

April 9, 1940.

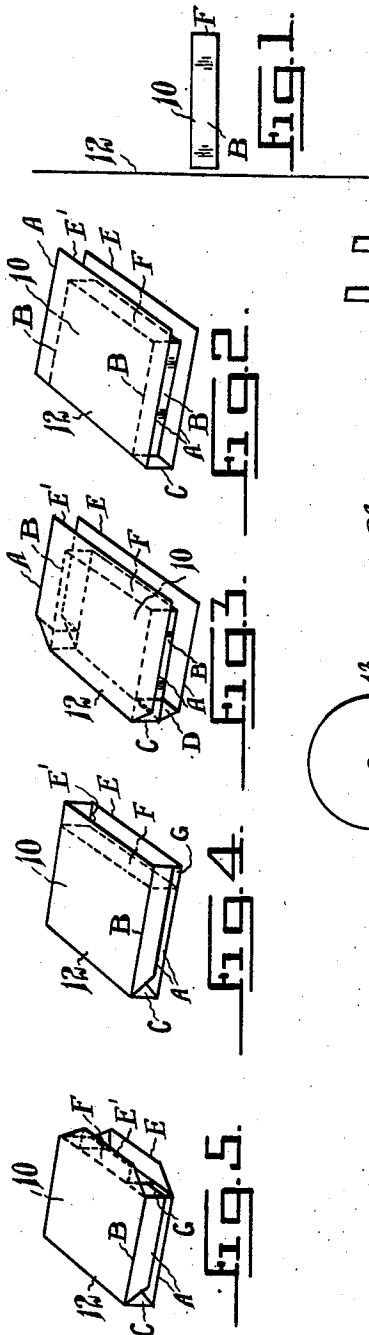
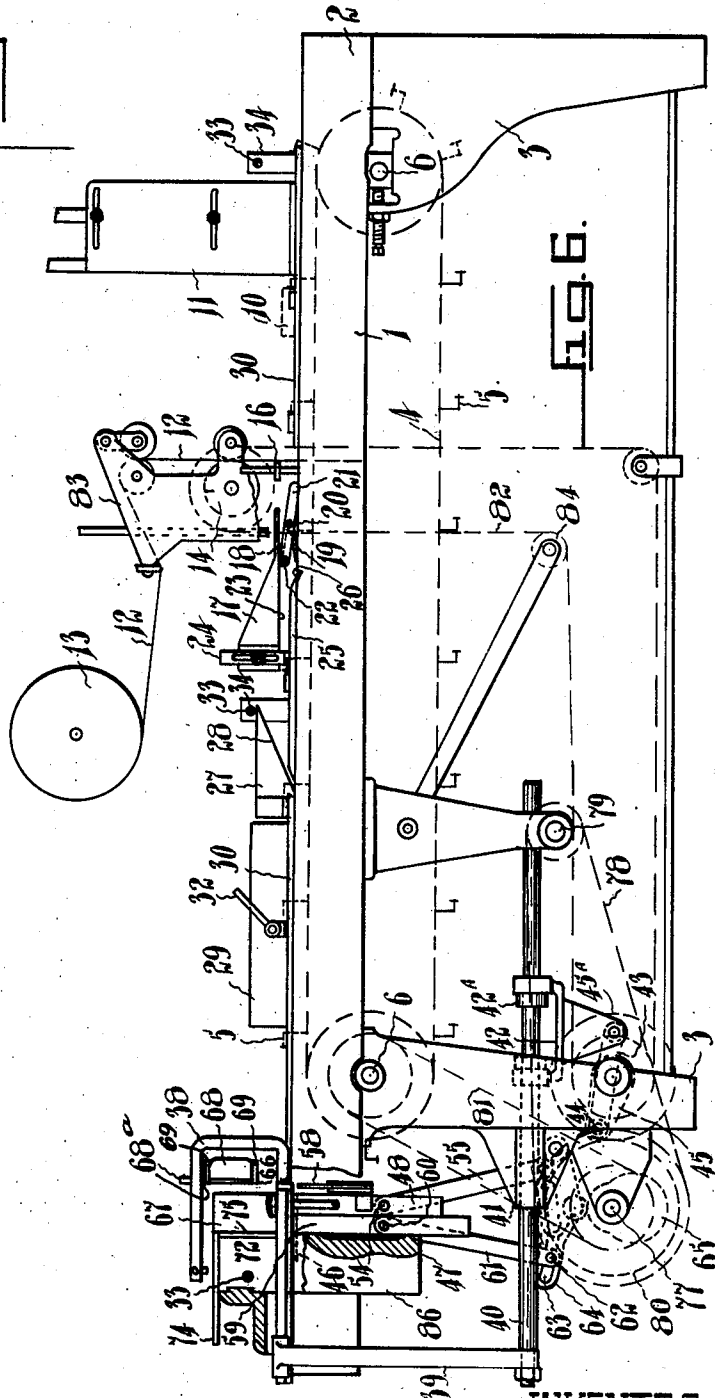
R. D. DELAMERE

