Sept. 30, 1941. G. G. GOODWYN 2,257,463

CANDY WRAPPING MACHINE

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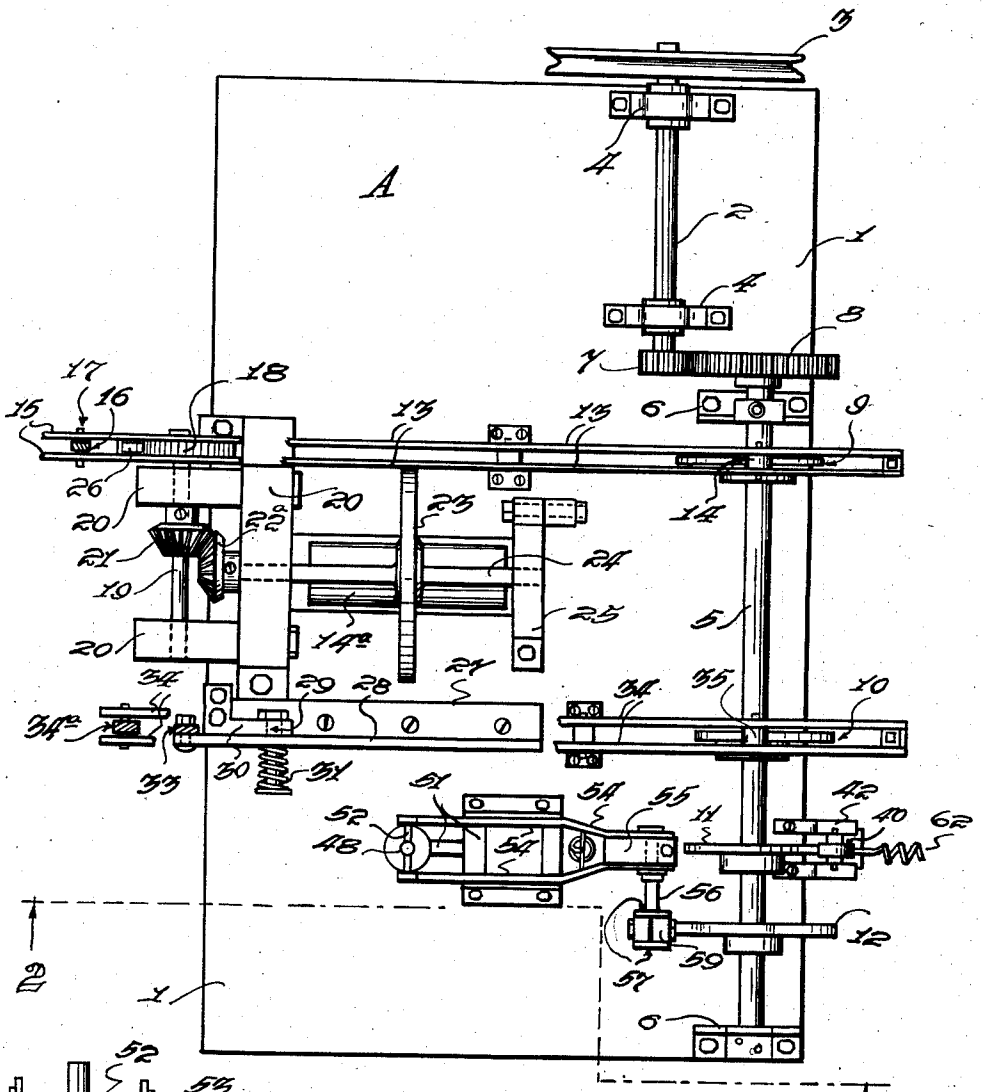


