June 4, 1957 R. W. VERGOBBI 2,794,745

INFUSION BAG

Filed Feb. 1, 1956

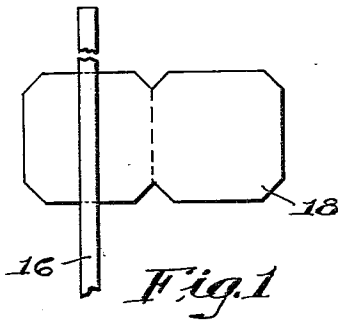


Fig. 1

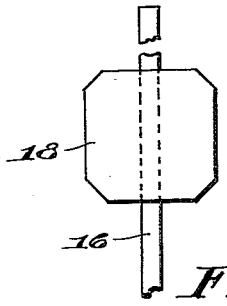


Fig. 2

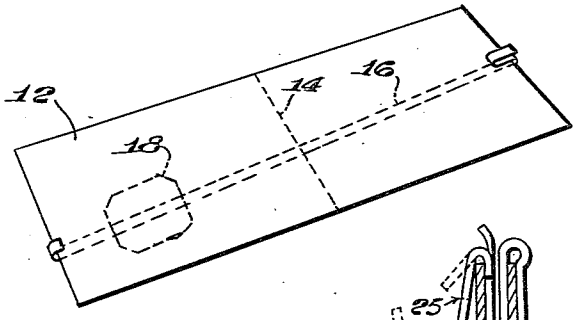
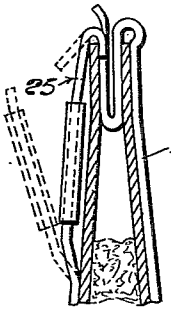


Fig. 3



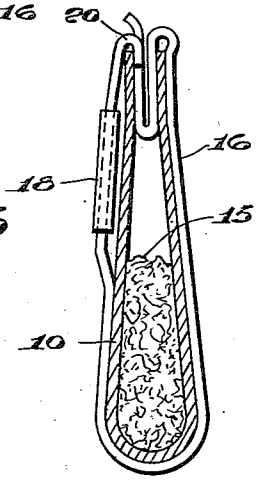


Fig. 6

Fig. 5

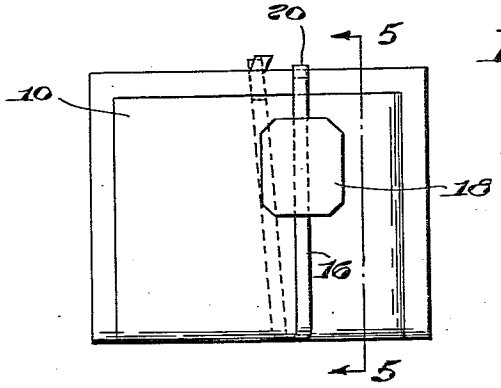


Fig. 4

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2,794,745

Patented June 4, 1957

2,794,745

INFUSION BAG

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Application February 1, 1956, Serial No. 562,838

4 Claims. (Cl. 99—77.1)

This invention relates to an infusion bag.

The invention has for an object to provide a novel and improved infusion bag having a handle secured thereto in a simple, practical and economical manner.

With this general object in view and such others as may hereinafter appear, the invention consists in the infusion bag hereinafter described and particularly defined in the claims at the end of this specification.

In the drawings illustrating the preferred embodiment of the invention:

Fig. 1 is a front view of a two section foldable tag having one end of a handle placed over one of the sections;

Fig. 2 is a similar view showing the end of the handle heat sealed between the folds of the two section tag;

Fig. 3 is a perspective view of a blank of bag forming material showing the handle associated therewith prior to folding, filling and sealing the bag;

Fig. 4 is a front elevation of the completed bag showing the handle wound around the bag with both ends inserted between opposed side walls of the mouth of the bag;

Fig. 5 is a cross sectional view taken on the line 5—5 of Fig. 4; and

Fig. 6 is a cross sectional view of the upper or mouth portion of the bag illustrating a modified form of handle and bag.

In general the present invention contemplates an infusion bag of the type produced by folding a rectangular blank of heat sealable filter paper to form two half sections and joining the edges thereof, preferably by a heat sealing operation, after a quantity of the infusion material, such as tea, has been deposited into the bag. The bag forming material preferably comprises a thin porous filter paper embodying a thermoplastic material on at least one surface thereof which becomes adhesive upon being subjected to heat and pressure to cause adherence of the confronting inner faces of the paper. In accordance with one feature of the present invention a handle comprising a flexible member, such as a relatively narrow strip or ribbon of paper, cellophane or other suitable material, is attached to the bag by interposing a portion of the flexible handle between the opposed walls of the mouth portion of the bag section prior to heat sealing thereof and thereafter closing and heat sealing the mouth portion to close the bag and to attach the flexible handle thereto. In practice a tag is provided on the extended end of the handle which may be attached thereto, preferably by heat sealing. In the illustrated embodiment of the invention the flexible handle is wound around the bag and a portion of the handle extending beyond the tag is attached to the bag, preferably by heat sealing, whereby to prevent entanglement of the handle and the tag with similar bags and handles when packed in a container for shipment.