2,196,910

WRAPPING MACHINE

Filed July 18, 1938

3 Sheets-Sheet 1



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3 Sheets-Sheet 2

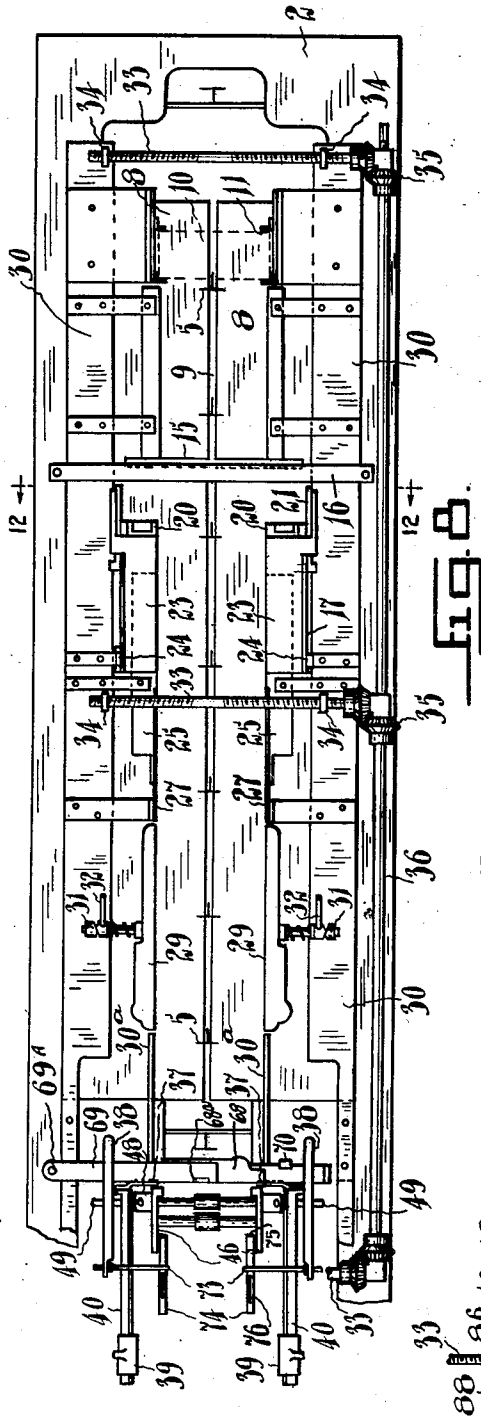
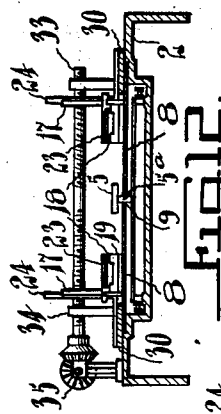
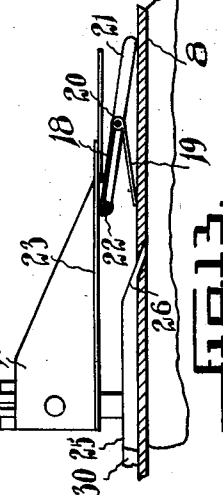
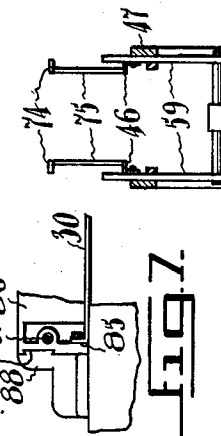
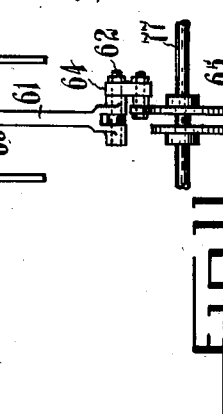
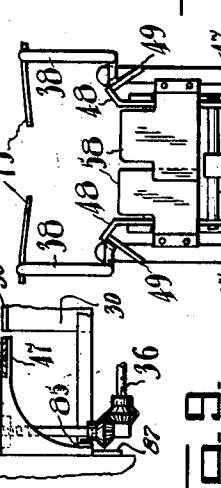
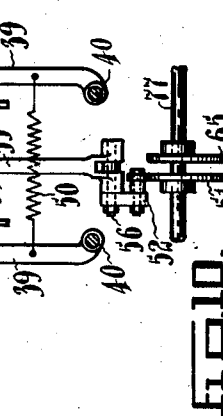


FIG. 8.

FIG. 9.

FIG. 10.

FIG. 11.

FIG. 12.

FIG. 13.

FIG. 14.

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3 Sheets-Sheet 3

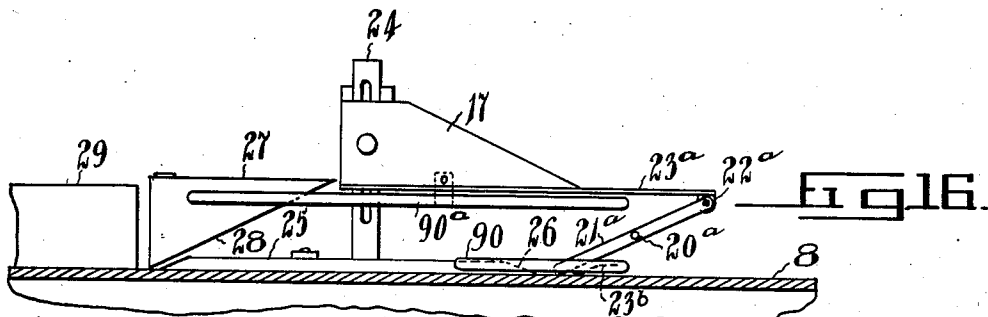
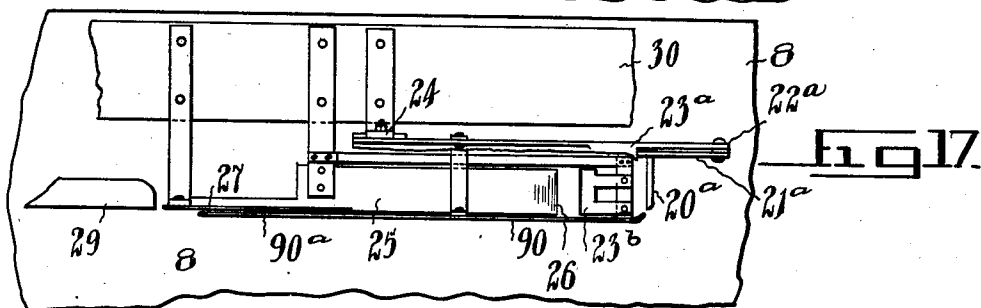
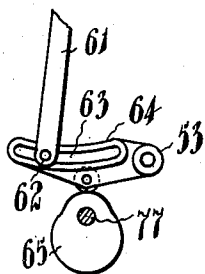


Fig. 14.

