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L. J. FINN ET AL

END CLOSURE FOR PAPER BAGS

Filed May 24, 1926

FIG. II.



FIG. I.

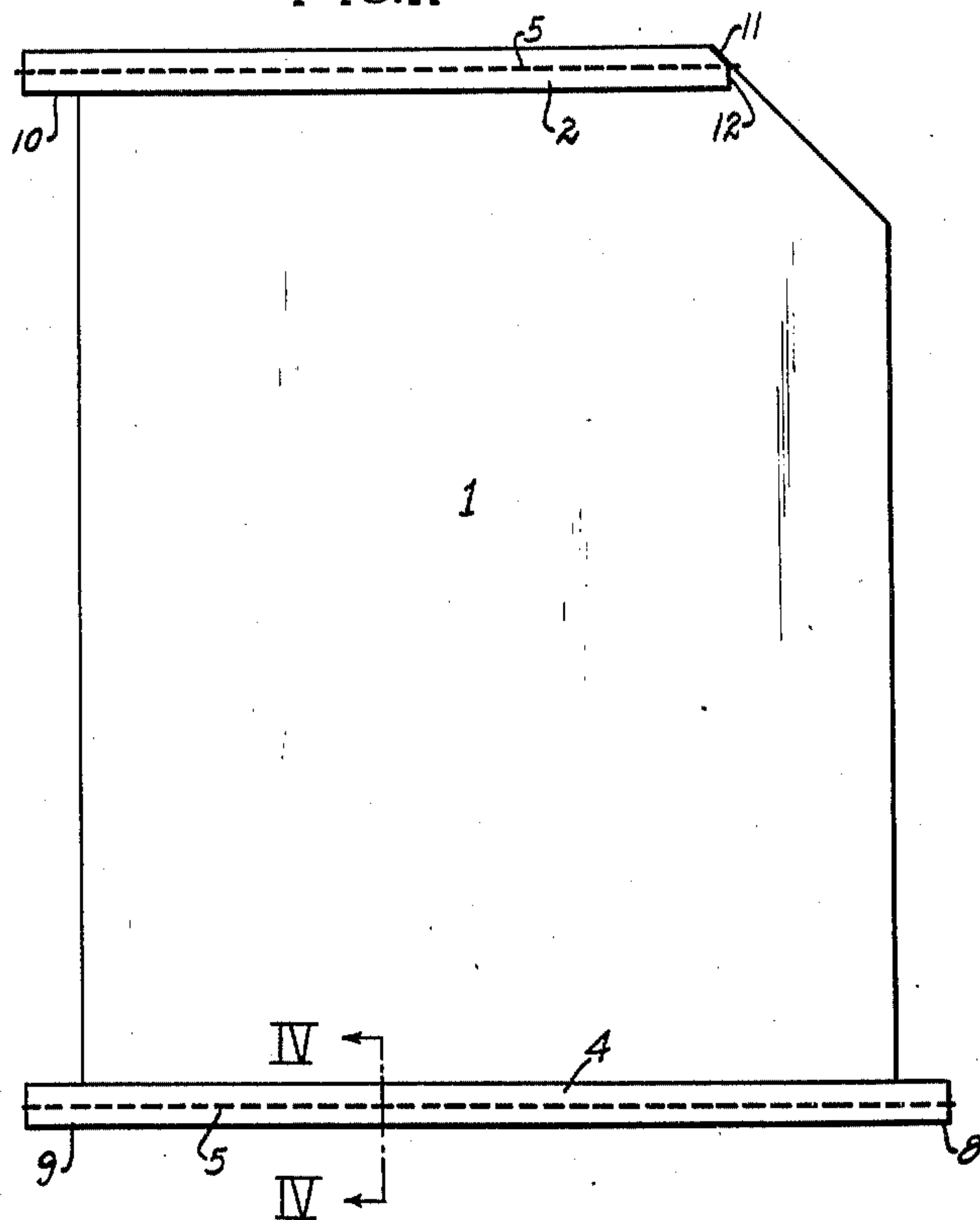


FIG. III.

