Feb. 1, 1955 W. A. BEDFORD, JR 2,700,805

BAG-FASTENING DEVICE

Filed Oct. 18, 1950

FIG. 1.

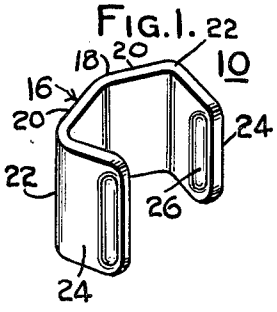


FIG. 2.

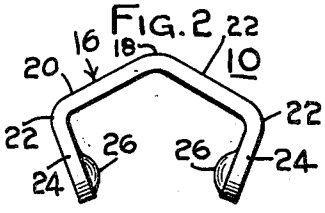


FIG. 3.

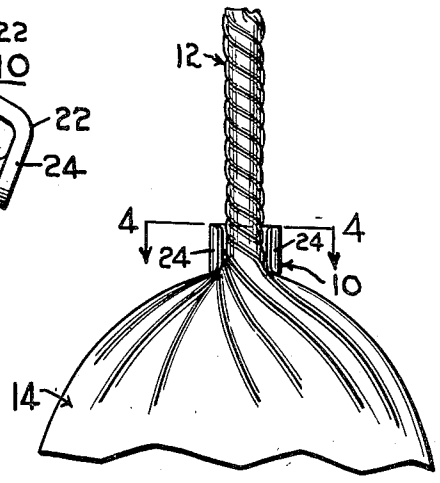


FIG. 4.

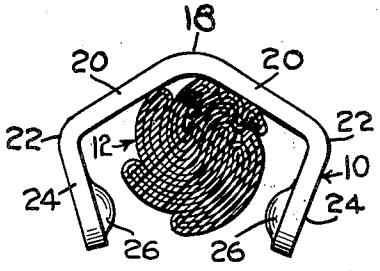


FIG. 5.

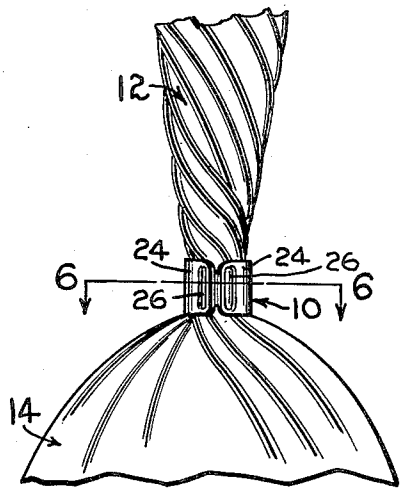
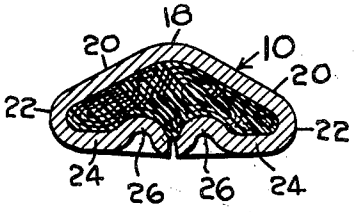


FIG. 6.



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BAG-FASTENING DEVICE

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2 Claims. (Cl. 24—30.5)

This invention relates generally to fastening devices and has particular reference to a fastener for assembly onto the neck of a bag of sheet material to seal the bag opening.

Bags of synthetic organic plastic sheet material are being used in increasing amounts for packaging perishable foods such as meat and fresh vegetables. In one widely used packaging method, after the article has been placed in the bag, the greater proportion of the air inside the bag is removed by vacuum apparatus so that the bag, which is preferably transparent, is drawn tightly about the article to provide a pleasing appearance to the package, and to assist in preserving the original color and flavor of the food. After the air is removed, the neck of the bag must be hermetically sealed, and this is sometimes accomplished by twisting the neck of the bag about itself, and then applying a fastening member to the neck to seal the opening. However, the fastening devices used heretofore in this application have not been entirely satisfactory, since frequently they do not provide an effective seal, and allow air to enter the bag, which tends to dehydrate and contaminate the food contained therein.

The preferred object of the invention is to provide a fastener for closing the twisted neck of a bag to hermetically seal the bag opening in which neck-gripping portions are provided on the fastener to grip a longitudinal portion of the twisted neck.

A further object of the invention is to provide a bag fastener for assembly onto the twisted neck of a bag in which a fastener which is adapted to be deformed so as to substantially encircle the neck is provided with transverse folded portions to localize the deformation to control the movement of neck-gripping portions disposed on the fastener in engaging the neck.

A still further object of the invention is to provide a hermetically sealed bag formed of synthetic organic plastic sheet material having a twisted neck closing a bag opening, and a metal fastener member assembled onto the neck having neck gripping portions which engage the neck longitudinally so as to extend at an angle to the twisted portions of the neck.

Other objects of the invention will, in part, be obvious, and will, in part, appear hereinafter.