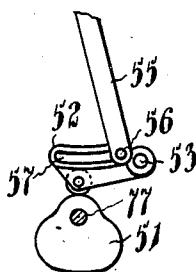


Fig. 15.

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UNITED STATES PATENT OFFICE

2,196,910

WRAPPING MACHINE

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 one-third to Edward R. Grange, both of
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Application July 18, 1938, Serial No. 219,715

19 Claims. (Cl. 93—2)

This invention relates to wrapping machines and more particularly to machines for wrapping packages with "Cellophane" or the like. While such machines are known in the art, the mechanisms heretofore used for performing the various operations automatically are complicated, expensive to manufacture and keep in order. The object of the present invention is to devise simple and rugged mechanism which will not only be cheap to manufacture, but will withstand hard usage and will enable the production of wrapped packages to be materially increased. Another object is to so construct a machine of this type that it will wrap packages of different dimensions, thus one machine may be used for various sized packages instead of requiring the use of a different machine for each size of package.

I attain my objects by providing a crank for reciprocating the tucker members which tuck-in portions of the wrapper, extending beyond the rear side of the package, around the rear corners and against the rear side of the package after the projecting ends of the wrapper have been folded-in against the opposite ends of the package. Simple mechanism including a cam causes said tucker members to be spread apart just before their return stroke. The said cam also actuates a device for folding the lower wrapper extension against the rear side of the package after it has been moved and positioned by the tucker members on to an elevator. The latter is actuated by a second cam and connections whereby the movement of the elevator may be varied to suit packages of different thickness. Devices are provided for tucking-in portions of the end projections of the wrapper around the forward corners of the package and folders are provided for folding-in said end projections against the ends of the package. The tucking-in devices are substantially the same depth as the thickness of the package and they are adjustable to vary their depth so that packages of different thickness may be wrapped efficiently.

The members for folding-in the wrapper projecting ends at opposite ends of the package, and the above mentioned devices, for tucking-in the wrapper extensions around the forward corners of the package, are mounted on carriers which are adjustable to and from one another to suit packages of different lengths. As herein-after described, the machine is also adapted to wrap packages of different widths.

The constructions are hereinafter more fully described and are illustrated in the accompanying drawings in which

Figs. 1 to 5 are diagrammatic views showing the progressive steps in wrapping a package;

Fig. 6 a side elevation of my machine, partly broken away;

Fig. 7 a detail in side elevation of the forward end of the machine;

Fig. 8 a plan view of the machine, broken away at the forward end to show the elevator and tucking mechanisms;

Fig. 9 a horizontal sectional detail of the parts shown in Fig. 7;

Fig. 10 an end elevation of the means for spreading the tucking members;

Fig. 11 a sectional detail of the elevator slides;

Fig. 12 a cross-section of the machine on the line 12—12 in Fig. 8;

Fig. 13 a side elevation, on an enlarged scale, of the device for tucking-in the forward portions of the wrapper ends;

Fig. 14 a detail of the rocker arm for operating the elevator slides;

Fig. 15 a detail of the rocker arm for operating the tucker slides;

Fig. 16 a detail of a modified form of means for folding in the projecting ends of the wrapper; and Fig. 17 a plan view of the parts shown in Fig. 16.

In the drawings like numerals of reference indicate corresponding parts in the different figures.

Machines for applying wrappers to packages or cartons in the same manner as that employed by my machine are well known in the art. Briefly, the method of wrapping a package 10 is to advance the latter to engage a sheet of wrapping material 12 substantially midway between its ends (see Fig. 1) so that the continued movement of the package will draw the sheet between suitable devices whereby the sheet will envelope the forward side, and the under and top surfaces of the package (see Fig. 2). The length of the sheet is such that the extensions E of the wrapper will extend beyond the rear side F of the package sufficiently to enable the extensions, when folded-in, to overlap one another and cover the rear side of the package. The width of the wrapping material exceeds the circumference and thus the length of the package sufficiently to provide ends A which project beyond the opposite ends B of the package. The vertical portions C of the wrapper are tucked-in against the ends B of the package and the ends A are folded-in and sealed first (see Fig. 4), then the portions G of the rear extensions between the under and top surfaces of the package are tucked-in around the

rear opposite corners and against the rear side F of the package (see Fig. 5). The latter is then carried forward by the tucker members and deposited on an elevator. The bottom rear extension E is then engaged by a device which is moved upwardly to fold-in said extension while the package is on the elevator. The latter is then moved upwardly to draw the upper rear extension E' past a device which engages the said upper extension E. During the upper movement of the elevator, the folded-in extensions E and E' may be heated to cause them to adhere to one another. At the end of each upward stroke of the elevator the lowermost package is held in its raised position and, assuming the elevator shaft is filled with packages, the uppermost package which is completely wrapped is positioned for engagement by ejector pins which are carried on an extension of the arms carrying the tucker members. At the end of each downward stroke of the elevator, a fresh, partially wrapped package is positioned thereon by the tucker members and during this movement of the latter the above mentioned pins eject a completely wrapped package from the machine.

