H. L. JOHNSON.

PACKING CASE OR CARTON SEALING MACHINE.

APPLICATION FILED FEB. 28, 1916.

1,223,176.

Patented Apr. 17, 1917.

10 SHEETS—SHEET 1.

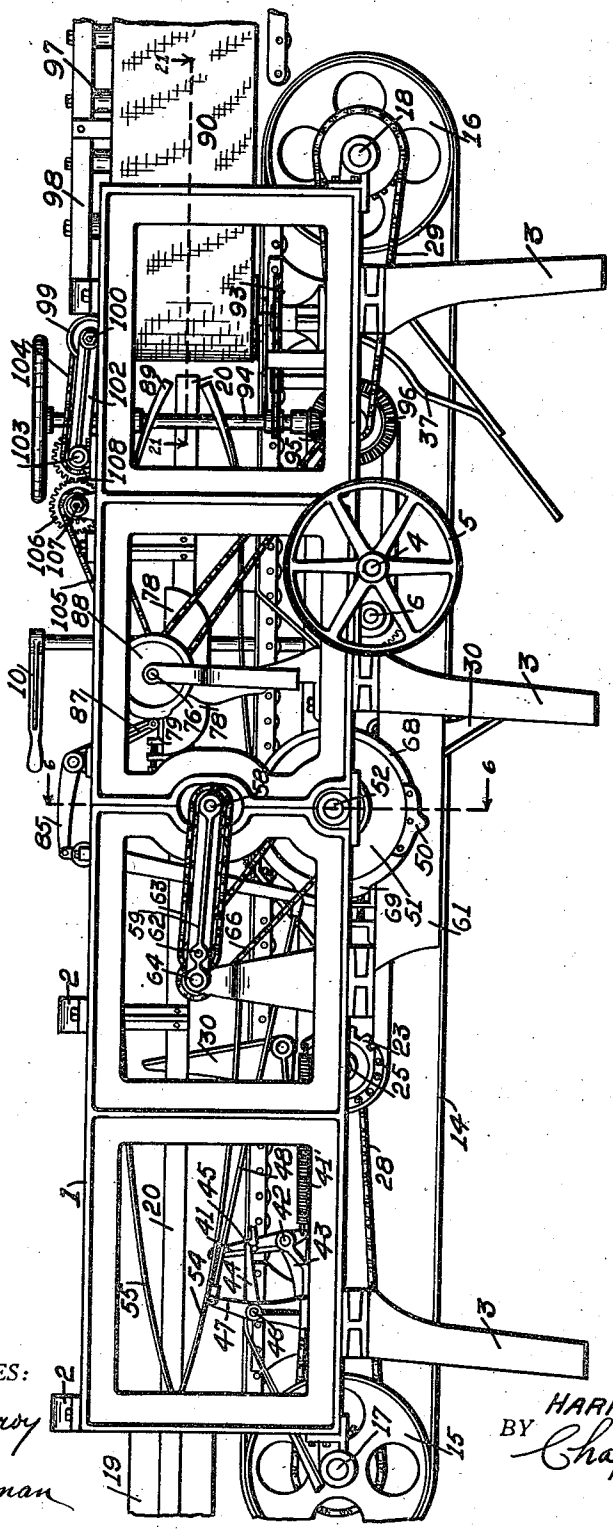


Fig. 1.

WITNESSES:

P. M. Pomeroy

Lenn Gilman

INVENTOR.

HARRY L. JOHNSON

BY Chappell & Earl

ATTORNEYS.

H. L. JOHNSON.

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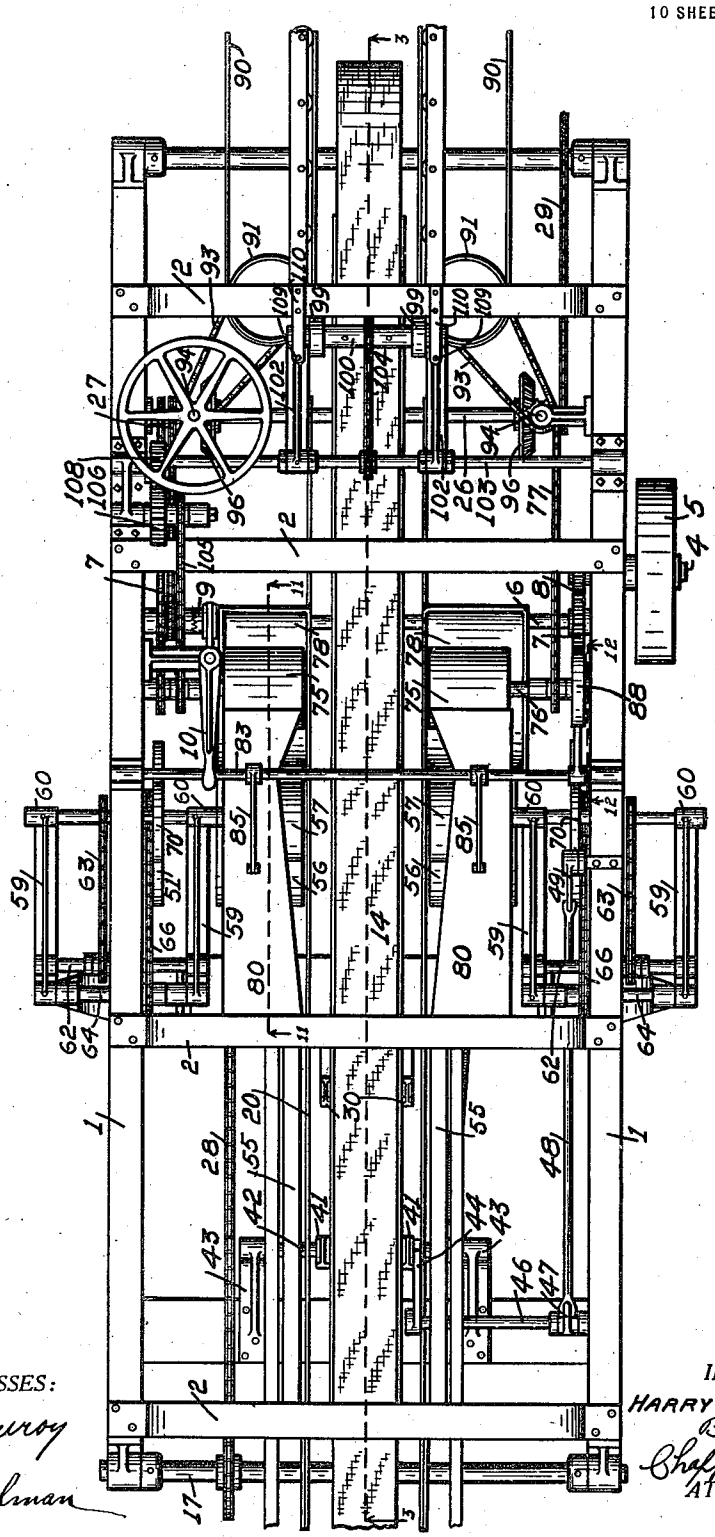


FIG. II.

WITNESSES:

P. M. Pomeroy

Lenn Gilman

INVENTOR.

HARRY L. JOHNSON

By Chappell & Earl

ATTORNEYS.

