Sept. 8, 1925. 1,552,814

E. D. ANDERSON

PACKAGING MACHINE

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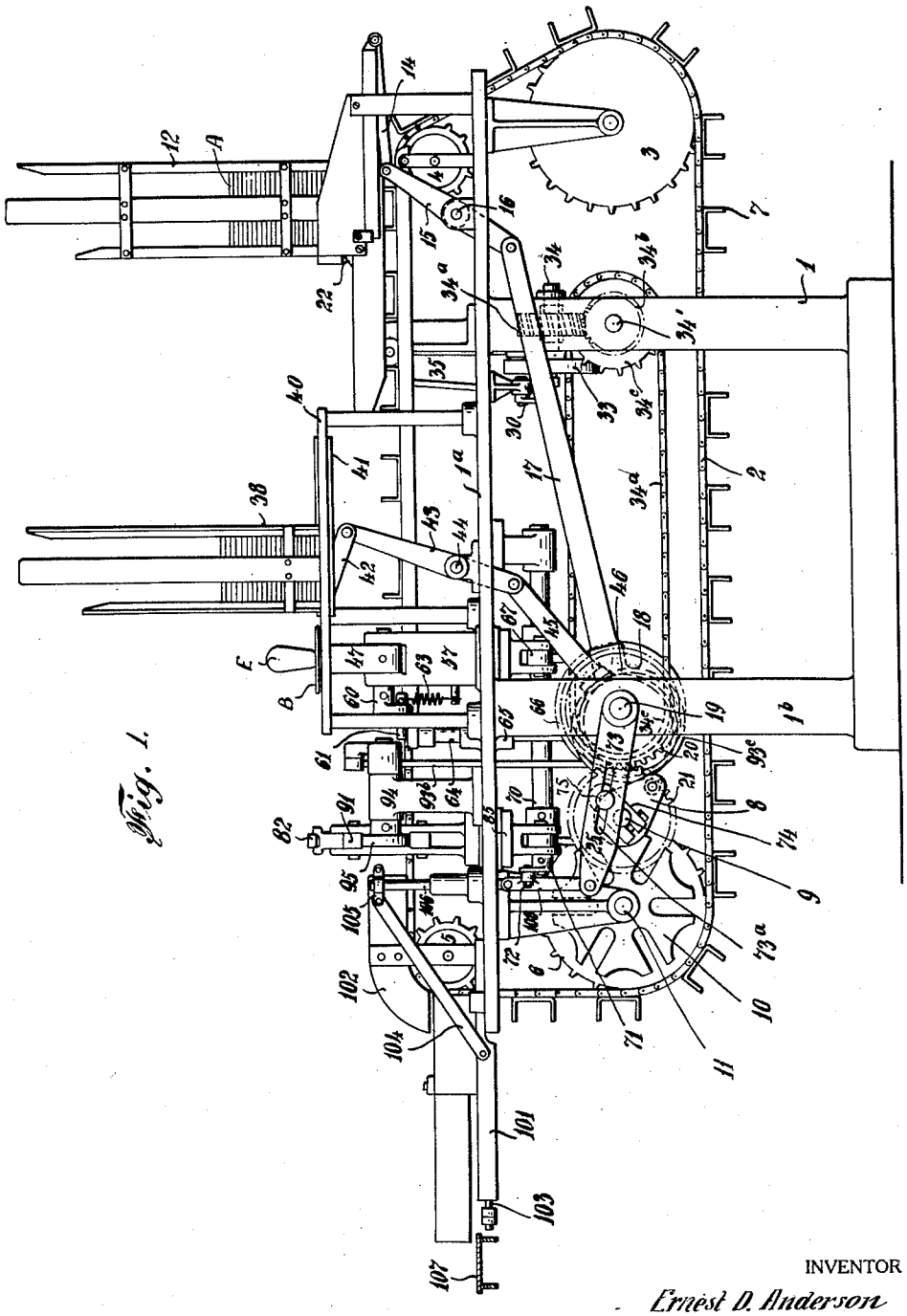


Fig. 1.

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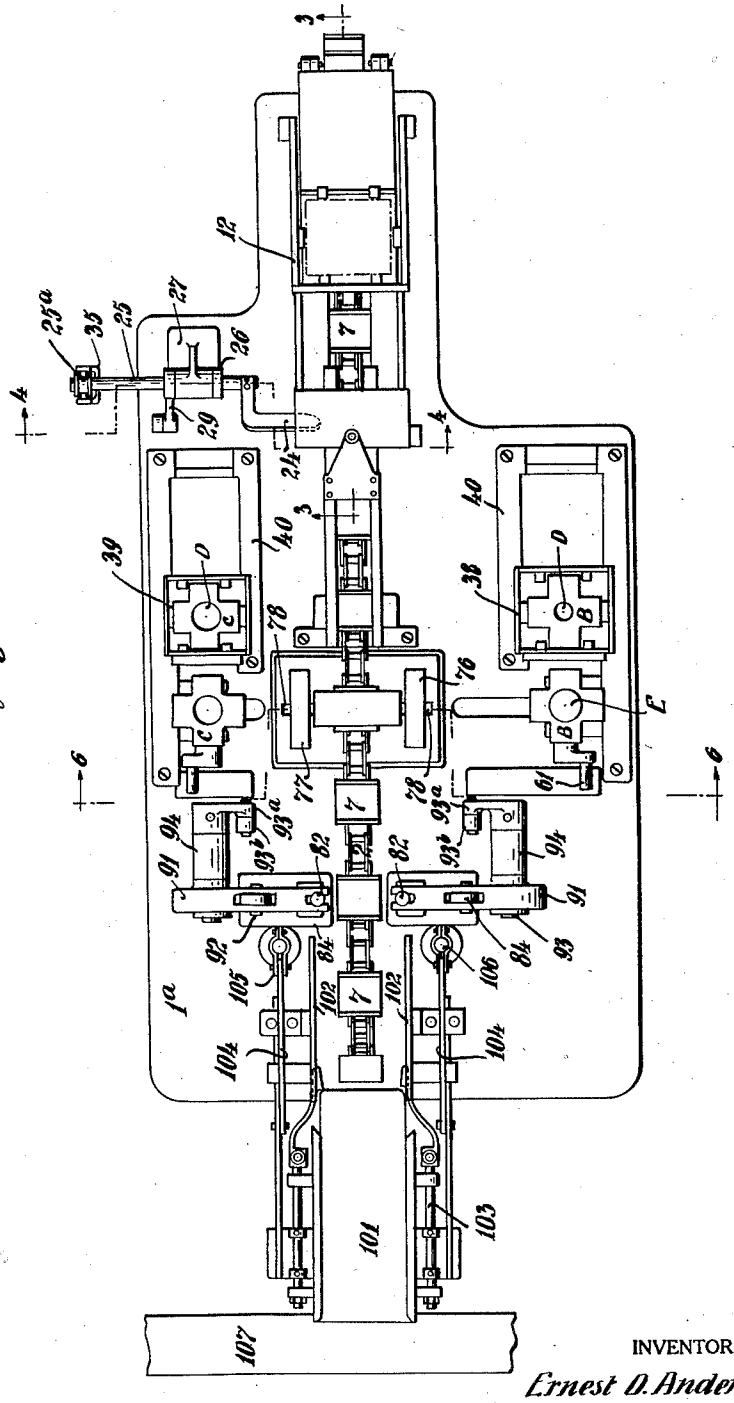