Referring now to the drawings and particularly to Figs. 3 and 5, the present infusion bag is herein illustrated as comprising a flat bag 10 formed from a rectangular blank 12 of heat sealable bag forming material preferably comprising a thin porous paper web having thermoplastic material incorporated therein preferably on one side of the paper only. In the production of the bag the rectangular blank 12 is folded along a medial line 14 to form two half sections and to present the thermoplastic faces together whereupon the marginal side edges are heat sealed by the application of heat and pressure. A quantity of tea or other infusion material 15 is then deposited within the bag through the open top thereof.

In accordance with the present invention the mouth of the infusion bag is provided with a flexible handle 16 which may comprise a thin and relatively narrow length of paper, cellophane and the like, preferably of a non-heat sealable material. As clearly shown in Fig. 5, one end of the handle is folded upon itself and inserted between the walls of the mouth portion adjacent the central portion thereof, whereupon the top edges of the bag are subjected to the application of heat and pressure to render adhesive the thermoplastic material in the confronting inner faces of the paper whereby to secure the folded end of the handle between the opposed walls of the mouth portion and to seal the mouth of the bag. In practice during the sealing operation the adhesive thermoplastic material tends to flow around the inserted portion of the non-thermoplastic handle to securely bond the handle to the bag mouth. It will also be observed that folding of the inserted end of the handle presents a greater length of the handle in adhesive contact with the bag so that the handle is thus less subject to inadvertent detachment than a structure wherein a single unfolded length is inserted and secured in the bag mouth.

As illustrated in Figs. 4 and 5, the other end of the handle 16 is provided with a tag 18 which may and preferably will be heat sealed to the handle. The tag 18 may comprise a relatively thin paper also embodying a thermoplastic material on at least one surface thereof and formed in two sections adapted to be folded together. As shown in Figs. 1 and 2, the extended end of the handle 16 is interposed between the folds of the tag and subjected to heat and pressure to render adhesive the thermoplastic material of the inner faces of the tag whereby to seal the two sections of the tag together and to adhesively secure the handle therebetween. As illustrated, the end of the handle may extend a short distance beyond the tag.

In order to prevent entanglement of the handle with the handles of other bags during packing and shipment the handle is preferably wound around the bag, as shown in Fig. 5, and in accordance with another feature of the present invention the extended end of the non-thermoplastic handle may be also be inserted between the opposed walls of the mouth prior to sealing thereof whereby to attach the extended end to the bag during the mouth sealing operation. As herein illustrated, a relatively short unfolded portion of the extended end of the handle is inserted between the walls of the mouth portion, as indicated at 20, whereby the tag end of the handle may be easily detached by the consumer to extend the handle for use.

The handle may be wound around the bag, and the ends of the handle may be inserted betweeen the walls of the mouth portion prior to sealing thereof in any convenient manner, one expedient being illustrated in Fig. 3 wherein the handle may be placed lengthwise along the outer nonthermoplastic face of the rectangular bag making blank and the ends thereof bent over into engagement with the adjacent thermoplastic inner edges of the mouth portions prior to the bag folding operation. It will be seen in Figs. 3 and 4 that one inserted end of the handle is offset from the other so as to be disposed

in spaced relation when heat sealed between the walls of the mouth.

In a modified form of the invention, as illustrated in Fig. 6, the bag and handle may comprise a structure similar to that shown in Fig. 5 except that a weakened line, such as a line of small perforations **25** may be provided in the extended portion of the handle between the tag and the inserted tag end of the handle, so that the handle may be easily torn along the weakened line by the consumer, as indicated by dotted lines in Fig. 6, to permit extension of the handle for use.

While the preferred embodiment of the invention has been herein illustrated and described, it will be understood that the invention may be embodied in other forms within the scope of the following claims.

Having thus described the invention, what is claimed is:

1. An infusion bag containing beverage infusion material comprising a rectangular sheet folded upon itself, said folded sheet having thermoplastic material on at least the inner faces thereof and heat sealed along the side edges and mouth of the bag, and a handle comprising a relatively narrow strip of material having one end thereof inserted and heat sealed between the walls of said mouth, a tag also having thermoplastic material on at least one face thereof folded upon and heat sealed to

the other end of said handle, said handle being wound around the bag and having a portion extending beyond the tag and heat sealed between the walls of said mouth, said last-named portion extending a relatively short distance into said mouth and capable of being easily detached to permit extension of the handle.

2. An infusion bag as defined in claim 1 wherein the inserted portion of the tag end of the handle is spaced from the inserted portion of the bag end of the handle.

3. An infusion bag as defined in claim 1 wherein said one end of the handle is folded upon itself prior to insertion and heat sealing between said mouth walls.

4. An infusion bag as defined in claim 1 wherein the tag end of the handle is provided with a weakened line between the tag and the adjacent inserted portion to facilitate tearing of the handle and extension of the same.

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