H. L. JOHNSON.

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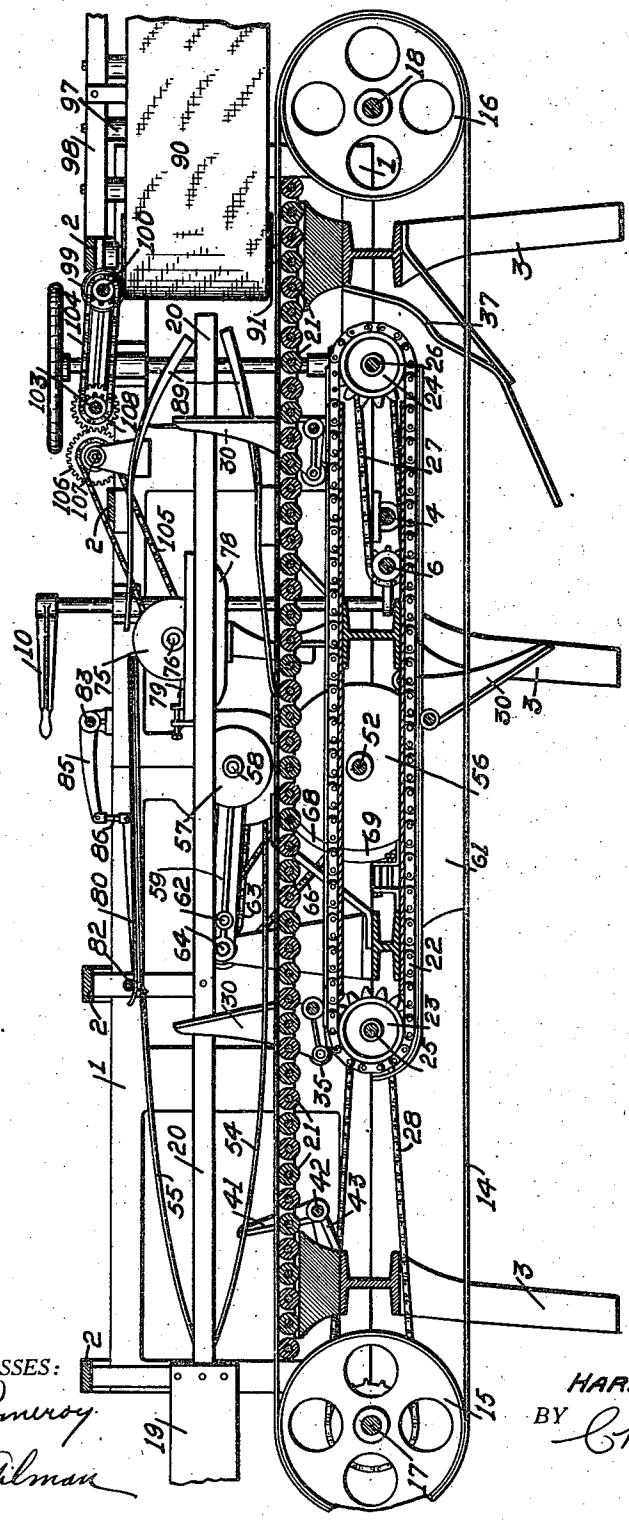


FIG. III.

WITNESSES:

P. M. Pomroy

Lenn Gilman

INVENTOR.

HARRY L. JOHNSON

BY Chappell & Earl

ATTORNEYS.

H. L. JOHNSON.

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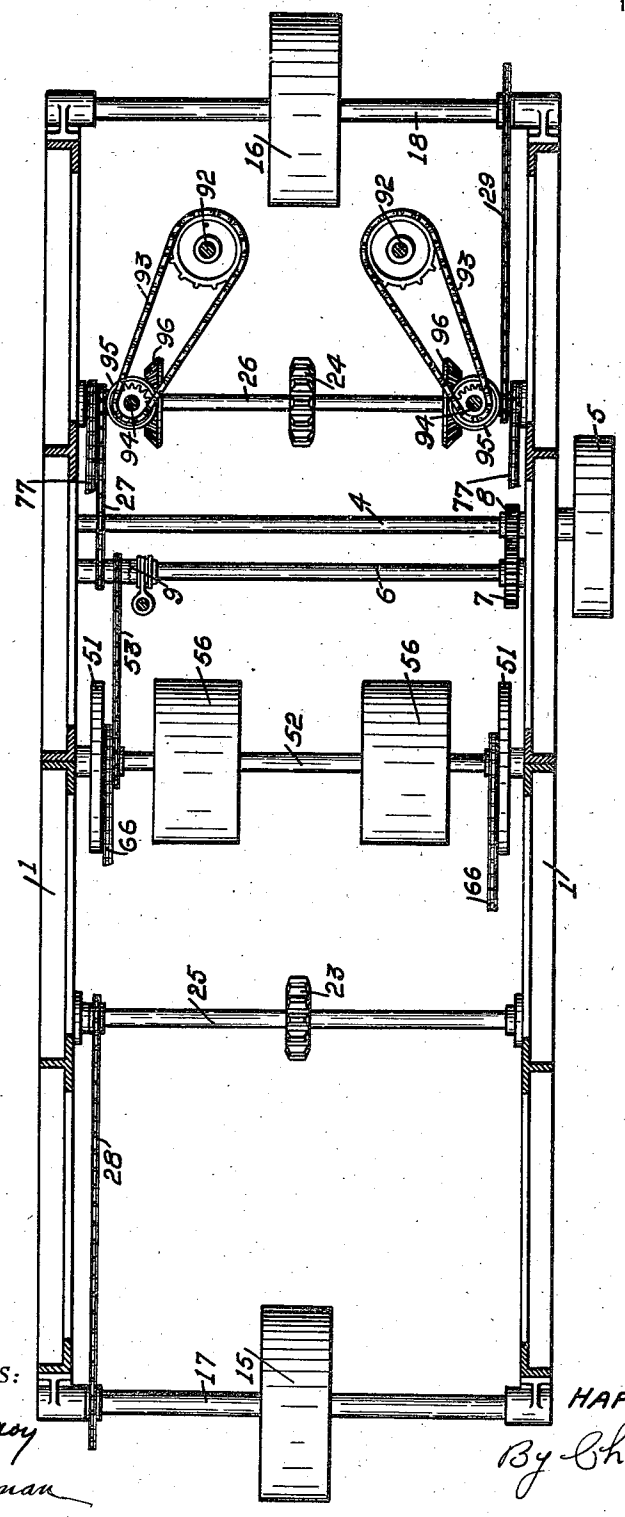



Fig. IV.

WITNESSES:

P. M. Pomeroy

Lenn Gilman

INVENTOR.

HARRY L. JOHNSON

By Chappell & Earl

ATTORNEYS.

H. L. JOHNSON.

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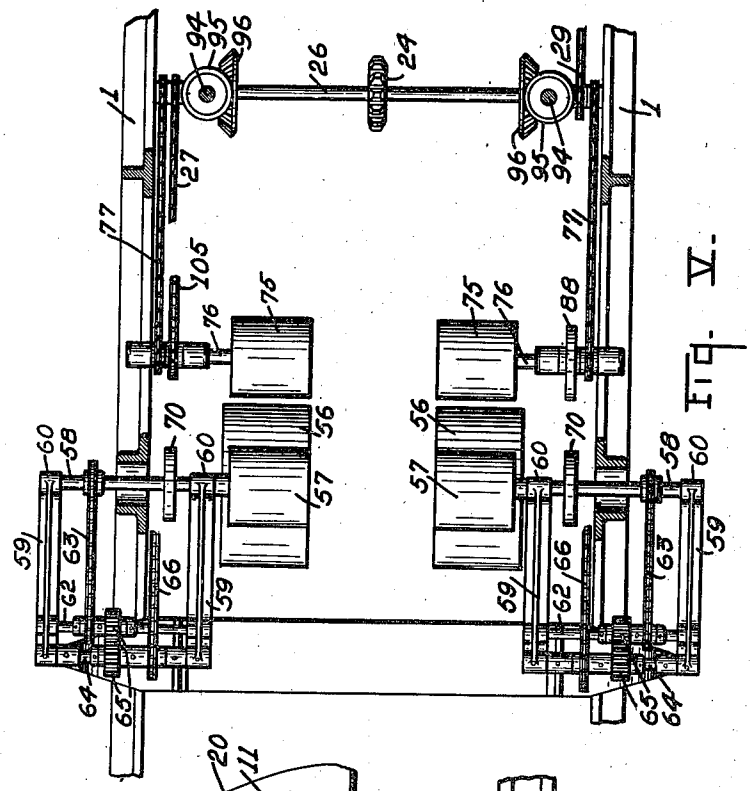


Fig. V.

