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J. M. MUNSON

1,899,207

METHOD OF PACKAGING ARTICLES

Filed March 10, 1930

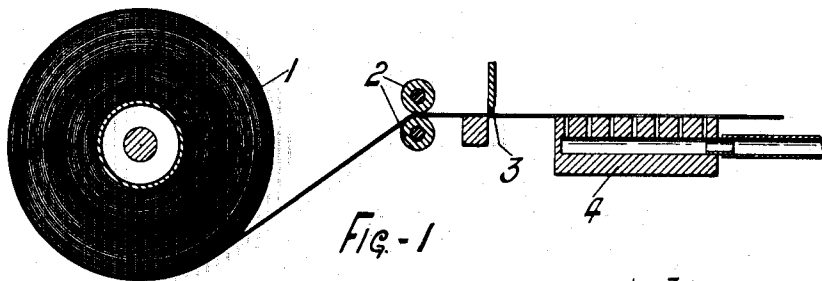


Fig. -1

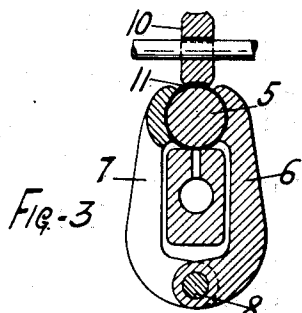


Fig.-3

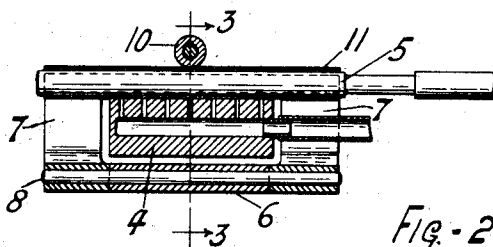


Fig.-2

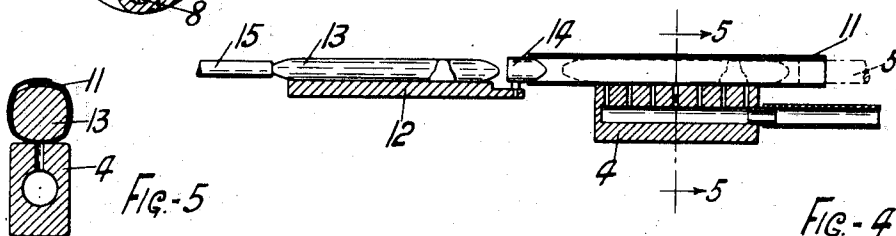


Fig.-4

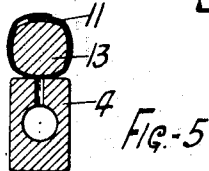


Fig.-5

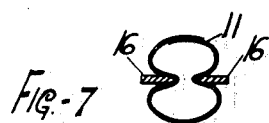


Fig.-7

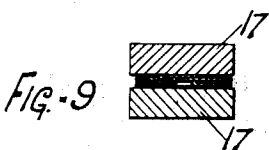


Fig.-9

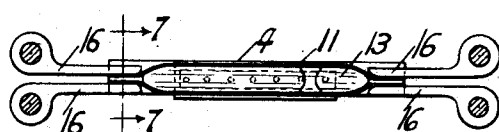


Fig.-6

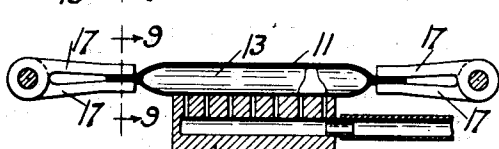


Fig.-8

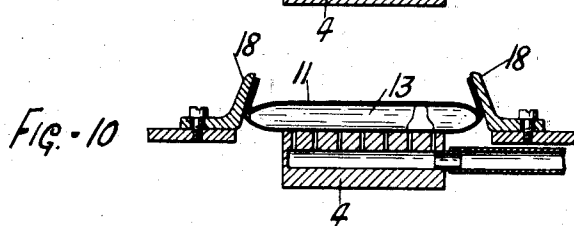


Fig.-10

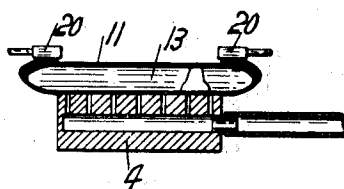


Fig.-11

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METHOD OF PACKAGING ARTICLES

Application filed March 10, 1930. Serial No. 434,546.

