

Oct. 21, 1952

C. A. TROTMAN
TEA PACKAGING SYSTEM

2,614,934

Filed April 12, 1950

2 SHEETS—SHEET 1

Fig. 1.

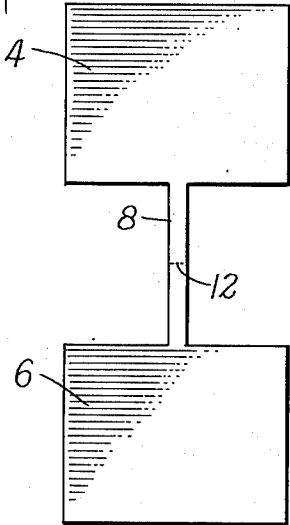


Fig. 2.

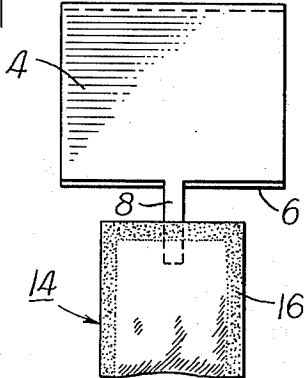


Fig. 3.

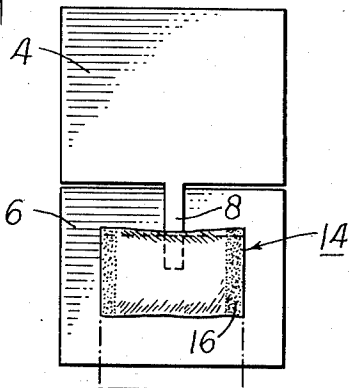


Fig. 4.

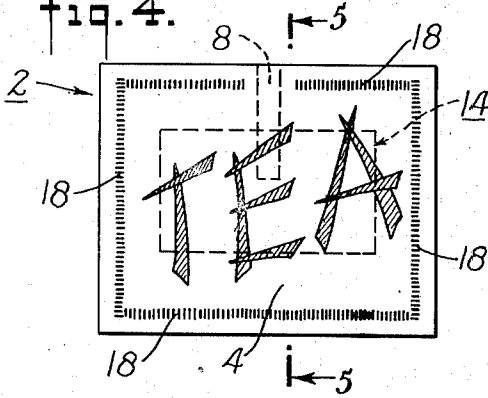
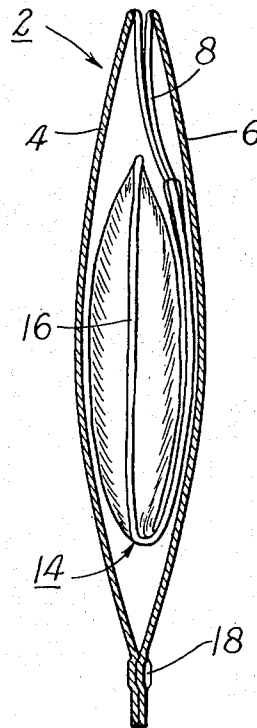


Fig. 5.



