Oct. 26, 1926. 1,604,646

G. L. LANGER

PACKAGING MACHINE

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FIG. 2.

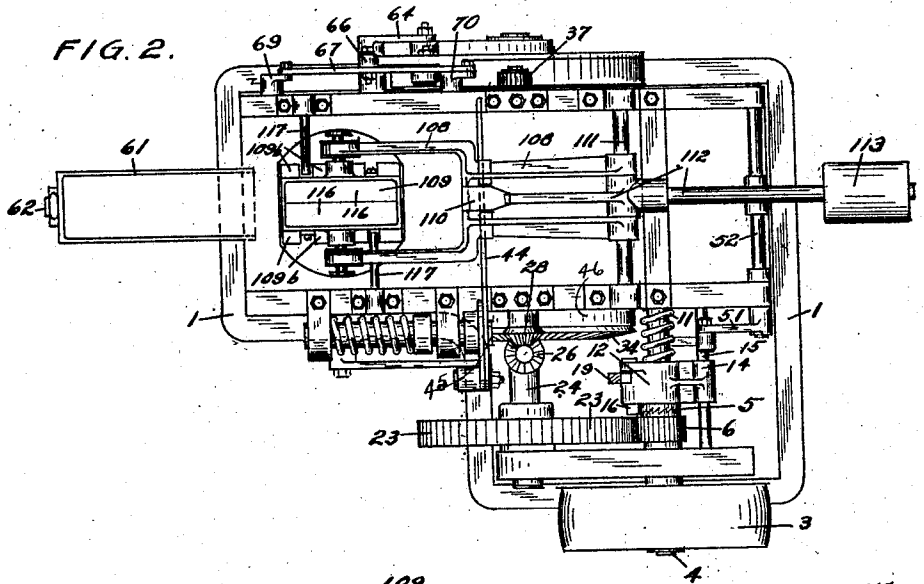
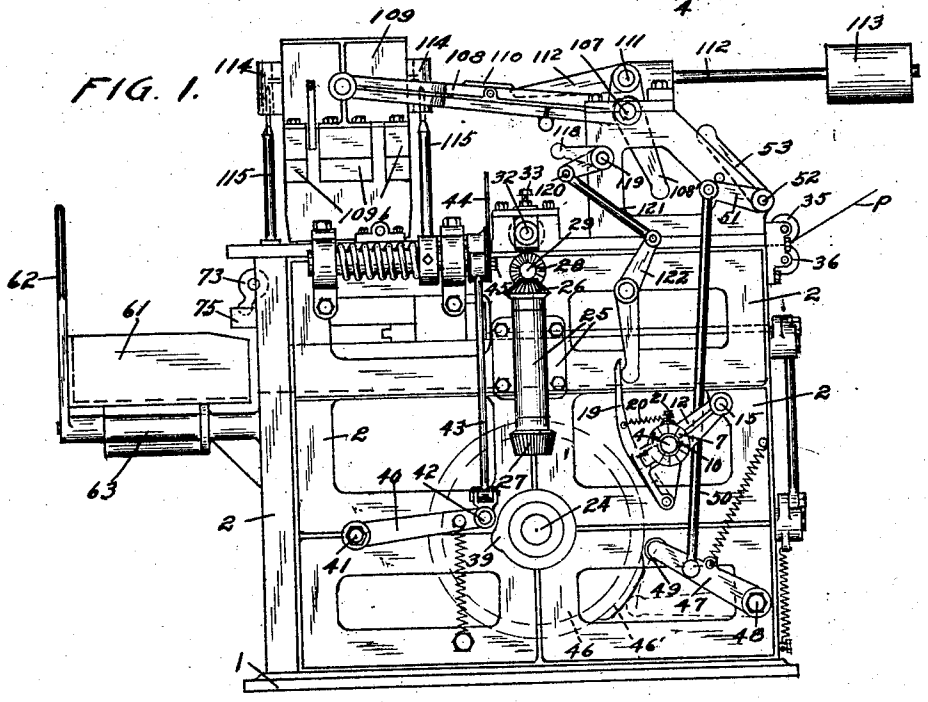


FIG. 1.



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PACKAGING MACHINE

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FIG. 4.