Fig. 1

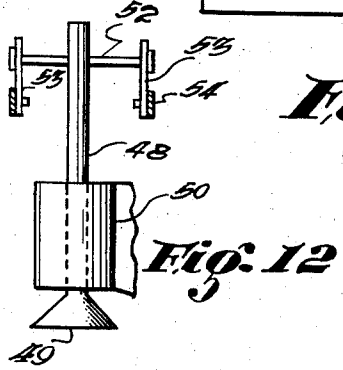


Fig. 12

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Fig. 2

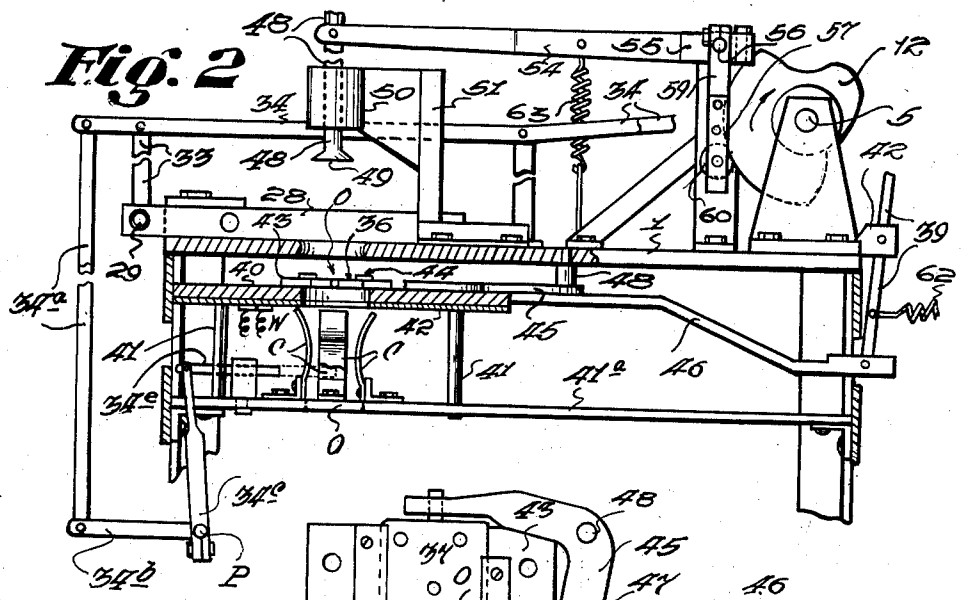
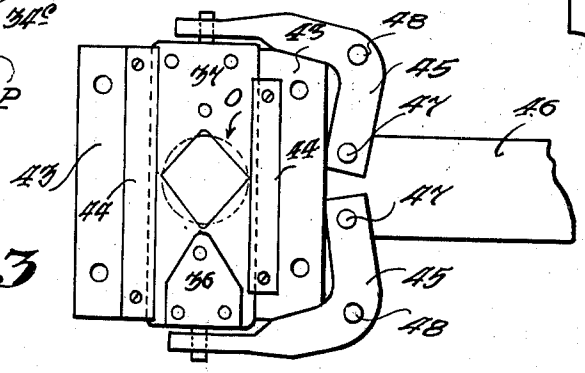