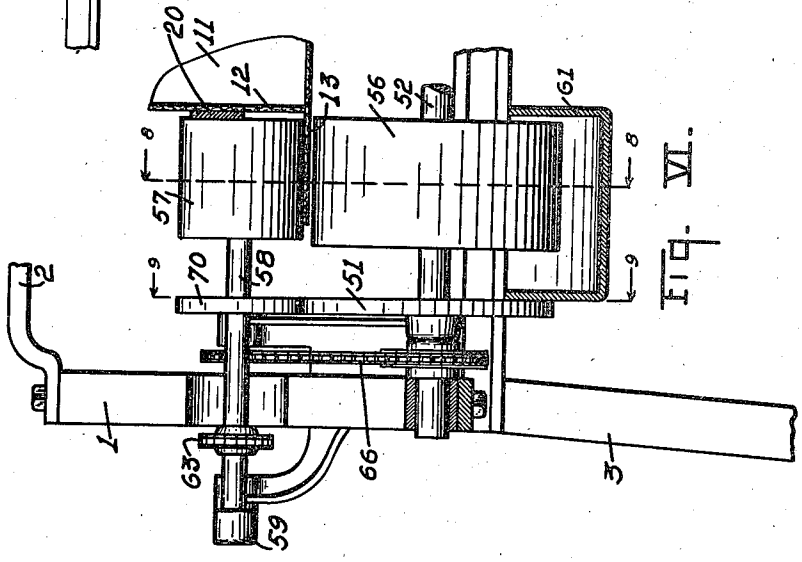


Fig. VI.

WITNESSES:

P. M. Pomeroy

Lenn Gilman

INVENTOR.

HARRY L. JOHNSON

BY Chappell Hart

ATTORNEYS.

H. L. JOHNSON.

PACKING CASE OR CARTON SEALING MACHINE.

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10 SHEETS—SHEET 6.

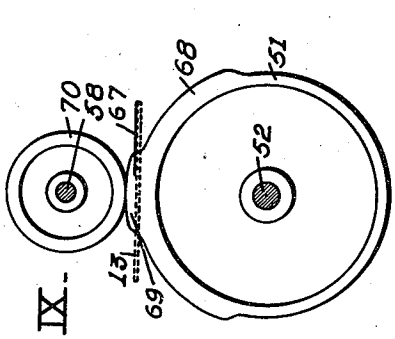



FIG. IX.

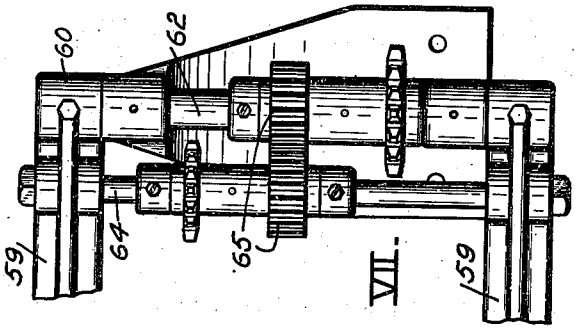



FIG. VII.

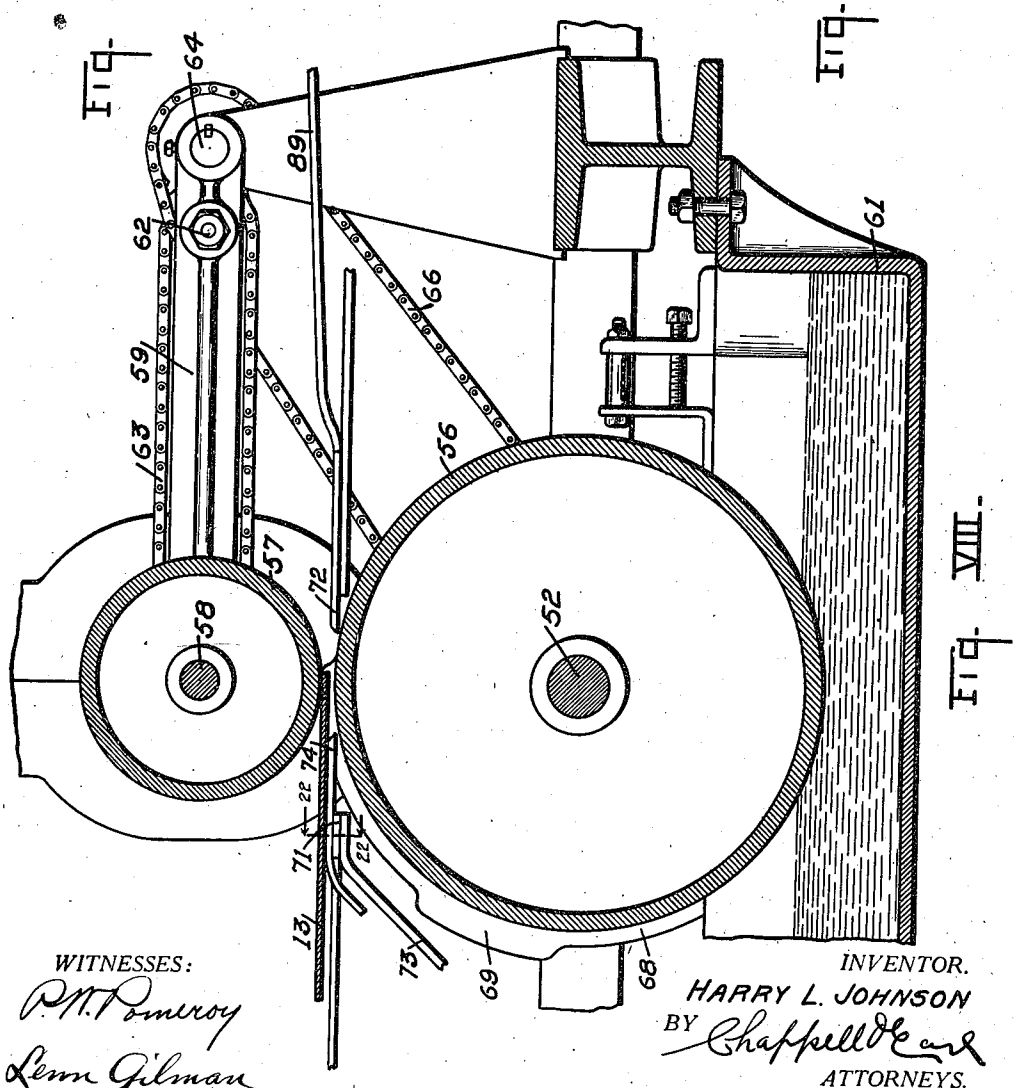



FIG. VIII.

WITNESSES:

P. T. Pomeroy

Lemm Gilman

INVENTOR.

HARRY L. JOHNSON

BY Chappell & Co

ATTORNEYS.

