May 14, 1940. H. VOLKSDORF 2,200,313

METHOD OF CLOSING BAGS

Original Filed Aug. 31, 1936

Fig.1.



Fig.2.

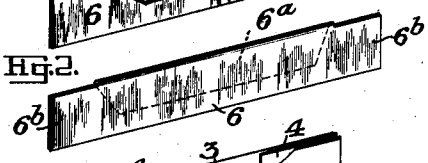


Fig.3.

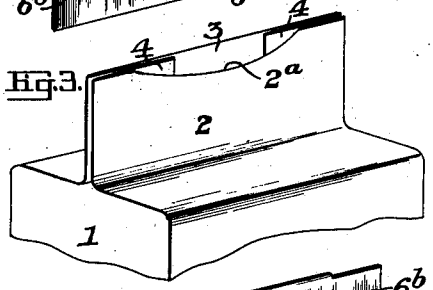


Fig.4.

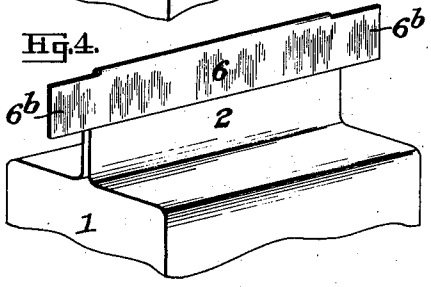


Fig.5.

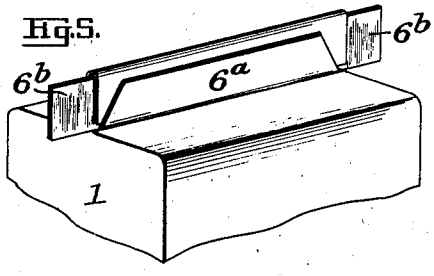


Fig.6.

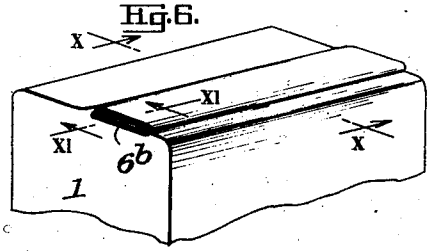


Fig.7.

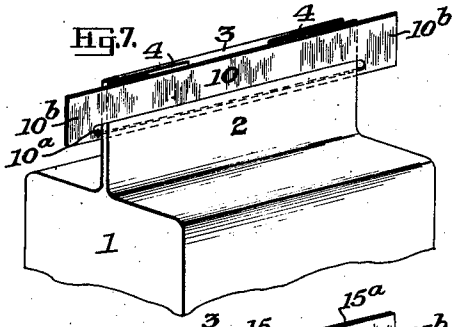


Fig.8.

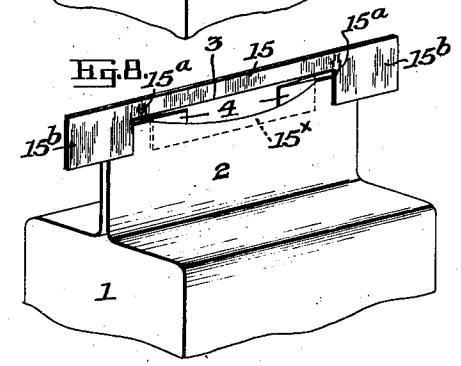


Fig.9.

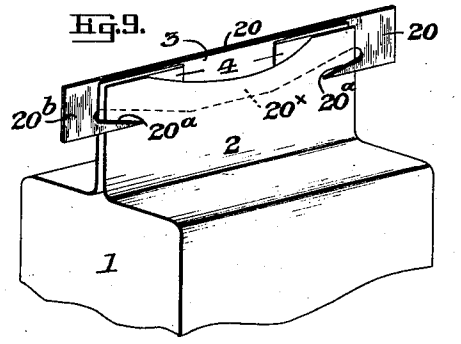


Fig.10.

