March 28, 1939. J. W. CHALMERS 2,152,398

CONTAINER AND PACKAGE

Filed June 17, 1938 2 Sheets-Sheet 1

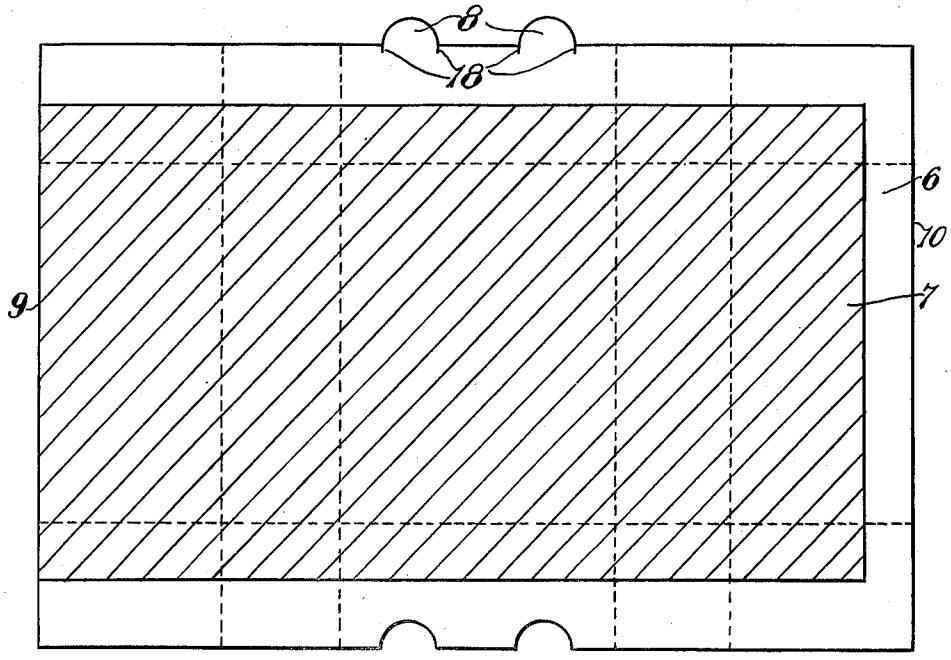



Fig. 1.

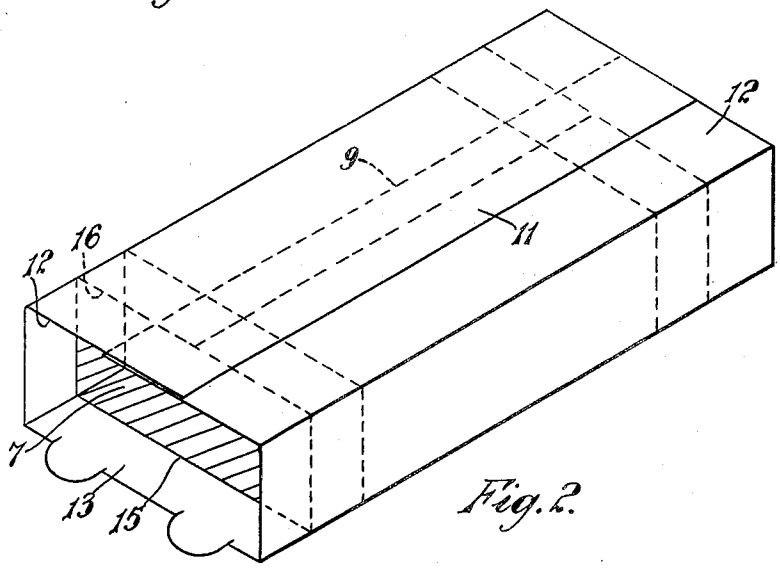



Fig. 2.

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Fig. 4.