Fig. 3



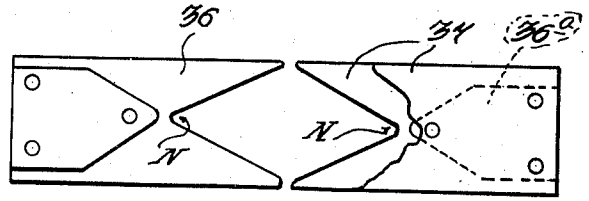


Fig. 4

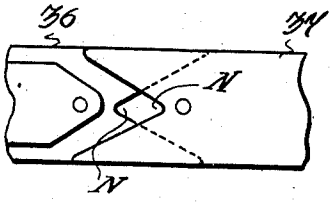


Fig. 5

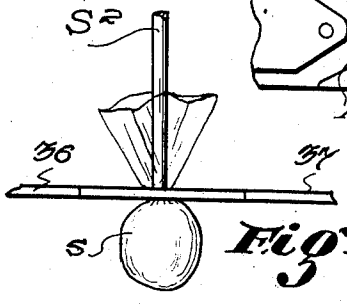


Fig. 11

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CANDY WRAPPING MACHINE

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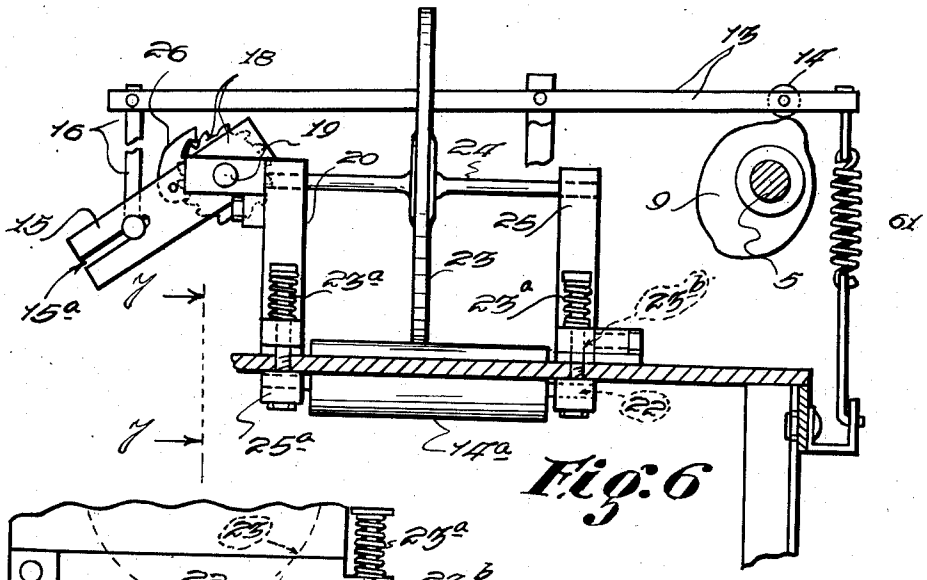


Fig. 6

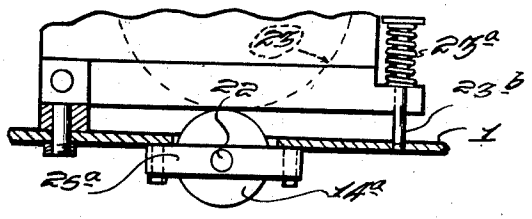


Fig. 7

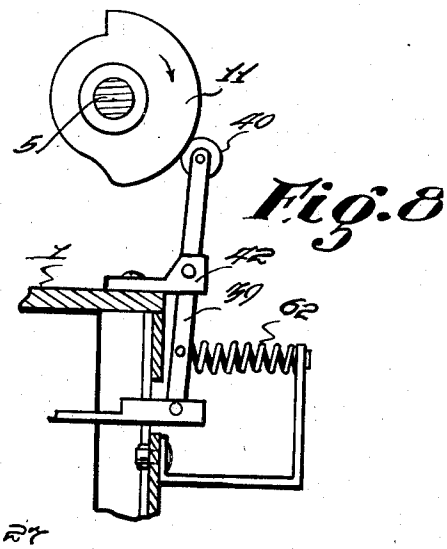


Fig. 8

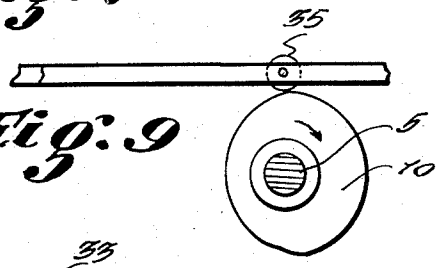


Fig. 9

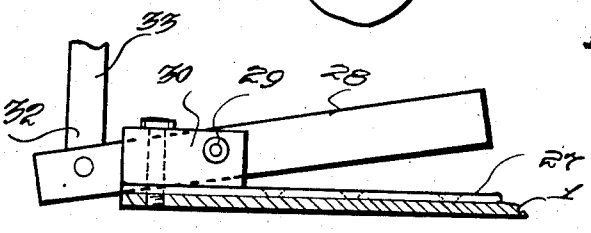


Fig. 10

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UNITED STATES PATENT OFFICE

2,257,463

CANDY WRAPPING MACHINE

George Grafton Goodwyn, Dallas, Tex.

Application April 13, 1940, Serial No. 329,419

2 Claims. (Cl. 93—2)

This invention relates to wrapping machines, and more particularly to the type of machine used for wrapping candies, such as "suckers" or other similar articles which are or may be supported on a stick.

The principal object of the invention is to provide a machine of the above type which will wrap and at the same time seal the wrapping material about the candy on the stick, by the application of heat, and without the necessity of twisting the wrapping material about the stick and candy.

The invention also embodies instrumentalities and parts designed to bring about the above mentioned results and in such accomplishment reducing the amount of wrapping material required to a minimum—the suckers being fed into the machine manually.

The machine also embodies as few parts as possible consistent with a practical application thereof to the purpose intended.