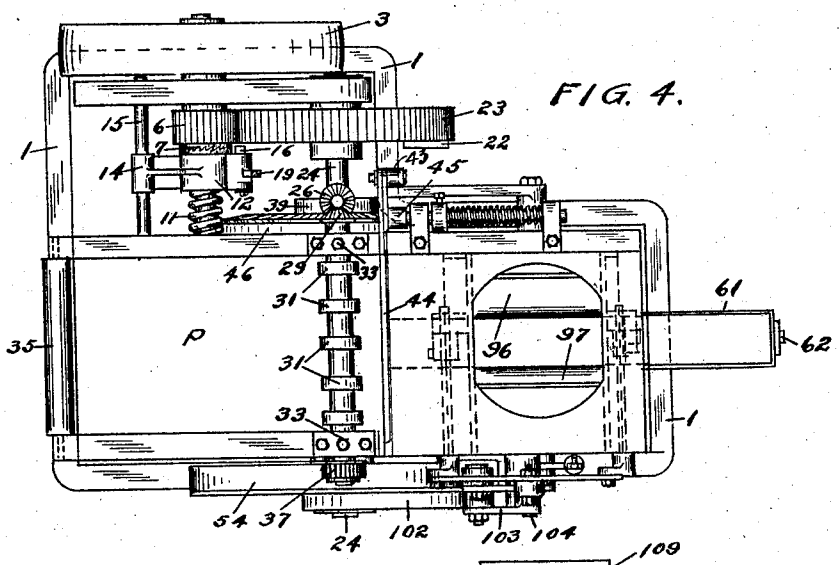
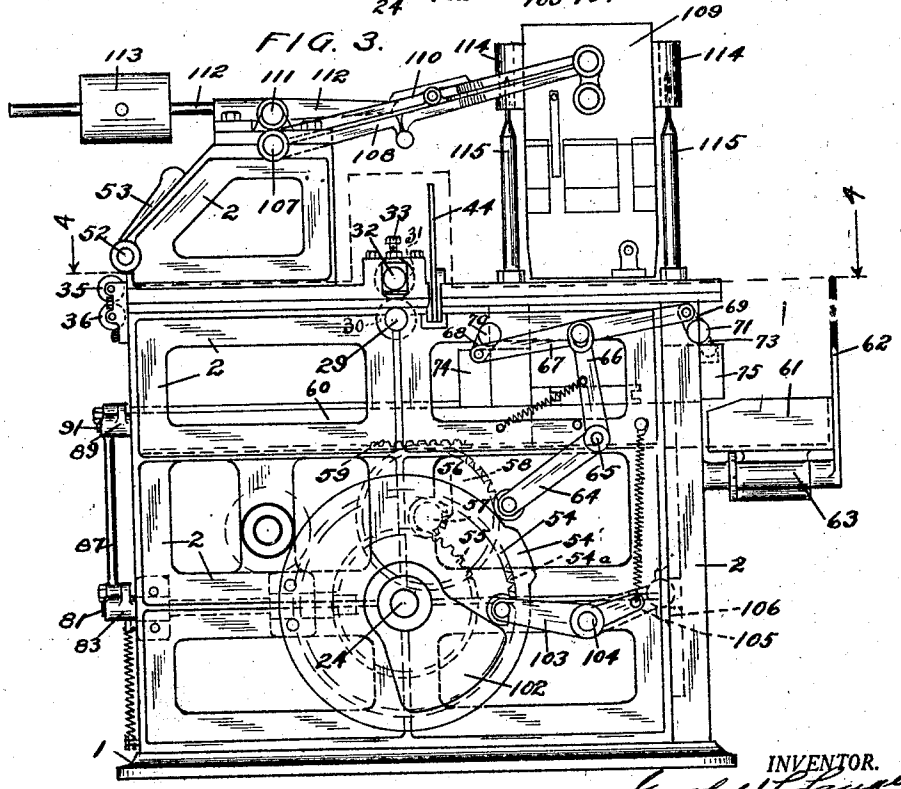


FIG. 3.



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FIG. 7.

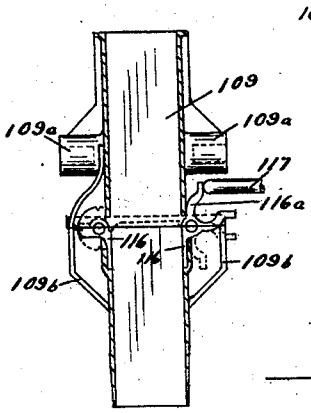


FIG. 6.

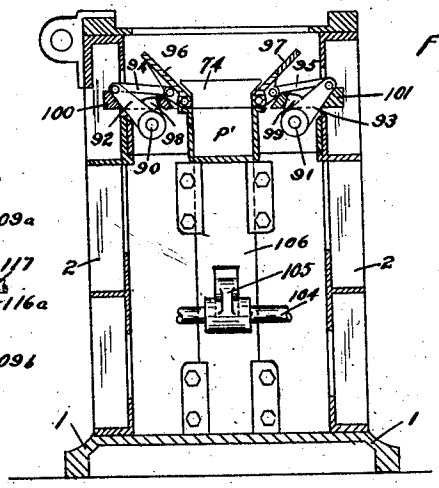
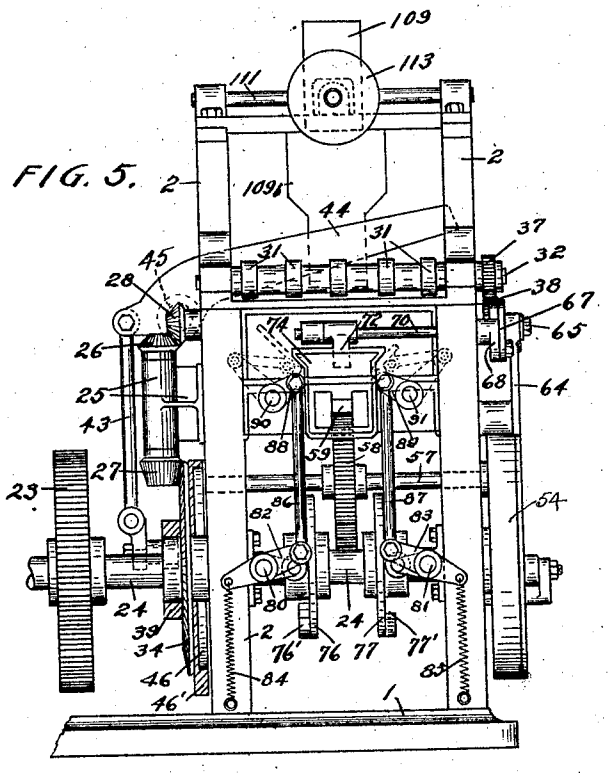


FIG. 5.