Fig. 2.

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PACKAGING MACHINE

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Fig. 3.

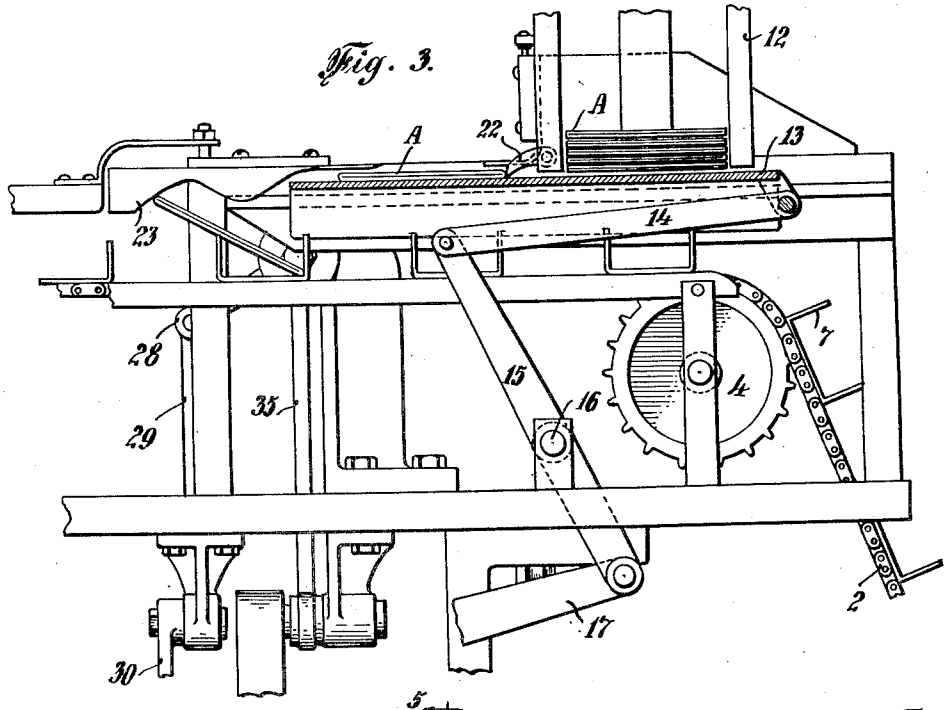


Fig. 4.

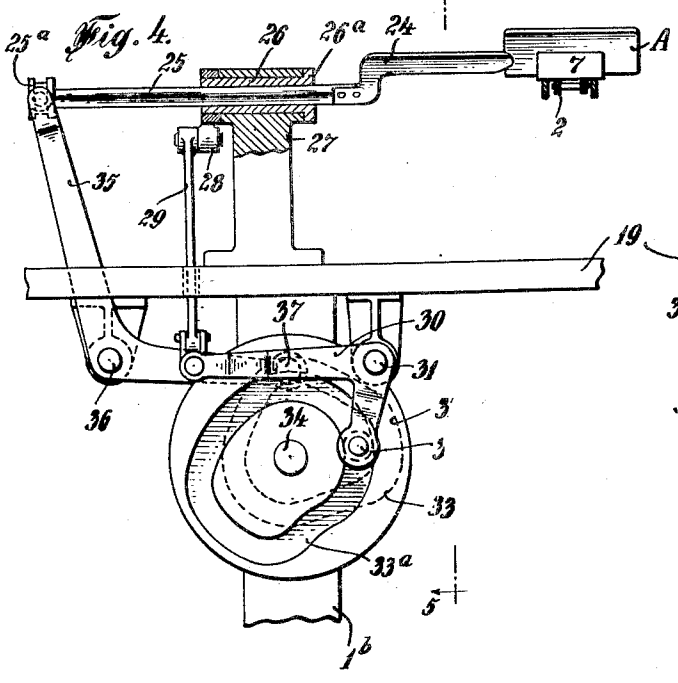
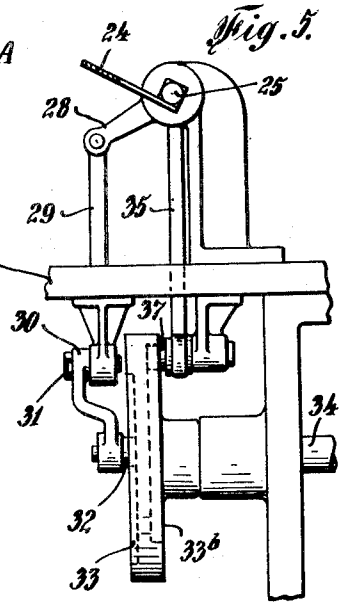


Fig. 5.



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Fig. 6.

