F. J. & C. I. THRASHER.

PARCEL POST AND MERCHANDISE PROTECTOR.

APPLICATION FILED DEC. 16, 1915.

1,206,618.

Patented Nov. 28, 1916.

2 SHEETS—SHEET 1.

Fig. 1.

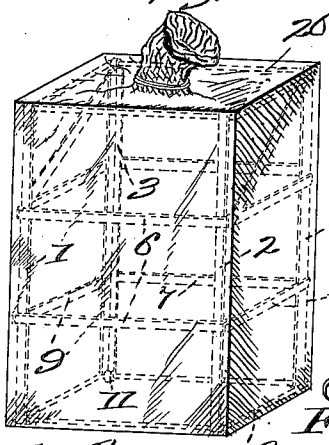


Fig. 6.

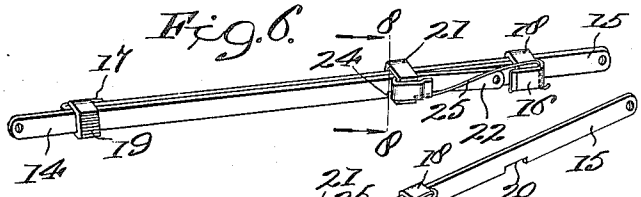


Fig. 7.

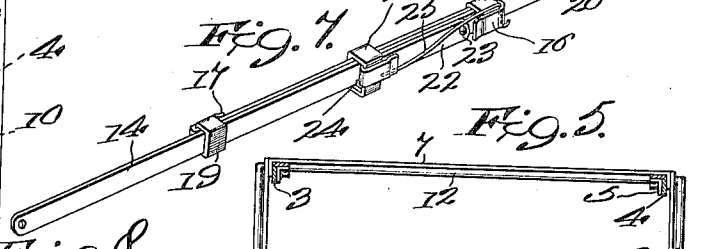


Fig. 5.

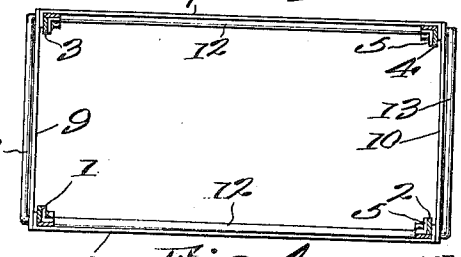


Fig. 8.

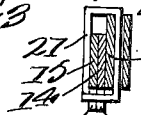
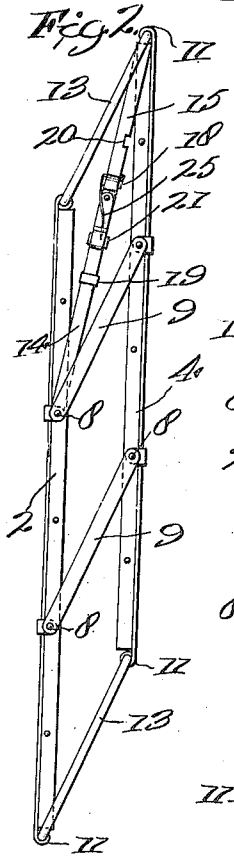


Fig. 2.



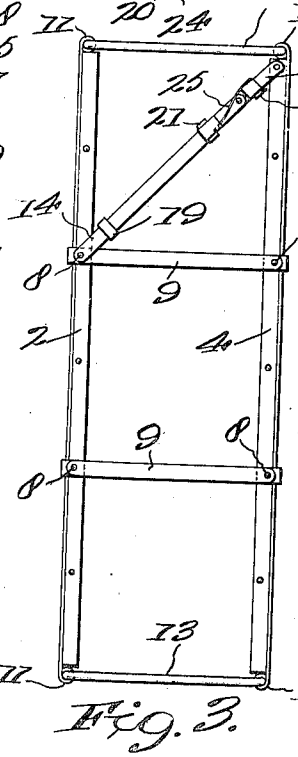
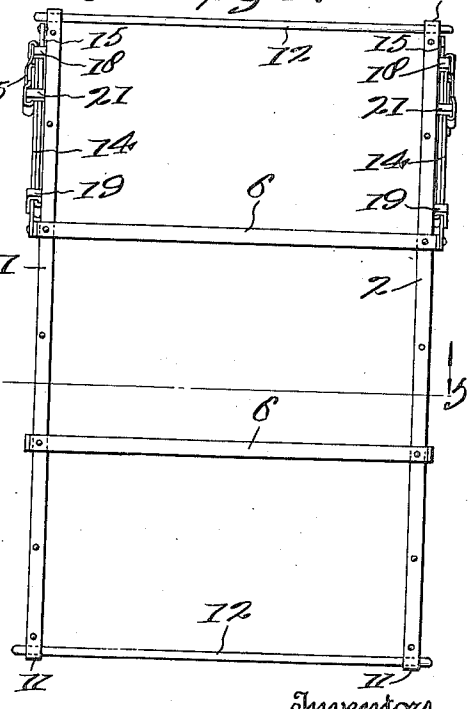