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PACKAGING MACHINE

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FIG. 8.

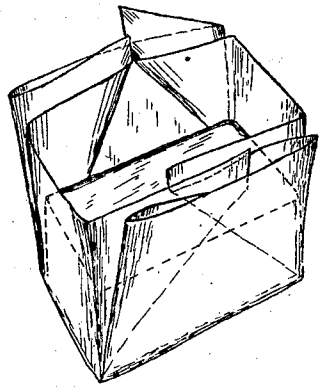


FIG. 9.

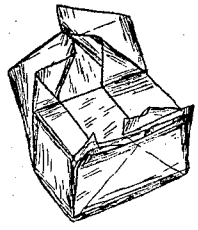


FIG. 10.

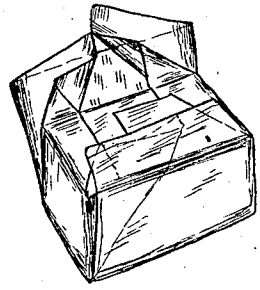
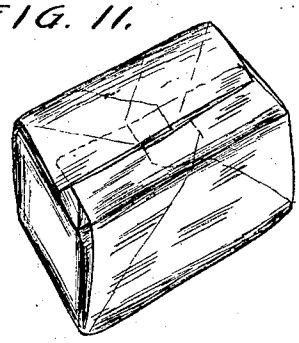


FIG. 11.



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FIG. 12.

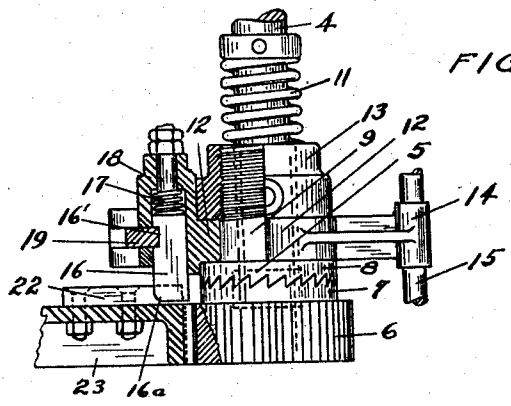


FIG. 13.

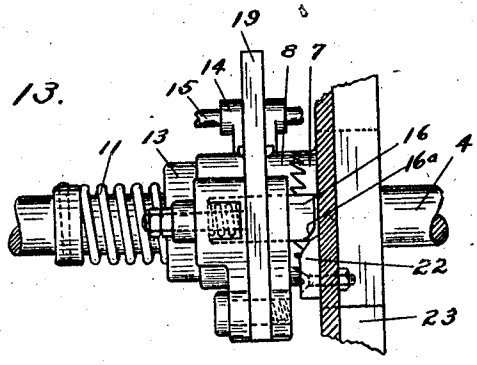


FIG. 15.

FIG. 17.

FIG. 14.

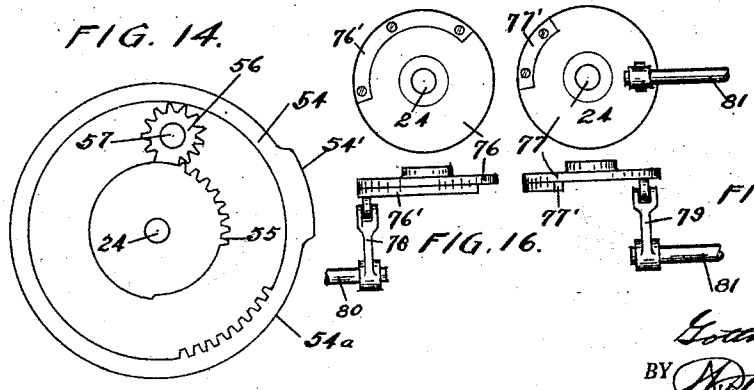


FIG. 16.

FIG. 18.

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Patented Oct. 26, 1926. 1,604,646

UNITED STATES PATENT OFFICE.

GOTTHOLD L. LANGER, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO STICKY FRUIT PACKAGING MACHINE COMPANY, OF PORTLAND, OREGON.

PACKAGING MACHINE.

Application filed March 31, 1921. Serial No. 457,375.