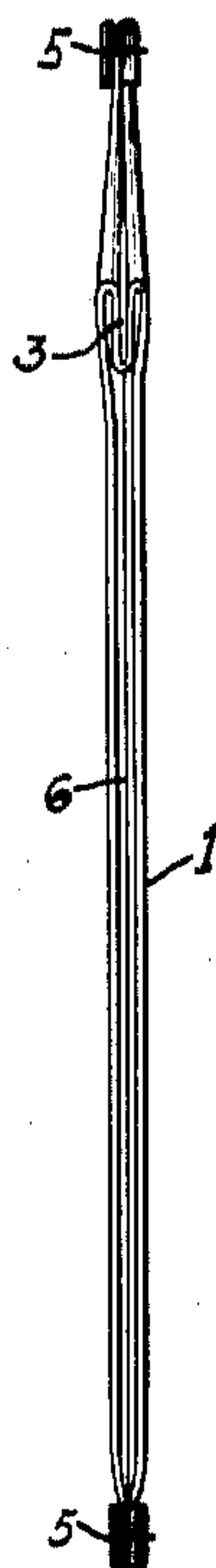


FIG. IV.

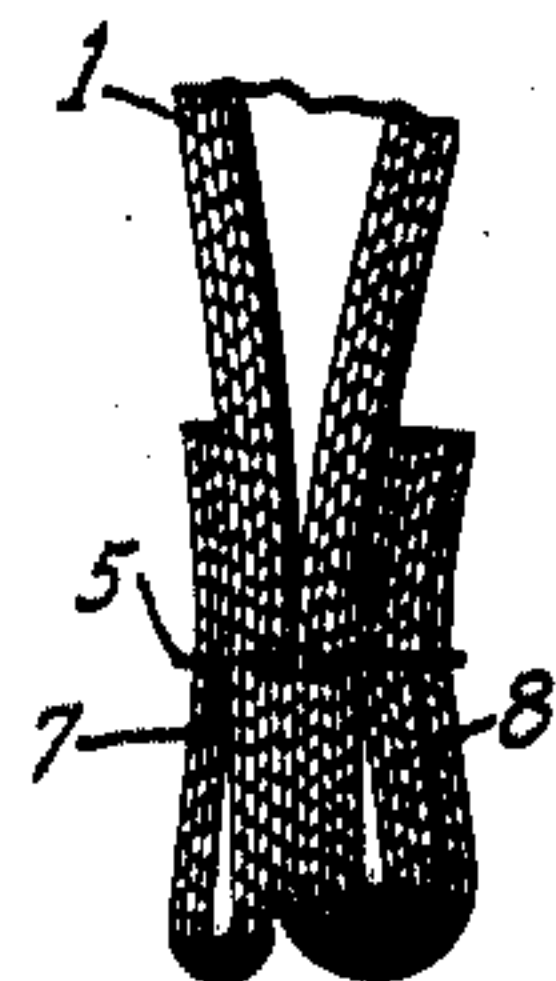


FIG. VI.