1 is the frame of the machine which is suitably shaped to support the various parts of the machine and is provided with a bed 2 and legs 3. An endless conveyor 4, formed of a pair of spaced apart chains connected together by flight bars each having a centrally located flight 5 for engaging the rear side of a package, is mounted on sprockets secured to shafts 6 which are journaled near the opposite ends of the frame 1. Positioned above the said bars are two spaced apart bed-plates 8 which are secured to the bed 2 in such a manner that blocks 5^a interposed between the flights and flight bars will extend through a slot 9 between the plates so that the flights 5 are located above the plates. The packages or cartons 10 are carried in a magazine 11 and the lowermost package rests on the plates 8 so that its rear side will be engaged by a flight 5 to move the package along the plates 8.

The wrapping material 12, preferably "Cellophane", is fed or advanced by any suitable means from a supply roll 13 past a cut-off roller 14 having a knife blade which is adapted to co-operate with a roller or other device to sever the lead end of the wrapping material to form a sheet. The lower end of the material passes into a slot 15 formed transversely of the plates 8 and between the chains of the conveyor 4 so that the forward side of the package will engage the sheet, as it is severed from the strip material, at a point substantially midway between the ends of the sheet. The latter is thus carried forward with the package and is drawn therewith between the plates 8 and a bar 16 to cause the wrapping material to lie flat against the forward side and the top and under surfaces of the package. All the above is known in the art and is, therefore, only briefly described.

The ends or flaps A of the wrapper 12 projecting beyond the ends B of the package 10 are folded in over the ends by first tucking-in the vertical portions C around the forward corners of the package and against the ends B thereof. On each side of the machine is carried, as herein-after described, a vertically adjustable device 17 comprising a pair of plates 18, 19 hinged together at 20 so that the plate 18 will overlie the plate 19. The pintle of the hinge connection 20 extends laterally from a link 21, one end of which

rests on a bed-plate 8 and the other end of which is pivotally connected with a lug 22 on a presser-foot 23. The other end of the upper plate 18 is also connected with the link 21 so that as the link is rocked on the lug the plate 18 will move with it. The end of the lower plate 19 remote from the pintle 20 rests on the bed-plate 8. The foot 23 is vertically adjustable on a post 24 whereby the ends of the plates 18, 19 remote from the pintle may be moved to and from one another to suit packages or cartons 10 of different thickness. The hinge connection 20 is located substantially midway between the ends of the link 21 so that as the foot is raised or lowered the hinge connection is correspondingly moved one-half the distance to retain its position midway between the bed-plate 8 and the foot 23. The wrapper vertical portions C are thus first engaged by the hinged connections 20 at points midway between the top and underside of the package and, as the latter moves past the plates 18, 19, the inner side of the plates engage the vertical portions C and tuck them in against the ends B of the package. The ends of the upper plates 18 adjacent the presser feet are spaced slightly therefrom to co-operate therewith and crease the triangular shaped upper corner portions D which are formed between the upper ends of the tucked-in portions C and the top flaps A when the portions C are tucked-in. Simultaneously, the free ends of the lower plates 19 co-operate with the bed plates 8 to crease the lower corner portions D which are formed between the lower ends of the tucked-in portions C and the bottom flaps A when the portions C are tucked-in. Folding members 25, having inclined ends 26 are adapted to engage and fold the lower projecting ends or flaps A against the ends B of the package. The height or thickness of the members 25 is such that they will not extend above the upper surface of the thinnest package to be wrapped by this machine and yet this height is sufficient to fold the flaps A on the thickest package which the machine is capable of wrapping. Subsequently to the folding of the lower flaps A, the upper projecting ends A are folded-in by folding members 27 having inclined ends 28 for engaging said upper portions to fold them over the folded-in lower flaps and against the ends B of the package. The latter then passes between two devices 29 adapted to seal the folded-in parts of the wrapper and encase the ends of the package. Preferably the devices 29 will be heating devices adapted to cause the folded-in parts of the wrapper to adhere to one another and thus seal the ends A of the wrapper.

The plates 18, 19, link 21, presser foot 23, folding members 25, 27 and heater 29 on one side of the longitudinal slot 9 are adjustable to and from the corresponding parts on the other side of the slot so that packages of different lengths (i. e. the distance between the ends B) may be wrapped on this machine. The posts 24 at opposite sides of the machine are connected to carriers 30 which are suitably guided on the bed-plates 8 and the bed 2 to move transversely of the machine whereby the plates 18, 19, links 21 and presser feet 23 may be adjusted. The carriers extend longitudinally of the machine and to each carrier are secured the folding members 25, 27 and the opposite ends of the magazine 11. Each heater 29 is so mounted on a carrier 30 that it will move with it and yet, if desired, be moved relative to it. The heaters 29 are mounted in guides on the carriers and are provided with cams 31 having operating handles 32 whereby the heaters may be quickly

5 moved to and from operative position relative to the folded-in ends A of the wrapper. The heaters are thus moved with the carriers to their operative positions but, if the machine should be stopped, the heaters may be readily withdrawn from the ends A of the wrapper to prevent the latter from being burned or scorched. The carriers 30 may be moved simultaneously to and from one another by spindles 33 having right and left hand threads threaded in nuts 34 secured to the carriers. The spindles are rotated by gearing 35 from a crank operated shaft 36 extending along one side of the machine.

15 The extensions E and E' of the wrapper 12 extending beyond the rear side F of the package 10 are, after the ends A are folded-in, shaped as a tube having the sectional contour of the package. The vertical portions G of the tubular wrapper extensions E and E' are engaged by projections 37 which are adapted to move inwardly towards one another (and at the same time to move in the same direction as but at a greater speed than that of the package) to tuck-in the portions G around the opposite rear corners of the package and against the rear side F thereof. Immediately the projections 37 tuck-in the portions G they convey the package, between guides 30^a, away from the flight 5, which has been advancing the package, and deposit it on an elevator 46.