My invention relates to a wrapped package, preferably of sticky fruit, such as raisins, and a machine for automatically wrapping the same. This invention is an improvement over the machine shown and described in my pending application, Serial No. 119,682, filed Sept. 12, 1916 which has matured into Patent No. 1,389,669. It is required that the raisins be weighed or measured and put into uniform packages as rapidly and automatically as possible. It is also desired that the raisins be so wrapped before being put into the cartons that the ends will be covered with a continuous portion of the wrapper, thus avoiding the folded ends which make it possible for a person to straighten out the folded ends of the wrapper, after opening the end of the carton, and pick out the raisins and then refold the package, without tearing the wrapper. In my present method of wrapping the matter, the bottom, sides and ends of the wrapped package are all covered by a continuous portion of the wrapper, and there is no folded end which can be opened, even after the end of the carton has been opened up, and in order to get at the raisins, they must be taken out of the carton and unwrapped, or the wrapper over the exposed end must be torn.

I have illustrated my improved package and the various steps in its formation on the accompanying sheet of drawings, and I have also shown one practical machine for automatically forming and wrapping the package. I will now describe the invention as illustrated.

Figure 1 is a side elevation of a machine embodying my invention;

Figure 2 is a top plan view thereof;

Figure 3 is a side elevation of said machine from the opposite side to that shown in Fig. 1.

Figure 4 is a plan view of the mechanism below the line 4—4, on Fig. 3;

Figure 5 is an end elevation of the machine from the left hand side of Fig. 3;

Figure 6 is a vertical sectional view through the receiving and wrapping pocket of the machine, with parts broken away and omitted;

Figure 7 is a sectional view through the hopper and feeding mechanism;

Figure 8 is a perspective view of the matter and the wrapper as they appear after being put down into the receiving and wrapping pocket;

Figure 9 is a similar view of the package after the second step has been taken, namely, the ends have been pressed inwardly upon the top of the matter being wrapped;

Figure 10 is a view of the next step, when one side has been pressed down on top of the matter being wrapped;

Figure 11 is a perspective view of the package after the last step in the folding operation, when the other side of the wrapper has been pressed down on top of the material, and covers the other edges of the wrapper. In this condition the package is discharged endwise into a carton placed to receive it.

Figure 12 is a view of the clutch mechanism, partly in section; and

Figure 13 is a view of said clutch mechanism from the left side of Fig. 12;

Figure 14 is a detail view showing intermittent gears assembled;

Figures 15, 16, 17 and 18, are detail views of cam discs and the parts operated thereby.

Referring now more in detail to the drawings, I will describe one practical embodiment of my invention, or one means for automatically forming the wrapped package involving my invention. The machine here shown is of general rectangular form, with a base, 1, and the frame members, 2, 2, in which the operating mechanism is mounted. I will first describe the mechanism in detail, commencing at the place where the power is applied, and will afterwards describe the use and operation of the machine from the reception of the wrapping paper and the material to be wrapped to the discharge of the wrapped package.

A main driving pulley, 3, is mounted on the outer end of a shaft, 4, provided with a clutch mechanism, 5, comprising a pinion, 6, having on its side the clutch teeth 7, and loosely mounted on said shaft 4. Also mounted on said shaft 4, is a companion clutch member, 8, on the sleeve 9, adapted to be moved into and out of mesh with the clutch teeth 7, and to this end said sleeve 9 is slidably mounted on said shaft 4, by means of a feather, 10, and is normally moved into driving engagement with the clutch member

7, by means of a spring 11, on said shaft, 4, as clearly shown in Figs. 12 and 13. The feather can be seen in Fig. 1. The clutch sleeve 9 is supported in a bearing member, 12, held in place thereon by means of a nut 13. Said bearing member 12 is provided at its side with a guide sleeve, 14, slidably mounted on a shaft, 15, having bearings in the frame members 2, 2, as indicated in Fig. 4. Mounted on the opposite side of the bearing member 12, is a plunger-like member 16, normally held in extended position by means of a spring 17, within the plunger casing, 18, formed as a part of the bearing member 12. Said plunger member is provided with a notch, 16′ in one side, within which is adapted to seat a trip lever, 19, which is normally drawn toward said plunger by means of a coiled spring 20, attached at its opposite end to a fixed pin 21. The plunger 16 is provided with a rounded corner, as at 16ª, and is adapted to be engaged by a fixed cam block, 22, mounted upon the inner face of a large gear, 23, whereby as said cam block 22 engages said plunger 16, it forces said plunger, together with said bearing member 12, and the clutch sleeve, 9, away from the clutch pinion 6, thus disengaging the clutch teeth 7 and 8. Inasmuch as the clutch sleeve 9, is slidably secured to the shaft 4, by means of the feather, 10, it will be evident that when said parts are moved away from the pinion 6, and out of mesh with the clutch teeth 7, as above stated, said pinion 6, and the large gear 23, will stand idle, the shaft 4, turning within said pinion 6, and the clutch sleeve 9, turning within the bearing member 12. The plunger 16, in the meantime will rest upon the cam block 22, on the large gear 23, in its stopped position, thus holding the clutch sleeve 9, and the clutch teeth 8, thereof, out of driving engagement with the clutch teeth 7 on said pinion 6. Therefore, when the trip lever 19, is moved outwardly, in a manner hereinafter described, out of the notch 16′, in the plunger 16, it allows the bearing member 12, and the clutch sleeve 9, to be moved inwardly into driving engagement with the clutch teeth 7, by means of the spring 11, whereupon said pinion 6, being again locked to the shaft 4, drives the large gear 23, moving the cam block on its inner face from under the plunger 16. Said plunger is again thrust outwardly in its normal position by its spring 17, and the machine continues to run until the gear 23 has made one complete revolution and the main cam block 22 thereon has again engaged said plunger 16, and again moved the bearing member 12, and the clutch 8, out of driving engagement with the clutch teeth 7, of the pinion 6.

