

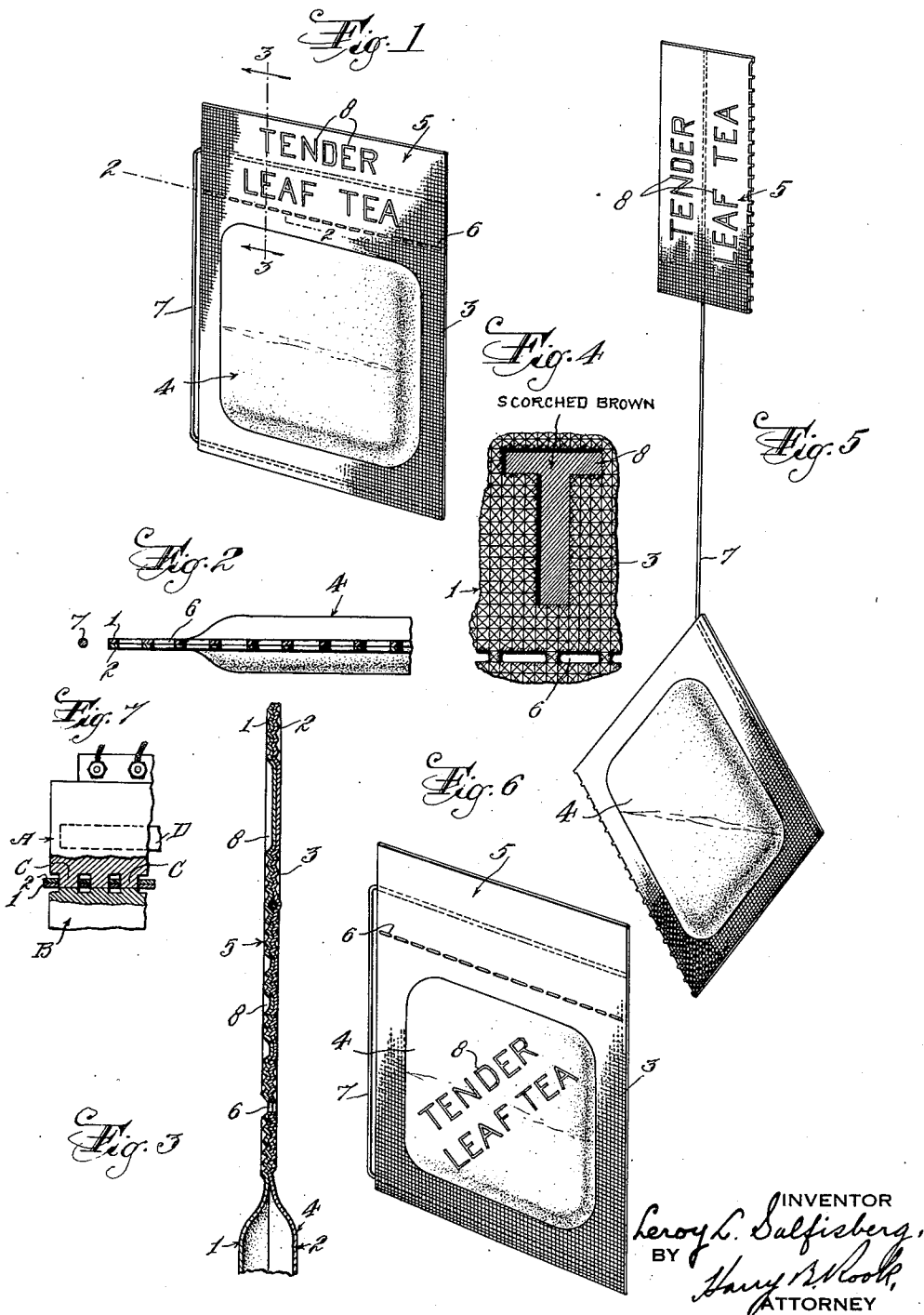
Oct. 13, 1942.