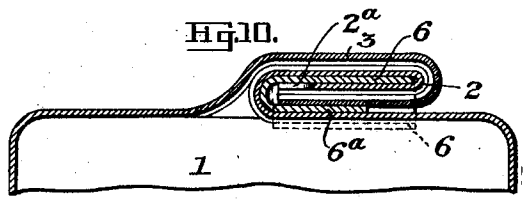
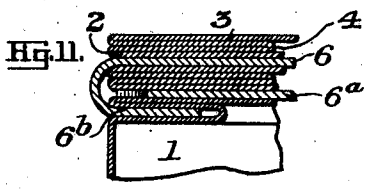


Fig.11.



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2,200,313

METHOD OF CLOSING BAGS

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Application August 31, 1936, Serial No. 98,729
Renewed August 7, 1939

2 Claims. (Cl. 93—6)

My invention relates to the art of sealing packages, such as filled bags, by means of an applied closure member, preferably of metal of suitable character, having on the one hand sufficient stiffness to insure retention of the bag parts in folded condition and at the same time capable of being folded upon itself to complete the seal.

My invention comprises a metallic closure element shaped so as to engage the extended and closely positioned walls at the open end of a bag after the latter has been filled to the desired extent with a commodity.

And a further feature of my invention is the provision of a metallic closure element sufficiently longer than the width of the bag to provide end tabs which may be infolded to retain the closure member and the bag folds in sealed condition.

These and other features of my invention are more fully set forth hereinafter; reference being had to the accompanying drawing, in which:

Figure 1 is a perspective view of one form of metallic closure element within the scope of my invention.

Fig. 2 is a similar view of the closure member shown in Fig. 1 in another position.

Fig. 3 is a perspective view illustrating a portion of a filled bag with the walls of the same at the open end positioned to receive a cooperating closure element.

Fig. 4 is a perspective view illustrating the form of closure element shown in Figs. 1 and 2, applied to the end walls of a bag such as illustrated in Fig. 3.

Fig. 5 is a perspective view showing the first fold formation of the bag end with the metallic closure element.

Fig. 6 is a similar view of the bag or package in the finally closed condition.

Figs. 7, 8 and 9 are perspective views, similar to Fig. 3, illustrating the use of other forms of metallic closure elements within the scope of my invention, and

Figs. 10 and 11 are enlarged sectional views taken on the lines X—X and XI—XI, Fig. 6.

In nearly all forms of bags and more particularly the types of bags with which my improved closure element is particularly and peculiarly applicable, the open end of the bag presents in one wall of the same, a recessed portion familiarly known as a "thumb notch" and this notch, illustrated in Fig. 1, is shown as formed in the front wall at the open end of the bag.

The bag illustrated in the present instance, is of the bellows-folded type, indicated at 1; having front and rear walls 2 and 3, and bellows-folded sides indicated at 4; the wall 2 having a thumb notch 2^a.

After the bag has been filled to the desired extent; such condition being indicated in Fig. 3, the bellows-folded side portions are tucked in preparatory to closing and sealing the bag, and then the front and rear walls are brought together against the bellows-folded side portions as illustrated. It is desirable, in closing a bag of this type, to make it leakproof, that is to say, to provide against sifting of the contents through the thumb notch, and the metal closure element I have provided facilitates the provision of a sealing closure of this type.

In the form of structure illustrated in Figs. 1, 2 and 3, I have provided an initially folded metal closure element 6, arranged to be applied over the closely positioned walls at the upper and open end of the bag. This folded element is provided with a centrally arranged tongue 6^a, and is applied over the end of the bag so that the tongue is at the rear while the main body overlies the thumb notch 2^a formed in the front wall of the bag. The metal closure element is sufficiently longer than the width of the bag to provide the end extensions indicated at 6^b.