Fig. 3.

Fig. 4.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 9.

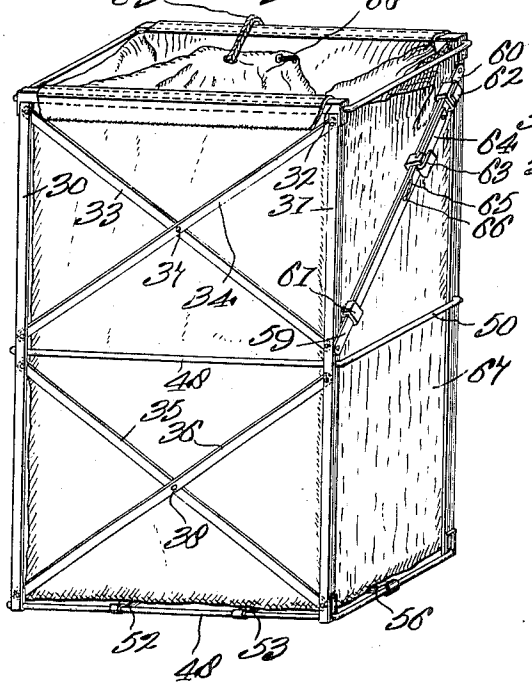


Fig. 12.

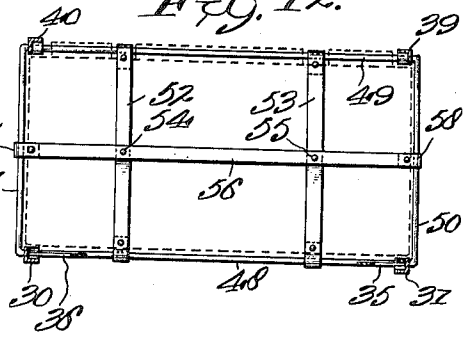


Fig. 11.

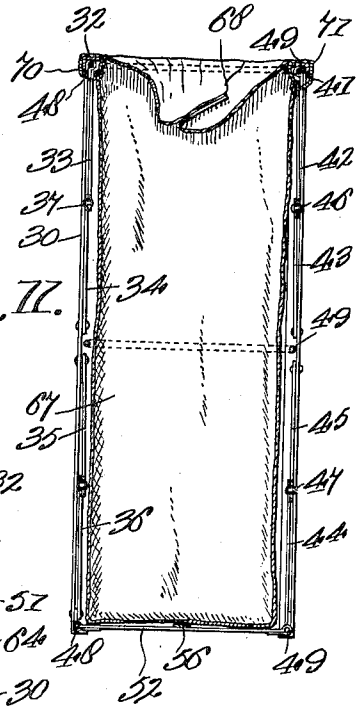
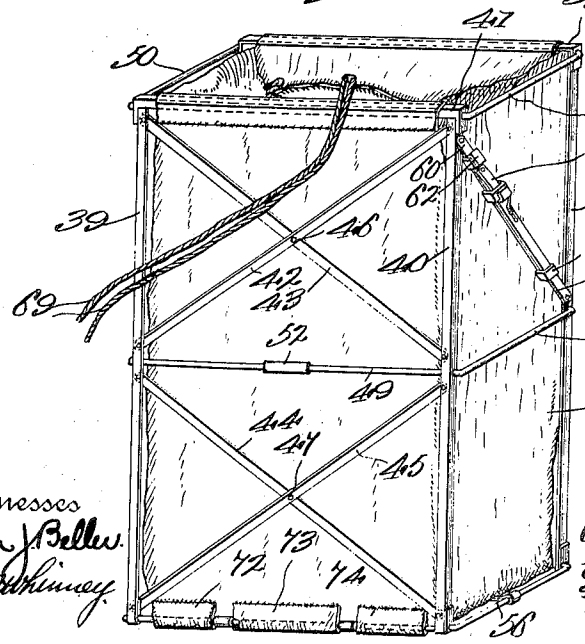


Fig. 10.