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2,298,420

MARKED AND SCORED PACKAGE

Filed Nov. 28, 1940



UNITED STATES PATENT OFFICE

2,298,420

MARKED AND SCORED PACKAGE

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Application November 28, 1940, Serial No. 367,500

1 Claim. (Cl. 99—77.1)

This invention relates in general to packages or articles that bear markings or inscriptions such as trade-marks, the name of a product or article, or scoring or lines of perforations such as are commonly provided to facilitate tearing off or severing portions of a package or an article.

More particularly the invention is directed to tea bags or similar packages or articles which in use are immersed in liquid for infusion purposes; and especially the invention contemplates a tea bag formed of heat and water resistant parchment paper that has a tag initially formed integrally with the bag but separable therefrom along a scored line or a line of perforations.

Heretofore it has been the general practice to apply inscriptions to such bags or their tags by printing with ink, and the scored line or line of perforations has been formed by dies with or without ink. Ink is objectionable in many instances especially on tea bags, because the ink may contaminate the water or other liquid in which the package or tea bag is immersed, and this possibility is repulsive to the user.

Also, where a line of perforations or a scored line is formed by stamping or cutting dies, small fragments of the paper or other material of which the package or bag is formed are left hanging from the rough edges of the scoring or perforation and when the package is immersed in a liquid such fragments become detached from the package and contaminate the liquid.

However, it is highly desirable that easily visible inscriptions or markings, and also visible scored lines or lines of perforations, be embodied in packages of the general character described.

Therefore, prime objects of my invention are to provide a package or article having easily visible or colored indicia such as markings, inscriptions, scored lines or lines of perforations devoid of ink or other extraneous coloring matter and also devoid of loose fragments or particles of the material of which the package or article is formed, and to provide a novel and improved method of forming such scored lines or lines of perforations in a package or article.

Other objects, advantages and results of the invention will appear from the following description in conjunction with the accompanying drawing in which

Figure 1 is a perspective view of a tea bag embodying my invention.

Figure 2 is a fragmentary horizontal sectional view, on an enlarged scale, taken on the line 2—2 of Figure 1.

Figure 3 is a fragmentary transverse vertical

sectional view on an enlarged scale, taken on the line 3—3 of Figure 1.

Figure 4 is a greatly enlarged fragmentary plan view of a portion of the tea bag, illustrating in detail one of the markings and a portion of a line of perforations, the diagonal lining indicating brown color.

Figure 5 is a view similar to Figure 1 showing the tag of the tea bag separated from the container or commodity receiving portion.

Figure 6 is a view similar to Figure 1 showing a modification of the invention, and

Figure 7 is a fragmentary schematic side elevation of one form of device for making the markings or line of perforations, portions being broken away and shown in section for clearness of illustration.

For the purpose of illustrating the principles of the invention, I have shown the invention embodied in a generally known type of tea bag that is composed of two sheets 1 and 2 of soft, fibrous, tough, water-resistant material, for example parchment paper, said sheets being secured together at their margins adhesively and also preferably by interdigitations as indicated at 3, to form a container or commodity receiving portion 4. One of the marginal portions serves as a tag, indicated at 5, and this tag is separable from the container portion 4 along a scored line or line of perforations 6. The tag 5 and the container portion 4 may be connected by a string or the like 7 which has its ends secured between the sheets 1 and 2 in the marginal portions of the structure so that when the tag is separated from the container portion as shown in Figure 5, the tag and string serve as a handle by which the container portion may be immersed in a cup or pot of hot water.

It is desirable, if not necessary, that the tea bag be identified as by a trade-mark or the name of the tea, and frequently other markings are desirable on the tag or container portion of the tea bag. For illustration, I have shown the markings as consisting of a plurality of letters 8 that comprise the words "Tender leaf tea." It is highly desirable, if not necessary, that these markings be clearly visible, for example by contrast of color between the markings and the paper or other material of which the bag is formed, and it is also desirable that the line of perforations 6 or scored line be also visible by such contrasting color between the edges of the perforations or scored line and the material of which the bag is formed. Ink or other extraneous coloring matter is objectionable because the tea bag

must be immersed in water for the making of tea, and sometimes inadvertently both the tea bag and the tag are dropped into a cup of water; and in such cases the ink or coloring matter may be dissolved from the bag into the water so as to contaminate the water.