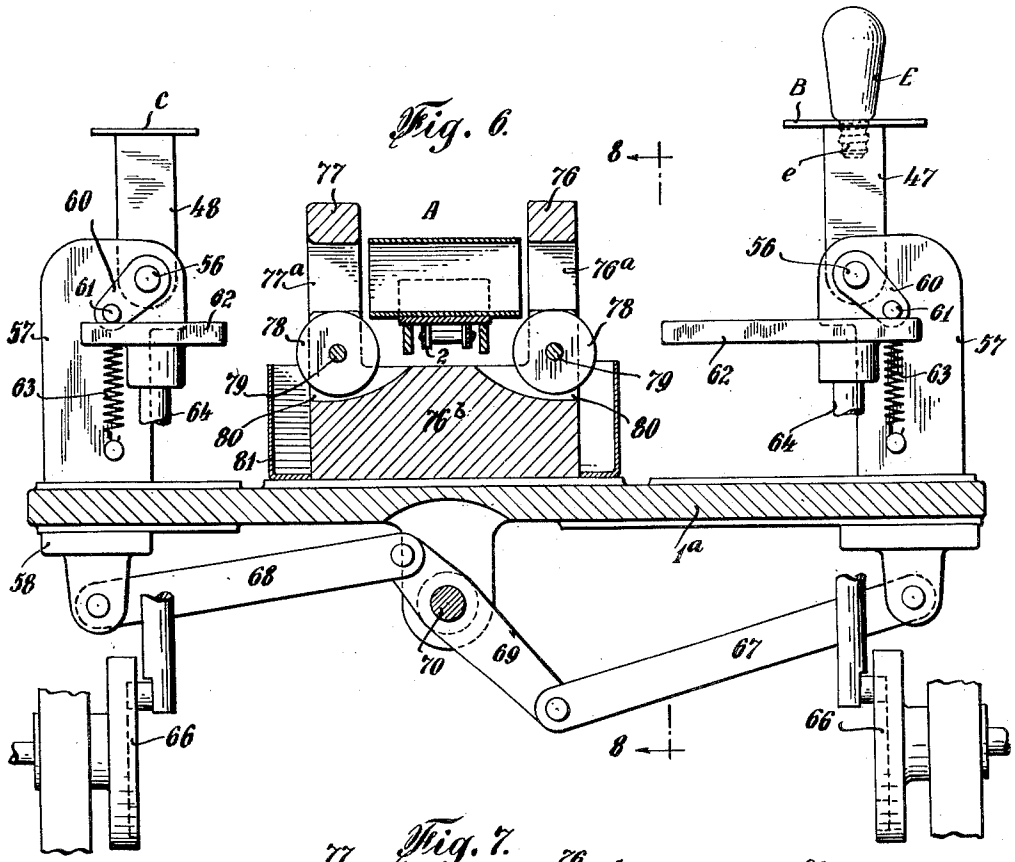
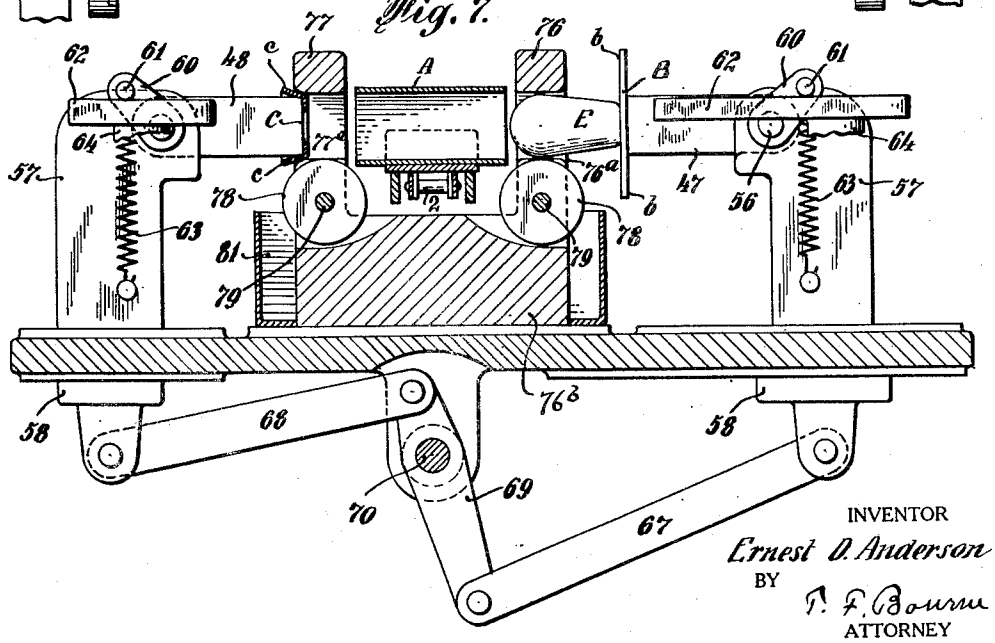


Fig. 7.



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PACKAGING MACHINE

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Fig. 9.

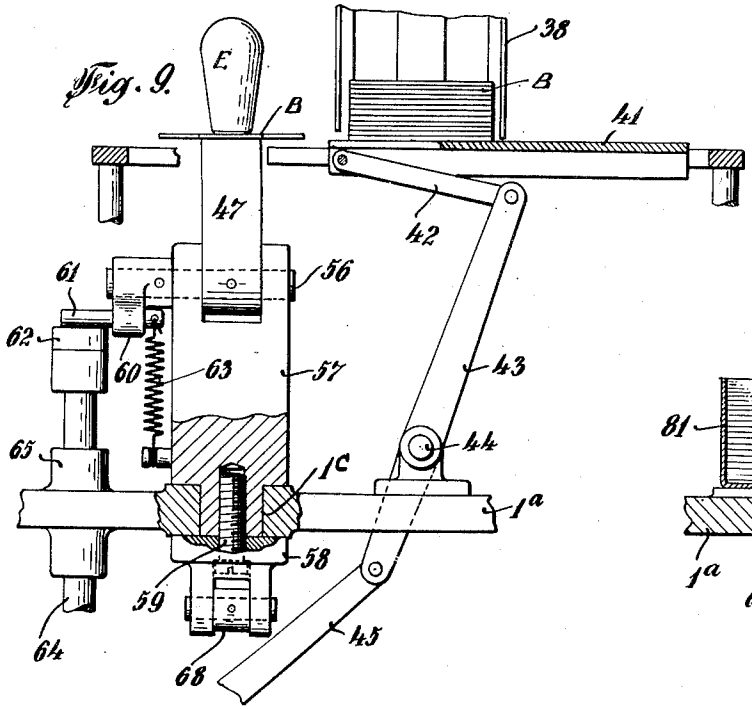


Fig. 8.