H. L. JOHNSON.

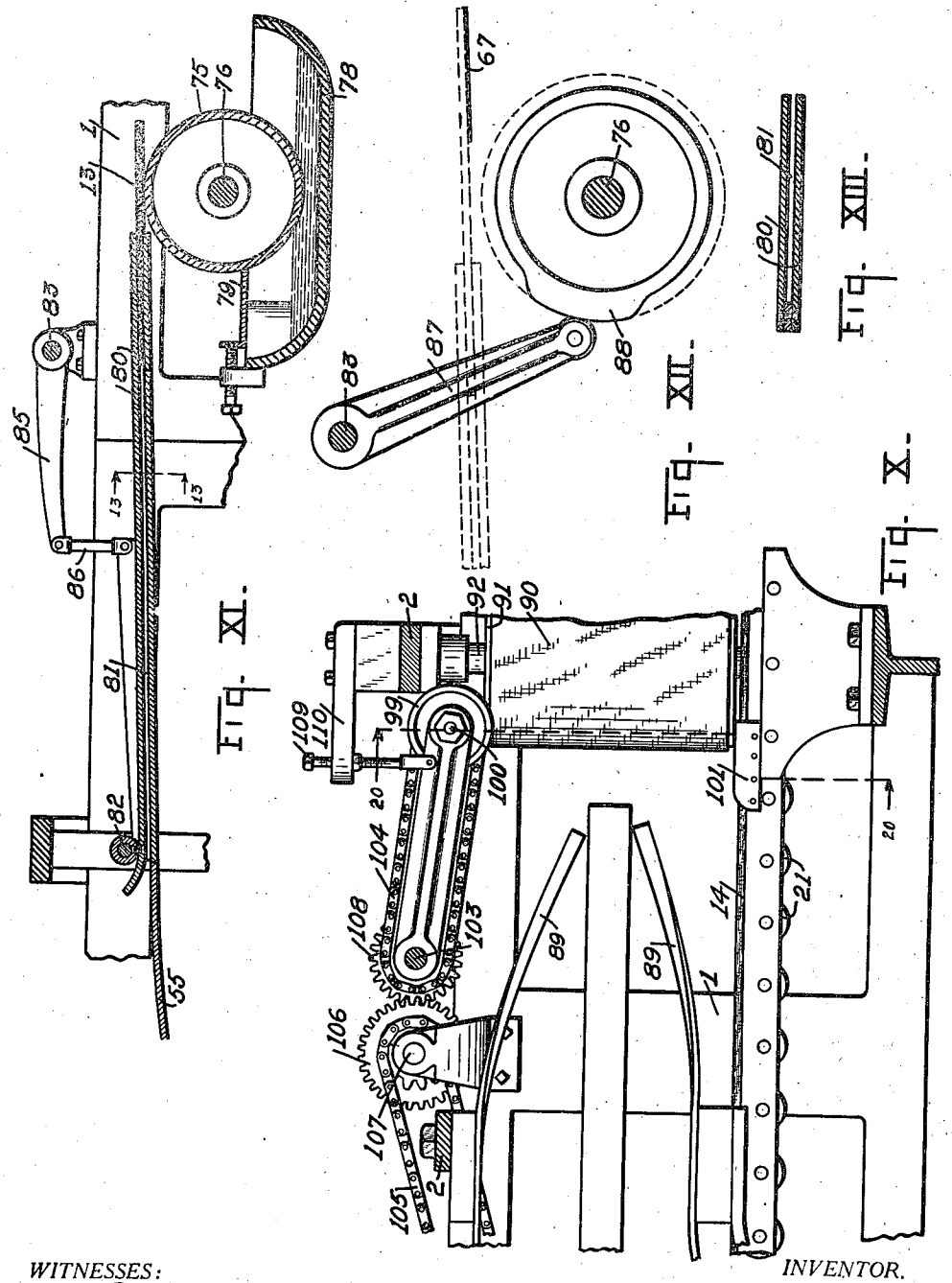
PACKING CASE OR CARTON SEALING MACHINE.

APPLICATION FILED FEB. 28, 1916.

1,223,176.

Patented Apr. 17, 1917.

10 SHEETS—SHEET 7.




WITNESSES:

R. M. Pomeroy

Lenn Gilman

INVENTOR.

HARRY L. JOHNSON

BY Chappell Hart

ATTORNEYS.

H. L. JOHNSON.

PACKING CASE OR CARTON SEALING MACHINE.

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10 SHEETS—SHEET 8.

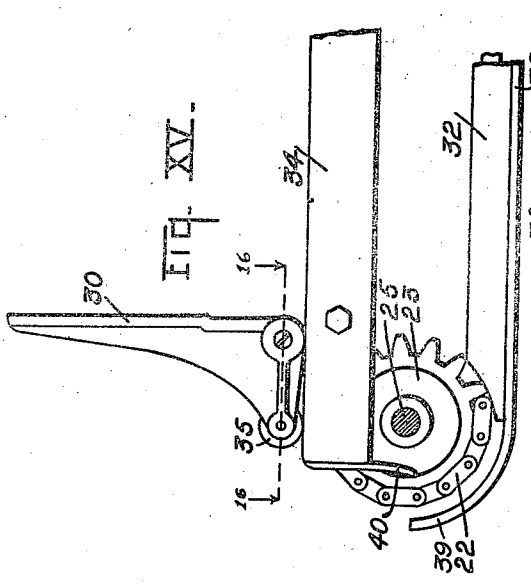


FIG. XV.

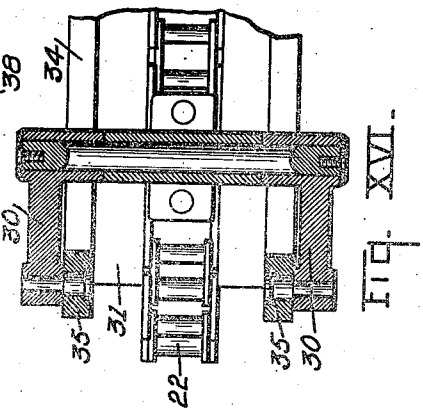


FIG. XVI.

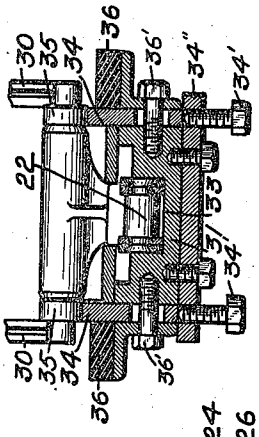


FIG. XVIII.



FIG. XVII.



FIG. XIV.

WITNESSES:

P. M. Pomeroy

Lenn Gilman

INVENTOR.

HARRY L. JOHNSON

BY Chappell & Earl

ATTORNEYS.

H. L. JOHNSON.

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10 SHEETS—SHEET 9.

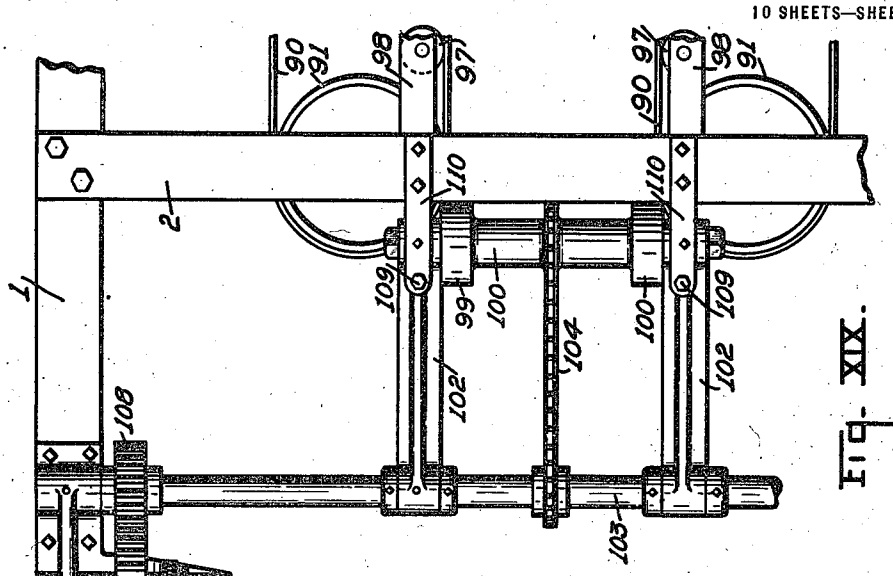



Fig. XIX.