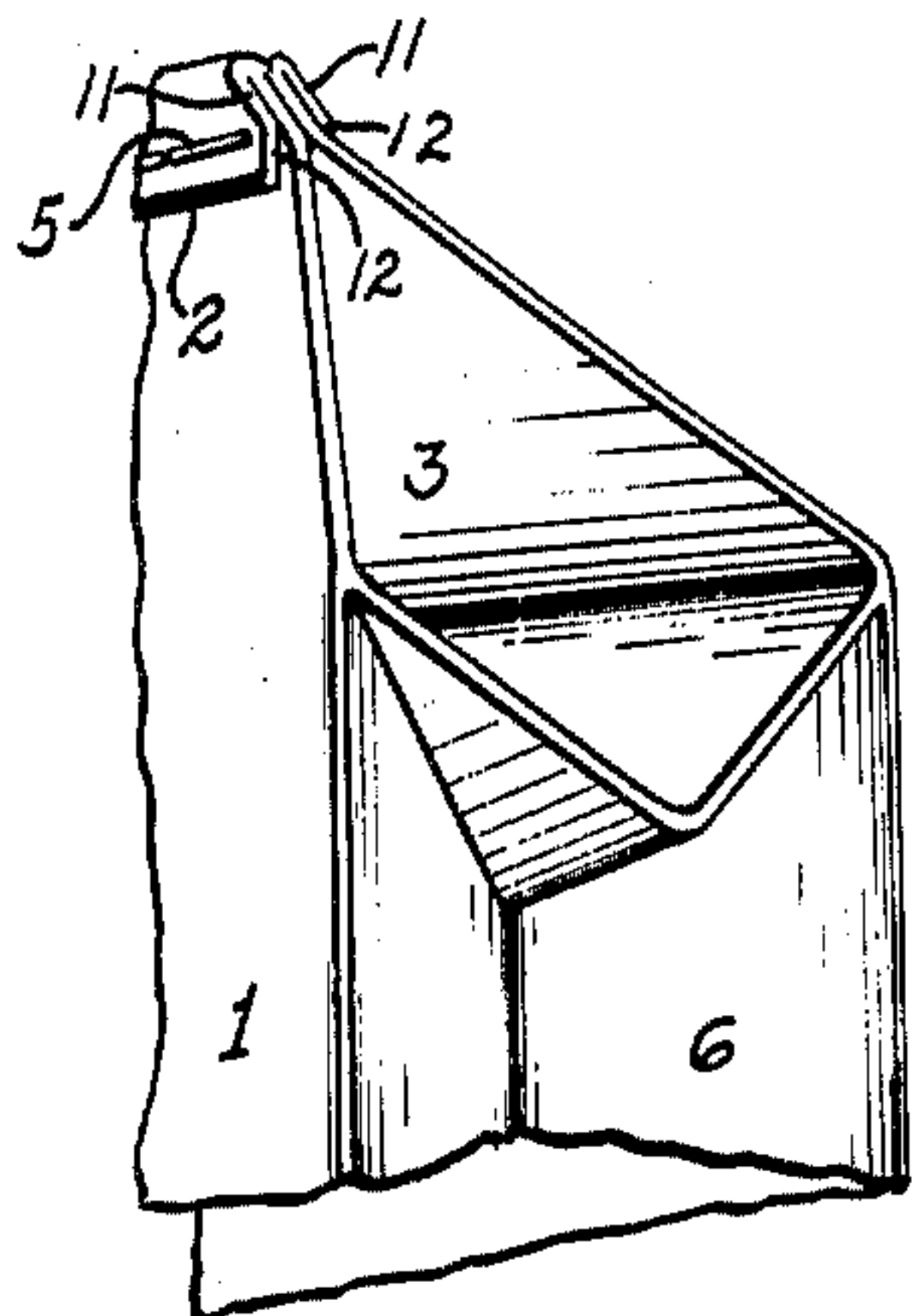
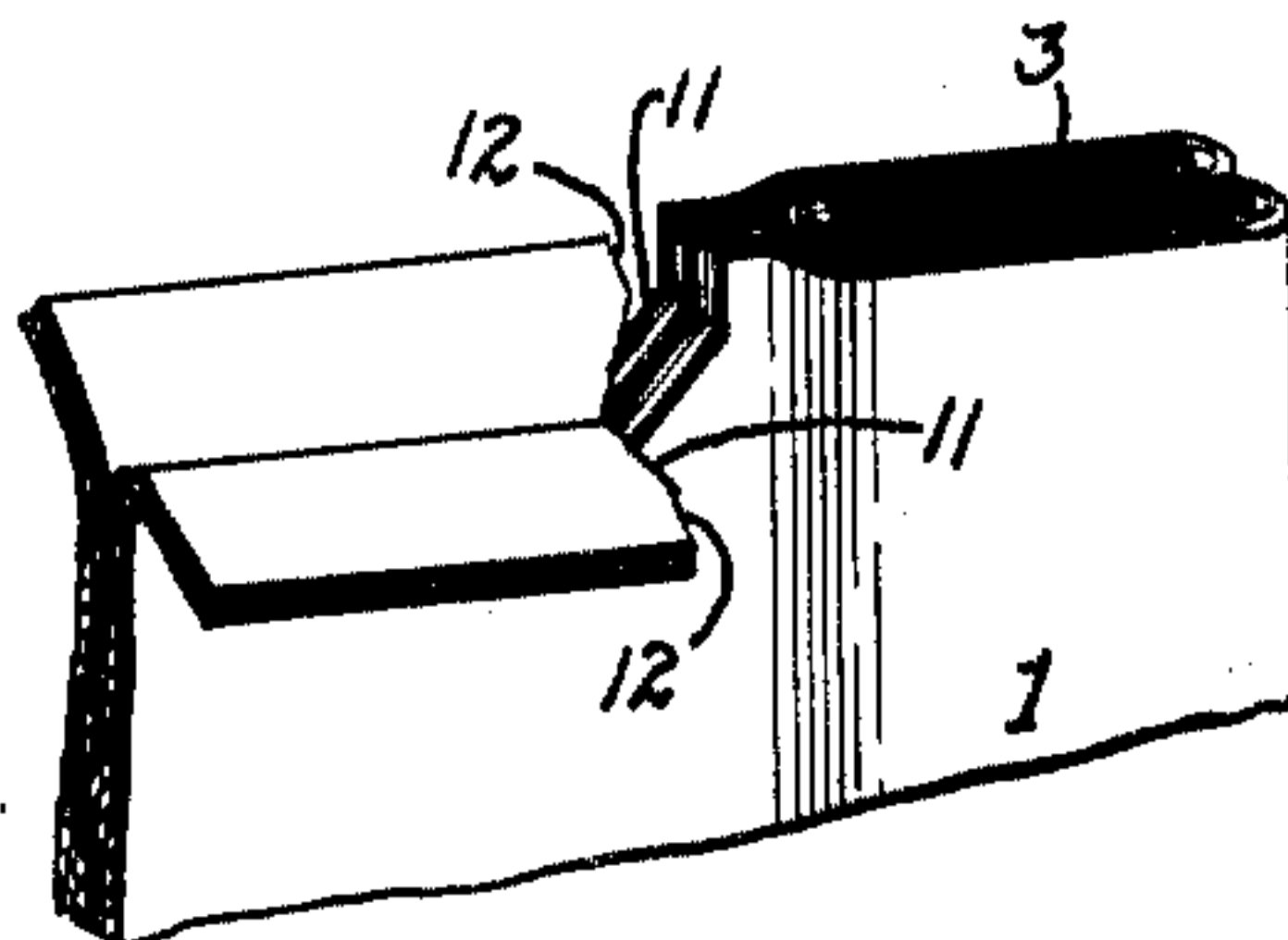