Thus it will be seen that the constantly driven shaft 4, is intermittently, by means of this clutch mechanism just described, thrown into and out of driving engagement with the principal operating mechanism of the machine, said connection being from the clutch pinion 6, to the gear 23, on a shaft 24.

Mounted in the main frame is a bearing 25, Figs. 1 and 5, in which is a vertical shaft provided at its opposite ends with two beveled gears, 26 and 27. The upper gear 26, meshes with another beveled gear, 28, on a shaft, 29, provided with paper feeding rings, 30, which contact with corresponding rings, 31, on a shaft, 32, adjustably mounted above the shaft 29, and held in place by means of set screws, 33.

The lower beveled gear 27, meshes with a large beveled gear, 34, on the shaft 24, which is driven by the large gear 23, as seen in Figs. 2 and 5. Thus when said gear 23 is driven one revolution, said beveled gear 34 is driven one revolution, driving gears 27, 26, and 28, and feeding a sheet of wrapping paper, P, forwardly in position to receive the matter to be wrapped, as hereinafter again referred to. This paper can be fed from any suitable position, from a roll, through guide rollers, as 35 and 36, Fig. 1. The opposite ends of the feed shafts 29 and 32, are provided with intermeshing gears, 37 and 38, as shown in Fig. 5, whereby the upper shaft 32 is driven from the lower shaft 29.

Mounted on the main shaft 24, next to the large beveled gear 34, is a cam member, 39, Figs. 1, 4 and 5, for operating a lever, 40, pivoted at 41, and provided with a cam engaging roller, 42, and also connected with the lower end of a vertical rod, 43, the upper end of which is connected with a knife, 44, pivoted at 45, and adapted to be moved downwardly to cut the wrapping paper fed thereunder to the place of receiving the matter to be wrapped. Thus said knife is intermittently operated as said cam 39 is revolved with the shaft 24.

Also mounted on said shaft 24, at the other side of the beveled gear 34, is a larger disc cam 46, having the cam portion 46′, which operates a cam lever, 47, pivotally connected to the frame at 48, and provided with a cam roller 49. Said lever is connected to the lower end of a vertical rod, 50, the upper end of which is connected to a lever, 51, on a shaft, 52, provided with a lever, 53, for a purpose hereinafter referred to.

On the other end of said shaft 24, referring to Figs. 3, 5 and 14, is an internal, intermittent gear, 54, having an external cam, 54′, and internal gear teeth, 54ª, clearly shown in Fig. 14. Also mounted on said shaft, 24, within said internal gear, 54, and turning therewith, is an external, intermittent gear, 55, between which gears 54 and 55, is an intermittent pinion, 56, mounted on a shaft, 57, in the frame, as seen in Fig. 5.

Said intermittent pinion, 56, intermittently operates said shaft, 57, alternately, first in one direction and then in the opposite direction through the actions of intermittent gears, 54 and 55. On said shaft 57, is a gear, 58, in mesh with a rack, 59, on the underside of a plunger, 60, indicated in Fig. 3, which plunger by being reciprocated endwise operates to push the wrapped package from the wrapping pocket and into the receiving box, 61, which has an operating lever, 62, and is pivotally mounted at 63, whereby it can be turned to discharge the wrapped package. The end of said plunger, 60, forms one end wall of the wrapping pocket. By means of the internal, external and pinion gears, 54, 55 and 56, said plunger is intermittently moved outwardly to discharge a package and is then moved back to its normal position, as will be better understood from the description of the use and operation of the machine later. The form of the wrapping pocket is best seen in section, Fig. 6, where the pocket is designated, P'. The cam 54' on the exterior periphery of the internal gear 54, engages a cam lever, 64, pivoted at 65, and having an arm 66, the upper end of which connects with a cross arm 67, the opposite ends of which connect with two crank arms, 68 and 69, on the outer ends of two shafts, 70 and 71, which shafts are provided near their opposite ends, near the middle of the machine, as seen in Fig. 5, with fingers, 72 and 73, which connect, respectively, with sliding folding members, 74 and 75, to move them inwardly and then outwardly, in the folding operation, as again referred to. Said folding members work above the path of the plunger, in the pocket, P', Figs. 5 and 6, and move together to press the paper edges inwardly on top of the material being wrapped, as will be understood from reference to Fig. 9.