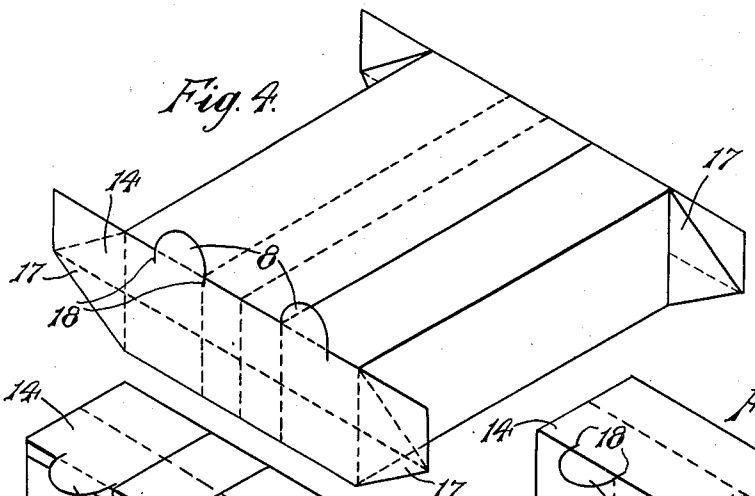



Fig. 5.

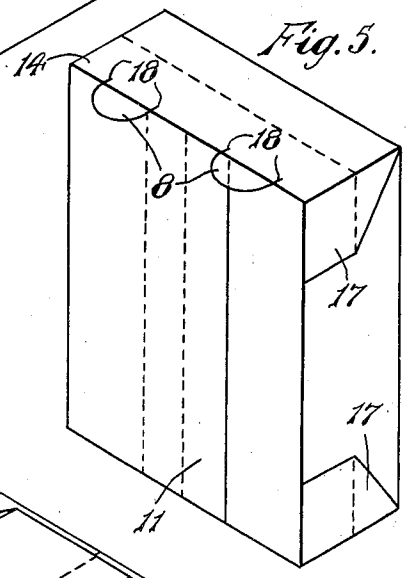



Fig. 6.

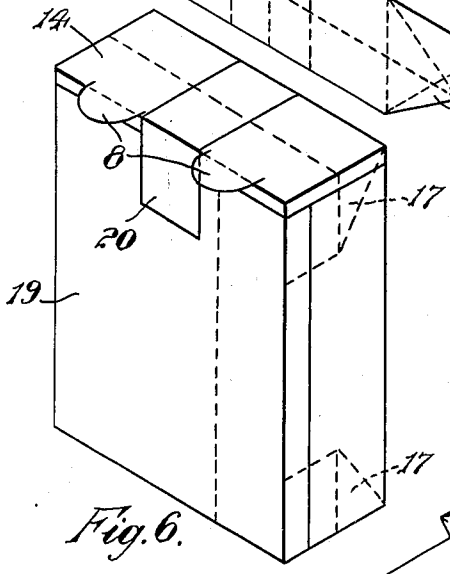
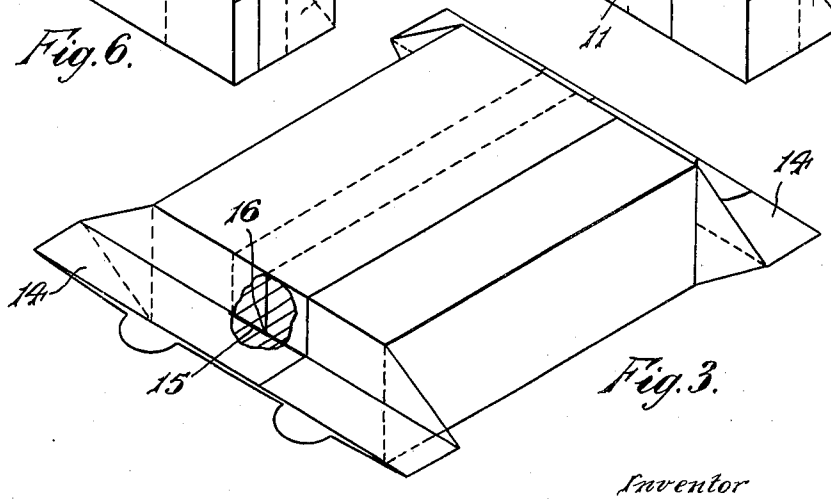



Fig. 3.




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Patented Mar. 28, 1939 2,152,398

# UNITED STATES PATENT OFFICE

2,152,398

## CONTAINER AND PACKAGE

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Application June 17, 1938, Serial No. 214,339
In Great Britain June 17, 1937

7 Claims. (Cl. 229—87)

This invention is for improvements in or relating to containers and packages.

