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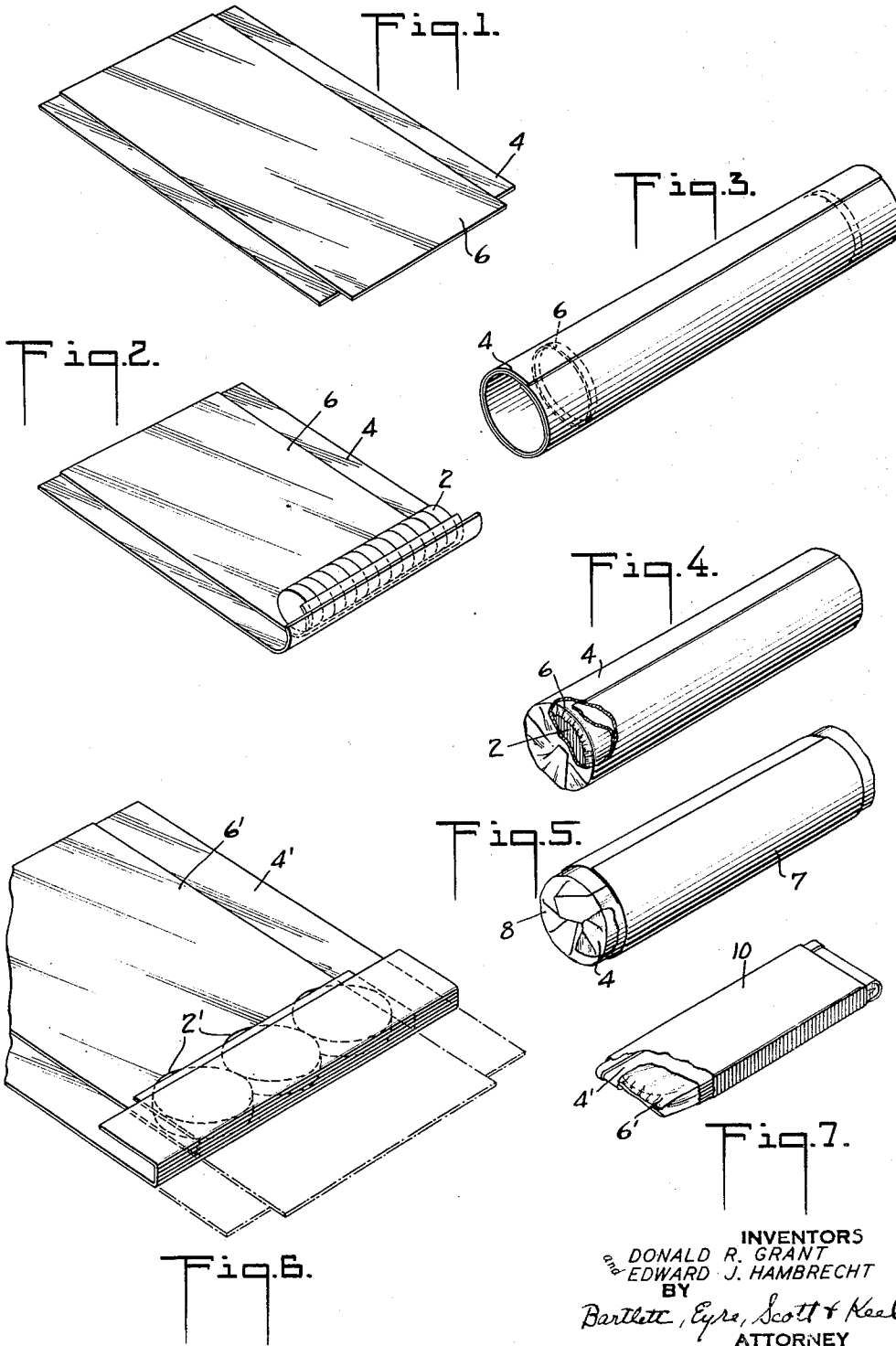
D. R. GRANT ET AL