FIG. V.



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## UNITED STATES PATENT OFFICE.

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## END CLOSURE FOR PAPER BAGS.

Application filed May 24, 1926. Serial No. 111,179.

Our invention relates primarily to end closures for containers, such as paper bags, and has for one of its objects to provide end closure means of a simple and highly efficient nature whereby the ends are securely reinforced.

Another object of our invention is to provide the reinforcing elements from the walls of the container, or bag, itself. Another object of our invention is to so fold the reinforcing elements that the interior of the container containing the material packed therein is securely sealed so that said material may not sift out at either end.

With the foregoing and other objects in view, the invention comprises the novel construction, combination and arrangement of parts hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown an illustrative embodiment of the invention. However, it is to be understood that the invention comprehends changes, variations and modifications which come within the scope of the claims hereunto appended.

Fig. I is a plan view of our improved multiple-wall paper bag.

Fig. II is a side elevation looking at the bag shown in Fig. I from the lefthand position.

Fig. III is a side elevation looking at the bag shown in Fig. I from the righthand position.

Fig. IV is an enlarged detail section taken on the line IV—IV in Fig. I.

Fig. V is a detail view showing the notching to provide for the valve at the corner of the bag.

Fig. VI is an enlarged detail perspective view showing the valve through which the filling takes place.

As illustrated herein, the present invention relates to the form of bag container known as the "valve bag", which is provided with an infolded corner permitting free access to the interior of the bag; and when filled the end of the bag provided with this valve becomes the top portion of said bag and the pressure of the material therein against the infolded corner when the container is laid on its side effectively seals such corner, so that there is no discharge of the contents of the bag from this opening through which the bag has been filled. The valve corner is shown most clearly in Fig. VI.