It is known to construct some forms of packages for cigarettes from wrappers comprising a metal foil, and to provide the packages with an inner liner of non-metallic material such as paper, which liner is arranged to engage the cigarettes and so prevent the cigarettes from being damaged by contact with the metal foil wrapper. The invention is concerned with improvements to containers and packages of the kind in which both a metal foil wrapper and a liner are employed in constructing the container or the package.

Where herein and in the appended claims the term "metal foil wrapper" is used it is deemed to mean a foldable, flexible wrapper and is to include wrappers which comprise wholly metallic foil wrappers and flexible wrappers which are coated or impregnated with metal. The term "paper" or "non-metal wrapper" is to include wrappers such as are formed from material comprising a cellulose derivative or other flexible wrapping material which will have no injurious effect upon cigarettes which are placed in engagement therewith.

When herein and in the appended claims the term "cement" is used it shall be deemed to include thermoplastic cements which are adapted to be activated by a solvent or heat or by heat alone, or by heat and pressure, such for example as a thermoplastic lacquer, which can be used when cementing folds formed in wrapping material comprising a metallic foil and the term is to include any other adhesive which may be used for the purpose of securing engaging metal to metal portions of the wrapping and is also to include the fusion of adjoining metal foil surfaces, e. g., by heat.

The term "article" when used in the appended claims is to include a batch of articles such for example as a batch of cigarettes.

According to the invention there is provided a container formed from an open ended tubular metal foil wrapper of parallelogrammic cross-section, and an open ended tubular non-metal liner disposed within the foil wrapper, the length of the tubular liner being less than the length of the tubular foil wrapper, which latter is formed by overlapping and cementing together two opposed edges of a metal foil wrapper blank, an end of the tubular foil wrapper being closed by a closure seam formed by pressing together, flattening and cementing two opposed sides of an end portion of the tubular foil wrapper, said flattened and cemented portions being formed from a part of the tubular foil wrapper which extends beyond an end of the tubular liner, that end portion of the tubular liner which is adjacent the closure seam being folded to prevent any substantial part of an article placed in the container from engaging the closed end of the metal foil wrapper.

That end portion of the tubular liner which is adjacent the closure seam may be folded so that opposed portions of the liner are moved towards each other and into a plane substantially normal to those sides of the tubular liner of which the folded portions form a part, and the edges of the folded portions are arranged to abut.

Further, according to the invention there is provided a package formed from an open ended tubular metal foil wrapper of parallelogrammic cross-section and an open-ended tubular non-metal liner disposed within the foil wrapper, the length of the tubular liner being less than the length of the tubular foil wrapper which latter is formed by overlapping and cementing together two opposed edges of a metal foil wrapper blank, each end of the tubular foil wrapper being closed by a closure seam formed by pressing together, flattening and cementing two opposed sides of each open end of the tubular foil wrapper, said flattened and cemented portions each being formed from a part of the tubular foil wrapper which extends beyond an end of the tubular liner, those end portions of the tubular liner which are adjacent the closure seams being folded to prevent any substantial part of an article in the package from engaging the closed ends of the metal foil wrapper.

A projection may extend beyond an exposed edge of the tubular metal foil wrapper to provide means which may be gripped to facilitate the opening of the package. The projection may extend from an edge forming a part of a closure seam and the closure seam may be folded through 90° so as to lie against an end face of the package with the projection extending beyond a face of the package adjoining said end face and extending from that side of the closure seam which is opposite the side thereof which lies against the end face of the package. The projection may be located between an edge and the centre of an end face of the package for the purpose of facilitating the opening of a corner portion of the package. If desired, that edge of the tubular metal foil wrapper from which the projection extends may be weakened, e. g., by

slits at or adjacent to positions where the wrapper and projection are contiguous.

The invention will be described by way of example with reference to the accompanying drawings, in which:—

Figure 1 shows a wrapper blank comprising a metal foil wrapper with a paper wrapper of smaller dimensions laid thereon.

Figures 2 to 4 are perspective views showing various stages during the folding of the wrappers to form a package.

Figure 5 is a perspective view of a completed package.