The invention will be clearly understood from a perusal of the following detailed description, taken in connection with the accompanying drawings, and wherein:

Figure 1 is a top plan view, partly broken away, of the entire machine;

Figure 2 is a cross-sectional view of Figure 1, the view being had on approximately the line 2—2 thereof, with parts broken away;

Figure 3 is a top plan view, enlarged, of the sealing plates and co-acting parts;

Figure 4 is a top plan view, partly broken away, of the sealing plates in open position and removed from the machine;

Figure 5 is a fragmentary top plan view of the sealing plates in closed position;

Figure 6 is a detailed sectional view of the paper feeding mechanism;

Figure 7 is a transverse sectional detail view on the line 7—7 of Figure 6, and partly broken away;

Figure 8 is a detail sectional view of the sealing cam and co-acting parts;

Figure 9 is a detail sectional view of the knife cam and its co-acting lever;

Figure 10 is a sectional detail view of the knife and co-acting parts;

Figure 11 is a detail view of the sealing plates in closed position on a sucker; and

Figure 12 is an enlarged detail sectional view of the plunger and co-acting parts, partly sectioned and partly broken away.

In carrying out the invention there is provided a table or other suitable support 1 on which is mounted a drive shaft 2, with a power pulley 3, the shaft being supported by the bearings 4. A driven shaft 5, supported by the bearings 6, is also mounted on the table 1 and is in operable connection with the shaft 2 by means of the gears 7 and 8. The driven shaft 5 has mounted thereon in proper spaced relation a wrapping material feeding cam 9, a knife cam 10, a plate sealing cam 11, and finally a plunger cam 12.

The material with which the candy or other article is to be wrapped is carried on a mechanism (not shown) but which may be disposed on the table at the point A. This material, preferably Cellophane, is drawn off a supply spool, reel or drum by means of the parts embodying the wrapping material feeding mechanism. This consists of the parts such as a cam 9, the bars 13, on which are carried a small roller 14, the roller being held in frictional contact with the cam 9. In Figure 6 is shown a detail of the cam 9 and its co-acting parts, its roller 14 and the bars 13. These bars 13 are shown broken away in Figure 1 for clearness of illustration, but the construction is such that their outer ends are pivoted to the spaced arms 15 by means of a single piece of material 16, the latter carrying a pin 17 which is adapted to be slid in the grooves 15—*a* in each of the arms 15. The arrangement includes also a ratchet wheel 18, mounted on a shaft 19 and having bearings in the block 20. Mounted on the shaft 19 is a bevel gear 21. To complete the wrapping material feeding mechanism assembly, there are provided the roller 14—*a* mounted on the shaft 22, and wheel 23 mounted on the shaft 24, the shaft 24 having one bearing in the block 20 and its other bearing in a support 25. The shaft 22 is supported in the blocks 25—*a* and has also mounted thereon a bevel gear 22—*a* which meshes with the gear 21 in bringing about a stepped or periodic rotation of the wheel 23 and the roller 14—*a*. A pawl 26 under spring tension rotates the ratchet wheel 18 at such time as the arms 15 are moved downwardly by rotation of the shaft 5.

The wheel 23, see Figure 7, is provided with adjusting means by the springs 23—*a* mounted on the pins 23—*b*, so that the wrapping material may be controlled in the feeding thereof between the roller 14—*a* and the wheel 23.

The machine provides for cutting the wrapping material into proper lengths by means of a stationary knife 27 and a movable knife 28. The movable knife 28, shown in detail in Figure 10, is pivoted at 29 to an angular member 30 bolted to the top of the table 1. A spring 31 maintains the movable knife at the proper tension against the stationary knife 27. The knife 28 has one end pivotally connected at 32 to a bar 33, which bar is similarly connected to the bars 34 and which carry a roller 35 in contact with the cam 10. The bars 34 are also connected to a bar 34—*a* and the arms 34—*b* and 34—*c*, including

a thrust rod 34—*e*, the pivot pin P being stationary in the frame.

For reciprocal action of the sealing plates 36 and 37, there is provided a cam 11, mounted on the shaft 5 and coacting with a bar 39, carrying a small roller 40, the bar 39 being pivoted as at 42 to the table.

In Figure 3 is shown the means for moving the sealing plates to operative and inoperative positions and for this purpose there is provided, and as shown in Figure 2, and disposed underneath the table top 1, a plate 40 mounted on the legs 41, the legs being supported by a cross-piece 41—*a*. There is also a plate 42, the latter plate having connected thereto a resistance coil (not shown) for generating heat to be imparted to the plates 36 and 37 by an electrical circuit through the wires W. The sealing plates 36 and 37 are supported on the plate 40 and are held in slidable position thereon by the strips 43 and 44. The plates 40, 41—*a* and 42 and the table top 1 each include an opening O which are in register to permit the suckers to be dropped into a basket. This basket is preferably made of four pieces of clock spring indicated at C and spaced apart as shown.