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UNITED STATES PATENT OFFICE.

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PARCEL-POST AND MERCHANDISE PROTECTOR.

1,206,618. Specification of Letters Patent. Patented Nov. 28, 1916.

Application filed December 16, 1915. Serial No. 67,236.

To all whom it may concern:

Be it known that we, FRANKLIN J. THRASHER and CATHARINE I. THRASHER, citizens of the United States, both residing at Hallowell, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Parcel-Post and Merchandise Protectors; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to parcel post protectors and merchandise carriers, and consists more particularly in a framework constructed for detachable mounting within mail bags, sacks and the like receptacles, where the same will form a strong and rigid structure, for receiving the knocks and crushing which would otherwise result in demolishing or injuring the contents; and likewise consists of a collapsible framework with an inner lining making a completed rigid receptacle for the protection of its contents from injury by external force.

It is an object of the present invention to provide a device of the above characteristics which will preferably be of open or skeleton work and connected together for collapse so that the same may be readily introduced within the bag or sack and removed, and when in position forming a protector for the contents of the receptacle, but also may be so constructed as to make a complete collapsible receptacle of itself without the use of bags or sacks, and when extended into position and closed will form a rigid protection for its contents.

Another object of the invention resides in equipping the improved protector with an automatic locking arrangement which will secure the parts to form a rigid structure when moved to full open condition, but which may be conveniently manipulated to release and permit the collapse of the device.

It is a further object of our invention to produce an economical device of the character designated, the parts of which are preferably light steel and connected together in simple arrangement.

With these and other objects in view the invention consists in the novel details of construction and combinations of parts more fully hereinafter disclosed and particularly pointed out in the claims.

In the accompanying drawings forming a part of this application, and in which similar reference symbols indicate corresponding parts in the several views, Figure 1 is a perspective view of a mail bag with our improved protector shown in dotted lines as fitted therein. Fig. 2 is an enlarged end elevational view of the device in partially collapsed condition. Fig. 3 is an end elevational view of the device in the set-up position. Fig. 4 is a side elevational view of the improved protector as shown in Fig. 3. Fig. 5 is a horizontal sectional view taken on the line 5—5 in Fig. 4. Fig. 6 is an enlarged perspective view of our improved locking device, and illustrated in locking position. Fig. 7 is a similar view disclosing the device in open position. Fig. 8 is a transverse sectional view taken on the line 8—8 in Fig. 6, and looking in the direction of the arrows. Fig. 9 is a front perspective view of a modified form of the invention in which the receptacle is permanently connected to an exterior protecting framework. Fig. 10 is a rear perspective view of the same. Fig. 11 is a vertical cross sectional view through the device; and Fig. 12 is a bottom plan view of the same.

Referring more particularly to the drawings, which disclose one embodiment of the invention, 1, 2, 3 and 4 indicate posts or uprights, being preferably of angle-iron construction or separate strips disposed at right angles and joined together by the angle braces 5. These posts are connected in pairs 1, 2 and 3, 4 by cross rails 6 and 7 to provide front and rear rectangular open frames; the rails being advantageously bent at their ends about the respective posts and secured at the extremities by rivets or other fastening means 8. The front and rear frames so built up are joined together by links 9 and 10 pivoted on the fastening means 8, as clearly shown, although it will be understood that they may be secured by independent means if found necessary or desirable.

At the ends thereof the posts are curled or rolled over to form eyes or bearings 11 revolubly grasping the longitudinal members 12 of end frames, which are completed by transverse members 13 joining the ends of the members 12 in rectangular arrangement. Such end frames are economically and preferably of round bar construction, though I do not desire to be restricted to the use of this particular material.

A pair of relatively-slidable bars 14 and 15 are connected between the front and rear frames at each side thereof, and advantageously in the diagonal position shown in Fig. 3. The ends of said bars are overturned, as at 16 and 17, to receive guides 18 and 19, and one bar 15 of each pair has a notch 20 in one edge thereof arranged to be occupied by a dog 21, which is, with the guides 18 and 19, of a construction apparent from the drawings without further description.