20 The guides 30^a are secured to the carriers 30 and extend between the heaters 29 and the elevator 46. Subsequently the projections 37 are spread apart, moved in a reverse direction longitudinally of the machine, and moved inwardly towards one another to tuck-in the portions G around the opposite rear corners of the next package being advanced by the conveyor 4. Simultaneously with the inner movement of the projections, the latter are moved longitudinally of the machine, in the same direction as the packages are being advanced, to convey the said next package to the elevator and thus complete the cycle which is repeated for each successive package being advanced by the conveyor.

45 The projections 37 are carried on tucking members 38 secured to rock arms 39 secured to parallel rods 40. The latter are so mounted in bearings 41 that they may be oscillated and reciprocated. The bearings are suitably carried by the frame 1. To each rod 40 are secured collars 42^a which are spaced apart to receive a yoke 42 between them. The yoke is loosely fitted on each rod and is connected by a connecting rod 43 with a pin 44 on a crank 45 whereby an axial movement of the yoke will be transmitted to the rods by means of the collars and yet the rods will be free to oscillate. To the carriers 30 are secured guides 47 in which slides 48 are mounted. The upper ends of the slides 48 are provided with pins projecting outwardly therefrom and at an angle thereto. On the pins are journaled sleeves 49 against which the tucking members 38 are drawn by a spring 50 connected with the arms 39. By moving the slides 48 and thus the sleeves 49 upwardly in the guides 47, the tucking members 38 are spread apart for a purpose hereinafter described and to enable the projections 37 to be moved rearwardly into position for engaging the portions G of the wrapper. This engagement occurs when the slides are lowered to permit the spring 50 to draw the arms 39 towards one another and thus cause the projections to move inwardly into engagement with the portions G.

75 The slides 48 are actuated by a cam 51 which engages a rocker arm 52 pivoted at 53 on a sta-

tionary part so that the arm swings in a substantially vertical path. A pin 54 passing through holes in the slides 48 at opposite sides of the machine forms a drive connection between the slides and yet permits the slides to be adjusted to and from one another. To the pin 54 is secured one end of a connecting rod 55, the other end of which has a pin and slot connection 56, 57 with the rocker arm 52. The slot 57 is arcuate and is preferably struck from the center of the pin 54 whereby the stroke of the connecting rod will be varied in accordance to the distance between the pin 56 and pivot 53 but the lowermost position of the pin 54 and thus the slides 48 will not be changed.

15 Each slide 48 carries one plate of an overlapping pair of plates 58 for engaging the lower wrapper extension while the package is resting on the elevator 46. When the slides 48 are moved upwardly the plates 58 engage the lower wrapper extension E and fold it upwardly against the rear side F of the package and, at the same time, the tucking members 38 are spread apart to move the projections 37 laterally out of engagement with the portions G as the plates 58 move upwardly to fold the lower extension E against said portions. The upward movement of the slides 48 is effected while the crank pin 44 is moving over dead center when the reciprocating movement of the rods 40, rock arms 39, tucking members 38, and projections 37 is substantially stopped. The cam 51 is adapted to retain the slides in their raised positions, with the projections spread apart, during the reciprocating movement of the rods 40 etc. in a direction opposite that of the package being advanced by the conveyor 4. The cam 51 permits the slides 48 to be lowered as the direction of longitudinal movement of the rods 40 is changed so that the projections 37 are moved, towards one another and at the same time, in the direction of the package being advanced by the conveyor whereby the projections tuck-in the portions G and engage them to carry the package from its flight 5 to the elevator.

45 The vertical adjustment provided by the above described pin and slot connection 56, 57 enables the upward movement of the plates 58 to be varied to suit packages of different thickness. The adjustment of the carriers 30 to and from one another also results in the guides 47 and thus the slides 48 being correspondingly moved which causes the overlapped plates 58 to be shortened or extended in length to suit packages of different lengths, i. e. the distance between their ends B. While vertically adjustable projections 37 may be employed for use with packages of different thickness, I may supply a number of pairs of such projections of various thickness and to provide detachable connections between them and the tucking members 38 so that projections of the desired thickness may be readily fitted to the members.

65 The elevator 46 comprises two spaced apart supports each being secured to the upper end of a slide 59. One slide 59 is mounted in each of the hereinbefore described guides 47 behind a slide 48. A pin 60 passing through holes in the slides 59 permit the latter to be adjusted with the guides and carriers 30 to and from one another whereby the elevator is adjusted to suit packages of different lengths. To the pin 60 is secured one end of a connecting rod 61, the other end of which has a pin and slot connection 62, 63 with a rocker arm 64 which is actuated by a cam 65. The rocker arm 64 is pivoted on the pivot 53 75

and is located beside the rocker arm 52 thereon. The slot 63 is arcuate and is preferably concentric to the pin 60 so that the supports 46 when lowered to their lowermost position will always be in alignment with the bed plates 8, to receive the partially wrapped packages therefrom, and yet the stroke of the elevator may be varied by shifting the pin 62 relative to the pivot 53.

After the plates 58 have folded in the lower wrapper extension E and the projections 37 have been spread apart to disengage the package, the elevator is raised to cause the last extending wrapper portion which is the upper wrapper extension E' to be folded-in over the lower extension E and against the rear side F of the package. This is accomplished by providing a shoulder 66, in the shaft or well 67 in which the elevator moves, for engaging said upper extension E' to fold it in as the package is moved upwardly by the elevator. The shoulder 66 may be formed on the bottom edge of a vertically adjustable heater 68 which may form one wall of the well 67 and which causes the folded-in extensions E and E' to be adhered to one another and thus seal said wrapper extensions against the side F of the package. To retain the package or packages in the well in its or their raised position when the elevator 46 is lowered to receive a fresh package, I provide any suitable means. The heater 68 is mounted on a hinged arm 69 which is locked by a latch 70 for releasably retaining the heater in its operative position. The heater may be thus quickly moved from its operative position to prevent the ends E of the wrapper from being burned or scorched if the machine is stopped. The hinged arm 69 is vertically adjustable on the post 69^a on which it is hinged and is retained as adjusted by any suitable means. Preferably the hinged arm 69 is formed in two parts to support the upper and lower ends of the heater from the post 69^a.