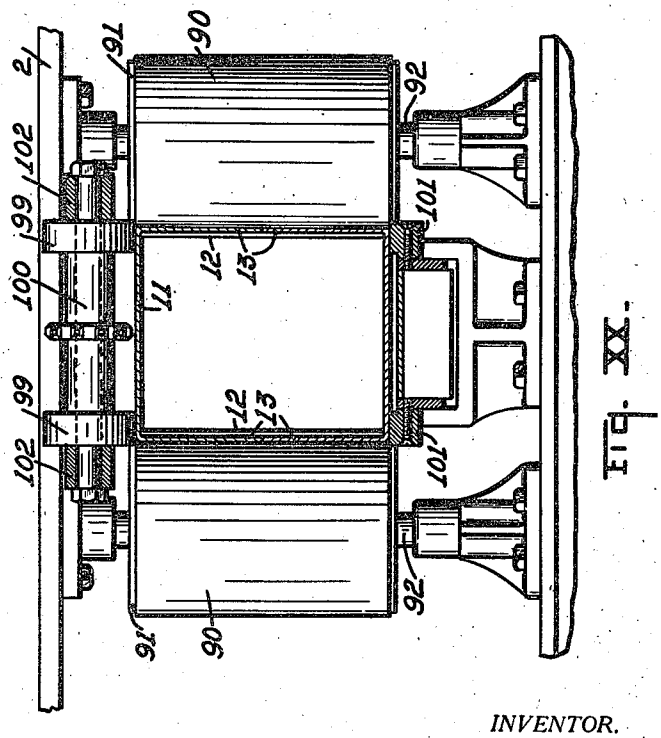



Fig. XX.

WITNESSES:

P. M. Pomeroy

Penn Gilman

INVENTOR.

HARRY L. JOHNSON

BY Chappell & Earl

ATTORNEYS.

H. L. JOHNSON.

PACKING CASE OR CARTON SEALING MACHINE.

APPLICATION FILED FEB. 28, 1916.

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10 SHEETS—SHEET 10.

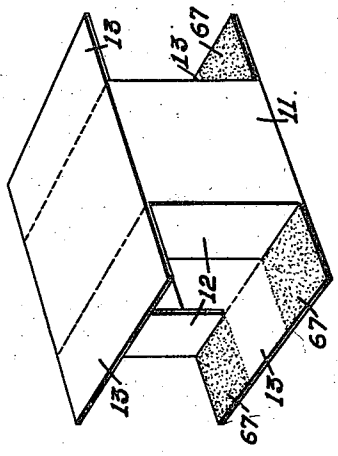



FIG. XXIII.

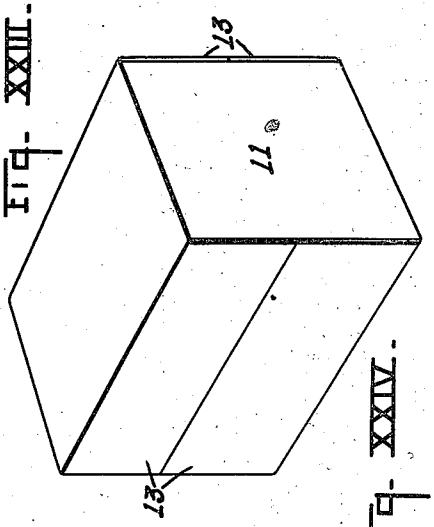



FIG. XXIV.

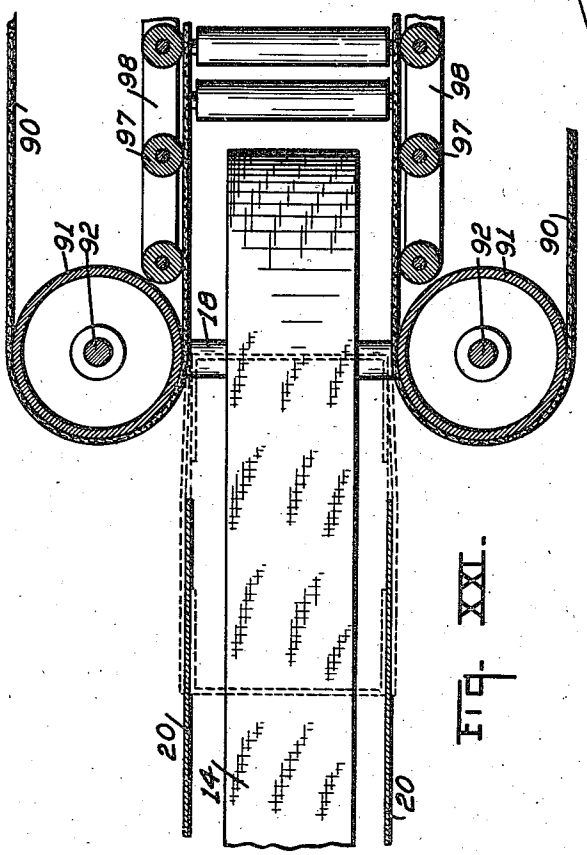



FIG. XXI.

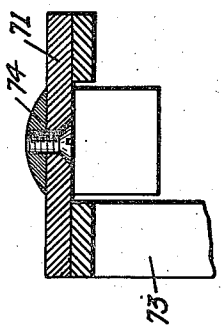



FIG. XXII.

WITNESSES:

P. M. Pomeroy

Lenn Gilman

INVENTOR.

HARRY L. JOHNSON

BY Chappell & Carr

ATTORNEYS.

# UNITED STATES PATENT OFFICE.

HARRY L. JOHNSON, OF BATTLE CREEK, MICHIGAN, ASSIGNOR TO JOHNSON AUTOMATIC SEALER CO., LTD., OF BATTLE CREEK, MICHIGAN.

## PACKING CASE OR CARTON SEALING MACHINE.

1,223,176. Specification of Letters Patent. Patented Apr. 17, 1917.

Application filed February 28, 1916. Serial No. 80,921.

*To all whom it may concern:*

Be it known that I, HARRY L. JOHNSON, a citizen of the United States residing at Battle Creek, county of Calhoun, State of Michigan, have invented certain new and useful Improvements in Packing Case or Carton Sealing Machines, of which the following is a specification.

This invention relates to improvements in packing case or carton sealing machines.

My improvements are particularly designed by me for embodiment in machines for closing and sealing filled packing case or cartons, such as are commonly formed of packing board or corrugated paper board or the like, although certain features are readily adapted and desirable for use in closing and sealing other kinds of cartons.

The main objects of this invention are:

First, to provide an improved packing case or carton closing and sealing machine adapted for the closing and sealing of filled packing cases or cartons.

Second, to provide in a packing case or carton sealing machine an improved glue applying mechanism.

Third, to provide in a packing case or carton sealing machine an improved flap closing and sealing mechanism.

Fourth, to provide a structure of the class described which is of large capacity and at the same time quite compact and simple in structure.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure I is a detail side view of a packing case or carton sealing machine embodying the features of my invention.