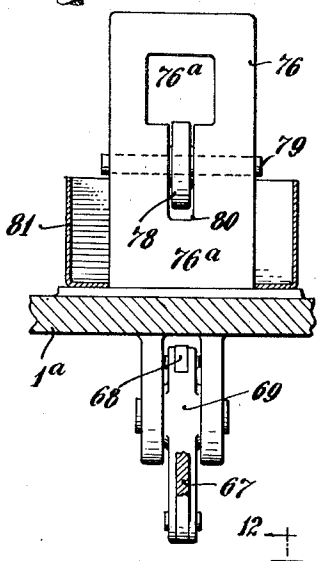


Fig. 10.

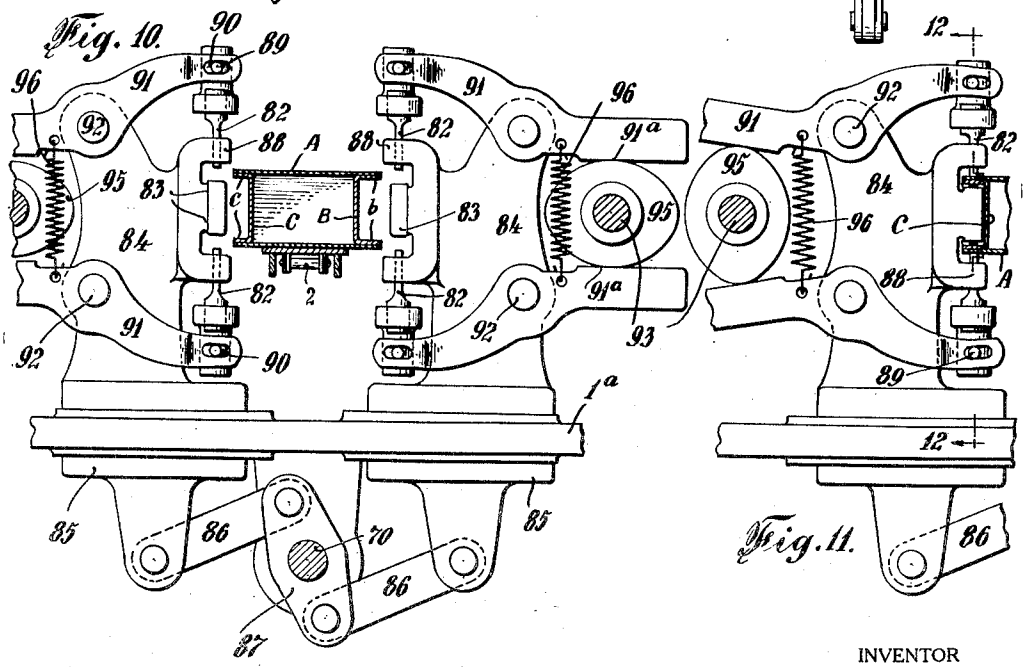


Fig. 11.

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E. D. ANDERSON

PACKAGING MACHINE

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Fig. 12.

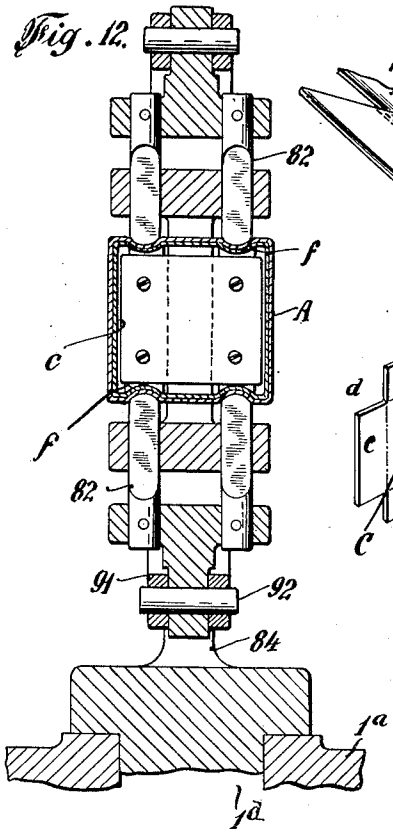


Fig. 21.

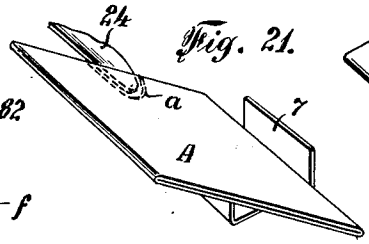


Fig. 20.

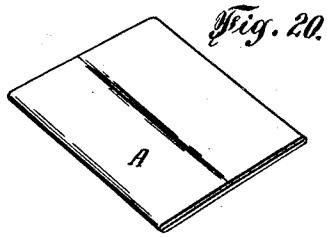


Fig. 23.

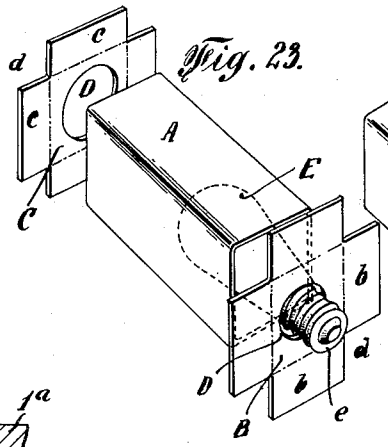


Fig. 22.

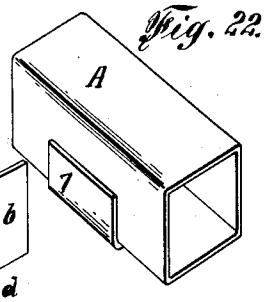


Fig. 24.

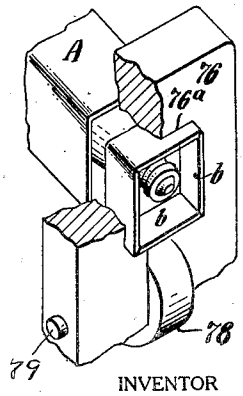


Fig. 26.

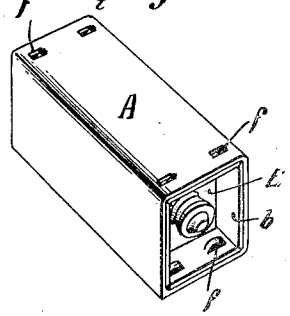
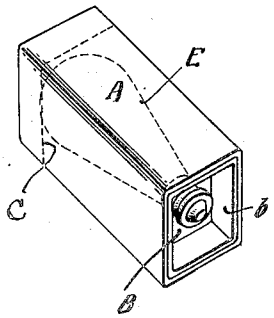


Fig. 25.