The present invention relates to the packaging or wrapping of articles in transparent moisture-proof containers usually of sheet cellulose material, such as known in the trade as "cellophane".

It is an object of the invention to provide a process whereby articles are rapidly and efficiently wrapped without waste of the wrapping material or breakage of the article in transparent, air-tight, moisture-proof, neat containers.

The material used is preferably of the waterproof variety of "cellophane" which is coated with a light covering of waterproofing such as paraffin which can be fused in the overlapping portions of the sheet by the application of heat and pressure to form a seal.

While the invention is particularly illustrated and will be described for the packaging of cigars, it is adapted and may be used for the packaging of a large variety of articles as will be understood.

In the drawing wherein the preferred form of the invention is illustrated;

Figure 1 is a diagrammatic view of the invention showing certain steps in the operation thereof;

Figures 2, 4, 6, 8, 10 and 11 are views similar to Figure 1 showing, in order, the various steps of the operation;

Figures 3, 5, 7 and 9 are sectional views taken on the line 3—3 of Figure 2, line 5—5 of Figure 4, line 7—7 of Figure 6 and line 9—9 of Figure 8 respectively.

The wrapping material may be supplied in any form. However, in the drawing the numeral 1 indicates a reel of material in which the material may be supplied. The material is first cut into the proper lengths as by a pair of measuring draw rollers 2 and a knife 3. A suction work head 4 is provided to hold each length of material during the wrapping operation.

As illustrated in Figures 2 and 3, a mandrel 5 is positioned over the central line of the cut length of stock. A pair of arms 6 and 7, pivoted at 8, are then moved into encircling relation to the mandrel head so that the arms 6 and 7 swinging about the pivot 8 will fold the length of material held by the suction

head about the mandrel 5 into the form of a tube indicated at 11, one of said arms operating slightly in advance of the other so as to bring the edges of the sheet into overlapping relation. The overlapping edges of the tube are sealed together by heat and pressure which may be applied in any suitable manner. In the exact form shown, a hot pressure roller 10 is adapted to run along the seam to melt or fuse the coating upon the stock and adhesively secure the edges in position.

In the next operation the swinging arms 6 and 7 are moved away from the tube 11 held on the mandrel and the suction head 4, and a bed 12 carrying a cigar 13 is brought into relation therewith, so that a guiding and tube spreading funnel 14 carried on the bed 12 will be in alignment with the open end of the tube. Means, such as a plunger 15, serve to push the cigar or other article through the guiding funnel 14 into the tube, the mandrel preferably retracting before the advance of the article or the mandrel may be withdrawn at any time after the sealing operation is completed.

As shown in Figures 6 and 7 the ends of the tube 11 are next crimped or creased by two pairs of pivoted fingers 16 so that two pairs of jaws 17 which next come into operation will crease the ends of the tube about the ends of the package as illustrated in Figures 8 and 9. If desired, the jaws 17 may be heated to form a seal for the end of the container.

Means for turning the creased tube ends back on the body portion of the tube may take the form of a pair of wipers 18 which are moved relatively to the suction head 4 to accomplish their purpose.

In the final operation the folded over tube ends are sealed to the body portion through the agency of heat sealers 20 as seen in Figure 11. The suction in the head 4 is now released and the wrapped article removed. In placing the individually wrapped articles in a box the side of the container upon which the lapped over ends are folded is preferably placed downward in the box and for this reason the identifying label or band is placed as shown in the drawing.

As many changes could be made in the

method and the construction, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative only and not in a limiting sense. Accordingly, various modifications and applications of the invention, particularly as to the articles packaged, the exact wrapping material employed and the specific apparatus used, and the order of the steps can be resorted to without departing from the spirit of the invention or the scope of the appended claims.

What is claimed is:

1. The method of packaging articles comprising measuring and cutting a continuous web material into the desired sheets, folding each of said sheets in turn to form a tube so that the edges of each sheet overlap, heat sealing the overlapping edges of said tube, holding the end of said tube open and inserting the article to be packaged therein, creasing the extending ends of said tube together to form a plicated end, pressing the plicated ends of the tube together, turning the creased ends of said tube back against the body portion, and heat sealing the ends against the body portion.

2. The method of packaging articles comprising measuring and cutting a continuous web material into the desired sheets, folding each of said sheets in turn to form a tube so that the edges of each sheet overlap, sealing the overlapping edges of said tube, holding the end of said tube open and inserting the article to be packaged therein, creasing the extending ends of said tube together to form a plicated end, pressing the plicated ends of the tube together, turning the creased ends of said tube back against the body portion, and sealing the ends against the body portion.

