Jan. 17, 1956 A. E. THURBER, JR. 2,731,184

SUPPORTS FOR DISPOSABLE REFUSE CONTAINERS AND COMBINATIONS THEREOF

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Fig. 1.

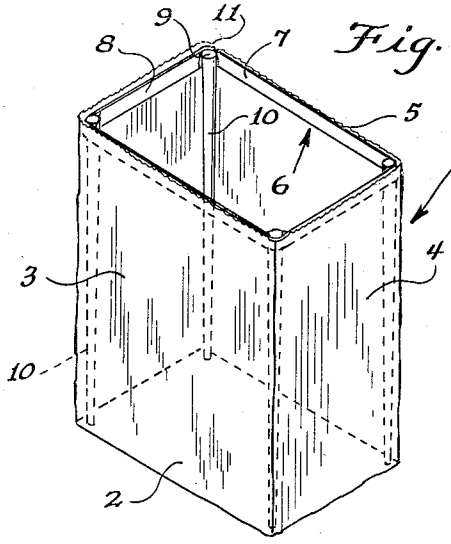


Fig. 2.

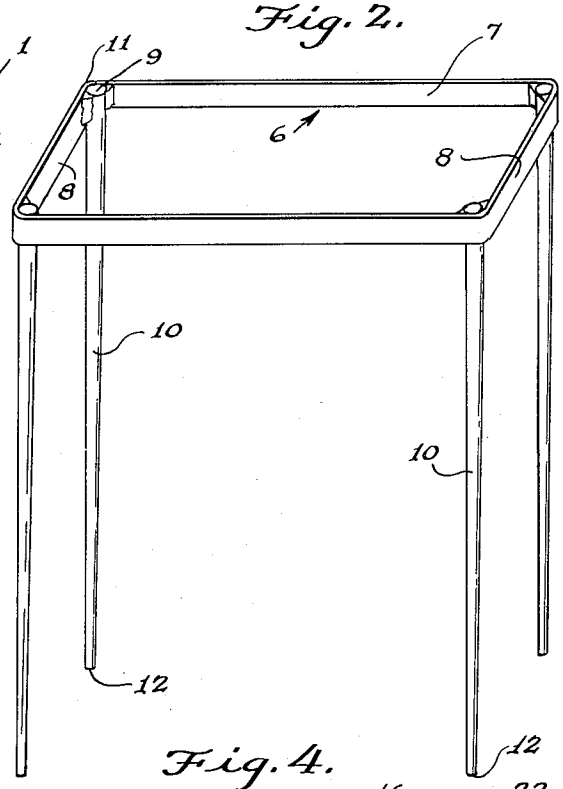


Fig. 3.

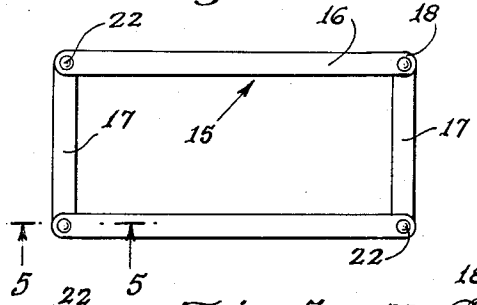


Fig. 4.

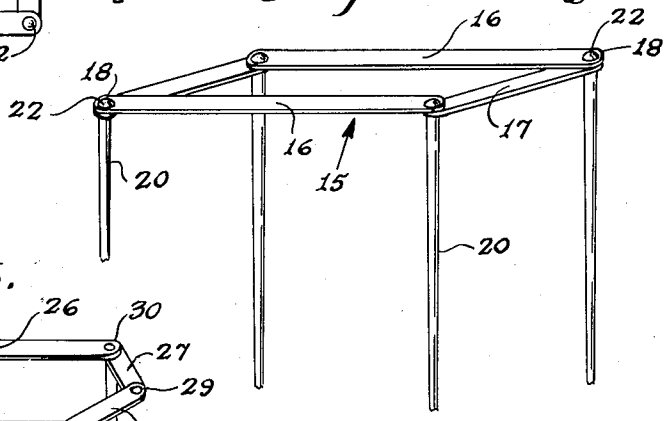


Fig. 5.

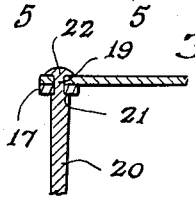
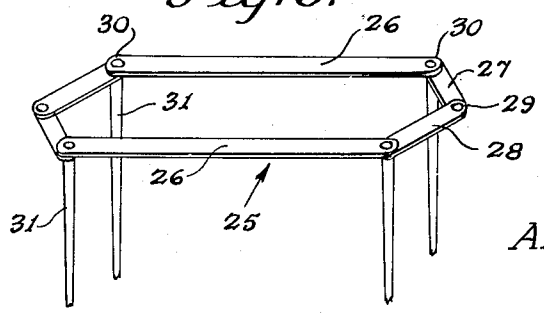


Fig. 6.