The metal of the closure element is sufficiently ductile to permit the folding down of the tongue 6^a in close engagement with the plies of the bag walls and then the portion of the bag engaged by such metal element is folded over and over upon itself; the width of the metal determining the extent of the folds, until it is in relatively close engagement with the top of the filled bag as indicated in Fig. 6, and then the extensions 6^b are infolded to clamp the bag folds and complete the closure. The several steps of the operation are illustrated in Figs. 4, 5 and 6. This operation locates the thumb notch of the bag end in the interior of the closure folds; insuring that the contents of the bag cannot sift through the same.

In the form of sealing closure illustrated in Fig. 7, I have provided a closure element in the form of a strip or band of metal 10, having a longitudinal slot 10^a therein. In use, the end of the bag to be closed is slipped through this slot to an extent sufficient to bring the upper edge of the bag walls in line with the upper edge of the metal closure element. The bag end and metal element are then folded together over and over upon themselves until the folded portion is substantially in contact with the filled portion of

the bag and then the projecting ends 10b of the metal element may be infolded in a manner exactly similar to the arrangement illustrated in Fig. 6; such operation holding the bag folds in clamped position and sealing the package.

In the form of structure illustrated in Fig. 8, I have shown a metal closure element 15, provided with notches 15a adjacent its ends; and arrangement which produces a tongue 15×. In use this tongue is set behind the bag walls at the open end of the same in the manner indicated. The end of the bag is then folded with this metal closure element in the same manner as indicated in Fig. 6, and the end projections 15b are infolded in a similar manner.

The form of structure illustrated in Fig. 9, is substantially the same as that illustrated in Fig. 8; the metal closure element 20 being notched as indicated at 20a and providing a tongue 20×. In this instance the notches are disposed diagonally with respect to the lower longitudinal edge of the metal closure element 20, with the tongue 20× between the same. In use, the side edges of the walls at the open end of the bag enter these notches in the manner indicated and the upper edge of the metal closure element is positioned in line with the upper edges of the bag walls. After such positioning the end of the bag with the metal closure element may be folded over and over upon itself to provide the desired folded closure, and the ends 20b are infolded in a manner exactly similar to the closure illustrated in Fig. 6.

In all instances, after the preliminary folding of the bag end with a metal closure element such as I have shown and described there will be projecting ends of the latter at each side of the bag folds and these ends are to be infolded against the bag folds so as to lie between the latter and the filled bag.

In Fig. 10, I have shown a cross section of the folded end of the bag enclosing the metallic element, and in Fig. 11, I have shown a fragmentary sectional view of one of the infolded ends of the same overlying the folded end of the bag.

It will be understood, of course, that modifications may be made in the construction and arrangement of my improved closure means without departing from the spirit of my invention; all of which is deemed to be within the scope of the appended claims.

I claim:

1. The method of sealing filled bags, which comprises flattening the bag walls adjacent to the filled portion of a bag; providing a metal closure element to overlie and embrace the flattened bag walls at the free end of the same; said closure element having means whereby it may be positioned laterally with respect to the widthwise dimension of said bag walls and when so positioned being sufficiently longer than the width of said flattened walls to provide end tabs; interfolding and overlapping the bag walls and the metallic closure element together and bringing the same in contact with the top portion of the filled bag, and infolding the ends of the metallic closure element over the ends of the bag end folds and itself and disposing such ends between the bag end folds and the top portion of the filled bag.

2. The method of sealing filled bags which comprises flattening the bag walls adjacent to the filled portion of a bag; positioning a narrow strip of folded metal forming a closure element in two-part engagement over the flattened bag walls at the free end of the bag; said closure element having a centrally disposed lip spaced from its ends and serving as a guide to position the same with respect to the widthwise dimension of the flattened bag walls and being sufficiently longer than the width of the bag to provide projecting end tabs; imparting a plurality of folds or laps to the flattened bag walls with the closure element interfolded therewith and bringing such interfolded portion adjacent to the top of the filled portion of the bag, and infolding the ends of the metallic closure element over the ends of the bag end folds and itself and disposing said bent ends between the bag end folds and the top portion of the filled bag.

HANS VOLKSDORF.