Mounted on said shaft 24, in the middle of the machine and at a space apart, are two cam discs, 76 and 77, provided on their faces, respectively, with cam blocks, 76' and 77', of different lengths, as will be understood by reference to Figs. 5, 15 and 17. These cam blocks engage cam levers, 78 and 79, respectively, on shafts, 80 and 81, mounted in the inside of the frame members, 2, 2, as indicated in Figs. 3 and 5. On the outer ends of said shafts, 80 and 81, Fig. 5, are mounted rocker arms, 82 and 83, respectively, one end of each of which being connected to a spring, as 84, 85, and the other ends of which are connected with vertical rods, 86 and 87, connected at their upper ends to the crank arms, 88 and 89, on the ends of two shafts, 90 and 91. Referring to Fig. 6, said shafts 90 and 91, are provided with crank arms, 92 and 93, connected by means of links, 94 and 95, with two folding wings, 96 and 97. On the shafts, 90 and 91, are cam members or segments, 98 and 99, which work in slots in sliding bearing members, 100 and 101. As the shafts 90 and 91 commence to turn, the cam segments, 98 and 99, move the bearing blocks, 100 and 101 and the wing folding members, 96 and 97, bodily inwardly a short distance, until the cam segments escape the end portions of the bearing blocks, as will be clear in Fig. 6, whereupon the wing folding members are turned inwardly to fold the wrapper sides down on the material successively, as indicated in Figs. 10 and 11. The wing member 97 is first folded quickly and lifted, as the cam block, 77', Figs. 5 and 17, is short, while the wing folding member 96 is folded downwardly and held a longer period by its cam operating block, 76', Fig. 15, which is much longer. During its down period, the plunger operates and pushes the wrapped package out into a carton which has been placed in the receiving box, 61, to receive it. This movement of the folding wings bodily inwardly, slightly, before they turn on their hinges, insures a proper folding of the wrapper and avoids its catching in the hinge joints.

On the outer end of the shaft 24, is a cam member, 102, Fig. 3, which operates a cam lever, 103, pivoted at 104, on a shaft which is provided in the middle part of the machine with an operating arm, 105, which connects with and operates a vertical gate member, 106, which is moved up to close the outer end of the wrapping pocket, and is moved down at the proper time, to permit the plunger to push the wrapped package out into the carton in the receiving box, 61. This gate member is seen in Fig. 6.

I will now describe the receiving and weighing hopper mechanism. Mounted across the top frame members 2, 2, is a supporting shaft, 107, on which is pivotally mounted a balance fork or frame, 108, the free end or fork of which pivotally supports a receiving hopper, 109. Pivotally mounted on top of said frame, near its middle, is a latch plate or member, 110, the free end of which projects to the right, Figs. 1 and 2, and the other end of which rests freely on the frame 108. A second shaft, 111, is mounted across the frame of the machine, and carries an arm, 112, one end of which underlies the latch plate 110, and the other end of which is provided with a weight, 113, adjustable thereon, for the purpose of weighing a desired quantity of material to be wrapped, as hereinafter again referred to.

Said hopper is provided on its opposite sides with two open sleeves 114, 114, adapted to pass down over two guide pins, 115, 115, as shown, Figs. 1 and 3, the upper ends of said pins being small enough not to interfere with the free movement of the hopper as it is loaded. The hopper is shown in detail in

Fig. 7, and comprises a long box-like member, 109, having the bearings 109[a] at its opposite sides and by means of which it is pivotally supported by the fork or frame member, 108. On its opposite sides it also has extensions 109[b] for the purpose of pressing the wrapping paper outwardly as said hopper moves down into the wrapping pocket, as hereinafter described. Two floor doors, 116, 116 are mounted in said hopper, intermediate its ends, as shown in Fig. 7, said doors being provided with forks, 116[a], outside of the hopper and positioned to be engaged by cam pins, 117, 117, positioned to engage and move said doors open and closed as said hopper moves up and down, as will be understood from the drawings. The matter to be wrapped is discharged into the hopper in any desired manner, until the proper amount for a package has been discharged thereinto.

The mechanism for tripping the clutch mechanism, hereinbefore described, is shown on Fig. 1, and comprises an arm, 118, on a shaft 119, provided on its outer end with another arm 120, connected by means of a rod 121, to a bell crank, 122, the lower end of which is positioned, when moved, to move the trip arm 19, on the clutch mechanism, as clearly shown in Fig. 1. When the hopper with its load moves downwardly, the frame or fork 108 strikes the end of the arm, 118, which results in tripping the clutch and starting the machinery for one revolution, as before described.

The use and operation of my invention as here illustrated, may be described as follows:

Assuming that the wrapping paper, P, has been moved forwardly so as to overlie the wrapping pocket, P′, and this is done at the finish of each cycle of operation, and that the matter is being discharged into the receiving and weighing hopper 109, when the correct amount has been placed in the hopper to overbalance the weight 113, which has been set to the desired position, the hopper moves down with its weight, the lower end of the hopper pressing the paper down into the wrapping pocket below, with the result that the paper is formed substantially into the form shown in Fig. 8. At the finish of this downward movement, the projecting cam pins 117, at each side of the hopper, engage and move the forks, 116[a], which opens the doors, 116, and discharges the material into the paper in the wrapping pocket, as in Fig. 8. The extensions, 109[b] of the hopper, Fig. 7, have so pressed the folds of the paper that they remain in a pressed condition substantially as shown in Fig. 8, as the hopper is raised. The downward movement of the hopper has tripped the clutch lever 19, as before described, and the machine has started. The cam 46′ on the cam disc 46, Fig. 1, has engaged and moved the arm 47, and through its connections has moved the arm 53 downwardly until it engages and moves the arm 108′ on the shaft 107, which carries the hopper frame, which raises the hopper to its natural or receiving position, said hopper being held in its raised position by the engagement of the end of the arm 112 with the latch plate 110 which can tip in one direction to pass upwardly past the end of the arm 112 as the hopper arms 108 are raised to normal position. The hopper is thus supported. As it descends with its weight, the latch moves off the end of the weight arm 112. The turning of the shaft 24, through the cam 54′, operates the levers 64, 66, 67, and the shafts 70 and 71, and thereby operates the end folding members together, designated 74 and 75, folding the end portions of the wrapper, as shown in Fig. 9. These are moved in and out. Following this action, the cam discs 76 and 77, operate the folding wings 97 and 96, successively, as before described, first folding over the right hand side of the wrapper, as shown in Fig. 10, and then following immediately the fold of the left hand side of the wrapper, as shown in Fig. 11. It will be understood that the matter, if it be raisins, is sticky, and as soon as the paper is pressed down on top, as shown, it sticks in folded position. While the folding wing 96 is down making the last fold, as in Fig. 11, the intermittent gears, 54, 55 and 56, operate the shaft, 57, and the large gear 58, and thus operate the plunger, through its rack, 59, pushing the wrapped package out into a carton which has been placed in the receiving box 61. In the meantime, cam 102, Fig. 3, has operated through levers 103, 104, to withdraw the end gate 106, from the end of the wrapping pocket nearest the receiving box 61, so that the plunger can push the package out. These movements are all automatic and are properly timed, of course, so that they occur in proper sequence, thus making the operation automatic from the beginning. The beveled gear 46, through the beveled pinions, 27, 26 and 28, operates the paper feeding rollers, on shafts, 29 and 32, and the cam, 39, on the shaft 24, operates the knife 44, to cut the paper as it reaches the position above the wrapping pocket, as indicated in Fig. 4.

Thus I have produced a new package, shown in Figs. 8 to 11, inclusive, automatically wrapped, and so wrapped that the bottom, sides, and ends, have continuous portions of the wrapper over them, with all the ends of the paper folded down on the top side of the matter, and the last fold of the wrapper covering these ends or edges of the wrapper, as shown in Fig. 11. If the ends of the carton are opened, the raisins cannot be picked out without tearing the paper

wrapper, an object sought to be accomplished in automatic wrapping machines of this character.

I do not limit my invention to the details shown in connection with the embodiment of one machine capable of producing my wrapped package, except as I may be limited by the hereto appended claims.

I claim:

1. In a packaging machine, in combination, a balanced hopper to receive matter to be wrapped, said hopper having floor members intermediate its upper and lower ends, a wrapping pocket below said hopper into which the lower end of said hopper moves as it descends with its load, means for supplying a sheet of wrapping material over the mouth of said wrapping pocket, the lower end of said hopper depressing said wrapping material down into said pocket around itself, means for opening the floor members of said hopper as it descends to discharge said matter to be wrapped, and folding members operable across the top of said wrapping pocket to fold the edges of said wrapping material over the matter therein.

2. In a packaging machine, in combination, a balanced hopper pivotally supported on a balance arm, a weight for balancing said hopper, said hopper having a vertical passageway therethrough, floor members set in the sides of said hopper and adapted to be moved across said passageway to receive and support the material to be weighed, means providing a wrapping pocket adapted to receive the lower end of said hopper as it descends bodily with its load, means for supplying wrapping material across the mouth of said wrapping pocket under the end of said hopper, said hopper being adapted to depress said wrapping material down into said wrapping pocket around its lower end, means for automatically opening said floor members to discharge the material from said hopper into said pocket and in said wrapping material, means automatically raising said hopper to receiving position, and means for folding said wrapping material over the top of the material in said pocket.

3. In a package wrapping machine, in combination, a receiving pocket to receive the matter to be wrapped, one end of said pocket being removable, a plunger adapted to move into said pocket from the other end, means for supplying a quantity of matter to be wrapped and a sheet of wrapping paper to said pocket, a hopper adapted to be pressed down on to the paper to force the same down into the pocket, whereby the edges of said wrapper project upwardly around the sides and ends of said pocket, means for automatically folding said edges over on top of said matter, and means for moving said plunger through said pocket to force the wrapped package from said pocket.

4. In a wrapping machine, a rigid frame structure having therein a fixed receiving and wrapping pocket, folding elements at the four sides, around the top of said pocket, means for automatically feeding a sheet of wrapping paper over the top of said pocket, means for discharging a predetermined amount of matter to be wrapped down on to said paper and forcing it down into said pocket, whereby the paper is folded upwardly around the sides and ends of said pocket, and means for automatically moving said folding elements to fold said paper down on top of said material.