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SUPPORTS FOR DISPOSABLE REFUSE CONTAINERS AND COMBINATIONS THEREOF

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6 Claims. (Cl. 226—59)

This invention relates to supports for disposable refuse containers and to combinations of such supports with such containers.

Considerable has been done in the field of providing easily usable, readily accessible garbage and refuse containers for use in the home, restaurants, hospitals, etc. The most common receptacle provides a small can, or pail, to receive the refuse, which can, when full, is removed and the contents thereof are dumped into a larger can. Then, for proper sanitation, the small can must be washed or scrubbed out. Such washing, or scrubbing, after each use is sufficient of a nuisance that the housewife or other user have come to employ paper bags inside of such cans to receive the refuse. The filled paper bags are removed and dumped, thus obviating the necessity of scrubbing out the can so often.

The next step to this has been merely to eliminate the use of the small can and its receptacle entirely, and to merely employ paper bags kept under the sink, or some other convenient enclosure. This use of paper bags saves considerable work, but is not entirely satisfactory, for, at the outset, there is nothing to keep the sides of the bags from collapsing against each other. Furthermore, the ordinary paper bag is only suitable for accommodating substantially dry refuse, or garbage. Where too much liquid is present in the contents, the bottom of the bag quickly gets wet and is liable to disintegrate and dump the contents of the bag as it is being removed for deposit in a larger container.

Frames for suspending or holding open bags, usually of heavy paper or cloth, are employed, particularly in industry. These are principally exterior to the bag so are hardly suitable for home use, since they take up more room than the bag does. Furthermore, they involve various special provisions for the mounting of the bag. These take time and often some dexterity to operate.

This invention obviates the foregoing, and other drawbacks of the prior art developments, and does so by approaching the problem in a simple, straightforward manner materially divergent from the prior practices. The invention contemplates a support for disposable bags of paper, or other suitable material, which support is received right within the bag, thus making a novel combination with it. The support is so formed that it will not injure the bag and it will hold it upright in open expanded position at all times. Furthermore, the support is so formed that no refuse will cling to it, whence it may be slid out of a filled bag and introduced into the next empty one without any need to clean it. The filled bag may then be disposed of.

The support of the invention may be made with the elements thereof in fixed relation if that is desired, or may be formed to be collapsible in various manners. Where collapsibility is provided it is such as to enable stowage of the support in a minimum of space when not in use. Regardless of collapsibility for that purpose, the construction of the support is such that when it is opened out to fit within a bag, the cooperation of the bag and

support is such that the support holds the bag open and expanded while the bag maintains the support in set position. Finally, the whole construction of the support of the invention is so simple and economical that it can be made inexpensively, though capable of lasting a lifetime.

It is, accordingly, a principal object of the invention to provide fully effective support and disposable refuse container combinations.

Another object is to provide such combinations which occupy no more space than does the filled container alone.

Another object is to provide such combinations wherein the container and support mutually cooperate to maintain each other in desired position.

A more particular object is to provide interior supports for disposable refuse containers.

A further object is to provide such supports which can be removed from a filled container without extracting the refuse therefrom, or having any of the refuse cling onto them.

A still further object is to provide such supports which may be collapsed for stowage in a minimum of space.

A still further object is to provide such supports whose elements cooperate for the performance of multiple functions.

Further and more detailed objects of the invention will in part be obvious and in part be pointed out as the description of the invention, taken in conjunction with the accompanying drawing, proceeds.

In that drawing:

Figure 1 is a perspective view of a refuse container-support combination in accordance with the invention.

Figure 2 is an enlarged perspective view of the support of Figure 1.

Figure 3 is a top plan view of a modified form of support.

Figure 4 is a perspective view thereof with portions of the legs broken away to conserve space.

Figure 5 is a detailed sectional view taken on line 5—5 of Figure 3 and illustrating the corner connector pivot arrangement.

Figure 6 is a perspective view of a further modification of the invention.

In the showing of the combination of Figure 1, a bag of paper, or other suitable material, is indicated generally at **1**. The bag has a bottom **2**, sides **3**, ends **4**, and provides an open mouth **5** at its top. The mouth **5** is here shown as held open by a frame, generally indicated at **6**, consisting of sides **7** and ends **8** which lie just within, i. e., just below the top edge of the open mouth **5**. The frame **6** is shown as formed of flat strip stock, of substantially greater vertical than horizontal extent. This imparts substantial rigidity to the frame.