Fig. II is a plan view of the structure shown in Fig. I.

Fig. III is a detail longitudinal vertical section on a line corresponding to line 3—3 of Fig. II.

Fig. IV is a detail plan view of portions of the driving connections for the conveyer and gluing mechanism, parts being shown in section.

Fig. V is a detail plan view, partially in section, showing details of the gluing mechanism.

Fig. VI is a detail view, partially in vertical section, on a line corresponding to line 6—6 of Fig. I, showing details of the gluing mechanism for the bottom or lower flaps.

Fig. VII is an enlarged detail plan view of the driving connections for the gluing mechanism.

Fig. VIII is an enlarged detail vertical section on a line corresponding to line 8—8 of Fig. VI, showing further details of the gluing mechanism.

Fig. IX is a detail vertical section on a line corresponding to line 9—9 of Fig. VI, showing further details of the glue distributing roller operating mechanism.

Fig. X is an enlarged detail longitudinal section showing details of the flap closing and pressing mechanism.

Fig. XI is an enlarged detail vertical section on a line corresponding to line 11—11 of Fig. II, showing details of the glue applying mechanism for the top or upper flaps.

Fig. XII is an enlarged detail sectional view on a line corresponding to line 12—12 of Fig. II, showing details of the operating means for the top flap gluing mechanism.

Fig. XIII is a detail section on a line corresponding to line 13—13 of Fig. XI.

Fig. XIV is a fragmentary detail view of the carton feed mechanism

Fig. XV is an enlarged detail view showing the front end of the auxiliary or supplementary conveyer and one of the flights thereof.

Fig. XVI is an enlarged detail section on a line corresponding to line 16—16 of Fig. XV.

Fig. XVII is an enlarged detail view of the rear end of the auxiliary or supplementary conveyer and one of its flights.

Fig. XVIII is an enlarged detail section

on a line corresponding to the broken line 18—18 of Fig. XVII.

Fig. XIX is a detail plan view of a portion of the sealing mechanism and its driving connections.

Fig. XX is a detail vertical section on a line corresponding to line 20—20 of Fig. X, showing further details of the sealing mechanism.

Fig. XXI is a detail horizontal section on a line corresponding to line 21—21 of Fig. I, showing further details of the sealing and delivery mechanism.

Fig. XXII is a detail sectional view on a line corresponding to line 22—22 of Fig. VIII, showing further details of the gluing mechanism.

Fig. XXIII is a perspective view of the packing case or carton with its side or top and bottom flaps extended and the glue applied thereto.

Fig. XXIV is a perspective view of one of the packing cases or cartons with the flaps in their closed and sealed position.

In the drawing, similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawing, the frame of my improved machine is preferably formed of side members 1, 1, connected by suitable cross pieces 2 to provide a rigid support for the operating parts. The frame is preferably provided with legs 3. The mechanism is largely arranged and supported within this frame and is driven from the power shaft 4 having a pulley 5 thereon.

The driving or counter shaft 6 is connected to the power shaft 4 by means of the pinions 7 and 8, respectively. The driving shaft has a clutch 9 controlled by the lever 10. The conveyer and other driven parts are all driven through this driving shaft 6 and the driving connections for the several parts will be described in connection with the description of such parts.

The packing case or carton 11, such as the machine illustrated is especially designed for handling (see Figs. XXIII and XXIV) has the usual end flaps 12 and side flap 13. The terms end and side flaps are used in a relative sense, as the case may be any desired proportion, and in this description I use the terms top and bottom flaps only to designate their relation as the box is conveyed through and operated upon by the machine, these terms being used as a matter of convenience.

The machine illustrated is especially designed for the sealing of packing cases or cartons packed or filled with a number of articles, such as canned or packaged goods.

The cases or cartons are fed to the conveyer of the machine by hand or other suitable means with the flaps 12 folded to the position shown in Fig. XXIII. The conveyer mechanism comprises the main conveyer belt 14 carried by the pulleys 15 and 16 on the shafts 17 and 18 arranged at the front and rear ends, respectively, of the frame of the machine.

Guides 19 are provided at the front end of the conveyer to assist in guiding the packages thereto. A side bar 20 is mounted upon the frame above and at each side of the conveyer belt 14.

The upper reach of the belt 14 is supported by a series of rollers 21. It will be understood that these packing cases with their contents are frequently of considerable weight and these rollers are provided to support the conveyer belt and prevent its sagging under the load of the cartons. To insure the carrying of the cases through the gluing mechanism in synchronism with its operation I provide an auxiliary or propelling conveyer consisting of the sprocket chain 22 carried by the sprocket wheels 23 and 24, mounted on the shafts 25 and 26, respectively. These shafts are arranged so that the auxiliary conveyer is supported within and in the vertical plane of the main conveyer belt 14 and so that the flights 30 travel along on their upper reach at the side of the main belt. The driving connections for the main conveyer shafts 17 and 18 are through the auxiliary conveyer (see Fig. IV).

The shaft 26 is provided with a sprocket which is connected by the sprocket chain 27 to a sprocket on the driving shaft. The auxiliary conveyer shafts 25 and 26 are connected by the conveyer chain 22. The shaft 17 is connected to the shaft 25 by the sprocket chain 28 and suitable sprockets on the shaft, while the shaft 26 is connected to the shaft 18 by the sprocket chain 29 and suitable sprockets on the shaft (see Fig. IV). The conveyer chain 22 is provided with flights 30 arranged in spaced pairs to swing up and travel at the sides of the conveyer belt 14 when they are on the upper reaches of the chain 22. The reaches of the sprocket chain 22 are supported between the sprockets 23 and 24 by ways 31 and 32, the way 31 being grooved at 33 to receive the chain (see Fig. XVIII). The way 31 is provided with tracks 34 for the flights which are provided with rollers 35 which travel on these tracks, thus supporting the flights in an upright position (see Figs. XV, XVI, XVII and XVIII.)

The front ends of the tracks 34 are positioned and shaped to engage the rollers 35 as the flights travel over the sprocket 23 and swing them to upright position with a quick movement engaging the cartons with a slight

blow-like action, which straightens or squares them on the conveyer belt.

The driving connections are such that the auxiliary conveyer travels slightly faster than the main belt 14, so that while the flights are engaged with the cartons their speed exceeds slightly that of the conveyer belt 14, thereby insuring their being positively carried along by the flights and timing their movement with that of the gluing mechanism, as will be hereafter described.

The tracks 34 are adjustably mounted at their rear ends so that the vertical position of the flights as they travel along in carton engaging position may be determined (see Figs. XVII and XVIII). This adjustment is effected by the set screws 34′ carried by the cross pin 34″. The tracks are held in their adjusted positions by the screws 36.′ The rear ends of the tracks 34 are spaced from the rear sprockets 24 so that the rollers 35 pass from the tracks, allowing the flights to drop rearwardly away from the cartons as they are engaged by the delivery mechanism.

Buffers 36 are mounted at the sides of the tracks 34 to receive the flights as the rollers drop from the tracks (see Fig. XVII). As the flights are carried over the rear sprocket wheel 24 they are engaged by the guide 37 which swings them to forwardly facing position so that they are carried forward on the under reach of the sprocket chain 22 in such forwardly facing position and with their rollers 35 traveling on the flange-like tracks 38 of the bottom way 32. The forward ends of these tracks 38 are curved upwardly at 39 so that the flights are swung out as they are carried over the front sprocket 23 (see Fig. XV). As the rollers leave the tracks 38 they are engaged by the guides 40 on the front ends of the tracks 34 and guided onto the tracks 34, the flights being swung abruptly to position to engage the cartons, the engaging movement serving, as stated, to straighten them should they be twisted or out of square.