The dog 21 is carried on the free end of an arm 22 pivoted, as indicated at 23, on the bar 14; said bar being cut away at 24 adjacent the dog 21 to permit the latter to enter the notch 20 when the same arrives in registry therewith, and otherwise said dog may act in the capacity of a guide. The dog 21 is constrained to enter the notch 20 by a spring 25 secured at one end to the guide 18, and at its other end to the dog; the manner of connection preferred being that shown, though this is not essential.

The device, in a folded down or collapsed condition, is inserted through the mouth of a mail sack, bag, or other like receptacle 26, where it is readily received, as in Fig. 1; and once inside the same is set-up or moved to expanded position by grasping and separating the front and rear frames or by resting the lower edge of the lower projecting frame, as in Fig. 2, on the floor or other support, and imposing upon the upper edge of the upper projecting frame the weight of the body or other force. It will be seen that the front and rear frames will, under such action, readily separate, the links 9 and 10 and end frames, pivoting thereabout and drawing the upper frame down until opposite the lower frame, when the parts will form a box-like structure of open or skeleton-work.

The bag body 26 will be distended and stretched over the framework in that manner best illustrated in Fig. 1, and the device will operate to protect the parcel post packages or other contents of the bag from jars, knocks, crushing, and the like harmful forces and abuses to which receptacles of this character are necessarily subjected during the course of transportation.

The improved protector will be manufactured in various sizes to fit large and small bags and receptacles, the relative sizes of bag and protector shown in Fig. 1 being found to give excellent results in practice, not interfering with the closing of the mouth of the bag.

When moved from the folded down or semi-collapsed position in Fig. 2, the bars 14 and 15 are moved relatively, and after the full open condition has been arrived at the dogs 21 will, under the influence of the springs 25, move into and occupy the notches 20; thus effectually locking the several parts against collapse and maintaining the structure firm and rigid, until the dogs are released by operation of the hand.

By disengaging the dogs 21 from the notches 20, the protector may be conveniently collapsed or knocked down, and in such condition removed from the bag and transported elsewhere.

It will be readily appreciated from the foregoing, taken in connection with the accompanying drawings, that we have provided an improved device for insertion within sacks, mail bags, or other receptacles, the same acting to hold the receptacle distended so that packages and articles may be conveniently loaded therein; and it is to be understood that although we have shown this invention and described the same as applied to mail sacks and the like, we do not desire to be restricted to this use, as the same may be employed in other connections and utilized wherever a common carton is required.

Referring now more particularly to the modified form of the device shown in Figs. 9 to 12 inclusive, the front frame is built up of a pair of posts or standards 30 and 31, preferably of angle iron construction, and the same are connected at their upper ends by an angle or other bar 32. A pair of diagonal braces 33 and 34 and a similar pair of braces 35 and 36 are also connected between the posts 30 and 31 above and below the center thereof, said braces being preferably secured together, as indicated at 37 and 38, to combine the several parts into a rigid structure.

As more particularly seen in Fig. 10, the rear frame is similarly built up of posts 39 and 40 connected by a bar 41 at their upper ends and further secured together by pairs of diagonal braces 42, 43, and 44, 45, secured respectively above and below the center line of the same and joined centrally as indicated at 46 and 47.

The front and rear frames so built up are connected together by central and end frames embodying each a pair of longitudinal members 48 and 49, and transverse members 50 and 51 connecting the longitudinal members in rectangular arrangement; said members being preferably bent from a single length of metal of round bar construction and having their ends connected together and concealed by sleeves 52. These end and intermediate frames, as just described, are connected to the posts or standards to revolve therein and to permit the front and rear frames to be collapsed together when the receptacle is not in use.

To the longitudinal members 48 and 49 of the bottom frame are secured flat metallic strips 52 and 53, in any suitable number, and joined to said strips, as at 54 and 55, is

a similar elongated strip 56 having its ends rolled over, as shown at 57 and 58, to engage the transverse members 50 and 51.

Between the front and rear frames are diagonally connected the relatively movable bars 59 and 60, having their ends secured to guides 61 and 62 similar to the corresponding parts shown in Figs. 6 and 7 as being mounted in connection with the first form of our invention. Similarly, a dog 63 is carried by a pivoted arm 64 of one of the members and yieldingly pressed to engage a notch in the companion member when the device is moved to the set-up or expanded position as shown in Figs. 9 and 10. A spring 65, for urging the dog 63 to enter the notch when the same is brought in registry therewith, is, in this instance, preferably secured at one end to the bar 60, as shown at 66, and the same having its opposite end secured to the dog in the manner clearly shown.