Each corner of the frame **6** is shown as receiving the upper end **9** of a leg **10**, of which there are four in number, one for each corner of the frame. These legs terminate at or below the top border of the frame and are suitably secured within the corners **11** by welding, brazing, or in other simple manner.

The legs **10** as shown extend at right angles with respect to the frame **6** and are parallel to each other. Furthermore, they are tapered throughout their length and should preferably be given a smooth surface finish. The taper and finish assist in enabling the legs to be drawn up out of the garbage or refuse without carrying any of it with them. Preferably, also, the legs should be made of suitable non-corrosive material, or be given a non-corrosive coating, or plating. For hard usage the complete support—legs and frame—should preferably be made of metal, though properly finished wood, or a suitable plastic, would serve the purpose adequately if properly handled.

Preferably the bottom ends **12** of the legs should be somewhat rounded as a protection against perforating the bag. Furthermore, the frame **6** and the points of junction of the same with the legs should be as free of obstruction as possible, so as to avoid the catching and retaining of any of the refuse, or garbage, thereon. Normally such bags will not be completely filled with refuse all the way up to the top, for when that is done they become difficult to handle. Hence, the frame **6** rather than being immersed in the refuse, principally serves to maintain the mouth of the bag fully open and provides a rigid base on which small receptacles can be tapped to enable their contents to be discharged into the bag. Thus, the frame **6**, rather than extending principally in the vertical direction, as seen in Figures 1 and 2, may well extend principally horizontally as illustrated in Figure 3.

Though the ordinary paper bags which are used for the carrying of groceries and the like can be used in combination with the support of the invention, for they are now being widely used without supports, it it preferable that refuse and garbage bags be of somewhat higher quality. The principal additional feature to incorporate in the bags is moisture resistance. That can be done either by a treatment of the single shell itself or by providing a lining for the bag. Bags so formed would have inherent in them the toughness required to resist perforation, or tearing, during the application of the support thereto, yet they are obtainable at a low enough price to make them universally acceptable.

In these instances where the support for the bag would normally be in continuous use, the fact that it is rigid and takes up the space required to maintain the bag in fully open position creates no problem from a storage standpoint. In other instances, however, such as when space is at a minimum and the use of the combination of the invention would be periodic, rather than continuous, collapsibility of the support in a manner to facilitate storage would be desirable. One manner of accomplishing this is shown in Figures 3–5.

There the frame, shown generally at **15**, has its sides **16** and ends **17** disposed with their greater dimension in the horizontal plane. The sides and end elements, **16** and **17**, rather than being rigidly secured together at their corners, **18**, are hinged or pivoted as links. As best shown in Figure 5, this is accomplished in a simple and economical manner by perforating each of the sides **16** and end **17** where they overlap. With the perforations aligned, a suitable pivot pin is inserted therethrough. The number of parts in the construction can be kept to the barest minimum when the pivot pin, as indicated at **19**, is merely a reduced upward extension of the leg **20**. Where the extension **19** commences, the leg **20** is shouldered at **21** providing a seat for the lower of the elements **16** and **17**. In the construction here shown, it is the end element **17** which seats on the shoulder.

The maintaining of the pivotal relationship and the securing of the frame elements and legs together is effected by riveting over the end of the extension **19**, as shown at **22**. Alternatively, that extension can be engaged by some suitable fastening means. Each corner of the support is identical and the legs, save for the pivotal provision at the upper ends thereof, are the same as the legs **10** of Figure 1 and 2. Obviously, the pivotal arrangement shown assures that the legs are maintained in a right angled relationship with respect to the frame **15** while remaining parallel to each other.

From the Figure 4 showing, it will be apparent that in this form of the invention the support need not be maintained as a rectangle, but can be collapsed as a parallelogram. This collapse can be effected to the point where the opposite sides **16** engage each other, thus enabling the stowage of the support in any available long narrow space.

Where, however, the support of Figures 3 and 4 is to be employed in combination with a bag, as shown in Figure 1, it would preferably be extended into rectangular formation, since that provides the largest mouth opening for receipt of the refuse. Once placed in desired formation within a suitable bag, the support will be maintained there for the coaction of it with the bag body engaging it will keep it in the position in which it is set while, conversely, the support keeps the bag in expanded position. Obviously, the support can be removed from the bag in the same manner as that shown in Figure 1 and inserted in the next bag.