2,043,830

MACHINE FOR WRAPPING ARTICLES

Original Filed Dec. 16, 1931

2 Sheets-Sheet 1



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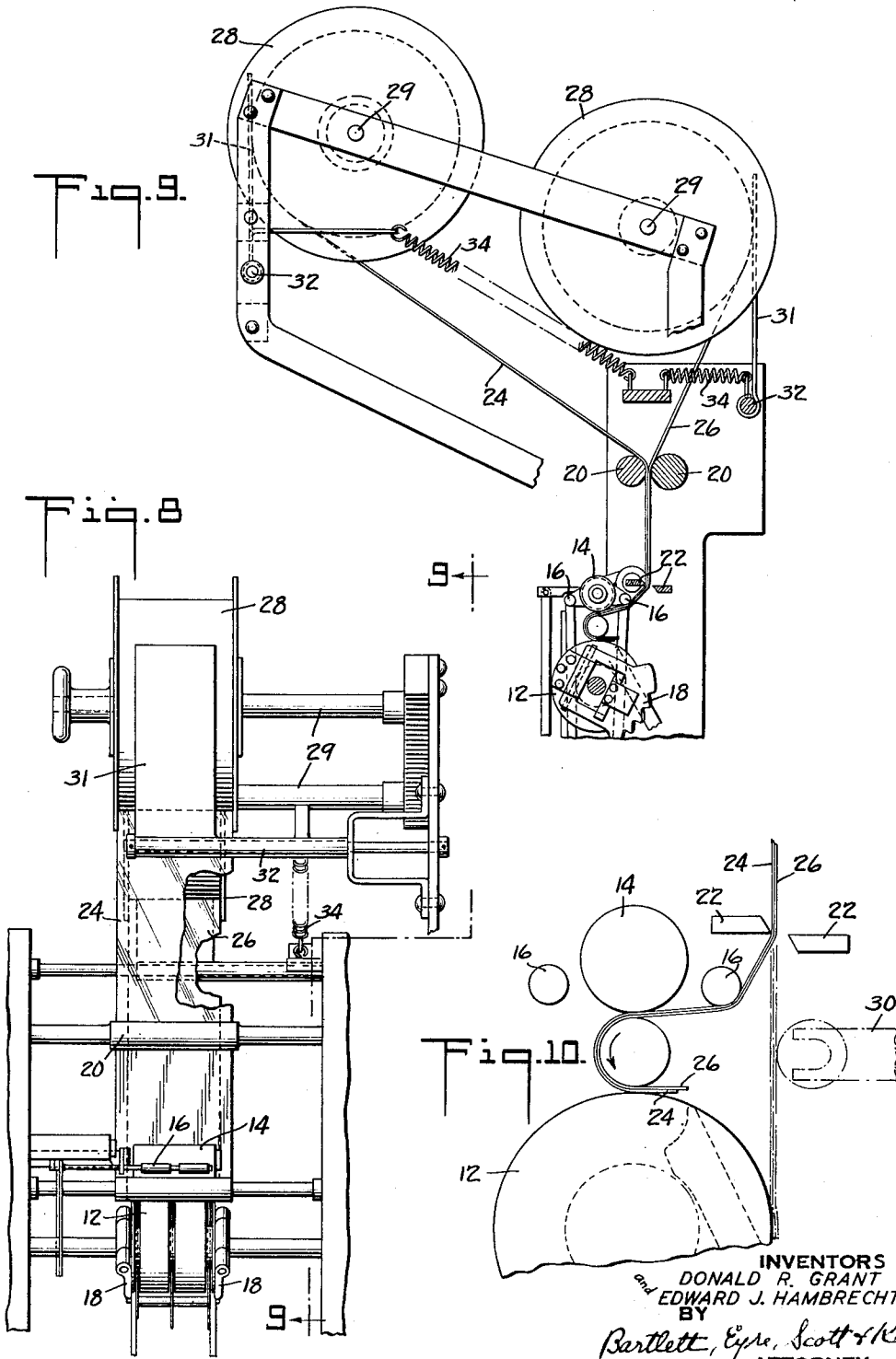
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# UNITED STATES PATENT OFFICE

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## MACHINE FOR WRAPPING ARTICLES

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Original application December 16, 1931, Serial No. 581,316. Divided and this application June 14, 1934, Serial No. 730,606

3 Claims. (Cl. 93—2)

One method at present employed in the wrapping of hard or cooked candies in stacks or rolls, has been to first wrap the roll with a waxed paper wrapper which is wound around the peripheral surface of the roll, and its ends tucked in over the ends of the roll. After the roll has thus been completely wrapped with the waxed paper, a sheet of foil is similarly wrapped about the waxed paper wrapper and its ends tucked in over the tucked in ends thereof. Suitable degrees of heat and pressure are then applied over the entire cylindrical surface and tucked ends of the foil wrapper so as to cause the wax of the paper wrapper to melt and when allowed to cool, tightly seal the longitudinal seam and the end tucks of the paper wrapper and to cause the paper and foil wrappers to adhere firmly together substantially throughout their contacting surfaces.

With this method as heretofore commercially employed, it has been found that as the waxed paper wrapper contacts directly with the candies, when the wax is melted as above described and allowed to cool to seal the package, wax is likely to adhere to the candy, especially to the edges thereof which, of course, is objectionable.

In a co-pending application Serial No. 581,316, filed December 16, 1931, of which the present application is a division, a novel method of wrapping articles, such as hard candies, which overcomes the disadvantages of the method heretofore employed as above described, and a novel and improved package produced by the method are disclosed and claimed.