3. The method of packaging articles comprising measuring and cutting a continuous web material into the desired sheets, folding each of said sheets in turn to form a tube so that the edges of each sheet overlap, heat sealing the overlapping edges of said tube, inserting the article to be packaged therein, pressing the ends of the tube together, turning the ends of said tube back against the body portion, and heat sealing the ends against the body portion.

4. The method of packaging articles comprising folding lengths of wrapping material to form a tube so that the edges of each sheet overlap, heat sealing the overlapping edges of said tube, holding the end of said tube open and inserting the article to be packaged therein, pressing the ends of the tube together, turning the ends of said tube back against the body portion, and heat sealing the ends against the body portion.

5. The method of packaging articles comprising folding lengths of fusibly coated, transparent wrapping material to form a

tube so that the edges of each sheet overlap, heat sealing the overlapping edges of said tube, inserting the article to be packaged therein, creasing the extending ends of said tube together to form a plicated end, pressing the plicated ends of the tube together, turning the creased ends of said tube back against the body portion, and heat sealing the ends against the body portion.

6. The method of packaging articles comprising folding lengths of fusibly coated, transparent wrapping material to form a tube so that the edges of each sheet overlap, heat sealing the overlapping edges of said tube, inserting the article to be packaged therein, turning the ends of said tube back against the body portion, and heat sealing the ends against the body portion.

7. The method of packaging articles comprising folding lengths of fusibly coated, transparent wrapping material to form a tube so that the edges of each sheet overlap, sealing the overlapping edges of said tube, inserting the article to be packaged therein, pressing the ends of the tube together, turning the ends of said tube back against the body portion, and heat sealing the ends against the body portion.

8. The method of packaging articles comprising measuring and cutting a continuous web material into the desired sheets, folding each of said sheets in turn to form a tube so that the edges of each sheet overlap, heat sealing the overlapping edges of said tube, holding the end of said tube open and inserting the article to be packaged therein, creasing the extending ends of said tube together to form a plicated end, turning the creased ends of said tube back against the body portion, and heat sealing the ends against the body portion.

9. The method of packaging articles comprising measuring and cutting a continuous web material into the desired sheets, folding each of said sheets in turn to form a tube so that the edges of each sheet overlap, heat sealing the overlapping edges of said tube, holding the end of said tube open and inserting the article to be packaged therein, pressing the ends of the tube together, turning the ends of said tube back against the body portion, and heat sealing the ends against the body portion.

10. The process of packaging articles comprising forming a sheet of material with a fusible surface and of length greater than the article, folding the sheet to form a tubular container about a form of substantially the size of the article, so that the edges of the sheet overlap, applying heat and pressure to the overlapped edges to seal the same, withdrawing the form and inserting the article centrally therein, sealing the projecting ends of the container by applying heat and pressure.

11. The process of packaging articles comprising forming a sheet of material with a fusible surface and of length greater than the article, folding the sheet to form a tubular container about a form of substantially the size of the article, so that the edges of the sheet overlap, sealing the overlapped edges, withdrawing the form and inserting the article centrally therein, plicating the projecting ends of the container, and applying heat and pressure to seal the same.

12. The process of packaging articles comprising forming a sheet of material with a fusible surface and of length greater than the article, folding the sheet to form a tubular container about a form of substantially the size of the article, so that the edges of the sheet overlap, applying heat and pressure to the overlapped edges to seal the same, withdrawing the form and inserting the article centrally therein, creasing the projecting ends of the container, and applying heat and pressure to seal the same to which it adheres by fusion of the surface of the material.

13. The process of packaging articles comprising forming a sheet of material of length greater than the article, folding the sheet to form a tubular container about a form of substantially the size of the article, so that the edges of the sheet overlap, sealing the overlapped edges, withdrawing the form and inserting the article centrally therein, plicating the projecting ends of the container, and sealing the ends of the container.

14. The process of packaging articles comprising forming a sheet of material with a fusible surface and of length greater than the article, folding the sheet to form a tubular container about a form of substantially the size of the article, so that the edges of the sheet overlap, sealing the overlapped edges, withdrawing the form and inserting the article centrally therein, plicating the projecting ends of the container, and applying heat and pressure to seal the same to which it adheres by fusion of the surface of the material.

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