

July 10, 1945.

O. E. SEIFERTH ET AL

2,379,935

PACKAGING METHOD

Filed Oct. 8, 1941

Fig. 1

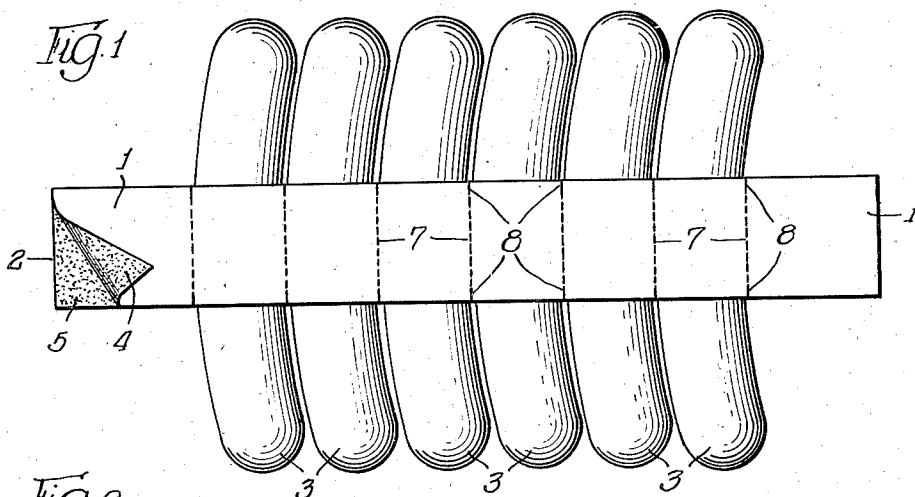


Fig. 2

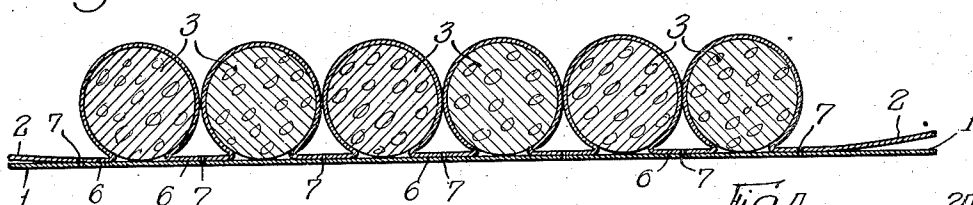


Fig. 4

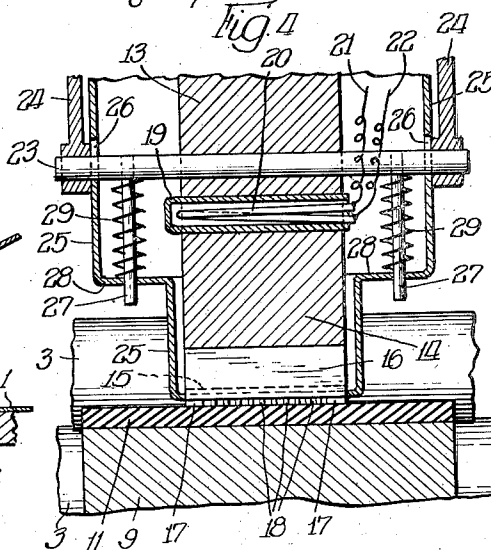
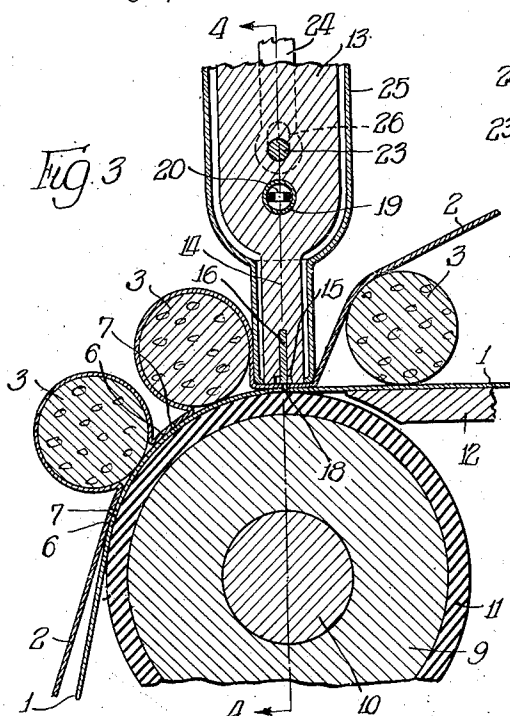