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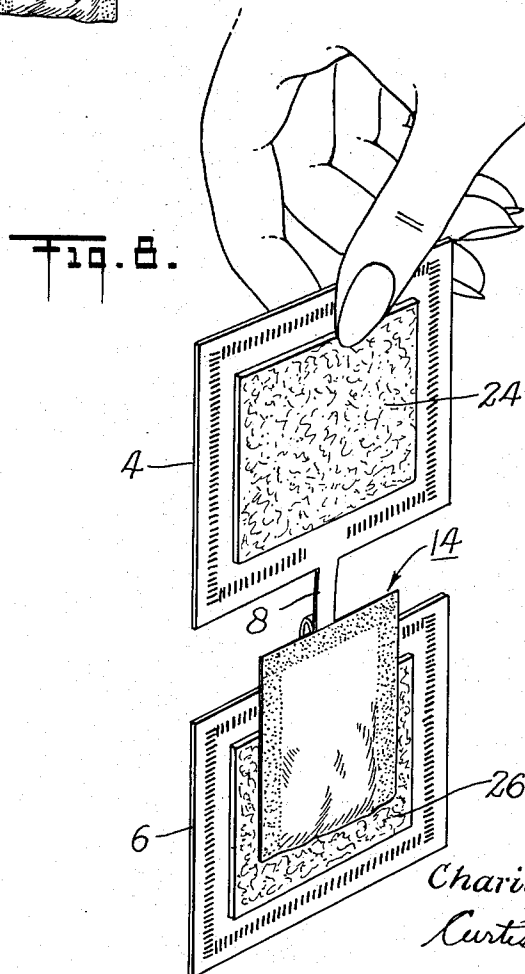
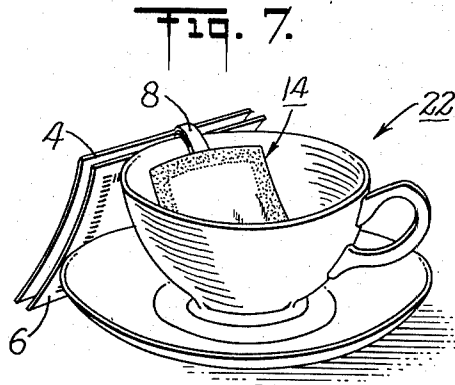
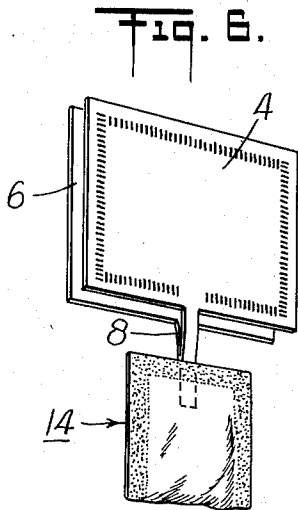
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2 SHEETS--SHEET 2



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TEA PACKAGING SYSTEM

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3 Claims. (Cl. 99—77.1)

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This invention relates to tea bags of the type in which the tea is contained in a porous bag intended to be immersed in hot water so that the soluble portion of the tea is extracted into the water. The invention relates particularly to the packaging and manipulation of such tea bags.

Because such tea bags contain a relatively small amount of tea and are discarded after use, any commercially practicable packaging arrangement must be low in cost and capable of production on high-speed automatic machinery. The tea bags usually are made of filter paper or similar pervious material and may have a string attached to the bag, as for example by a small metal staple, for removing the bag from the cup after the tea is made. The use of strings has not been altogether satisfactory because of the difficulty of securing the string to the tea bags and of packing the strings in such manner as to prevent them from becoming entangled.

In order to minimize the cost of packaging such tea bags, they are sometimes sold without individual envelopes. However, an individual package or envelope for containing each tea bag is desirable for sanitary reasons and because of the increased sales appeal, for the consumer is certain that the tea bag itself has not been handled previously by others. Such envelopes are desirable also from the standpoint of the manufacturer because they provide a convenient surface for advertising or other printed matter. However, to provide such envelopes, which serve no other useful purpose other than as a wrapper for the tea bag, adds substantially to the cost of the finished product.

In accordance with the present invention, a wrapper is provided for such tea bags which serves not only as a wrapper, but also as a means for positioning the tea bag within the envelope and as a means for manipulating and holding the tea bag in actual use and of disposing of the used tea bag. The arrangement of parts and materials employed is such that a thoroughly practicable and economical packaging system is provided that is capable of being fabricated and handled readily by high speed automatic machinery.

In one embodiment of the invention, the envelope and a connecting strip by which the tea bag is tied to the envelope are formed integrally from a single sheet of paper and assembled into the finished article without the addition of any other packaging or structural materials.

The various features, objects, and advantages of this invention will be in part apparent from and in part pointed out in the following descrip-

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tion considered in conjunction with the accompanying drawings in which:

Figure 1 shows the first step in the formation of a tea bag wrapper;

5 Figure 2 shows the wrapper of Figure 1 after being folded and attached to the tea bag;

Figure 3 shows the tea bag and wrapper after a further folding operation;

10 Figure 4 is an enlarged elevational view of the completed assembly of the tea bag and wrapper ready for distribution;

Figure 5 is an enlarged sectional view taken along line 5—5 of Figure 4;

15 Figure 6 shows the tea bag after the assembled wrapper has been opened for use, with the two halves of the wrapper positioned to serve as a holding means for the tea bag;

Figure 7 is a perspective view showing the tea bag positioned in a tea cup; and

20 Figure 8 shows a modified form of the wrapper with one half of the wrapper serving as a holding means after the tea bag has been removed from the cup shown in Figure 7.

