hinge means hingedly connecting the other ends of said first and third arms to the opposite ends of said second arm; third hinge means in each of said first and third arms substantially one-half way between said first and second hinge means and for hinging said first and third arms to collapse upon themselves during movement of said second arm towards said support means; in the fully opened position of said frame means said second arm being spaced further from said support means than in any other position of said frame means, in the fully closed position of said frame means said second arm being positioned in front of said first and third arms and closer to said support means than in any other position of said frame means and being spaced from said support means by the collapsed parts of said first and third arms on either side of said third hinge means; stop means adapted to abut one of said parts of each of said first and third arms during movement of said second arm from said fully closed to said fully opened position of said frame means for preventing said parts of each of said first and third arms from coming into 180° alignment and for constraining said first and third arms to collapse inwardly towards each other when said frame means are collapsed from said fully open to said fully closed position thereof by forcing said second arm towards said support means; a plurality of pins depending from said holder for securing a garbage bag or the like thereto; a lid; and means hingedly connecting said lid to said support means, said lid being adapted to fold over said second arm and the collapsed

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parts of said first and third arms on either side of said third hinge means when said frame is in the fully closed position thereof with the collapsed parts of said first and third arms sandwiched between said second arm and said support means and to grip said second arm.

9. A collapsible holder for garbage bags and the like according to claim 8 wherein said first, second and third hinge means include hinge pins and said pins depending from the holder are extensions of the hinge pins of said first, second and third hinge means.

10. A collapsible holder for garbage bags and the like according to claim 7 wherein said third hinge means comprise hinge knuckles in each of said parts of said first and third arms and hinge pins passing through said hinge knuckles, said stop means comprising tabs cut out of said hinge knuckles and bent out of said hinge knuckles.

11. A collapsible holder for garbage bags and the like according to claim 9 wherein said third hinge means comprise hinge knuckles in each of said parts of said first and third arms and hinge pins passing through said hinge knuckles, said stop means comprising tabs cut out of said hinge knuckles and bent out of said hinge knuckles.

12. A collapsible holder for garbage bags and the like comprising: frame means, support means for supporting said frame means, said support means including mounting means for mounting said support means on a wall, door or the like; said frame means comprising first, second and third arms; first hinge means hingedly connecting said first and third arms at spaced-apart points to said support means; second hinge means hingedly connecting said second arm to said first and third arms; third hinge means in each of said first and third arms intermediate said first and second hinge means and for hinging said first and third arms to collapse upon themselves during movement of said second arm towards said support means; in the fully opened position of said frame means said second arm being spaced further from said support means than in any other position of said frame means, in the fully closed position of said frame means said second arm being positioned in front of said second and third arms and closer to said support and being spaced from said support means by the collapsed parts of said first and third arms on either side of said third hinge means; stop means adapted to abut one of said parts of each of said first and third arms during movement of said second arm from said fully closed to said fully opened position of said frame means for preventing said parts of each of said first and third arms from coming into 180° alignment and for constraining said first and third arms to collapse inwardly towards each other when said frame means are collapsed from said fully open to said fully closed position thereof by forcing said second arm towards said support means; means depending from said holder for securing a garbage bag or the like thereto; a lid; and means hingedly connecting said lid to said support means, said lid being adapted to fold over said second arm and the collapsed parts of said first and third arms on either side of said third hinge means when said frame is in the fully closed position thereof with the collapsed parts of said first and third arms sandwiched between said second arm and said support means and to grip said second arm, said lid being of generally U-shaped configuration, said second arm and said collapsed parts of said first and third arms being positioned within the channel defined by said U-shaped lid and covered by the bight of said U-shaped lid when said lid is closed, said lid having tab means extending from the part thereof overlapping said second arm to facilitate opening of said lid.

13. A collapsible holder for garbage bags and the like comprising: frame means, support means for supporting said frame means, said support means including mounting means for mounting said support means on a wall, door or the like; said frame means comprising first, second and third arms, said first and third arms being

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one end of each of said first and third arms to said support means; second hinge means hingedly connecting the other ends of said first and third arms to the opposite ends of said second arm; third hinge means in each of said first and third arms substantially one-half way between said first and second hinge means and for hinging said first and third arms to collapse upon themselves during movement of said second arm towards said support means; in the fully opened position of said frame means said second arm being spaced further from said support means than in any other position of said frame means, in the fully closed position of said frame means said second arm being positioned in front of said first and third arms and closer to said support means than in any other position of said frame means and being spaced from said support means by the collapsed parts of said first and third arms on either side of said third hinge means; stop means adapted to abut one of said parts of each of said first and third arms during movement of said second arm from said fully closed to said fully opened position of said frame means for preventing said parts of each of said first and third arms from coming into 180° alignment and for constraining said first and third arms to collapse inwardly towards each other when said frame means are collapsed from said fully open to said fully closed position thereof by forcing said second arm towards said support means; means depending from said holder for securing a garbage bag or the like thereto; a lid; and means hingedly connecting said lid to said support means, said lid being adapted to fold over said second arm and the collapsed parts of said first and third arms on either side of said third hinge means when said frame is in the fully closed position thereof with the collapsed parts of said first and third arms sandwiched between said second arm and said support means and to grip said second arm, said lid being of generally U-shaped configuration, said second arm and said collapsed parts of said first and third arms being positioned within the channel defined by said U-shaped lid and covered by the bight of said U-shaped lid when said lid is closed, said lid having tab means extending from the part thereof overlapping said second arm to facilitate opening of said lid.

14. A collapsible holder for garbage bags and the like according to claim 12 wherein said means depending from said holder for securing a garbage bag and the like thereto comprise a plurality of pins, said pins being extensions of the hinge pins of said first, second and third hinge means, and wherein said third hinge means include hinge knuckles in each of said parts of said first and third arms, said stop means comprising tabs cut out of said hinge knuckles and bent out of said hinge knuckles.

15. A collapsible holder for garbage bags and the like according to claim 13 wherein said means depending from said holder for securing a garbage bag of the like thereto comprise a plurality of pins, said pins being extensions of the hinge pins of said first, second and third hinge means, and wherein said third hinge means include hinge knuckles in each of said parts of said first and third arms, said stop means comprising tabs cut out of said hinge knuckles and bent out of said hinge knuckles.

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