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PACKAGING MACHINE

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Fig. 14.

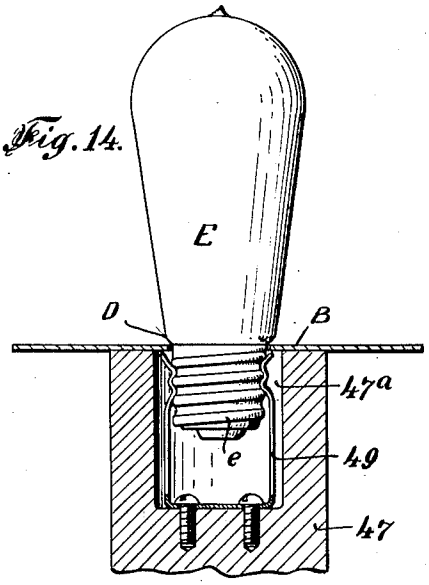


Fig. 13.

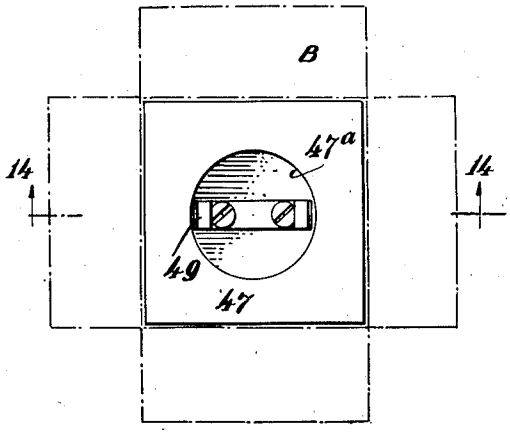


Fig. 16.

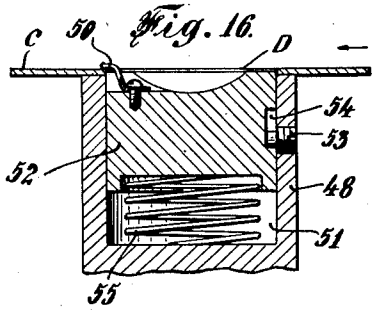


Fig. 15.

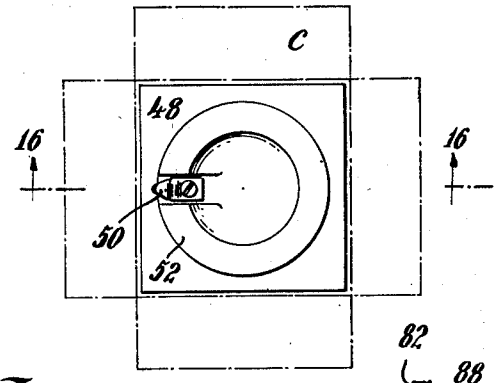


Fig. 17.

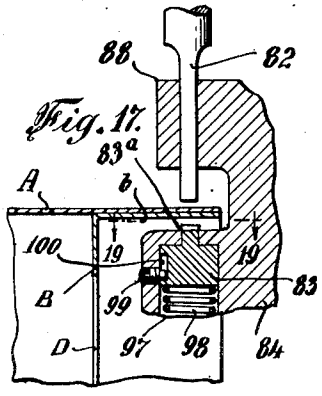


Fig. 19.

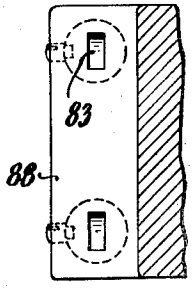
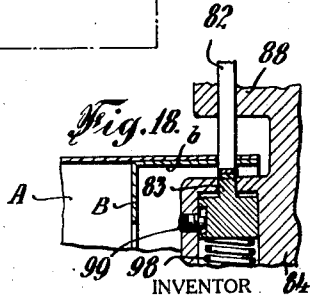


Fig. 18.



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BY

ATTORNEY

Patented Sept. 8, 1925. 1,552,814

UNITED STATES PATENT OFFICE.

ERNEST D. ANDERSON, OF NEW YORK, N. Y.

PACKAGING MACHINE.

Application filed October 6, 1924. Serial No. 741,977.

To all whom it may concern:

Be it known that I, ERNEST D. ANDERSON, a citizen of the United States, and resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Packaging Machines, of which the following is a specification.

The object of my invention is to provide a machine adapted to automatically insert into containers or cartons so-called platforms or partitions adapted to sustain articles of merchandise, such as electric light bulbs, for safe maintenance and transportation.

In carrying out my invention I provide a machine containing means for supplying collapsed containers, such as cartons or shells, means for supplying platforms, means for opening the containers, means for inserting the platforms into the containers along with the articles to be supported by the platforms, and means for securing the platforms within the containers.

My invention also comprises novel details of improvement that will be more fully hereinafter set forth and then pointed out in the claims.

Reference is to be had to the accompanying drawings forming a part hereof, wherein—

Fig. 1 is a side elevation of a packaging machine embodying my invention;

Fig. 2 is a plan view;

Fig. 3 is an enlarged detail view, partly in section, on line 3, 3, in Fig. 2;

Fig. 4 is an enlarged section substantially on line 4, 4, in Fig. 2;

Fig. 5 is a section on line 5, 5, in Fig. 4;

Fig. 6 is a cross section substantially on line 6, 6, in Fig. 2;

Fig. 7 is a view similar to Fig. 6, showing the parts in different position;

Fig. 8 is a cross section on line 8, 8, in Fig. 6;

Fig. 9 is a detail view, partly in section, looking from the right hand side of Fig. 6;

Fig. 10 is a detail view illustrating means for mechanically securing platforms or partitions within the containers or cartons;

Fig. 11 is a detail view illustrating parts in different positions from that shown in Fig. 10;

Fig. 12 is an enlarged detail section on line 12, 12, in Fig. 11;

Fig. 13 is a detail plan view illustrating the support for the platforms that receive the terminals of electric light bulbs;

Fig. 14 is a section on line 14, 14, in Fig. 13;

Fig. 15 is a detail plan view illustrating the support for the platforms that receive the closed ends of the electric light bulbs;

Fig. 16 is a section on line 16, 16, in Fig. 15;

Fig. 17 is a sectional detail illustrating means for mechanically securing platforms within the containers;

Fig. 18 is a similar view showing parts in different positions;

Fig. 19 is a detail section on line 19, 19, in Fig. 17;

Fig. 20 is a perspective detail illustrating a collapsed container or carton;

Fig. 21 is a detail illustrating the carton in position to be opened;

Fig. 22 illustrates the opened carton;

Fig. 23 illustrates the position of the opened carton and the platforms with a lamp in position to be inserted in the carton;

Fig. 24 is a sectional detail illustrating the insertion of a platform with a lamp into a carton;

Fig. 25 illustrates a platform and lamp assembled within a carton; and

Fig. 26 is a similar view illustrating the platforms mechanically secured within the carton.

