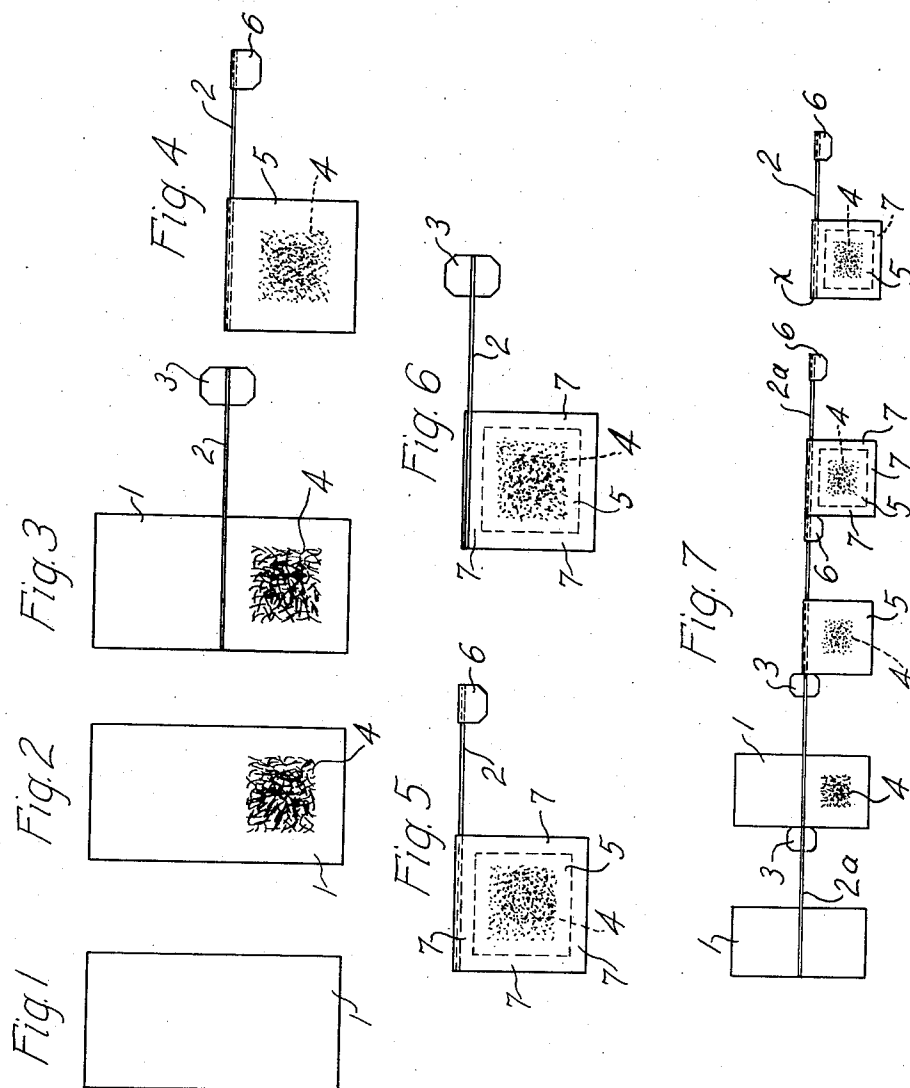


Sept. 26, 1944.

M. H. SIDEBOTHAM
METHOD OF MAKING PACKAGES

2,359,271

Filed Jan. 14, 1942



Inventor:
Melvin H. Sidebotham,
By Roderick W. Hoag, Atty.

UNITED STATES PATENT OFFICE

2,359,271

METHOD OF MAKING PACKAGES

Melvin H. Sidebotham, Newton, Mass., assignor
of one-half to Harlow M. Russell, Chelsea,
Mass.

Application January 14, 1942, Serial No. 426,719

4 Claims. (Cl. 93—3)

This invention relates to tea bags, coffee bags and the like.

One object of my invention is to provide a tea bag with a string attached tag; the bag being heat sealed to one end of the string, and the tag secured to the opposite end of the string by folding the tag about the string and heat sealing the said string within the fold of the tag.

Another object of my invention is to provide a tea bag with string attached tag, so constructed that the several elements comprising the complete bag assembly, may be secured together by the application of heat and pressure.

A still further object of my invention is to provide an improved method for assembling and sealing together, by a sequence of operations, the several elements comprising a complete tea bag with string attached tag.