In the drawings 1 designates the body portion of the multiple-wall bag, which is shown in the drawings as being composed of five plies of paper of such quality and weight as may be desired. These plies are shown in Fig. IV. 2 designates the top end closure which is provided with an infolded valve 3 at one corner thereof through which a filling spout may be inserted to convey the material to be contained within the bag to the interior thereof. 4 is the bottom end closure. It will be understood that while the bag is filled in the position in which it is shown in Fig. I, when filled the bag is laid upon its side and the contents of the bag press against the inner portion of the valve 3, tending to press it against the top closure. As illustrated herein the end closures are securely fastened by stitching, as shown at 5, but it is to be understood that this may also be effected by stapling, or any other suitable securing means.

These containers may be infolded at their sides as indicated at 6, although it is to be understood that such infolded sides are neither essential nor necessary in the operation of our invention. Referring particularly to Fig. IV it will be noted that, as illustrated, three of the paper plies, as shown at 7, of one side of our paper bag are folded outwardly and over against the outside of the bag near the end portion, and on the other side, as shown at 8', seven plies are folded outwardly and over against the outside of the other side of the bag near the end portion, so that the closed end of the container is effectively sealed. By virtue of such a closure the material contained in said bag is prevented from sifting between the stitches thereby escaping from said bag. What has been said above with respect to stitching is likewise applicable to stapling, if staples are employed, or to any other suitable securing means.

It will be noted that the portions marked 8, 9 and 10, shown in Fig. I, are the extensions formed by the material in the infolded side edges of the bag; that is to say, the projecting extensions 8, 9 and 10 are the excess material entering into the infolded side edges of the bag.

In forming the valve end of the bag a notch is cut near one side edge of the bag comprising an inclined portion 11 and a straight portion 12. The valve 3 is then folded inwardly



and by virtue of the edge formed by this notch a sufficient quantity of material is provided at the inner edge of said valve 3 so that the material packed in the bag, when  
5 pressing against said valve, may not force said valve outwardly through the opening formed at this valve corner.

It will be noted from this construction that not only a highly efficient and extremely simple reinforcing element is provided for the  
10 end closures, but by virtue of the way the ends of the bags are notched at the valve end of the bag no material is wasted and the reinforcing elements so formed are folded out-  
15 wardly and over; that is to say, three plies on one side and seven plies on the other, by virtue of which there is no communication between the inside portion of the bag contain-  
20 ing the material with which said bag is packed and the outside portion of the bag, so that sifting out of the material within the bag between the stitches (or other closing ele-  
ments) at the end closures is not possible.

It may be noted that it is not new to form  
25 the valve 3 by a straight notch at the inside portion of said bag, but so far as we are aware it is new to notch the bag as we have described, preserving all of the material which was formerly wasted to comprise the  
30 reinforcing elements at the end closures.

At the end of the bag opposite the valve end the reinforcing plies are notched at their extreme edge portions, so that said plies may be folded back upon the walls of the bag.  
35 If the sides of the bag are infolded, as shown at 6 (Fig. VI), then the plies will not only have to have a side notch at the extreme end but a lateral notch up to the side of the bag to permit such folding to take place.

40 We claim:

1. A multiple-wall container having reinforced end closures formed of extensions of the walls of the container, said extensions of

an unequal number being folded over and upwardly along the opposite sides of the container, and means to secure in their folded position the extensions of the walls of the container.

2. A multiple-wall container having reinforced end closures formed of folded extensions of the walls of the container, said extensions comprising the several plies of the container walls, a less number of plies being folded on one side of the container than on the other, and means to secure the extensions in their folded positions.

3. A multiple-wall bag having reinforced end closures formed of folded extensions of the walls of the bag, said extensions comprising the several plies of the bag, a less number of plies being folded outwardly and over on one side of the bag than on the other, and securing means passing through said extensions and the walls of the bag.

4. That improvement in methods of manufacturing multiple-wall containers which comprises securing together the walls of the container, and forming an end closure thereon by folding over on the opposite sides of the container an unequal number of the plies of the walls of the container.

5. That improvement in methods of manufacturing multiple-wall containers which comprises forming the body portion of the container, folding over and upwardly against one side of the container a number of the extremities of the plies constituting the walls of the container, folding over and against the opposite side of the container a different number of the extremities of the plies constituting the walls of the container, and securing the extremities in their folded positions.

In testimony that we claim the foregoing we hereunto affix our signatures.

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