Figure 6 is a perspective view showing the package according to Figure 5 inserted into an open-ended cup or pouch.

Like reference numerals refer to like parts throughout the specification and drawings.

Referring to the drawings, the wrapper blank 6 comprises a metal foil wrapper blank and the wrapper blank 7 comprises a paper wrapper. As will be seen from the drawings, the wrapper blank 6 is provided along one of its longitudinal edges with two projections 8, the purpose of which will be described below.

When the wrapper blanks 6 and 7 are to be folded simultaneously about an article the wrapper blanks are arranged one on the other as shown in Figure 1, the wrapper blank 7 being of smaller dimensions than the wrapper blank 6. An article of parallelogrammic cross-section is placed on the wrapper blank 7, and the wrapper blanks 6 and 7 are folded about the article so that the opposed edge portions 9 and 10 of the wrapper blank 6 are overlapped to form a seam 11, see Figure 2. By folding the wrapper blanks in the manner just described a composite tubular wrapper is formed and the seam 11 extends longitudinally of the composite tubular wrapper. The composite tubular wrapper comprises a tubular foil wrapper formed by the blank 6 and a tubular liner formed by the blank 7. The edge portion 9 is disposed under the edge portion 10 so that the seam may be secured by a metal to metal joint. By folding the wrapper blanks in this manner the wrapper blank 7 extends completely around the article and the article is not engaged by the metal foil blank 6.

The end portions of the composite tubular wrapper extend beyond opposite ends of the article contained in the composite tubular wrapper (see Figure 2) and the tubular liner is of less length than the length of the tubular foil wrapper. The open ends of the tubular foil wrapper are closed by pressing together the opposed portions 12 and 13 at each end of the tubular foil wrapper and flattening and cementing the portions so pressed together so as to form closure seams 14. The flattened and cemented portions comprising the closure seam 14 are formed from those portions of the tubular foil wrapper which extend beyond the ends of the tubular liner. By this means the closure seams comprise metal to metal joints. The closure seams 14 are moved towards the opposite end faces of the article contained within the closed composite tubular wrapper and this movement of the closure seams causes those portions of the tubular liner which are opposed to each other and which extend beyond the opposite end faces of the article to be folded towards each other and against the end faces of the articles. The opposed portions of the tubular liner which are folded towards each other are, as can be seen from Figure 3, moved into a plane substantially normal to those sides of the liner of which the folded portions form a part and the edges 15 and 16 of the tubular liner abut as can be seen in Figure 3. By this means the paper liner prevents any substantial part of the article contained in the package from being engaged by the metal foil wrapper. The closing of the package may be effected by means of apparatus such as that described in co-pending British patent application No. 13,093/37.

The partly formed package shown in Figure 3 is, as will be seen from that figure, provided with closure seams which project from the end faces of the package and which are disposed in a plane substantially normal to the end faces of the package. The projecting closure seams are next folded through 90° so that they are folded against the end faces of the package (see Figure 4) and the extending tab portions 17 which are formed by pressing together the opposed portions 12 and 13 of the tubular foil wrapper are folded into engagement with the sides of the package so that the finished package is as shown in Figure 5. If desired, the closure seams 14 and the tabs 17 may be secured to those side faces of the package into engagement with which they are folded.

As will be seen from Figures 4 and 5 of the drawings, the projections 8 above referred to extend from an exposed edge of the tubular foil wrapper and provide means whereby a part of the metal foil wrapper may be gripped to facilitate the opening of the package. By arranging the projections 8 as shown in Figures 4 and 5 the projections are each located between an edge and the centre of an end face of the package, and this arrangement facilitates the opening of only a corner portion of the package. The projections 8 extend from one of the closure seams, and when the closure seam is folded against an end face of the package the free edge of the closure seam is disposed adjacent an edge of the end face of the package so that the projections extend beyond the end face of the package and beyond a face of the package which adjoins the said end face. As can be seen from Figures 4 and 5, the projections 8 are provided on that side of the closure seam which is opposite the side of the closure seam which lies against the end face of the package so that when a projection 8 is gripped for the purpose of opening the package only a single thickness of the metal foil wrapper has to be torn, thus reducing the force necessary to open the package and also reducing a tendency of the tab to be torn from the package before it has served its purpose in breaking the closure seam and effecting the opening of the package to permit access to the package.