With said objects in view, my invention consists in the improved package and method of making the same substantially as hereinafter described and claimed.

Of the accompanying drawing:

Figure 1 is a plan view of the sheet of wrapping material from which the body of the bag or package is made.

Figure 2 is a plan view of the wrapping material shown in Figure 1, with a charge of the commodity to be packaged, in place upon the said wrapping material.

Figure 3 shows a string superposed upon the sheet of wrapping material and upon a section of paper from which the tag is made.

Figure 4 is a plan view of the package assembly after the sheet of wrapping material has been doubled over the string and over the commodity to be packaged, and the tag material doubled over the opposite end of the string.

Figure 5 illustrates the completed package after the heat sealing operation has been performed.

Figure 6 illustrates a modified form of package wherein one end of the tag string is secured to the outside surface of the bag, and the other end of the string secured to the surface of the tag.

Figure 7 illustrates the progressive steps in the method of making the bags or packages.

Similar reference characters indicate similar parts or features in all of the views.

Referring to the drawing Fig. 1 is a plan view of the wrapper material 1 from which the body of the bag is made. Said wrapper material may be made of gauze, parchment paper, paper made from hemp pulp, or sheets made from thermoplastic materials. The wrapper material should be thin and porous, to permit water to pass freely therethrough, and yet have sufficient strength when wet to retain the contents therein. The wrapper material may be of any desired type, however, I prefer a wrapper material that has

been previously treated to have sealing qualities when subjected to heat and pressure. Figure 2 shows the wrapper material with a charge of tea 4 positioned thereon.

Figure 3 illustrates the several elements, from which the complete package is formed, assembled in position prior to the folding and sealing operations. The sheet of wrapper material 1, with the charge of tea positioned thereon, is positioned in spaced relation with a flat section of tag material 3. A length of string 2 has one of its ends superposed along a mid-portion of the wrapper material 1, and the other end of the string 2 is positioned to lie along the mid-portion of the tag material 3. The tag string 2 may be of any suitable material such as twisted or braided cotton or it may be made of paper or thermoplastic material.

The tag material 3 is preferably made of thin paper cardboard having the surface adjacent to the string 2 coated with a thermoplastic which will have adhesive qualities when subjected to heat and pressure.

Fig. 4 illustrates the condition of the package assembly, shown in Fig. 3, after the wrapper material and the tag material have been doubled over the tag string 2. The folded wrapper 5 thus encloses the charge of tea 4; and the folded tag 6 has the free end of the string 2 positioned within the fold of the said tag 6.

The next operation in producing the tea package consists in the application of heat and pressure to the four outside margins 7 (Fig. 5) of the folded wrapper 5. The application of heat and pressure serves to adhesively seal together corresponding margins of the folded wrapper. Thus the charge of tea 4 is sealed within the closure formed by the folded and sealed wrapper 5. As previously noted the wrapper material is preferably made of sheet material which has been previously treated to have sealing qualities when subjected to heat and pressure.

The operation of sealing the margins 7 of (Fig. 5) the folded wrapper 5 also serves to seal one end of the tag string 2 within the fold of the wrapper.

The folded tag 6 (Fig. 5), with the free end of the tag string 2 positioned within the fold thereof is subjected to the application of heat, and the folds of the tag pressed together. The heat serves to cause the thermoplastic coating on the contacting surfaces of the tag to become tacky, and the application of pressure serves to secure the contacting surfaces together. The free end of the string 2 is caused to become secured within the tag by the action of sealing together the contacting surfaces of the folded tag.

The successive steps of the preferred method of producing my improved package are illustrated by Fig. 7. A length of string 2a is positioned to

overlie and bisect the wrapper sheet 1 and the section of tag material 3. The next step in the method of making the package consists in depositing a charge of tea 4 upon a half section of the wrapper material 1. The free area of the wrapper material 1 is then folded along a line parallel with, and adjacent to the string 2a. The said free area of the wrapper material is thus positioned over the charge of tea 4, and doubled against the area of the wrapper material containing the commodity to be packaged.

While the wrapper material is being folded, the section of tag material 3 is in a like manner doubled over the string 2a positioned thereon.

The next operation consists in applying heat and pressure to the four outer margins 7 of the doubled wrapper 5 material. The heat and pressure serve to cause the thermoplastically treated wrapper material to seal the said margins to form a closed package. The action of sealing the package also serves to secure the string within the fold of the package.