The arrangement for sliding the sealing plates 36 and 37 laterally to and from contact with the article to be sealed and wrapped is provided for by the angular arms 45 in connection with the bar 39, previously referred to, and to which arms bar 39 is connected through a bar 46. The latter bar is pivoted to the arms 45 at the point 47 and each arm 45 is pivoted to swing on a stationary pivot pin 48 secured to the underside of the table top 1. As the cam 11 rotates, the sealing plates will thus be reciprocated to and from an article to be wrapped and sealed. The sealing plate 37 is formed of two pieces of metal spaced apart by a spacer 37—*a*, and the plate 36 includes a similar piece 36—*a*, the two plates being shown in engaged position in Figure 5—the sealing plate 36 then being between the two pieces of the plate 37. The sliding together of these plates advances the notches N against a sucker S and the previously heated plates seal the wrapping material on the candy and the stick S—2 thereof.

The machine provides means in the form of a plunger for thrusting the article from the machine and also for causing the sucker to be dropped from the basket when the wrapping and sealing has been accomplished. This plunger consists of a rod 48 with a cone-shaped or flared end 49—see detail view in Figure 12. A member 50, having a bored passage, formed integrally with and supported by a frame 51, holds the plunger in operable position and permits the rod 48 to reciprocate therein. A cross-arm 52 is connected to the plunger rod 48 and has pivotally connected thereto two swingable arms 53 and to the latter are pivoted the spaced bars 54. The bars 54 terminate in a head piece 55. A stub shaft 56 is passed through the head piece 55 and is connected to an arm formed of the two parts 57 and a piece 59. A roller 60 carried on the two parts 57 of the arm is thus held in contact with the cam 12.

In order that the cams 9, 10, 11 and 12 mounted on the shaft 5 may be held in continuous engagement with the rollers 14, 35, 40 and 60 there are provided a spring each, one of these springs being shown at 61, a similar spring being employed with the knife, but not shown, a spring 62 for the bar 39 and a spring 63 for the arms 54 of the plunger.

The articles to be wrapped and sealed are fed into the machine by hand, the sucker being held by the stick S—2 over the opening O. The plunger 48 with its flared end 49 makes a downward movement, the article carried on the stick is knocked from the hand, the stick being projected upwardly into the member 50 and the candy is shoved downwardly through the opening O into the basket, where it is held against the springs C. The knife 28 having been previously lowered in the severing of the wrapping material at the same time the bar 34—*a* was depressed and advanced the rod 34—*e* in between the springs C—thus holding the article in position. As soon as the article is sealed by the movement inwardly of the sealing plates 36 and 37, the plunger again descends and ejects the article through the opening O—the rod 34—*e* having been in the meantime retracted from between the springs C as the knife rises.

The machine is susceptible of some modifications, changes and alterations in keeping with the spirit thereof and such as would be within the scope and meaning of the claims appended hereto.

What is claimed is:

1. A machine for wrapping and sealing candy carried on a stick, in combination with a wrapping material feeding mechanism, said wrapping and sealing being carried out by the provision of a pair of forked and notched plates adapted to be slid one within the other, a pair of angular arms pivoted to the plates, a bar pivoted to the arms, and means for reciprocating the bar to move said plates inwardly and outwardly in the operation of pressing the wrapping material around the candy on the stick and releasing the bars from the same; said machine including a cage for holding the candy in position while being wrapped and sealed and a reciprocable rod movable into and out of the cage for releasing the wrapped candy therefrom.

2. A machine for wrapping and sealing candy supported on a stick, in combination with a wrapping material feeding means, the wrapping and sealing being accomplished by the provision of a pair of forked and notched plates adapted to be slid one within the other whereby the notched portions of the plates are advanced around the upper portion of the candy on the stick at the neck thereof to press the wrapping material against the candy and stick; said plates being moved to and from said position on the candy by a pair of angular arms pivoted to the plates, a platform for supporting the plates with an opening therein, a plate underneath the platform and also having an opening therein in register with the opening in the platform; a cage of spaced spring elements disposed beneath the plate and platform for holding the candy in position while being sealed, an electrical resistance coil on the plate beneath the platform for applying heat in the sealing operation, and a plunger rod with means for reciprocating the rod for retaining the candy in said cage during the wrapping and sealing thereof and for releasing the candy from said position.

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