A further modification of support is shown at **25** in Figure 6. Here the frame, instead of being made up of four elements, as in the previous forms, is made up of six elements consisting of two long sides **26** and two short end members **27** and **28** at each end. The end members **27** and **28** are pivoted together, as shown at **29**, in the middle of each side, while the main corners **30** of the frame are pivoted to the upper ends of the legs **31** in the same manner as shown in Figures 3–5. The end members **27** and **28** are, however, designed to extend outwardly with respect to the corners **30**, as the sides **26** are collapsed together for stowage purposes. When, however, the frame is set in position to support a bag, as shown in Figure 1, it is desirable that the members **27** and **28** will not swing inward beyond a straight line position. Swinging outward will be precluded by the presence of the bag surrounding the frame, while inward swinging beyond a straight line is precluded in some simple manner, such as by the provision of a suitable wing or extension on one or the other of the arms **27** and **28**.

Here again, the legs **31** are of the same formation as those previously described and provide securing or other means at their upper ends. This form of support, when out of the bag can be readily collapsed for storage by extending the pivots **29** outwardly and bringing the sides **26** together.

Though particular formations of legs and frames have been described in the foregoing, it is, of course, to be understood that variations therein can be introduced without departing from the spirit or scope of the invention. The frame has been described as being rectangular, or as having the form of a parallelogram, but it is, of course, contemplated that any shape of open frame in the form of a closed geometric figure, capable of keeping the bag mouth properly open, can be employed. It is further to be noted that though particular provision has been indicated for the securing of the legs to the frames and the providing of pivot pins thereat, such provisions are also subject to modification without departing from the spirit and scope of the invention. Not only these, but other characteristics of the invention may be modified and different embodiments of the invention can be made without departing from the spirit and scope thereof. It is thus intended that all matter contained in the above description, or shown in the accompanying drawing, shall be intended in an illustrative and not in a limiting sense.

Having described my invention, what I desire to secure by Letters Patent is:

1. A bag support comprising a rectangular frame formed of rigid strip material of substantially greater width than thickness, said width of said material extending vertically, the upper surface of said frame lying in substantially a single plane legs fixedly connected to said frame to maintain a fixed angular relationship with respect to said frame with one of said legs within each corner thereof, said legs extending at substantially right angles with respect to the plane of the upper surface of said frame.

2. A bag support comprising a frame formed on side and end frame elements, said frame being in the form of a parallelogram, said side and end elements being pivoted together at the corners of said parallelogram, a supporting leg fixedly secured to and extending downwardly from each corner of said frame, said legs being

substantially parallel to each other and the angular relationship of said legs with respect to said frame being fixed.

3. A bag support comprising a frame formed of side and end elements, said frame being in the form of a parallelogram, a supporting leg extending downwardly from each corner of said frame, each of said side and end elements being formed with perforations therein adjacent the ends thereof, and each of said legs being formed with reduced upper ends to fit said perforations in pivotal relationship, one of said legs being secured to said frame at each corner thereof, and securing a pair of said side and end elements together in pivotal relationship, and said legs extending away from said frame in fixed angular relation with respect thereto and in substantially parallel relation with respect to each other.

4. A bag support as in claim 3 and including each of said end elements being formed in pairs of parts and each of said pairs of parts being pivoted together at the ends thereof remote from said corners of said frame.

5. In combination, a disposable refuse bag and a support for maintaining said bag in fully open position, said support including a rigid rectangular frame forming an open mouth, the upper surface of said frame lying substantially within a single plane, the perimeter of said frame being substantially the same as the perimeter of the mouth of said bag, and said support including a plurality of supporting legs, one leg being fixedly secured to each corner of said frame within the confines thereof with said frame being in the form of a flat strip having its width extending vertically, said strip being wrapped around the outer surfaces of said legs where said legs and frame are secured together, said legs extending at substantially right angles with respect to said

frame and in constant parallel relationship with respect to each other, and said support having a height substantially the same as, but no less than the height of the side wall of said bag, said bag and support being assembled together with the top surface of said frame lying just within the mouth of said bag to retain the same in fully open position.

6. In combination, a disposable refuse bag and a support within said bag and maintaining said bag in fully open position, said support including a frame formed as a parallelogram and legs extending therefrom, said frame being formed of side and end elements, each pair of said elements being pivoted together adjacent the ends thereof to form corners for said parallelogram, said legs extending from said corners in substantially right angular relationship with respect to said frame and in substantially parallel relationship with respect to each other, said frame when extended into the form of a rectangle serving to expand out substantially throughout its perimeter into engagement with the interior of the mouth of said bag, whereby said bag and said frame will cooperate to maintain each other in fully opened position.

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