Also, it is important that the line of perforations or scored line be free from pendent or loosely attached small fragments of the paper or other material of which the bag is formed, because such fragments become detached from the bag when the latter is immersed in liquid, so as to contaminate the liquid. According to present practice such perforations or scored lines are formed by dies, and due to the imperfection of the dies or the soft, fibrous and tough nature of the paper, or both, small fragments of paper are left hanging from the edges of the perforations or scored lines.

In accordance with my invention, the markings, inscriptions, indicia scored lines or lines of perforations are formed of a color in contrast to the color of the material in which the bag is formed, without ink or other extraneous coloring matter, and the scored lines or lines of perforations are devoid of loose fragments or particles of material of which the bag is formed.

In carrying out my invention, the markings are formed by subjecting the material of which the bag is formed to pressure in zones of predetermined shape and size corresponding to the desired markings, and simultaneously heat is applied to said zones at a temperature that will scorch or slightly burn the paper or other material of which the bag is formed in said zones. The pressure embosses the markings into the bag and the heat facilitates the embossing operation and at the same time discolors the material of which the bag is formed so that the markings are of a color contrasting with that of said material. For example, where the material is white, the markings will be brown as illustrated in Figure 4.

The scored lines or lines of perforations are formed in a similar manner, the material of which the bag is formed being subjected to pressure at a plurality of spaced aligned points, simultaneously with the application of heat at said points at a temperature to disintegrate or burn and remove the material at said points. This operation causes a clean removal of material from the edges of the perforations so that no pendent fragments of material are left at the edges of the perforations, and at the same time the material at the edges of the perforations is scorched to a color in contrast to that of the paper or other material of which the bag is formed as shown in Figure 4. If desired, the pressing and

heating operation may be stopped short of actual perforation of the paper so as to form depressions instead of perforations.

Any suitable means may be utilized for applying heat and pressure to the bag for forming the markings and the scored lines or perforations. For illustrative purposes, I have shown in Figure 7 a pair of dies A and B to receive portions of the bag between them, one of said dies having projections C of a shape and size corresponding to the markings, scored lines or perforations. The die A may be heated in any desired manner, as by an electrical heater D carried by the die. The two dies may be actuated toward and from each other in any suitable manner to exert pressure on the material of the bag between them. In operation, the portion of the bag to be marked, scored or perforated, is placed between the dies, and the die A is heated and pressure is applied to the material of the bag by the projections C against the die B, whereby the line of perforations is formed and the material between and at the edges of the perforations is scorched and thereby embrittled.

If desired, the markings may be applied to the container portion 4 by marking one or both of the sheets 1 and 2 before they are secured together to form the bag. It will be understood that the markings may be applied to any desired portion of the bag and upon one or both sides thereof.

While the invention has been illustrated and described in conjunction with a tea bag, it will be understood that other articles or packages formed of other material than parchment paper, may be marked and perforated in accordance with the invention without departing from the spirit or scope of the invention.

Having thus described my invention, what I claim is:

40 An infusion package comprising layers of tough, porous, fibrous material that is capable of being burned, said layers being sealed together at their margins into flanges and forming a container portion for an infusible substance and a separate tag portion on the flange at one margin, there being a line of closely spaced perforations burned through said layers of said flange between said container portion and said tag portion, and the material between said perforations being scorched and embrittled, whereby said layers are weakened along said line of perforations to facilitate separation of said tag portion and the edges of said perforations are of a color contrasting with the color of said material so as to be easily visible and are devoid of pendant fragments of material which might contaminate the infusion liquid.

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