Fig. 3



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UNITED STATES PATENT OFFICE

2,379,935

PACKAGING METHOD

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Application October 8, 1941, Serial No. 414,039

8 Claims. (Cl. 93—2)

This invention relates to a method of producing a package in which a number of articles are associated together and in which each article is individually bound or enclosed in a portion of the total wrapping, so that when torn apart, each individual article retains an identifying wrapping or band, and of course retains whatever printed matter or label that may be on such bands. It has for one object to provide a method for producing the package shown. Other objects will appear from time to time throughout the specification and claims.

The invention is illustrated more or less diagrammatically in the accompanying drawing, wherein:

Figure 1 is a bottom plan view of a package produced by the method of the present application.

Figure 2 is a longitudinal cross-section on an enlarged scale.

Figure 3 is a transverse vertical section, illustrating the method of the operation and the machine which carries it out.

Figure 4 is a transverse vertical section taken at line 4—4 of Figure 3.

Like parts are designated by like characters throughout the specification and drawing.

The particular package formed by this invention comprises a lower band 1 and an upper band 2. The upper band, as shown particularly in Figures 2 and 3, is looped about the articles 3; in this case sausages are shown, although the method is not limited to the packing or packaging of sausages. The bands 1 and 2 may be provided, on their contacting surfaces, with adhesive 4 and 5, respectively; as shown, this adhesive extends over the entire area of the contacting faces, but it may be applied along limited areas where the seals or bonds are to be formed. The adhesive may be of the heat responsive type, in which a seal or bond is made when heat is applied, or it may be of other types. As shown particularly in Figures 2 and 3 the bands 1 and 2 are secured, sealed, or bonded together along an area 6, and a row of perforations 7 is formed in this area, and extending transversely of the bands. Each row of perforations 7 may be provided with a wider or larger perforation 8 at its end, and this perforation preferably extends across the margin or edge of the composite band formed of the members 1 and 2. Thus this larger or wider perforation 8 facilitates tearing and guides the tear at the start.

The mechanism for carrying out the method is illustrated diagrammatically in Figures 3 and 4,

and as they are shown, comprises a roller 9 mounted on a shaft 10 and having an external layer 11 which is formed preferably of rubber or some other relatively yielding material. A work platform or surface member 12 is positioned adjacent the roller. The sealing and perforating means comprises a body portion 13 which may be reduced in width as at 14, and this reduced portion may be cut away centrally, on its lower face as at 15, to receive a notched perforating blade 16, which has at its ends relatively wide blade portions 17, and intermediate these blades has narrower perforating teeth 18. Positioned in member 13, which extends into or through the body 13, is a heating element 20 to which electric current is supplied by conductors 21, 22. A supporting shaft or rod 23 extends through a suitable perforation in the body 13 and is secured to members 24, which may be fastened to a handle or to any other means for moving the heating and perforating assembly up and down. An enclosing housing 25 is positioned about the body 13 and the portion 14. As shown, this housing is slotted as at 26 and positioned about the rod 23, the slot being longer than the diameter of the rod 23. Extending downwardly from the rod 23 are guide members 27 which extend through suitable perforations in shoulders 28 of the housing 25. Springs 29 are positioned about the guides 27 and bear at one end upon the rod 23 and at the other end upon the inner faces of the shoulders 28. These springs tend to hold the housing downwardly and when free to do so move it so that its lower end or edge is below the lower end or edge of the member 14, and thus it masks that member and masks the perforating teeth or blades 17 and 18. But when it encounters sufficient resistance, the housing is forced upwardly against the resistance of the springs 29 and exposes the teeth 17 and 18, and also at the same time exposes the lower end of the portion 14.