With the parts thus arranged, the cartons are positively fed through the machine and in a manner that prevents their becoming clogged or wedged and so that they are positively and properly carried through the gluing and sealing mechanism and in synchronism with that mechanism.

To insure the delivery of the cartons in time to be engaged by the flights 30 as they swing over the front sprocket 23 I provide an automatic feed mechanism consisting of the stops 41 mounted on the rock shaft 42 carried by the bracket 43 on one of the cross pieces of the frame (see Figs. I and XIV). The stop members 41 are held in their operative position by the catch 44 adapted to coact with the pin 45 on one of the stop members. This catch 44 is carried by the rock shaft 46 having an arm 47 thereon connected by the link 48 to the rocker arm 49. This rocker arm 49 is actuated by the cam 50 mounted on the cam wheel 51 which also operates other parts, as will appear as the description proceeds. The stops 41 are returned to their locked position by means of the coiled spring 41′.

The cam 50 is mounted on the shaft 52 connected by the sprocket chain 53 and through the clutch 9 to the driving shaft 6 (see Figs. IV and XIV).

As stated, the packages to be sealed are delivered to the machine with the flaps 12 folded. As the packages are carried along upon their sides by the conveyer the top and bottom or lower flaps 13 are engaged by the flap extenders 54 and 55 which guide the flaps to the gluing mechanism (see Fig. III).

I will first describe the means for applying glue to the lower flaps. This comprises a pair of feed rollers 56 mounted on the shaft 52 below the distributing rollers 57 which are carried by stub shafts 58. The shafts 58 are supported for vertical movement by the swinging arms 59 having bearings 60 at their outer or swinging ends for the shaft. The feed rollers 56 rotate in the glue receptacles or trough 61. When in their lowered position the distributing rollers 57 engage or travel on the feed rollers so that the glue is applied to the distributing rollers which in turn apply it to the lower flaps 13. The shafts 58 are connected to the transmission shafts 62 by the sprocket chain 63 and suitable sprockets. The shafts 62 are connected to the shafts 64 by the pinions 65. The shafts 64 constitute the pivots for the arms 59. The shafts 64 are connected by the sprocket chains 66 and suitable sprockets to the shaft 52 (see Figs. I, IV, VI and VIII). This driving connection permits the desired floating movement of the glue distributing rollers.

Referring to Fig. XXIII, it will be noted that the glue, indicated at 67, is not applied continuously to the flaps 13, as the flaps 12, when folded, do not extend completely across the package. In order to control the application of the glue to the flaps the rollers 57 are raised and lowered by means of the cam wheels 51 which have cams 68 having higher portions 69 thereon with which the rollers 70 on the shafts 58 coact (see Figs. VI, VIII, IX, XIV).

The circumference of the distributing rollers is one-half that of the glue applying rollers and the cams 68 occupy one-half the circumference of the cam wheels 51 so that the distributing rollers ride or travel on the glue rollers to receive the glue therefrom and are then raised out of engagement with

the glue rollers to apply the glue to the flaps, as shown in Fig. VIII, and when the high parts 69 of the cams are reached the distributing rollers are lifted free of the flaps so that the glue is applied as shown in Fig. XXIII (see Figs. IV, V, VI, VIII and IX).

To support the flaps while they are acted upon by the glue rollers I provide spaced supports 71 and 72. The spaces between these supports allow the contacting of the distributing rollers with the feed rollers.

In order to effectively present the full surfaces of the flaps to the glue rollers the supports 71, which are carried by the brackets 73, are provided with central ribs 74 curved in cross section and positioned to engage the flaps centrally (see Figs. VIII and XXII). The tendency of these ribs is to bow up the flaps at their centers and when they pass under the distributing rollers they hug or contact closely therewith, insuring an even distribution of the glue thereon.

The glue is applied to the top flaps by the distributing rollers 75 which are mounted on the shafts 76. These shafts 76 are connected to the conveyer shaft 26 by the chain 77 and suitable sprockets (see Fig. V). The rollers 75 rotate in the glue troughs or receptacles 78. Scrapers 79 are provided for the glue rollers 75. In order to apply the glue to the flaps at suitable spaced intervals flap holders 80 are provided for raising and lowering the flaps. These holders have slits 81 (see Figs. III, XI and XIII) into which the flaps are guided by the top flap guides or spreaders 55. The flap holders 80 are pivotally mounted at 82 and rocked or oscillated to raise and lower the flaps, engaging and disengaging them from the rollers. This raising and lowering is effected by means of the rock shaft 83 having arms 85 thereon connected to the flap holders by the links 86. The rock shaft 83 is provided with an arm 87 which coacts with the cam 88 on one of the shafts 76.

Thus arranged, the movement of the flap supports is properly timed with the movements of the conveyer. After the cartons leave the glue applying rollers the flaps 13 are engaged by the flap closers 89 and turned or folded against the flaps 12 and are delivered or pass to the flap pressing and discharging mechanism.

This flap pressing and discharging mechanism comprises a pair of belts 90 disposed at the sides of the rear end of the conveyer belt 14. The front ends of these flap pressing and delivery belts 90 are supported by the vertically disposed pulleys 91, the pulleys for the outer ends of these belts not being illustrated. The pulleys 91 are mounted on the vertical shafts 92 connected by the sprocket chains 93 and suitable sprockets to the vertical shafts 94 which are provided with beveled gears 95 meshing with the bevel gears 96 on the shaft 26 (see Fig. IV). The inner reaches of these pressing and delivery belts are supported by a series of rollers 97 carried by the bars 98.

To insure the bringing of the side flaps 13 edge to edge as they are delivered to the pressing rollers I provide a pair of rollers 99 mounted on a shaft 100 so as to engage the upper corners of the carton, its lower corners being supported by slide ways 101 (see Figs. XIX and XX). These edging or truing rollers 99 press downwardly and bring the edges of the flaps 13 together.

The shaft 100 of the truing rollers is carried by a pair of arms 102 pivotally mounted on the shaft 103. The shaft 100 is connected to the shaft 103 through the sprocket chain 104 and suitable sprockets on the shafts. The shaft 103 is driven from the shaft 76 of one of the top glue rollers and the sprocket chain 105 which connects it to a suitable gear 106 on a stub shaft 107. The gear 106 meshes with a gear 108 on the shaft 103.

The pressure of the truing rollers is regulated by means of the screws 109 carried by arms 110 (see Figs. X and XIX).

With the parts thus arranged, the cartons or packing cases are fed into the machine either by hand or by machinery, as desired, and with the end flaps folded, as shown in Fig. XXIII. The remaining operations are entirely automatic, the cases being released by the feed stops 41 so that they are properly engaged by the flights and carried forward through the glue applying mechanism and beyond that their flaps are folded and sealed and trued up and delivered between the flap pressing and delivery belts from which they are discharged at any convenient point.

My improved sealing machine is particularly well adapted for the handling of packing cases or cartons filled with canned or packaged goods and is of large capacity, the work being performed in a very complete and satisfactory manner.

I have illustrated and described my improvements in an embodiment which has in use proved very practical. I have not attempted to illustrate or describe various modifications in structural details which I contemplate and which might be desirable for particular embodiments or where the machine is designed for the handling of a particular or special style of package or carton, as I believe the disclosure made will enable those skilled in the art to which my invention relates to embody or adapt the same as may be desired. I desire, however, to be understood as claiming my improvements specifically in the form illustrated as

well as broadly within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. In a structure of the class described, the combination of a conveyer adapted to carry cartons on their sides and comprising side bars adapted to retain the front and rear flaps in their closed positions, a glue applying means comprising a glue feed roller shaft disposed transversely below said conveyer, a pair of feed rollers on said shaft, a pair of distributing rollers mounted at the sides of said conveyer to coact with said feed rollers, swinging supports for said distributing rollers comprising shafts therefor, shafts on which said supports are pivotally mounted, driving connections for such pivot shafts to said distributing rollers shafts, cams on said feed roller shaft, and rollers on said distributing roller shafts coacting with said cams, whereby said distributing rollers are raised and lowered to bring them into engagement with said feed rollers and to move them to and from flap engaging position.