Similar numerals of reference indicate corresponding parts in the several views.

The main frame 1 of the machine may be of any suitable construction, being shown provided with a table-like top 1^a and legs 1^b. At 2 is a conveyor shown in the form of endless chains mounted upon sprocket wheels 3, 4, 5, 6, journaled upon the main frame. The conveyor 2 is provided with spaced receivers or pockets 7 in which collapsed containers A, such as cartons, are to be deposited. The conveyor is designed to be operated step-by-step for each carton deposited in the successive receivers 7. Any suitable means may be provided for operating the conveyor. In the example illustrated the male member 8 of a Geneva movement is secured upon power driving shaft 9 and operates in conjunction with a female member 10 of the Geneva movement, the member 10 being secured to shaft 11 of sprocket 6, whereby each time that the member 8 is rotated the conveyor will be operated one step and brought to rest, so that the con-

veyor movements are periodical for each carton A to be fed successively to the receivers 7 and for other operations.

The collapsed cartons A are supplied in a magazine 12 supported upon the main frame and are delivered successively from the magazine to the receivers 7 of the conveyor. Beneath the magazine is a suitable reciprocative plate or platform 13 suitably guided upon the frame and upon which the cartons rest. The plate 13 is pivotally connected by one or more links 14 with corresponding rock arm 15 carried by shaft 16 journaled upon the main frame. A link 17 is pivotally connected with rock arm 15 and attached to an eccentric strap 18 operated by an eccentric secured upon shaft 19, whereby the plate or platform 13 is reciprocated in timed relation to the steps of the conveyor. Shaft 19 is actuated by gear 20 thereon that is in mesh with gear 21 on shaft 9, (Fig. 1). A dog at 22 is pivoted in front of the magazine 12, under which dog the successive cartons may slide as propelled on the plate 13, the dog serving to resist the return movement of the carton. Each time the plate 13 moves forwardly a carton is pushed from under the stack to a position in front of dog 22, and when the plate is moved reversely the carton will drop from the plate into one of the pockets or receivers 7 of the conveyor, (Fig. 3). As the conveyor advances with a carton the upper edge of the latter will engage a stop 23, causing the carton to be set in a pocket and the conveyor comes to rest with the carton opposite a knife or opener. The foregoing parts are substantially similar to those set forth in Letters Patent No. 1,151,233, granted to me August 24, 1915.

The knife or opener 24, (Figs. 2, 3 and 5), may be operated in any suitable manner to enter the cartons successively, open the same, and square them in the receivers 7 of the conveyor, being shown in the form of a suitable blade secured upon longitudinally movable rod 25 that is shown in angular section and adapted to reciprocate in a bearing or bushing 26 that is journaled in a support 27 carried by the table top 1^a, (Fig. 4). Said bearing or bushing is shown provided with a flange or head 26^a at one end and at the opposite end said bearing is secured to crank arm 28, shown pivotally connected by a link 29 with a rock arm or bell-crank lever 30 journaled at 31 upon a bracket carried by table top 1^a. Said lever is shown provided with a projection 32 adapted to operate in a cam groove 33^a of a cam 33 secured upon shaft 34 carried by the main frame. Rod 25 is provided with an annular groove 25^a receiving the forked end of a rock-arm or lever 35, pivota supported at 36 upon the table top, v ich rock-arm is provided with a projection or roller 37 adapted to operate in a cam groove 33^b of cam 33, (Figs. 4 and 5). The shaft 34 may be driven by gearing at 34^a in mesh with gear 34^b on shaft 34', which shaft carries a sprocket wheel 34^e receiving an endless chain 34^d from a sprocket 34^e on drive shaft 19. The relative arrangement of the parts is such that rod 25 and opener 24 will be retracted from the cartons when they are being advanced by the conveyor, but the tip end of the opener will be in the path of travel of the adjacent ends of the cartons, one wall of the latter being provided with a notch or recess, indicated at *a* in Fig. 21, which receives the tip end of the opener so that the latter may engage the opposing wall of the carton to slightly spread the latter, substantially as the carton comes to rest opposing the opener. When the carton is at rest the cam groove 33^b will cause rod 25 and the opener to advance and insert the opener in the carton, first causing lever 35 to rock and come to rest, and thereupon the cam groove 33^a will cause lever 30 to operate, whereupon arm 28 will rock, bearing or bushing 26 correspondingly rocking or rotating the opener within the carton, which opener will bear against the lower side of the carton and cause its upper portion that is resting upon one side of the receiver to be dragged therefrom, to square and set the carton in the receiver, (Fig. 22). The cam will next cause the opener to rock reversely a suitable distance to relieve the carton from the pressure of the opener and then the cam will cause continued rotative movement of lever 30 to return the opener to its normal position respecting a collapsed carton, and will cause lever 35 to withdraw the opener from the carton without disturbing the latter in its receiver, restoring the opener to position to enter the succeeding collapsed container or carton presented by the conveyor in front of the opener, and so on for each collapsed carton to be opened. The parts described respecting the opener are substantially similar to those disclosed in Letters Patent No. 1,313,974, granted to me August 26, 1919.

After the cartons have been opened the conveyor brings the same successively to rest in position for platforms or partitions B and C to be pushed into the open ends of the cartons. The platforms B, C are shown substantially alike and are provided with centrally disposed holes D to receive the corresponding end portions of electric light bulbs E. The platforms B, C are shown in the form of a cross having projecting wings *b*, *c*, respectively, provided by cut-out corners at *d* in the blanks for the platforms. The platforms may be of pasteboard or any similar suitable flexible material. In the example illustrated the hole D in the platform B is adapted to receive the terminal portion *e* of lamp E, and hole D in platform C is of size suitable to receive the opposite

end of the lamp, so that when the platforms are erected and secured in final position within a container or carton the lamp will be supported and suspended within by the platforms.