The operation of the method or process is as follows:

The bands 1 and 2 are fed together along the work surface member 12, and over and around the roller 9 in contact with the compressible surface 11. At the start of an operation, a seal such as that shown at the left of the package is made. To do this the sealing and perforating assembly is moved downwardly. As above mentioned in the initial steps of the downward movement the housing 25 has been forced downwardly by the springs 29 and covers the sealing end and the perforating members. Thus the upper band is forced to the lower band without any danger of

tearing or premature perforating or premature sealing. When the housing has carried the upper band downward and has itself contacted the compressible layer 11, its movement is stopped and further downward movement of the members 13, 14 carrying the perforating parts continues, and these parts move out of or downwardly from the housing. Thus the end portion 14, which is heated by the heating elements 20, can effect a seal of the heat sealing adhesive 4, 5, and the teeth or blades 17 and 18 now being free to do so, cut into and perforate the two tapes 1 and 2, and thus by this step of the method, a sealing and perforating operation is carried out. The sealing and perforating assembly is then raised and a sausage or other article is put in place, and the bands 1 and 2 with the sausage 3 are moved to a suitable position, and the heating and perforating assembly is again lowered to make a second seal 6, and this operation is repeated until a suitable number of articles has been joined in a package, a sealed and perforated portion having been formed between each article so that the articles themselves are retained properly within the package and are provided with perforations so that they may be separated when desired. The construction of the banding is such that when an individual article has been removed, it retains a complete band about it, and this band may be used for identification, advertising, or any desired purpose.

The process of this invention can be carried out as a means for fastening articles together upon a variety of materials. The bands 1 and 2 need not both be of the same width, and they may be of different degrees of stiffness—for example, the band 2 may be a card and relatively rigid, while band 1 may be relatively flexible. The invention is equally applicable where material of that sort is used. In this connection the word "band" is to be understood as including members of varying widths, and of varying degrees of rigidity, and it is to be taken as including a card of at least as great width as the length of the articles which are fastened upon it. While we have shown a mechanism capable of sealing two strips between each of the articles shown, the method is equally applicable where only a single strip is shown and it is applicable where fasteners are used instead of adhesive. It may also be used where perforations are not to be made, or where notches are to be formed without other perforations. The notches, if formed, will be at the edges of the strips to facilitate the initiation of tearing in the proper direction and at the proper point. The method may, therefore, be used to effect a single strip for attaching or sealing, or a double strip, with or without perforations or notches in either case.

It will be realized that whereas we have described and shown a practical and operative embodiment of our invention and the method for carrying it out, nevertheless many changes may be made in the size, shape, number and disposition of parts and in the details and steps of such method without departing from the spirit of our invention. We therefore wish our description and drawing to be taken as in a broad sense illustrative or diagrammatic, rather than as limiting us to our precise showing.

We claim:

1. The method of securing articles such as sausages and the like in a unitary package including a supporting strip with abutting articles tangentially secured thereto, which includes feed-

ing a strip toward a securing zone, securing a second strip thereto and moving the two strips forwardly in unison, inserting an article to be secured, between the two strips, adjacent the area at which the strips are already joined, moving the unjoined parts of the strip, and the article, over a convex support, sealing the strips together about the article while the strips and article overlie said convex support, moving the joined portions of said strips, with the article secured between, across said convex support, and thereby providing space between the article just secured and the article next to be secured, for performing the securing operation and progressively adding and securing additional articles, in the same manner.

2. The method of securing articles such as sausages and the like in a unitary package including a supporting strip with abutting articles tangentially secured thereto, which includes feeding a strip toward a securing zone, securing a second strip thereto and moving the two strips forwardly in unison, inserting an article to be secured, between the two strips, adjacent the area at which the strips are already joined, moving the unjoined parts of the strip, and the article, over a convex support, sealing the strips together about the article while the strips and article overlie said convex support, moving the joined portions of said strips, with the article secured between, across said convex support, and thereby providing space between the article just secured and the article next to be secured, for performing the securing operation and progressively adding and securing additional articles, in the same manner and transversely weakening the strips, between each pair of adjacent articles.

3. The method of securing articles such as sausages and the like in a unitary package including a supporting strip with abutting articles tangentially secured thereto, which includes feeding a strip toward a securing zone, securing a second strip thereto and moving the two strips forwardly in unison, inserting an article to be secured, between the two strips, adjacent the area at which the strips are already joined, moving the unjoined parts of the strip, and the article, over a convex support, sealing the strips together about the article while the strips and article overlie said convex support, moving the joined portions of said strips, with the article secured between, across said convex support, and thereby providing space between the article just secured and the article next to be secured, for performing the securing operation and progressively adding and securing additional articles, in the same manner and transversely weakening the strips, between each pair of adjacent articles at the time the two strips are secured together.