2. In a structure of the class described, the combination of a conveyer adapted to carry cartons on their sides and comprising side bars adapted to retain the front and rear flaps in their closed position, a glue applying means comprising a pair of glue feed rollers, a pair of distributing rollers adjustably mounted at the sides of said conveyer to coact with said feed rollers, and means for driving said rollers and for raising and lowering said distributing rollers to bring them into engagement with said feed rollers and to move them to and from flap engaging position.

3. In a structure of the class described, the combination of a conveyer, a glue applying means comprising a glue feed roller shaft disposed transversely of said conveyer, a pair of feed rollers on said shaft, a pair of distributing rollers mounted at the sides of said conveyer to coact with said feed rollers, swinging supports for said distributing rollers comprising shafts therefor, shafts on which said supports are pivotally mounted, driving connections for such pivot shafts to said distributing roller shafts, cams on said feed roller shaft, rollers on said distributing roller shafts coacting with said cams, whereby said distributing rollers are raised and lowered to bring them into engagement with said feed rollers and to move them to and from engaging position, and driving connections for said glue applying mechanism to said conveyer.

4. In a structure of the class described, the combination of a conveyer, a glue applying means comprising a glue feed roller shaft disposed transversely of said conveyer, a pair of feed rollers on said shaft, a pair of distributing rollers mounted at the sides of said conveyer to coact with said feed rollers, swinging supports for said distributing rollers comprising shafts therefor, shafts on which said supports are pivotally mounted, driving connections for such pivot shafts to said distributing roller shafts, cams on said feed roller shaft, rollers on said distributing roller shafts coacting with said cams, whereby said distributing rollers are raised and lowered.

5. In a structure of the class described, the combination of a conveyer, a glue applying means comprising a glue feed roller shaft disposed transversely of said conveyer, a pair of feed rollers on said shaft, a pair of distributing rollers mounted at the sides of said conveyer to coact with said feed rollers, swinging supports for said distributing rollers, cams on said feed roller shaft, rollers on said distributing roller shafts coacting with said cams, whereby said distributing rollers are raised and lowered to bring them into engagement with said feed rollers and to move them to and from flap engaging position, and driving connections for said glue applying mechanism to said conveyer.

6. In a structure of the class described, the combination of a conveyer, a glue applying means comprising a glue feed roller shaft disposed transversely of said conveyer, a pair of feed rollers on said shaft, a pair of distributing rollers mounted at the sides of said conveyer to coact with said feed rollers, swinging supports for said distributing rollers, cams on said feed roller shaft, distributing rollers on said distributing roller shafts coacting with said cams, whereby said distributing rollers are raised and lowered.

7. In a structure of the class described, the combination of a conveyer, a glue applying means comprising a pair of glue feed rollers, a pair of distributing rollers adjustably mounted at the sides of said conveyer to coact with said feed rollers, means for driving said rollers and for raising and lowering said distributing rollers to bring them into engagement with said feed rollers and to move them to and from flap engaging position, and driving connections for said glue applying mechanism to said conveyer.

8. In a structure of the class described, the combination of a conveyer, a glue applying means comprising a glue feed roller shaft, a feed roller on said shaft, a distributing roller mounted to coact with said feed roller, a swinging support for said distributing roller comprising a shaft therefor, a shaft on which said support is pivotally mounted, driving connections for such pivot shaft to said distributing roller shaft, a cam on said feed roller shaft, a roller on said distrib-

uting roller shaft coacting with said cam, whereby said distributing roller is raised and lowered to bring it into engagement with said feed roller and to move it to and from flap engaging position, and driving connections for said glue applying mechanism to said conveyer.

9. In a structure of the class described, the combination of a conveyer, a glue applying means comprising a glue feed roller shaft, a feed roller on said shaft, a distributing roller mounted to coact with said feed roller, a swinging support for said distributing roller comprising a shaft therefor, a shaft on which said support is pivotally mounted, driving connections for such pivot shaft to said distributing roller shaft, a cam on said feed roller shaft, a roller on said distributing roller shaft coacting with said cam, whereby said distributing roller is raised and lowered.

10. In a structure of the class described, the combination of a conveyer, a glue applying means comprising a glue feed roller, a distributing roller mounted for lateral movement, means for raising and lowering said distributing roller to bring it into and out of engagement with said feed roller, means for guiding a flap between said rollers, and means for raising and lowering said roller to and from flap engaging position whereby the glue is applied to the flaps at spaced intervals.

11. In a structure of the class described, the combination of a conveyer, a glue applying means comprising a glue feed roller, a distributing roller mounted for lateral movement, means for actuating said distributing roller to bring it into engagement with said feed roller and to move it to and from flap engaging position, means for guiding a flap between said rollers, and driving connections for said glue applying mechanism to said conveyer.

12. In a structure of the class described, the combination of a conveyer, a glue applying means comprising a glue feed roller, a distributing roller mounted for lateral movement, means for guiding a flap between said rollers, and means for actuating said distributing roller to bring it into engagement with said feed roller and to flap engaging position.

13. In a structure of the class described, the combination of a conveyer adapted to carry cartons on their sides and comprising side bars adapted to retain the front and rear flaps in their closed position, a lower flap glue applying means, an upper flap glue applying means comprising a pair of glue distributing rollers disposed at the sides of said conveyer and so that the upper flaps are carried above the same, flap supports pivoted at their forward ends and with their rear ends adjacent said upper flap distributing rollers, said supports having slits therein adapted to receive the upper flaps, shafts for said rollers, a rock shaft, arms on said rock shaft, links connecting said arms to said supports whereby they are raised and lowered to raise and lower the flaps, a cam on one of said upper distributing roller shafts, an arm on said rock shaft coacting with said cam, guides for swinging the upper and lower flaps to a horizontal position and guiding them to the said gluing mechanism, and driving connections for said glue applying mechanisms to said conveyer.

14. In a structure of the class described, the combination of a conveyer, a glue applying means comprising a pair of glue distributing rollers, flap supports pivoted at their forward ends and with their rear ends adjacent said distributing rollers, said supports having slits therein adapted to receive the upper flaps, shafts for said rollers, a rock shaft, arms on said rock shaft, links connecting said arms to said supports whereby they are raised and lowered to raise and lower the flaps, a cam on one of said roller shafts, an arm on said rock shaft coacting with said cam, and driving connections for said glue applying mechanism to said conveyer.

15. In a structure of the class described, the combination of a conveyer, a glue applying means comprising a glue distributing roller, a flap support pivoted at its forward end and with its rear end adjacent said distributing roller, said support having a slit therein adapted to receive the flap, means for actuating said flap support to bring the flap into engagement with said distributing roller, and driving connections for said flap support to said conveyer.

16. In a structure of the class described, the combination of a conveyer, a glue applying means comprising a glue distributing roller, a flap support disposed at the side of the conveyer and provided with a slit into which flaps are successively carried by the conveyer, and means for actuating said flap support to bring the flap into engagement with said distributing roller synchronized with said conveyer.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

HARRY L. JOHNSON. [L. S.]

Witnesses:
F. W. WILDENBERG,
J. B. CHAMBERS.