Preferably, the latch 70 is formed on the end of a flat spring member having its other end secured to any suitable stationary part whereby the heater is spring held in its operative position to yieldingly force the package or packages in contact therewith against the hereinafter described rail portions 75. The latter are serrated to frictionally engage the side of the package opposite that side in contact with the heater. As each package must be raised a distance at least equal to its depth so that clearance for a fresh package is provided, such clearance may be readily obtained by shifting the pin 62 in its slot 63 to vary the extent of movement of the elevator to suit packages of different thickness.

On successive strokes of the elevator 46 the packages in the well 67 are discharged one by one by ejectors 73 carried by the tucking members 38. The latter are U shaped with the legs thereof extending horizontally. The upper legs are offset relative to the lower legs and are positioned above the bed plates 8 and slightly above rails 74.

The ejectors are carried on the upper legs of the U-shaped tucking members 38 and are thus positioned above the projections 37 on the lower legs thereof and forward of the projections relative to the direction of travel of the conveyor 4 so that, when said members engage a package being advanced by a flight 5, the ejectors will engage the uppermost package in the elevator well 67. The ejectors are bent so that their inner ends are offset relative to their outer ends whereby the ejectors may be adjusted to engage the ends of packages of differ-

ent thickness at a point substantially midway between the top and bottom surfaces. As the tucking members are moved, in the same direction as the conveyor 4 by the crank pin 44 and connecting rod 43, to convey a partially wrapped package to the elevator, the ejectors convey a completely wrapped package along the rails 74 and discharge said package from the machine. The rails 74 have downwardly extending portions 75 which form the wall of the well 67 opposite the heater 68 to prevent the packages from shifting on the elevator relative to the shoulder 66 and heater 68. Preferably the depth of the heater 68 is less than that of the rail portions 75 and therefore the heater is provided with a finger 68^a extending upwardly above the rails 74. The width of the finger is such that the tucker members 38 will clear the finger when they are adjusted to their innermost positions to work on the shortest package which may be wrapped by the machine.

To enable packages of different widths to be wrapped, the rails 74 are adjustably secured by pin and slot connections 76 to a suitable stationary part so that the distance between the downwardly extending portions 75, forming one wall of the well, and the heater 68 with its finger 68^a, forming the opposite wall of the well, may be varied.

The cams 51 and 65 are secured to a cam shaft 77 which is driven by a belt or chain 78 from a motor driven shaft 79. The cam shaft carries a gear 80 which is meshed with a gear 45^a secured to a shaft to which the crank 45 is secured whereby the tucker members 38 are reciprocated. The shaft 77 also drives the endless conveyor 4 by sprockets and a chain 81. The cut-off roller 14 is driven by a chain 82 from a sprocket secured to the shaft to which the gear 45^a is secured. The cut-off roller is mounted for vertical adjustment on a standard 83 so that the lengths of wrapping sheets may be centered on different sizes of packages. The chain 82 is carried around a weighted floating idler 84 to facilitate said adjustment of the cut-off roller 14.

Referring to Figs. 7 and 9 it will be noted that the end of each of the carriers 30 adjacent the discharge end of the machine is secured at 85 to a bracket 86 which is slidably mounted transversely of the machine in a runway 87 on the rear end 88 of the machine. In the brackets 86 are formed the guides 47 for the slides 48 and 59. The adjusting spindle 33 at the discharge end of the machine passes through threaded holes formed in the brackets 86.

From this description it is obvious that the machine may be readily adjusted to suit packages of different lengths by moving the carriers 30 towards or away from one another and by employing a roll of wrapping material 12 of the proper width. Packages of different depths or thickness may be wrapped by adjusting the cut-off roller 14 to center the sheet on the package and by regulating the speed of the feed rollers to cut the desired length of wrapper sheet, by adjusting the device 17 to tuck-in the portions C of the wrapper around the forward corners of the package, by adjusting the pin 62 in the slot 63 to vary the extent of movement of the elevator by adjusting the pin 56 in the slot 57 to vary the extent of movement of the folding plates 58 and the spreading apart of the tucking projections 37, 70 and by adjusting the depth of said projections. Packages of different widths may be wrapped by adjusting the one end 11^a of the magazine 11 relative to the other end thereof longitudinally of the machine to receive such packages and by 75

shifting the rails 74 to move the downward extensions 75 thereof longitudinally of the machine to vary the width of the elevator well.

I have found in practice that the device 17 for tucking-in the vertical portions C around the forward corners of the package may be simplified by omitting the hinged plates 18, 19, as shown in Figs. 16 and 17. The inner ends of the pintles 20^a, projecting laterally from the links 21^a, will thus engage the vertical portions C and tuck them in against the ends B of the package. Preferably the inclination of the link 21^a is reversed to that of the link 21 and this is accomplished by providing the presser foot 23^a with a lug 22^a on which the link is pivoted. Spring members 23^b carried by the carriers 30 are adapted to co-operate with the bed plates 8 to crease the lower corner portions D which are formed between the lower ends of the tucked-in portions C and the bottom flaps A when the portions C are tucked in. To facilitate the folding-in of the wrapper ends A and the portions C and D against the package ends B, I provide thin strips 90, 90^a carried by the carriers 30 for engaging the portions C adjacent the lower and upper surfaces of the package respectively immediately after the portions C at opposite ends of the package have been folded in by the pintles 20^a. The lower strips 90 extend beyond the spring members 23^b and just beyond the inclined ends 26 of the lower folding members 25 so that the lower projecting ends or flaps A of the wrapper will be folded over the strips 90 to overlie the package ends B. The upper strips 90^a extend just beyond the inclined ends 28 of the upper folding members 27 so that the upper projecting ends or flaps A of the wrapper will be folded over the strips 90^a to overlie the folded-in lower flaps A and the ends B of the package. The strips 90, 90^a thus ensure that the folded-in portion C of the wrapper is held against the ends of the package until the wrapper ends or flaps A are folded-in by the members 25 and 27. The corner portions D are thus held from bulging outwardly during the travel of the package between the pintles 20^a and the folding members 25 and 27 which retain the folded-in flaps A against the package ends B until they pass between the heaters 29.