The platforms B, C are supplied stacked in magazines 38 and 39 respectively located on opposite sides of the conveyor and suitably supported upon table top 1^a by framing 40, (Figs. 1 and 2). Under each of the magazines 38, 39 a plate or platform 41 is slidably mounted, (Fig. 9), upon which the corresponding stack of platforms rests, (Fig. 9). Each plate or platform 41 is pivotally connected with a corresponding link 42 that is pivotally attached to a rock arm or lever 43 journaled at 44 and operated by a rod 45 pivotally connected at one end with lever 43 and having a strap 46 at the opposite end operated by an eccentric secured on shaft 19. Adjacent to a stopping point of the conveyor with an opened carton and associated with the corresponding stack 38, 39 is a platform transferring means comprising corresponding supports 47, 48 for the platforms B, C respectively, whereby when the corresponding plate 41 pushes the lowermost platform B and C from a corresponding magazine 38, 39 such platform will come to rest upon the corresponding support 47, 48 which are located upon opposite sides of the conveyor, (Figs. 2 and 6). When a platform B has been deposited upon support 47, (Fig. 6), the operator will insert the terminal *e* of lamp E through the hole D in said platform, (Figs. 1, 6, 9 and 14), into a recess 47^a in support 47, within which recess retaining means shown comprising one or more relatively light springs 49 are located to temporarily grip and retain the terminal *e*. When the platform C is deposited upon its support 48 it will engage means to temporarily retain the platform thereon. In Figs. 15 and 16 I have shown a relatively light spring finger 50 adapted to enter the hole D in platform C to grip the material at the edge of the hole. The support 48 is shown provided with a recess 51 in which a plug 52 is slidable and carries the spring finger 50, a screw 53 carried by said finger and entering a recess 54 in the side of plug 52 limiting movement of the plug, the latter being supported by a relatively light spring 55 within recess 51, (Fig. 16). The plug may project beyond the support 48 to enter hole D in platform C but may be depressed as the platform is pushed over the plug and spring 50 will lightly engage the edge of the platform in such a way as to release the latter after it has been erected in a carton and the finger is withdrawn. The supports 47, 48 are supported pivotally to rock, whereby said supports may extend vertically to receive the platforms, (Fig. 6), and may be swung horizontally in position to push the platforms into the open ends of the cartons to erect the platforms therein when said supports are traversed toward the carton, after which said supports will be retracted from the cartons to leave the platforms inserted therein, (Fig. 7). The supports 47, 48 are carried by corresponding pivots 56 that are supported upon posts 57 slidably mounted upon table top 1^a. The posts are shown provided with projecting portions extending through transverse slots 1^c in table top 1^a, (Fig. 9), and retained by plates 58 attached by screws 59 to the posts. Each shaft 56 is provided with a crank arm 60 provided with a corresponding laterally disposed pin 61 which bears upon a horizontally disposed bar 62. A spring at 63, connected with the corresponding pin 61 and the adjacent post 57, tends normally to retain said pin in contact with the corresponding bar 62. Each bar 62 is carried by a corresponding reciprocative rod 64 slidable in suitable bearings 65 on table top 1^a, (Fig. 9), which rods are adapted to be operated by suitable cams 66 secured upon shaft 19, (Figs. 1 and 6).

When the supports 47, 48 are upright the platforms B, C will be delivered thereon and then the operator will insert a lamp terminal in platform B. When the conveyor is at rest with an opened carton A between the supports 47, 48 the rods 64 will rise and the bars 62 by engaging the pins 61 will rock the arms 60 and thereby the supports 47, 48 will be rotated to a horizontal position, (Fig. 7), to align the platforms B, C and the lamp with the adjacent open ends of the carton. Traversing motion of the supports 47, 48 toward and from the open carton may be effected in any suitable way. I have illustrated links 67, 68 pivotally connected with the corresponding post 57 through the medium of the parts 58, which links are pivotally connected with crank arm or lever 69 secured upon shaft 70 journaled in bearings supported by table top 1^a, (Figs. 1, 6 and 7). Since the lamp E and corresponding platform B are jointly to be inserted in one end of the carton A, and the platform C is to be inserted in the opposite end of such carton, the traversing movement of the support 47 is necessarily greater than the traversing movement of support 48, hence the long arm of lever 69 is connected to link 67 and the short arm of lever 69 is connected to link 68, whereby the proper movement of the supports 47, 48 may be effected. The shaft 70 may be rocked in any suitable manner, such as by means of an arm 71 thereon pivotally connected by arm 72 with link 108 connected to a lever 73, shown journaled upon shaft 19, (Fig. 1). A crank arm 74 secured on shaft 9 is shown provided with a pin 75 op-

erating in a slot 73ª in arm 73, whereby as said arm is rocked the shaft 70 will be rocked.

When the platforms B and C are to be inserted in the containers or cartons A the wings of said platforms are to be folded so as to be pushed into the corresponding open end of the carton for supporting the platform therein in a transverse position. To fold the wings of the platforms I provide dies or frames 76, 77 located on opposite sides of the path of travel of the cartons upon the conveyor and provided with corresponding openings 76ª, 77ª for the passage therethrough of the platforms and the lamp respectively, the openings 76ª, 77ª being in alignment with the supports 47, 48 when the latter are in the horizontal position, (Fig. 7). When an open carton is brought to rest opposite the supports 47, 48 and the latter advance with the platforms thereon, the wings of the platforms will engage the adjacent surfaces of the dies 76, 77, and continued advancing of said supports will cause the wings to be folded to slide through the openings 76ª, 77ª, in manner illustrated in Figs. 7 and 24, the lamp E correspondingly advancing through the opening 76ª into the carton. When the platforms and lamp have been inserted to their proper positions the inner large end of the lamp bulb will have entered the opening D in the platform C, whereby the lamp will be suspended by the platforms, since the terminal *e* will project through the platform B and the opposite end of the lamp bulb will project appropriately through the platform C, the parts assuming the positions indicated in Fig. 25. After the platforms and lamp have been inserted in the carton the posts 57 will retreat from the dies and the bars 62 will descend, whereby the supports 47, 48 will be caused by springs 63 to again extend upwardly in position to receive successive platforms thereon ready for another operation, and so on each time an open carton is brought to rest between the supports 47, 48.