The bag, sack, or other receptacle is indicated generally at 67, the same being constructed with a mouth 68 and with means, such as a draw string 69, for closing and securing the same closed. The bag 67 is, in this instance, as clearly shown, fitted within the framework constructed as above described, and is arranged to be permanently secured thereto so as to form a completed receptacle which will be reinforced and protected against injury to the contents thereof, as all rough usage will devolve upon the exterior framing. This bag or receptacle may be connected to the framework in any suitable manner, as for instance that shown in the drawings, where the upper side walls of the bag are formed with flaps 70 and 71 to constitute casings in which are received the bars 32 and 41 and the longitudinal members 48 and 49 of the top frame.

Similarly, along the bottom edge of one or more side walls of the bag body 67 are formed tabs 72, 73, 74, for constituting casings receiving one or more of the longitudinal members of the bottom frame. It will be understood, however, that although we have shown and described the bag as being secured in the framework by such casing construction, we do not wish to be understood as restricting ourselves to this manner of securing the same, as it is obvious that the bag may be connected to the interior of the collapsible framework in any manner found desirable or necessary in practice.

It is obvious that those skilled in the art may vary the details of construction and arrangement of parts without departing from the spirit of our invention, and therefore we do not wish to be limited to such features except as may be required by the claims.

We claim:

1. In a device of the character described, the combination of front and rear frames, a series of rigid single links having their opposite ends pivotally secured to the edges of the respective front and rear frames for connecting said frames to swing relatively and move to an offset collapsed condition, bearings on said front and rear frames, and one-piece end frames composed each of a single length of material bent into rectangular shape and journaled to swing in said bearings, substantially as described.

2. In a device of the character described, the combination of front and rear open metallic frames composed of angle-posts and flat strips connecting said angle-posts, series of flat rigid single links having their opposite ends pivotally secured respectively to the adjacent posts of said front and rear frames for connecting said frames to swing and collapse in offset relation, rolled ends on said posts, one-piece end frames journaled in the rolled ends on said posts and each being bent into rectangular shape from a single length of round bar material, and means for securing said device in set-up position, substantially as described.

3. In a device as described, the combination of collapsible frames, and means for securing said frames in set-up position including a pair of relatively-reciprocating bars, a guide carried on the end of each of said bars through which the companion bar slides, and complemental interengaging elements on said bars for automatically securing the bars against relative movement when the frames are shifted to set-up position, substantially as described.

4. In a device of the character described, the combination of frames connected for collapse, and means for securing said frames in set-up position including a pair of relatively reciprocating bars, one bar having a notch therein, and a pivoted spring-pressed dog on the other bar adapted to engage the notch in the companion bar when brought to register therewith, substantially as described.

5. In a device of the character described, the combination of a plurality of frames, means connecting said frames for collapse, and means for securing said frames in set-up position including a pair of relatively-reciprocating bars having notches therein, guides on said bars, a pivoted spring-pressed dog on one of said bars operating in the notch therein and adapted to enter the notch in the companion bar when such notches are brought into registry, substantially as described.

6. In a device as described, the combination of a pair of metallic front and rear frames each comprising posts, and rails connecting said posts, links pivoted to said posts for connecting the frames for collapse, end frames journaled to move in the ends of the posts, a pair of relatively-sliding bars ar-

ranged between said frames at each side thereof and one bar of each pair having a notch therein, and pivoted spring-pressed dogs on the other bar of each pair for engaging the respective notch to hold the bars and frames against collapse, substantially as described.

7. In a device of the character described, the combination of a plurality of side frames, rigid links having their ends each pivoted to one of said frames for connecting the latter to swing relatively into and out of an offset collapsed position, end frames journaled in said side frames to swing therein when the latter are shifted, and means for securing said frames in set-up position including pairs of relatively-reciprocating bars secured between said side frames and having notches therein, and pivoted spring-pressed dogs on certain of said bars operating in the notches therein and arranged to enter the notches in the companion bars when brought to register, substantially as described.

In testimony whereof, we affix our signatures.

FRANKLIN J. THRASHER.
CATHARINE I. THRASHER.