It will be distinctly understood that various other modifications may be made in my machine without departing from the spirit of my invention.

What I claim as my invention is:

1. Mechanism for completing the wrapping of a package having wrapper extensions extending beyond the rear side of the package, the said mechanism including means for folding-in the wrapper extensions to enclose said side, the said folding means including an elevator adapted to receive the incompletely wrapped packages seriatim; and means for actuating the elevator to move each incompletely wrapped package at least a sufficient distance to permit a fresh package to be positioned beneath it on the elevator, the said actuating means including adjustable members for varying the extent of movement of the elevator to suit packages of different thickness.

2. Mechanism for completing the wrapping of a package having wrapper extensions extending beyond the rear side of the package, the said mechanism including means for folding-in the wrapper extensions to enclose said side, the said folding means including a part for supporting an

incompletely wrapped package and a part adapted to fold in the last one of the wrapper extensions, the said parts being movable relative to one another to cause said extension to be folded in; and means for actuating the said movable part, the last mentioned means including adjustable members for varying the extent of movement of the movable part to suit packages of different thickness.

3. Mechanism constructed as set forth in claim 1 in which the adjustable members comprise a rocker arm; and a connecting rod which is connected with the elevator and has a pin and slot connection with the rocker arm.

4. Mechanism constructed as set forth in claim 1 in which the adjustable members comprise a rocker arm pivoted to swing in a substantially vertical path; and a connecting rod which is connected with the elevator and has a pin and slot connection with the rocker arm, the slot being arcuate and substantially concentric to the connection between the rod and elevator so that adjustment of the pin in its slot will result in a shifting of the pin relative to the pivot of the rocker arm without changing the lowermost position of the elevator.

5. Mechanism for completing the wrapping of a package having wrapper extensions extending beyond the rear side of the package, the said mechanism including means for tucking-in portions of the wrapper extensions around the opposite rear corners of the package and against the rear side thereof; means for folding-in the bottom extension; means for engaging the upper extension and causing it to be folded over the bottom extension as the package is moved past the engaging means; and means for effecting said movement of the package, the tucking means being also moved by the mechanism to feed incompletely wrapped packages one by one to the said package moving means, the latter including members adjustable relative to one another to vary the movement of the package moving means to suit packages of different thickness so that each package will be moved at least a distance equal to its thickness to permit the feeding of a fresh package to said package moving means.

6. Mechanism for completing the wrapping of a package having wrapper extensions extending beyond the rear side of the package, the said mechanism including an elevator; means for tucking-in portions of the wrapper extensions around the opposite corners of the package and against the rear side thereof and for advancing the package on to the elevator; means for folding in the bottom extension; means for engaging the upper extension and causing it to be folded over the bottom extension as the package is moved past the engaging means; and means for reciprocating the elevator to move the package past the engaging means and to return the elevator for a fresh package, the said reciprocating means including adjustable members for varying the stroke of the elevator relative to that of the said reciprocating means.

7. Mechanism for completing the wrapping of a package having wrapper extensions extending beyond the rear side of the package, the said mechanism including means for folding-in the wrapper extensions to enclose said side, the said folding means including guides spaced apart transversely of the machine at opposite ends of the package; slides mounted to reciprocate in the guides; package carriers on the slides adapted to receive an incompletely wrapped package and to

elevate it, the said guides and thus the elevating carriers being adjustable to and from one another to suit packages of different lengths; and means for actuating the slides, as adjusted to and from one another, to move the carriers and elevate the package.

8. Mechanism for completing the wrapping of a package having wrapper extensions extending beyond the rear side of the package, the said mechanism including means for folding-in the wrapper extensions to enclose said side, the said folding means including guides spaced apart transversely of the machine at opposite ends of the package; slides mounted to reciprocate in the guides; package carriers on the slides adapted to receive an incompletely wrapped package and to elevate it; a second set of slides reciprocally mounted in said guides; overlapped plates secured to said second set of slides for engaging the lower wrapper extension to fold it against the rear side of the package, the said guides being adjustable to and from one another whereby the elevating carriers and the overlapped plates will be adjusted to suit packages of different lengths; means for actuating the second set of slides to cause the plates to fold-in the lower wrapper extension while the package is on the elevating carriers; a shoulder for engaging the upper wrapper extension to fold it over the folded-in lower wrapper and means for actuating the first mentioned slides to elevate the package past the shoulder and cause the upper wrapper extension to be folded-in.

9. Mechanism as set forth in claim 8 in which each of the actuating means includes adjustable members for varying the extent of vertical movement of the plates and of the elevating carriers to suit packages of different thickness.