5. In a machine of the character referred to, a receiving hopper movably supported to receive a quantity of matter to be wrapped, floor members movably mounted therein intermediate the top and bottom of said hopper, means for moving said floor members to open and closed positions, a wrapping pocket, means for supplying wrapping paper over said pocket, said hopper being adapted to move with its load down into said pocket, the lower end of said hopper pressing said paper down into said pocket to receive the matter to be wrapped from said hopper, means for removing the empty hopper, and means for folding said wrapping paper about said matter in said pocket.

6. In a machine of the character referred to, a receiving hopper movably supported, balancing means for holding the same to receive a predetermined amount of matter, said hopper having floor members therein, at a space above its lower end, means for automatically opening and closing said floor members as said hopper moves up and down, means for supplying wrapping paper to a position above a wrapping pocket, a wrapping pocket under said hopper, said hopper being adapted to move down upon said paper so that its lower end presses the same down into said wrapping pocket, and to discharge its load, means for returning said empty hopper to its receiving position, and means for automatically folding the edges of said wrapping paper down on top of the matter, substantially as described.

7. In a wrapping machine, a rigid frame structure having therein a fixed receiving and wrapping pocket, automatic folding elements movably mounted around the top of said pocket, a balanced hopper adapted to receive a predetermined amount of matter to be wrapped, hinged floor members within said hopper intermediate its ends adapted to fold downwardly to permit matter to move out of said hopper, means exteriorly of said hopper for automatically opening and closing said floor members, means for automatically engaging and operating said

floor members during the bodily up and down movement of said hopper, means for supplying the wrapping paper to receive said material in said pocket, and means for automatically operating said folding elements to fold said paper over the material.

8. In a packaging machine, a balanced hopper to receive matter to be wrapped, said hopper having hinged floor members between its top and bottom, whereby its bottom extends below said floor members, a wrapping pocket below said hopper and adapted to receive the lower end of said hopper, means for automatically operating said floor members to discharge matter from said hopper after it moves down into said pocket, a removable end wall to said pocket, means for operating the same, a plunger adapted to be moved through said pocket and forming the opposite end wall thereof, means for moving the same, means for supplying wrapping paper over said pocket to be pressed down into said pocket by the lower end of said hopper, folding members, and means for operating said folding members to press said wrapping paper down on top of said matter, one of said folding members being adapted to remain down while said plunger moves said wrapped matter out of said pocket, substantially as described.

9. In combination, a balanced receiving hopper and an adjustable weight to determine the amount of matter to move the same, said hopper having floor members intermediate its top and lower end adapted to be opened and closed by the movement of said hopper, means for operating said floor members during said movement, a wrapping pocket under said hopper, means for automatically moving wrapping paper over said pocket, means for automatically cutting said wrapping paper, said paper being adapted to be pressed down into said wrapping pocket by the lower end of said hopper and folded with its edges projecting upwardly around said pocket and said matter from said hopper, means for removing said hopper from said pocket, folding members adapted to automatically fold said wrapping paper over the top of said matter, whereby all edges of the paper are on the top side of the matter wrapped, and means automatically set in action by the movement of the hopper for automatically operating said folding members to fold said wrapping paper, substantially as described.

10. In a wrapping machine, in combination, a structure having a receiving and holding pocket for material to be wrapped, means for supplying wrapping paper thereto, a hopper for receiving and delivering said material to said pocket, said hopper being of tubular form and open at both ends, floor means hingedly mounted within said hopper intermediate its ends and adapted to fold downwardly against the inside of said hopper to discharge matter therefrom, means exteriorly of said hopper for operating said floor as said hopper is moved bodily up and down, balancing means supporting said hopper and adapted to be released by a predetermined amount of matter to be wrapped, means holding said hopper in a vertical operative position during its movement, and means for automatically folding said wrapping paper over the top of said matter in said pocket when said hopper moves therefrom.

11. In a wrapping machine, in combination, a structure having a wrapping pocket open at its top to receive matter to be wrapped and open at another side to discharge the wrapped package, movable folding elements around the open top for folding paper over the top of material therein, means for automatically operating them, means for supplying wrapping paper over the top of said pocket, a balanced hopper for receiving matter to be wrapped, means automatically releasing said hopper when a predetermined amount of matter has been discharged thereinto, said hopper having its lower end adapted to fit within said pocket and to push said wrapping paper down into said pocket as it moves bodily downwardly into said pocket with its load of material to be wrapped, means for automatically releasing said material from said hopper as said hopper moves into said pocket, means automatically removing said hopper from said pocket as its weight of material leaves it, and means automatically operating said movable folding elements to fold said wrapping paper over the top of said material, and means for ejecting said wrapped material from said pocket.

12. In a wrapping machine of the character described, a balanced hopper to receive matter to be wrapped, means for moving and holding wrapping paper, a wrapping pocket over which said paper is held, said hopper having its lower end adapted to move down into said pocket and to push said paper therewith, means for automatically discharging said matter to be wrapped as said hopper descends into said pocket, folding wings for folding said wrapping paper about said matter, means for operating said folding wings successively for folding said paper, said means being adapted to press said folded paper down upon the matter to flatten it and cause it to adhere thereto, and means for moving said folding wings bodily to and from said matter before they are operated on their pivotal mountings, substantially as described.

Signed at Los Angeles, Los Angeles County, California, this 11th day of March, 1921.

GOTTHOLD L. LANGER.