In the drawing:

Fig. 1 is a perspective view of a fastener embodying the features of the invention;

Fig. 2 is a plan view of the fastener of Fig. 1;

Fig. 3 is a view in elevation of the fastener member of Fig. 1 in position for final assembly onto a twisted neck of a bag;

Fig. 4 is a view in section taken on line 4—4 of Fig. 3;

Fig. 5 is a view in side elevation of the fastener of Fig. 1 completely assembled onto the twisted neck; and

Fig. 6 is a view in section taken on line 6—6 of Fig. 5.

Referring to the drawing, there is illustrated a fastening device **10** which is adapted for assembly onto a twisted neck **12** of a bag **14**, to hermetically seal the bag.

The bag **14** is preferably formed of a synthetic organic plastic sheet material which is transparent, flexible, and impervious to moisture. The composition and methods of manufacture of such materials are well known in the art, and since they do not form part of the present invention, they are not described herein. The bag **14** is adapted to receive an article of food or the like (not shown) for preservation against the effects of contaminated air and dehydration, and to close the bag opening, the portion of the bag adjacent the opening is rotated relative to the rest of the bag so that material of the bag twists about itself to form the twisted neck **12**.

The fastener **10** for assembly onto the neck is formed of non-resilient deformable metal and comprises a body portion **16**, which preferably is relatively wide with a substantially flat cross-section. The body **16** is provided with a centrally disposed transverse bend **18**, forming a pair of opposing base portions **20** which are inclined relative to each other, and a pair of outer transverse bends **22** disposed between free ends **24** of the body and the central bend **18**. The bends **22** and **18** impart a generally U-shaped configuration to the body, so that the ends **24** are spaced apart to receive the neck **12** of the bag therebetween.

To provide means for effectively sealing the neck, a neck-gripping member **26** is provided on each free end **24**, which is preferably formed by embossing the metal at the end of the base inwardly, so that the members **26** extend transversely across the width of the base and protrude inwardly from the inner surface thereof.

To assemble the fastener onto the bag, the fastener is placed on the twisted neck **12** as illustrated in Figs. 3 and 4, so that the body partially encircles the neck. The body is then deformed by means of a suitable tool (not shown) so that the free ends **24** are moved inwardly toward each other and toward the neck. The bends **22** localize the deformation to insure that the movement of the ends is in the desired direction, so that the twisted neck **12** is engaged between the neck-gripping projections **26** and the inclined base portions **20**. Since the projections **26** extend across the width of the body, the neck is gripped longitudinally throughout the length of the projections, so that a pair of gripped portions are provided which extend angularly across the twists of the neck. The fastener **10**, being formed of non-resilient and deformable metal, retains its deformed shape after the assembly operation. It has been found that this method of gripping the twisted neck provides a hermetic seal which is able to resist leakage even at pressures up to the bursting strength of the bag.

The fastener of the invention may be cheaply and easily manufactured from sheet metal, and a number of fasteners may be formed into a string by assembly onto a suitable tape for attachment to the bags by automatic machinery.

Although in the illustrated embodiment two neck-gripping portions are provided on the free ends, it will be understood that in some cases they may be provided elsewhere on the body with equally good results. Although the fastener is particularly adapted for hermetically sealing bags formed of resilient and impermeable sheet material, it may also be used in applications where a hermetic seal is not required, such as in closing bags of paper, cloth, or other permeable material.

Since certain other obvious modifications may be made in the device without departing from the scope of the invention, it is intended that all matter contained herein be interpreted in an illustrative, and not in a limiting sense.

I claim:

1. A fastener for assembly onto the twisted neck of a bag to retain the neck in the closed position, comprising a fastener body having a base with a transverse bend at the medial portion forming two opposite base portions which are inclined relative to each other, and a free end portion extending from the end of each base portion and being joined thereto at other transverse bends, said free end portions being spaced apart to receive said twisted neck therebetween and being movable inwardly by deformation of the body at said other transverse bends so that the body substantially encircles the twisted neck, each of said free end portions having an elongated rounded transverse projecting portion which projects above the general configuration of the surface of said free end portion and which has sufficient length to engage said twisted neck for an appreciable distance longitudinally of the neck when said body is deformed at the transverse bend portions to move the free ends inwardly.

2. A fastener for assembly onto the twisted neck of a bag to retain the neck in the closed position comprising a fastener body having a base portion which is transversely bent so that the ends of the base portion extend at an angle to each other, and a free end portion extending from each free end of said base portion and being joined thereto with a transverse bend, said free end portions being spaced apart to receive said twisted neck therebetween and being movable inwardly with respect to said base portion by deformation of the body at said joining point with said free ends of said base portion so that the body substantially encircles the twisted neck, each of said free end portions having an elongated rounded transverse projecting portion which projects above the general configuration of the surface of said free end portion and which has sufficient length to engage said twisted neck for an appreciable distance longitudinally of the neck when said body is deformed at the transverse bend portions to move the free ends inwardly.

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