4. The method of securing articles such as sausages and the like in a unitary package including a supporting strip with abutting articles tangentially secured thereto, which includes feeding a strip toward a securing zone, securing a second strip thereto and moving the two strips forwardly in unison, inserting an article to be secured, between the two strips, adjacent the area at which the strips are already joined, moving the unjoined parts of the strip, and the article, over a convex support, sealing the strips together about the article while the strips and article overlie said convex support, moving the joined portions of said strips, with the article secured between, across said convex support, and thereby providing space between the article just

secured and the article next to be secured, for performing the securing operation and progressively adding and securing additional articles, in the same manner while advancing the strips and articles step by step.

5. The method of continuously banding together a plurality of disconnected link-type sausages in a row in sidewise relation to each other, by the employment of two narrow strips which band each of the sausages individually and also connect them together, which consists in connecting the strips together transversely at one point, advancing one of the sausages relative to the strips into a position between and in engagement with the latter, with the sausage positioned cross-wise of the strips, and with one of the strips flexed backwardly relative to the other at the point of connection between the strips in conformity with the convex side of the sausage in engagement therewith, drawing said backwardly flexed strip snugly about the sausage, tucking it down behind the sausage into engagement with the other strip, connecting the strips together again at the point of engagement, to complete the banding of the first sausage, advancing the strips with the sausage snugly banded therebetween, and repeating the same operations on each of the sausages in turn.

6. The method of continuously and progressively banding a plurality of disconnected link-type sausages in an exposed row in sidewise relation to each other by the employment of two relatively narrow strips which band each of the sausages individually at their centers and also connect them together at their centers in a series; which method consists in securing the two strips together in a transversely extending zone, moving one of the sausages to a centered position between the strips, with the sausage disposed cross-wise of the strips, and with one of the strips flexed backwardly relative to the other at the end of said securing zone in substantial conformity with the convex surface of the sausage, drawing said backwardly flexed strip snugly around the surface of the sausage, tucking said strip down behind the sausage into engagement with the other strip at a point closely adjacent the sausage, securing the two strips together again in a second transversely extending zone beginning at said point of engagement, whereby to complete the banding of the first sausage, and moving another sausage into position and repeating the same operations on that sausage and on each of the other sausages in turn.

7. The method of continuously and progres-

sively banding a plurality of disconnected link-type sausages in an exposed row in sidewise relation to each other by the employment of two relatively narrow strips which band each of the sausages individually at their centers and also connect them together at their centers in a series; which method consists in securing the two strips together in a transversely extending zone, moving one of the sausages to a centered position between the strips, with the sausage disposed cross-wise of the strips, and with one of the strips flexed backwardly relative to the other at the end of said securing zone in substantial conformity with the convex surface of the sausage, drawing said backwardly flexed strip snugly around the surface of the sausage, tucking said strip down behind the sausage into engagement with the other strip at a point closely adjacent the sausage, securing the two strips together again in a second transversely extending zone beginning at said point of engagement, whereby to complete the banding of the first sausage, perforating the strip transversely intermediate the beginning and end of said second securing zone, whereby to facilitate cross-wise tearing of the strips without disruption of the banding, and moving another sausage into position and repeating the same operations on that sausage and on each of the other sausages in turn.

8. The method of continuously banding together a plurality of articles having generally rounded sides in a row in sidewise relation to each other, by the employment of two narrow strips which band each of the articles individually and also connect them together, which consists in connecting the strips together transversely at one point, advancing one of the articles relative to the strips into a position between and in engagement with the latter, with the article positioned cross-wise of the strips, and with one of the strips flexed backwardly relative to the other at the point of connection between the strips in conformity with the convex side of the article in engagement therewith, drawing said backwardly flexed strip snugly about the article, tucking it down behind the article into engagement with the other strip, connecting the strips together again at the point of engagement, to complete the banding of the first article, advancing the strips with the article snugly banded therebetween, and repeating the same operations on each of the articles in turn.

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