The paper which is to form the wrapper, generally indicated at 2 in Figure 4, is cut from a larger sheet of paper into the shape shown in Figure 1, wherein two rectangular pieces of paper 4 and 6 are connected by a narrow strip of paper 8 which, in this example, is formed integrally with the two rectangular pieces 4 and 6.

30 After the paper is cut to the shape shown in Figure 1, the strip 8 is folded along the broken line 12 so that the faces of the rectangular sheets 4 and 6 are brought together. The resulting tab formed by the strip 8 is then secured to the tea bag, generally indicated at 14 in Figure 2.

40 The tea bag 14 may be formed from filter paper, or other suitable pervious material, by folding the sheet of paper around the desired quantity of tea, inserting the end of the tab between the opposing covers of the tea bag 14, and then sealing around the three edges of the bag, as indicated at 16. This sealing operation also secures the end of tab 8 to the tea bag 14. Any desired means, of course, can be employed for closing the tea bag or for securing the tab 8 to the tea bag.

45 After the tea bag 14 is secured to the tab 8, the rectangular sheets of paper are positioned as shown in Figure 3 and the lower half of the tea bag, which ordinarily is of such size that when the bag is suspended by the tab 8 the tea will not extend more than half way to the top of the bag, is folded over onto the upper half of the bag, as shown in Figures 3 and 5. The rectangular sheet 4 is then folded over the top of the tea bag

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14 in alignment with the sheet 6. The front and back of the wrapper, formed respectively by sheets 4 and 6, are then secured together by crimping or embossing the two sheets around the outside edges, as indicated at 18 in Figure 4, except for the portion adjacent the tab 8 which is not crimped. Adhesive or other methods may be employed for securing the two halves of the envelopes 2 together, but the crimping or embossing process is usually to be preferred, because it permits the two halves of the wrapper to be separated readily when the wrapper is opened.

It will be noted that the tab 8 serves to position and maintain the tea bag 14 in the approximate center of the envelope 2, so that the crimping operation can be carried out rapidly and efficiently without danger that the edges of the tea bag will interfere with the crimping operation.

It is thus seen that the tea bag may be packaged in an envelope to which it is secured by the tab 8, the entire envelope and tab being formed from a single sheet of paper, without staples, strings or other material, and without operations of a nature difficult to perform on automatic machinery.

The tea bag, having been packaged by automatic machinery, remains protected in the envelope 2 until it reaches the hands of the actual consumer. To open the envelope, the edges of the sheets 4 and 6 of the envelope are separated by pulling them apart along the crimping lines 18. The front and back halves 4 and 6 of the envelope 2 are then folded upwardly as shown in Figure 6, so that the tea bag 14 is suspended below the envelope portions by the connecting tab 8. The tea bag 14 may then be placed in a cup, such as is generally indicated at 22 in Figure 7, with the tab extending over the rim of the cup and the two envelope halves extending downwardly therefrom on the outside of the cup.

After the tea solution has reached the desired strength, the tea bag 14 may be lifted above the cup by means of the envelope portions 4 and 6, after which one of the envelope portions may be released so that the tea bag occupies the position shown in Figure 8. The back of the lower envelope portion 6 can then be supported by hand and the upper envelope portion 4 folded downwardly over the surface of the tea bag 14, so that the wet tea is again positioned between the two halves of the envelope.

If desired, the inner surfaces of the envelope portions 4 and 6 may be partially covered with thin rectangular sheets 24 and 26 of absorbent paper, such as blotting paper. Thus, when the wet tea bag 14 is returned to its position between the two envelope portions 4 and 6, the blotting paper will absorb the moisture from the wet tea bag and prevent any possibility of liquid draining from the tea bag onto adjacent surfaces.

Alternatively, the two halves 4 and 6 of the envelope may be formed from somewhat heavier paper that is calendered, or otherwise rendered relatively impervious to moisture, so that after the tea bag has been removed from the liquid and positioned between the two halves 4 and 6 of the envelope, the outer surfaces may be pressed together to squeeze the remaining liquid from the tea bag while it is held over the cup, so that it can then be discarded without any possibility of staining the surface upon which it is laid.