If desired, in order further to facilitate the opening of the package an edge of the wrapper 6 may be weakened at or adjacent to the position at which the wrapper blank and the projections 8 are contiguous, and the weakening of the wrapper blank may be effected by short slits 18 disposed one on each side of a projection 8 (see Figures 1, 4 and 5). In the completed package the slits are arranged to extend in the direction in which the wrapper is to be torn (see Figures 4 and 5).

It will be appreciated that although the package has been described as being formed from a composite blank as shown in Figure 1, in which the wrapper 7 is placed upon the wrapper 6 and the two wrappers are folded simultaneously into

tubular form about an article, the package may if desired be formed by first folding the wrapper blank 7 into tubular form about an article and thereafter folding the wrapper blank 6 independently about the tubular liner formed by the wrapper blank 7. Further, if desired, the end portions of the tubular liner may be folded into engagement with the end faces of the article before the open ends of the tubular foil wrapper are closed.

Further, if desired, the wrapper blanks 6 and 7 need not be folded about the article which is to be contained in the finished package, but may be formed into a container open at one end by folding the wrapper blanks about a mandrel to form a composite tubular wrapper having an end portion which projects beyond an end face of the mandrel. That end portion of the composite tubular wrapper which projects beyond the end face of the mandrel may be closed as above described with reference to Figures 3–5 so as to form a container which is open at one end. The container after being removed from the mandrel may have an article such as a batch of cigarettes inserted thereinto, and the open end of the container may thereafter be closed as above described with reference to Figures 3–5 in order to complete the formation of the package.

If desired, the completed package shown in Figure 5 may be inserted into an open ended cup or pouch 19 (see Figure 6) and the open end of the cup partly sealed, e. g., by a band or a revenue stamp 20 so as to provide a package having a well known general appearance.

It will be appreciated that if desired instead of the package shown in Figure 5 being inserted into the cup or pouch 19 the latter may be formed in situ about the package.

As can be seen from Figure 6 the length of the cup or pouch 19, considered from the open to the closed end thereof, is slightly less than the length of the package which is contained in the cup or pouch so that the latter does not interfere with the projections 8 which extend beyond the end face of the package.

What I claim as my invention and desire to secure by Letters Patent is:

1. A container comprising a tubular metal foil wrapper having overlapping portions cemented together, a non-metal tubular liner disposed within the tubular metal foil wrapper, said tubular liner being of a length which is less than the length of the metal foil wrapper, a closure seam for the metal foil wrapper, the closure seam being formed by pressing together, flattening and cementing an end portion of the tubular metal foil wrapper which extends beyond an end of the liner, and a liner closure for that end of the liner which is adjacent the closure seam, said liner closure being formed by opposed portions of the liner being moved towards each other and into a plane substantially normal to the sides of the tubular liner so that the edges of said portions are arranged in substantially abutting relationship.

2. A package comprising a tubular metal foil wrapper of rectangular cross-section having overlapping portions cemented together, a non-metal tubular liner disposed within the tubular metal foil wrapper, said tubular liner being of a length which is less than the length of the metal foil wrapper, a closure seam for each end of the metal foil wrapper, the closure seams being formed by pressing together, flattening and cementing two opposed sides of each open end of the tubular metal foil wrapper which extend beyond the ends of the tubular liner and a liner closure for each end of the liner, said liner closure being formed by folding those end portions of the liner which are adjacent the closure seams so that the edges of the folded end portions abut and lie between an article in the package and the metal foil.

3. A package comprising a tubular metal foil wrapper of rectangular cross-section having overlapping portions cemented together, a non-metal tubular liner disposed within the tubular metal foil wrapper, said tubular liner being of a length which is less than the length of the metal foil wrapper, a closure seam for each end of the metal foil wrapper, the closure seams being formed by pressing together, flattening and cementing two opposed sides of each open end of the tubular metal foil wrapper which extend beyond the ends of the tubular liner, a liner closure for each end of the liner, said liner closure being formed by folding those end portions of the liner which are adjacent the closure seams so that the edges of the folded end portions abut and lie between an article in the package and the metal foil and a projection extending beyond an exposed edge of the metal foil wrapper to provide means which can be gripped to facilitate the opening of the package.