The principal object of the present invention is to provide a machine adapted to carry out the new method and to produce the new package.

For an understanding of the invention reference may be had to the accompanying drawings of which:

Fig. 1 is a view in perspective of the waxed paper wrapper and the unwaxed paper wrapper of a package which may be formed by our improved machine;

Figs. 2, 3 and 4 are perspective views illustrating steps in the wrapping of a stack of, disc-shaped articles with the wrappers of Fig. 1;

Fig. 5 is a view in perspective of a completed package formed by our improved machine;

Fig. 6 is a view similar to Fig. 2 but showing the wrapper of Fig. 1 partly applied in a different form of package;

Fig. 7 is a view in perspective of the completed package of the form shown in Fig. 6;

Fig. 8 is a rear view of a portion of the improved wrapping machine;

Fig. 9 is a sectional view along the line 9—9 of Fig. 8; and

Fig. 10 is a diagrammatical view showing the arrangement of certain wrapping devices of the machine near the start of the operation of wrapping a cylindrical article.

In wrapping a stack or roll of articles 2, such as hard candies in the form of circular discs, in accordance with our improved method, a sheet of waxed paper 4 and a sheet of unwaxed paper 6, which preferably is glassine paper, are positioned one upon the other with one end of the glassine paper projecting slightly beyond the corresponding end of the waxed paper. The glassine wrapper is of slightly greater width than the length of the roll of articles, and the waxed paper wrapper is of greater width than the glassine paper. The two wrappers are then wrapped slightly more than two complete turns around the roll so that their edges overlap slightly as shown, the glassine wrapper being on the inside and its longitudinal edges projecting slightly beyond the ends of the roll. The projecting ends of the two wrappers are then tucked in over the ends of the roll, this operation crimping over the slightly projecting ends of the glassine wrapper, the projecting ends of the waxed paper wrapper preferably being tucked in by radially extending tucks. When the roll has thus been completely wrapped with the two wrappers, a sheet 8 of foil is then first wrapped about the peripheral surface of the paper wrappers and then its ends are tucked in over the tucked in ends of the waxed paper wrapper. The foil wrapper instead of being wrapped twice around the article, as is preferably the case with the paper wrappers as above described, is wrapped approximately one and one-quarter turns around the roll, and the overlapping portions thereof are arranged so as to overlie the outer longitudinal edges of the paper wrappers.

After the roll has been thus wrapped with both the paper and foil wrappers, a suitable degree of heat is applied, preferably to the entire area of the peripheral surface and tucked in ends of the foil wrapper to melt the wax of the paper wrapper. The package is then subjected to a rolling and pressing action, and the ends of the package are subjected to pressure. Such operations are preferably continued until the wax has become thoroughly cool or set. Such rolling and pressing action is preferably of such a nature as to tend to cause the wrappers to more or less tightly engage or grip the roll, and to insure that the overlapping peripheral portions of the paper

wrappers are thoroughly sealed and the foil wrapper sealed or affixed to the waxed paper wrapper throughout the peripheral area thereof. The pressing operation applied to the ends of the package is preferably such as to insure that the tucked in ends of both the waxed paper wrapper and the foil are tightly secured or ironed flat against the ends of the roll, which insures that the successively overlapping tucks of the paper wrapper are securely and tightly sealed together and that the end tucks of the foil wrapper are securely sealed to the end tucks of the waxed paper wrapper.

By wrapping the roll of candies in accordance with our improved method, it will be apparent that the peripheral surface and edges of the candies are thoroughly protected from the melted wax during the heat-sealing operation. The inner end of the glassine wrapper insures against the wax working over the inner edge of the waxed paper wrapper into contact with the candies. Also, the projecting longitudinal edges or convolutions of the glassine wrapper insures against the melted wax coming into contact with the outer edges of the outermost end candies.

If desired, at the completion of the heat-sealing operation, the usual label 7 may be secured about the package.

In the form of package illustrated in Figs. 6 and 7 instead of the hard candies being arranged in stacks or rolls, a series of three single candies 2' are arranged in edge to edge relation in a row. In wrapping the articles as thus arranged, the glassine paper 6' and the waxed paper 4' are together wrapped about the row of articles with the glassine innermost, with its inner end projecting slightly beyond the inner end of the waxed paper and its longitudinal edges projecting slightly beyond the outer edges of the articles, as shown in Fig. 6. When the two wrappers have been completely wrapped two or more times about the row of articles, the projecting ends of the waxed paper wrapper may be suitably folded over the ends of the article. The package may be sealed by the application of heat to the waxed paper wrapper. When the package has thus been heat-sealed, a label 10 may be placed around the package.