The folded tag 6, folded over the free end of the string 2a, is also subjected to heat and pressure which cause the adhesively treated contacting surfaces of the tag to adhere together. The action of sealing the surfaces of folded tag 6 together also serves to secure the string within the fold of the tag material.

The final operation in producing the package consists in severing the string 2a (Fig. 7) at x between the completed package and the adjacent incomplected package.

Figure 6 illustrates a modification of my invention wherein the tag string 2 is adhesively secured to one of the margins 7 and on the outside of the folded wrapper 5. The tag 3 is not doubled over the free end of the string 2; instead the string 2 is adhesively secured to an outside surface of the tag. In producing this modified package the string 2 may be treated with a thermoplastic, so that upon the application of heat and pressure the string will adhere to the wrapper material and to the unfolded tag.

While the invention has been described as a tea bag, it will be understood that it may be used to advantage in packaging various substances other than tea. Therefore the invention is not intended to be limited to the packaging of tea.

While I have illustrated the preferred forms of construction and the preferred method of carrying my invention into effect, these are capable of variations and modification without departing from my invention.

Having described my invention, what I claim is:

1. The method of successively making packages with string attached tags comprising positioning a flat sheet of thermoplastically treated wrapper material in spaced apart relation with a flat sheet of thermoplastically treated tag material, depositing a charge of the commodity to be packaged upon a side portion of the wrapper material, positioning a continuous section of tag string to pass through the mid-portion of the wrapper material and through the mid-portion of the tag material, then folding the thermoplastically treated wrapper material along a line parallel with and adjacent to the tag string, to provide a folded wrapper with the said charge of commodity and a portion of the said string within the fold of the wrapper, folding the thermoplastically treated tag material over a portion of said tag

string, applying heat and pressure to seal the margins of the folded wrapper and to secure the tag string positioned therein, applying heat and pressure to seal together contacting surfaces of the folded tag, and severing the tag string from connection with the next succeeding package.

2. The method of successively making packages with string attached tag comprising positioning a flat sheet of thermoplastically treated wrapper material in spaced apart relation with a flat sheet of thermoplastically treated tag material, depositing a charge of the commodity to be packaged upon a side portion of the wrapper material, positioning an intermediate section of tag string to pass through the mid-portion of the wrapper material and through the mid-portion of the tag material, then folding the thermoplastically treated wrapper material along a line parallel with and adjacent to the tag string, to provide a folded wrapper with the said charge of commodity and a portion of the said string within the fold of the wrapper, folding the thermoplastically treated tag material over a portion of said tag string, applying heat and pressure to seal the margins of the folded wrapper and to secure the tag string positioned therein, applying heat and pressure to seal together contacting surfaces of the folded tag.

3. The method of successively making packages with a string attached tag, comprising singly and successively positioning sheets of thermoplastically treated wrappers spaced apart in contact with a continuous section of tag string, with a tag for each wrapper sheet positioned adjacent to the tag string and in spaced apart relation with the corresponding wrapper sheet; then singly and successively depositing a charge of the commodity to be packaged upon a portion of each wrapper; singly and successively folding each wrapper along a line parallel with and adjacent to the tag string, to provide a succession of folded wrappers with a charge of commodity and a portion of the tag string within the fold of the wrapper; singly and successively applying heat and pressure to seal together the margins of the folded wrappers and to secure the tag string to each wrapper; then, following the sealing of each wrapper, securing the corresponding tag to the tag string; and singly and successively severing the tag string to provide packages with string attached tag.

4. The method of successively making packages with a string attached tag, comprising singly and successively positioning wrapper sheets spaced apart in contact with a tag string; a tag for each wrapper sheet positioned adjacent to the tag string in spaced apart relation with the corresponding wrapper sheet; then singly and successively depositing a charge of the commodity to be packaged upon a portion of each wrapper; then singly and successively folding each wrapper to provide a succession of folded wrappers with a charge of commodity and a portion of the tag string within the fold of the wrapper; singly and successively sealing together the margins of the folded wrappers and securing the tag string to each wrapper; then, following the sealing of each wrapper, securing the corresponding tag to the tag string; and singly and successively severing the tag string to provide packages with string attached tag.

MELVIN H. SIDEBOTHAM.