Thus, the envelope, which serves as a wrapper for the tea bag and also as a means for manipulating and handling the tea bag in use, can be

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formed entirely from paper of the type ordinarily used for tea bag wrappers, or it may be formed from somewhat heavier paper that is relatively impervious to liquids, or the inner surfaces of the two envelope halves may be partially covered with pieces of absorbent paper.

In order that the paper, which is to be cut into separate pieces of the shape shown in Figure 1, to form envelopes 2, may be used efficiently, the length of the strip 8 extending between two rectangular sections 4 and 6 is preferably equal to the width of the rectangles 4 and 6 measured in a direction parallel to the longitudinal axis of the strip 8. By this means, an interlocking pattern can be formed on a larger sheet of paper so that the paper extending into the space between the two rectangular sheets 4 and 6 can be used to form other rectangular sheets, thus minimizing the amount of paper required to form the wrappers.

The effective length of the tab 8 will be determined by the extent to which the tab is allowed to extend into the tea bag 14. This distance is preferably regulated so that the exposed length of the tab between the tea bag and the sheets of the envelopes 4 and 6 is equal to slightly less than one-half of the transverse width of the rectangular sheets 4 and 6 measured as indicated above. This permits the tea bag 14 to be positioned as shown in Figures 3 and 5 so that the tab 8 will prevent it from moving any substantial distance from its position in the center of the envelope 2.

The procedure to be used in fabricating the wrapper will depend to a large extent upon the type of machinery to be used, and the particular process selected will be such that the most desirable type of machinery is used while at the same time making efficient use of the raw materials. Thus, it is apparent that the two sheets 4 and 6 need not be formed with the integral connecting tab 8, and that more efficient use can be made of the paper which forms the wrappers by forming each rectangular sheet 4 or 6 separately, each with its own projecting tab. Thus, these sheets can be cut to the shapes they would have if the tab 8 were cut along the line 12 indicated in Figure 1. The ends of the tabs projecting from the sheets 4 and 6 are then placed between the opposing cover sheets of the tea bag 14, as indicated in Figure 2, and the assembling operation completed as described above. With this type of construction, it will be advantageous to make each of the projecting tabs of a length equal to the width of the sheet to which it is connected measured in the direction of the longitudinal axis of the tab. This makes it possible to cut the separate pieces from large sheets of paper with minimum waste, and at the same time allows enough length of each tab to extend into the tea bag to insure a good mechanical connection between the tea bag and its supporting tab.

It will thus be seen that I have provided a tea packaging arrangement that is well suited to attain the ends and objects hereinbefore set forth, that is economically manufactured on the type of machinery already in use, and which provides an economical packaging arrangement having the advantages of more expensive arrangements heretofore proposed.

Certain modifications of the above embodiment of the invention can be made in accordance with the particular circumstances of use or fabrication and that certain features of the invention may at times be used to advantage without

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a corresponding use of other features, all without exceeding the scope of the invention. It will be apparent, therefore, that the foregoing examples, which are to be interpreted as illustrative and not in a limiting sense, are given for the purpose of describing the invention so that others may modify and adapt it to the conditions of particular uses.

What is claimed is:

1. In a tea package, a cover comprising two sheets of material arranged in superimposed relation to each other, a substantially flat, soft, pervious tea leaf container of lesser dimensions than those of said cover arranged between said sheets in spaced relation to the edges thereof, flexible tabs substantially narrower than said sheets attached to and extending from adjacent edges of said sheets and between said sheets and attached to an edge of said container to position said container between said sheets and to act as a hinge to permit said sheets to be folded back upon themselves away from said container with said tabs extending between said sheets and said container to maintain the same

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in spaced relation, whereby the tabs may be engaged with the edge of a tea cup to suspend the container within the cup and to suspend said sheets in contiguous superimposed relationship to each other entirely outside of said cup.

2. The combination of elements recited in claim 1 wherein said sheets are releasably secured together adjacent their edges from points on opposite sides of said tabs.

3. A combination of elements recited in claim 1 wherein at least one of said sheets is provided with an absorbent material on its inner face.

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