4. A package comprising a tubular metal foil wrapper of rectangular cross-section having overlapping portions cemented together, a non-metal tubular liner disposed within the tubular metal foil wrapper, said tubular liner being of a length which is less than the length of the metal foil wrapper, a closure seam for each end of the metal foil wrapper, the closure seams being formed by pressing together, flattening and cementing two opposed sides of each open end of the tubular metal foil wrapper which extend beyond the ends of the tubular liner, a liner closure for each end of the liner, said liner closure being formed by folding those end portions of the liner which are adjacent the closure seams so that the edges of the folded end portions abut and lie between an article in the package and the metal foil, and a projection extending from an edge of the metal foil wrapper, which edge forms a part of a closure seam which is folded through 90° so as to lie against an end face of the package, the projection extending from that side of the closure seam which is opposite the side disposed against the end face of the package and extending beyond a face of the package adjoining said end face thereof.

5. A package comprising a tubular metal foil wrapper of rectangular cross-section having overlapping portions cemented together, a non-metal tubular liner disposed within the tubular metal foil wrapper, said tubular liner being of a length which is less than the length of the metal foil wrapper, a closure seam for each end of the metal foil wrapper, the closure seams being formed by pressing together, flattening and cementing two opposed sides of each open end of the tubular metal foil wrapper which extend beyond the ends of the tubular liner, a liner closure for each end of the liner, said liner closure being formed by folding those end portions of the liner which are adjacent the closure seams so that the edges of the folded end portions abut and lie between an article in the package and the metal foil, and a projection extending from an edge of the metal foil wrapper, which edge forms a part of a closure seam which is folded

through 90° so as to lie against an end face of the package, the projection being located between an edge and the centre of said end face and extending from that side of the closure seam which is opposite the side disposed against the end face of the package and extending beyond a face of the package adjoining said end face thereof.

6. A package comprising a tubular metal foil wrapper of rectangular cross-section having overlapping portions cemented together, a non-metal tubular liner disposed within the tubular metal foil wrapper, said tubular liner being of a length which is less than the length of the metal foil wrapper, a closure seam for each end of the metal foil wrapper, the closure seams being formed by pressing together, flattening and cementing two opposed sides of each open end of the tubular metal foil wrapper which extend beyond the ends of the tubular liner, a liner closure for each end of the liner, said liner closure being formed by folding those end portions of the liner which are adjacent the closure seams so that the edges of the folded end portions abut and lie between an article in the package and the metal foil, a projection extending from an edge of the metal foil wrapper, which edge forms a part of a closure seam which is folded through 90° so as to lie against an end face of the package, the projection extending from that side of the closure seam which is opposite the side disposed against the end face of the package and extending beyond a face of the package adjoining said end face thereof and slits located adjacent the positions where the metal foil wrapper and the projections are contiguous, said slits extending from the edge of the metal foil wrapper in the direction in which the package is to be opened.

7. A package comprising a tubular metal foil wrapper of rectangular cross-section having overlapping portions cemented together, a non-metal tubular liner disposed within the tubular metal foil wrapper, said tubular liner being of a length which is less than the length of the metal foil wrapper, a closure seam for each end of the metal foil wrapper, the closure seams being formed by pressing together, flattening and cementing two opposed sides of each open end of the tubular metal foil wrapper which extend beyond the ends of the tubular liner, a liner closure for each end of the liner, said liner closure being formed by folding those end portions of the liner which are adjacent the closure seams so that the edges of the folded end portions abut and lie between an article in the package and the metal foil, a projection extending from an edge of the metal foil wrapper, which edge forms a part of a closure seam which is folded through 90° so as to lie against an end face of the package, the projection being located between an edge and the centre of said end face and extending from that side of the closure seam which is opposite the side disposed against the end face of the package and extending beyond a face of the package adjoining said end face thereof, and slits located adjacent the positions where the metal foil wrapper and the projection are contiguous, said slits extending from the edge of the metal foil wrapper in the direction in which the package is to be opened.

JOHN WALKER CHALMERS.