In this form of package also it will be apparent that the articles are thoroughly protected from the melted wax during the heat sealing.

The machine illustrated in Figs. 8, 9 and 10 is of the type of the one described and claimed in the patent to Harry E. Townsend, "Wrapping machine", No. 1,813,974, dated July 14, 1931. As shown, this machine is provided with lower and upper wrapping rolls 12 and 14, respectively, arranged horizontally in the same vertical plane for receiving the article to be wrapped between them, and is further provided with retaining rolls 16 for engaging opposite sides of the article so as to retain the article between the wrapping rolls during the wrapping operation. The wrapping rolls serve to wind the wrapper about the article, the ends of the wrapper projecting beyond the ends of the article. Tucking members 18 are arranged adjacent the ends of the lower roll for tucking in the projecting ends of the wrapper over the ends of the article after the wrapper has been wound about the article.

The wrapping material from which the wrappers are formed is fed downwardly by means of feed rolls 20, between cutting off knives 22. A suitable article conveying device 30 conveys the articles to the wrapping rolls. As each article is

conveyed to the wrapping rolls, it engages the portion of the wrapper that projects below the knives 22 and carries the same therewith to a position between the rolls. The knives then cut off a length of the wrapping material and the wrapping rolls and associated parts operate to wrap the wrapper about the article, the wrapping material during this time being fed downwardly by the rolls 20 to present a length thereof to the next article to be wrapped. At the completion of the wrapping of each article with paper, the wrapped article may be delivered to similar wrapping mechanism for placing a foil wrapper thereon.

Except for the wrapper feed rolls 20, the parts of the machine above described may be and preferably are of the construction of the corresponding parts of the machine of said Patent No. 1,813,974, to which reference may be had for a full and complete description of the same.

In accordance with the present invention, two strips 24 and 26 of wrapping material are fed between the feed rolls and between the knives 22, the former being of waxed paper and the other of glassine. These two strips are separately drawn from supply rolls 28 mounted on stud shafts 29 on the machine frame. Each of the supply rolls 28 is frictionally held from over-running by a plate-like arm 31, the lower end of which is pivoted on a rod 32 and its upper end is pressed against the periphery of the roll by a coiled spring 34.

The feed roll 20 that engages the glassine strip 26 is slightly larger in diameter than the other feed roll, the two rolls being driven at the same speed. With this construction the glassine strip 26 is fed downwardly slightly faster than the waxed paper 24 so that when the lower end portions of the two strips are positioned across the path of the article to be wrapped, the end of the glassine strip projects slightly beyond the end of the waxed paper strip. The portions of the two strips below the knives are carried by the article to the wrapping devices, in the same manner as the corresponding portion of the single wrapping strip of said patented machine. The knives 22 then cut off the projecting lengths of the two strips to form superposed wrappers such as illustrated in Figs. 1 to 4 of the drawings, the wrapping devices then wrapping the article in the glassine and waxed paper wrappers as above described.

As will be evident to those skilled in the art, our invention permits various modifications without departing from the spirit thereof or the scope of the appended claims.

What we claim is:

1. In a machine for wrapping a cylindrical article of the class described, the combination of devices adapted to wrap an article when the article and its wrapper are presented thereto, devices for feeding a strip of waxed paper and a strip of unwaxed paper to said devices with the unwaxed paper fed at a slightly greater rate of speed than the waxed paper strip, and means for cutting off lengths of the end portions of the two strips simultaneously and presenting them with the article to said wrapping means, the two lengths being wrapped simultaneously about the article with the unwaxed paper on the inside and with its inner end projecting a distance beyond the end of the waxed paper.

2. In a machine for wrapping a cylindrical article of the class described, the combination of means for feeding a strip of waxed paper and a

strip of unwaxed paper comprising opposed feed rolls between which the two strips pass, the roll engaging the unwaxed strip feeding the strip slightly faster than the waxed strip is fed, means for cutting off lengths of the end portions of the strips to form superposed wrappers, and means for winding the wrappers about the cylindrical surface of the article and tucking in the ends of at least the waxed wrapper over the ends of the article, the unwaxed wrapper being on the inside and its inner end projecting a distance beyond the inner end of the waxed wrapper.

3. In an article wrapping machine of the class described, the combination of a pair of supply rolls, one for delivering a strip of waxed paper

and one for delivering a strip of glassine paper, a pair of feed rolls positioned to receive therebetween the paper strips from said supply rolls, that one of said feed rolls engaging the glassine paper being of relatively larger diameter than the other of said feed rolls whereby the glassine paper strip is fed relatively faster than and its end projects a distance beyond the end of the waxed paper, means for cutting off lengths of the paper strips and means for wrapping the cut lengths of paper about an article with the glassine paper next the article and the projecting end thereof innermost.

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