10. A wrapping machine having carriers extending lengthwise of the machine and adjustable to and from one another; means carried by each carrier for folding-in projecting ends of a wrapper against the opposite ends of a package as it is moved between said means; mechanism for folding-in wrapper extensions against the rear side of the package, including overlapped plates for folding-in the lower wrapper extension; guides secured to the carriers; slides mounted on said guides, each slide having one of said plates secured thereto; means for adjusting the carriers to and from one another, and thus the slides and plates, to suit packages of different lengths; and means for reciprocating the slides, the said reciprocating means including connections with the slides for permitting the said adjustment thereof.

11. A wrapping machine comprising spaced apart means for folding-in projecting ends of a wrapper at opposite ends of a package to overlie the said ends of the package as it is moved between the folding means, each of the said means including a device for tucking-in a portion of the wrapper ends around a corner of the package and against an end thereof, the said devices being substantially the same depth as the thickness of the package and being adjustable to vary their depths to suit packages of different thickness; means for completing the wrapping of the package to enclose the rear side thereof, comprising package carriers for receiving the incompletely wrapped packages serially; and means for elevating the said carriers to position the completely wrapped packages one by one for discharge, the said elevating means being adjustable for vary-

ing the extent of movement thereof to suit packages of different thickness.

12. Mechanism for completing the wrapping of a package having wrapping extensions extending beyond the rear side of the package, the said mechanism including an elevator; means including reciprocating members for tucking-in portions of the wrapper extensions around the opposite corners of the package and against the rear side thereof and for advancing the package on to the elevator; guides spaced apart transversely of the machine at opposite ends of the package; slides mounted to reciprocate in said guides; overlapped plates secured to said slides for engaging the lower wrapper extension to fold it against the rear side of the package and over the tucked-in portions, the tucking members being movable away from one another to clear the plates; means carried by the slides for so actuating the tucking members; means for actuating the slides to cause the tucking members to be withdrawn from engagement with the tucked-in portions as the plates fold up the lower extension; a shoulder adapted to engage and fold-in the upper wrapper extension; and means for actuating the elevator to cause the last mentioned extension to be moved past the shoulder.

13. A machine for wrapping a package, comprising means for advancing the package and a wrapper therearound having its ends projecting beyond the ends of the package; means for folding-in the said ends of the wrapper against the adjacent ends of the package as it is moved past the folding means, the latter including devices for engaging vertical portions of the said ends of the wrapper substantially midway between the upper and lower surfaces of the package to tuck-in said portions around the opposite forward corners of the package and against the ends thereof; and means for pressing the upper part of the wrapper against the upper surface of the package while the said vertical portions of the wrapper are being folded-in, the pressing means being vertically adjustable to suit packages of different thickness, the said devices being connected with the pressing means for vertical adjustment therewith.

14. A wrapping machine constructed as set forth in claim 13 in which each of the devices comprise two plates hinged together at one end so that one plate overlies the other plate, the upper plate of each device being connected with the pressing means so that the hinge connection of the plates will move substantially one-half the distance of the movement of the pressing means when the latter is adjusted.

15. A package wrapping machine comprising a bed plate; means for advancing a package and a wrapper therearound along the bed plate, the wrapper having its ends projecting beyond the ends of the package; means for pressing the upper part of the wrapper against the upper surface of the package, the pressing means being vertically adjustable to suit packages of different thickness; links having their upper ends pivotally connected with the pressing means and their lower ends resting on the bed plate; devices projecting laterally from points substantially midway between the ends of the links for engaging the vertical portions of the said ends of the wrapper to tuck-in said portions of the wrapper around the opposite forward corners of the package and against the ends thereof; and means for folding-in the projecting ends of the wrapper against the adjacent tucked-in portions

thereof and the ends of the package as it is moved past the folding means.

16. A package wrapping machine comprising a bed plate; means for advancing a package and a wrapper therearound along the bed plate, the wrapper having its ends projecting beyond the ends of the package; means for pressing the upper part of the wrapper against the upper surface of the package, the pressing means being vertically adjustable to suit packages of different thickness; links having their upper ends pivotally connected with the pressing means and their lower ends resting on the bed plate; devices projecting laterally from points substantially midway between the ends of the links for engaging the vertical portions of the said ends of the wrapper to tuck-in said portions of the wrapper around the opposite forward corners of the package and against the ends thereof; means co-operating with said pressing means for creasing the wrapper portions connecting the tucked-in portions and the upper projecting ends; means co-operating with the bed plate for creasing the wrapper portions connecting the tucked-in portions and the lower projecting ends; and means for folding-in the projecting ends of the wrapper against the adjacent tucked-in portions thereof and the ends of the package as it is moved past the folding means.

17. A package wrapping machine comprising a bed plate; means for advancing a package and a wrapper therearound along the bed plate, the wrapper having its ends projecting beyond the ends of the package; means for pressing the upper part of the wrapper against the upper

surface of the package, the pressing means being vertically adjustable to suit packages of different thickness; links at opposite sides of the machine, each link having one end pivotally connected with the pressing means and its other end resting on the bed plate; two sets of plates, each set comprising two plates hinged together at one end so that one plate overlies the other, the upper plate of each set being rigidly connected with one of the said links so that the hinge connection is substantially midway of the ends of the link to engage a vertical portion of one of the said ends of the wrapper and tuck-in said portion around a forward corner of the package and against an end thereof; and means for folding-in the projecting ends of the wrapper against the adjacent tucked-in portions thereof and the ends of the package as it is moved past the folding means.

18. A wrapping machine as claimed in claim 13 in which the folding means include lower and upper folding members for folding-in the lower and upper projecting ends of the wrapper serially and also includes thin strips extending substantially from the tucking-in devices to the folding members so that the latter will fold the flaps over the said strips.

19. A machine constructed as claimed in claim 13 in which a bed plate is provided on which the package is advanced past the folding-in means, and in which the tucking-in devices co-operate with the bed plate to crease the corner portions connecting the tucked-in portions and the lower projecting wrapper ends.

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