I provide means to retain the platforms securely within the cartons. For such purpose any desired number of wings of the platforms may be supplied with adhesive material on their outer surfaces. For such purpose I have shown adhesive applying rollers 78 journaled upon pins 79 supported by the die member 76ᵇ, (Figs. 6, 7 and 24), which rollers operate in slots 80 in the die members and rotate in a tank 81 adapted to contain any suitable adhesive, such as paste. The surfaces of the rollers 78 coincide with the openings 76ª, 77ª of the die members in such a way that when the lowermost wings of the platforms B, C are being pushed through the openings 76ª, 77ª such wings will come in contact with the rollers 78, whereby adhesive will be applied to said wings, and whereby when said wings and adhesive engage the corresponding inner surfaces of the carton A the platforms will be stuck to the carton but may be readily pulled out of the same to release the lamp.

I have shown means additional to the adhesive applying devices for connecting wings of the platforms positively and mechanically to the walls of the cartons to retain the platforms in the cartons, arranged as follows: At a stopping point beyond the wing-folding dies I provide punches and dies adapted to indent or emboss the material of the walls of the cartons and of the wings *b*, *c*, to retain the platforms in the cartons. Upper and lower punches 82 are arranged similarly on opposite sides of the conveyor in conjunction with corresponding dies 83, (Figs. 2, 9, 10, 11 and 12). The dies are supported upon posts 84 located on opposite sides. Said posts are slidable towards and from the cartons and are guided in slots 1ᵈ in table top 1ª, (Fig. 12), to which posts are connected heads 85 below the table top, as by means of screws substantially as shown with respect to the parts 57, 58 and 59, (Fig. 9). The heads 85 are pivotally connected by links 86 with crank arm or lever 87 carried by shaft 70 and extending on opposite sides thereof, whereby as said shaft is rocked the posts 84 will be advanced toward and retracted from a carton when the latter is at rest containing platforms B and C and a lamp. The arrangement is such that the dies 83 will advance within the folded wings *b*, *c* of the platforms within the open ends of the carton, as illustrated in Fig. 11, and come to rest, whereupon the punches 82 will advance to press the material of the corresponding wall of the carton A and of the contiguous wing *b*, *c* inwardly slightly, as indicated at *f* in Fig. 26. The punches 82 are shown guided to reciprocate in guides 88 carried by the posts 84, and said punches have pins 89 operative in slots 90 in corresponding upper and lower levers 91 that are pivoted at 92 upon the corresponding post 84. A shaft 93 journaled in support 94 on table top 1ª is provided with a cam 95 located between the corresponding arms of the levers 91, a spring 96, connecting the corresponding pairs of levers 91, retaining said levers pressed against the corresponding cam 95 and tending to spread the punches 82 apart. When the posts 84 have advanced so as to present the punches 82 opposite the corresponding ends of the carton A, the cams 95 will be rotated in one direction to cause the punches to advance to punch or indent the material of the carton and of the wings of the platforms inwardly, as indicated in Fig. 12, and then the cams 95 will rotate

reversely, whereby the springs 96 cause the punches to spread and retreat from the carton. The portions 91[a] of the arms 91 are of sufficient extent to remain in engagement with the cams 95 while the supports with the levers, dies and punches are advancing to and from the carton. The container or carton shown in Fig. 26 is similar in construction to the container set forth in my application for Letters Patent filed September 22, 1924, Serial No. 739,015.

Shaft 93 is shown provided with a crank arm 93[a] that is pivotally connected with a depending link 93[b], (Figs. 1 and 2), operative by a cam 93[c] on shaft 19 for rocking the cams 95 in timed relation to the step-by-step movement of the conveyor. In Figs. 17, 18 and 19 I have shown the dies 83 as movable in bore 97 in post 84 in conjunction with the cutting edges 83[a]. A spring 98 normally presses the die 83 toward the work to strip the latter from the die and a screw 99 entering a slot 100 in the die limits movement of the latter.

While I have indicated the punches and dies as arranged in pairs for the upper and lower sides of the cartons at both ends thereof it will be understood that one or more of such punches and dies may be used at the ends of the cartons as may be desired.

After the carton platforms have been erected in the cartons and secured thereto the cartons may be delivered by the conveyor to any suitable place. I have illustrated a discharge plate or guideway 101 to receive the cartons, and guides 102 between which the cartons travel with the conveyor to be deposited upon the plate 101, (Figs. 1 and 2). The plate 101 is carried by rods 103. Arms 104 pivotally connect the plate 101 with heads 105 reciprocative on rods or plungers 106, whereby, as said rods or plungers reciprocate, the links 104 will cause the plate 101 to reciprocate periodically, so that as each carton is deposited on the plate it will be advanced to a delivery point, such as upon a belt 107 operated in any suitable way. The rods or plungers 106 are pivotally connected with links 108 that are pivoted to the rock arms 73, whereby as the latter rock said rods or plungers will be reciprocated. The parts last described for delivering the complete cartons are substantially similar to parts disclosed in Letters Patent No. 1,151,233 aforesaid.

While I have illustrated and described means to apply adhesive between the inner walls of the cartons and the corresponding wings of the platforms, and have also set forth means for offsetting, embossing or indenting the walls of the cartons and corresponding wings to retain the platforms within the cartons, it will be understood that either of the last named means may be omitted, or other means substituted for securing platforms and cartons together, or that either the adhesive applying means or the indenting means may be use in a machine without the other. Furthermore, while I have set forth means on opposite sides of the conveyor for inserting platforms into opposite ends of the cartons and securing the platforms therein it will be understood that, for some purposes, any of such means may be located on one side only of the conveyor where it is intended to insert single platforms or partitions in cartons.

Although I have set forth simple and practical mechanism adapted to carry out the objects of my invention it will be understood that the same is not limited to the details of construction and relative arrangement of parts set forth as the same may be varied, within the scope of the appended claims, without departing from the spirit of my invention.

Having now described my invention what I claim is:

1. A packaging machine comprising means for supplying containers, means for opening the containers, means for supplying platforms, and means for inserting platforms into the containers.

2. A packaging machine comprising means for supplying containers, means for opening the containers, means for supplying platforms, means for inserting platforms into the containers, and means for securing the platforms to the containers.

3. A packaging machine comprising means for supplying containers, means for opening the containers, means for supplying platforms, means for inserting platforms into the containers along with an article, and means for securing the platforms to the containers.

4. A packaging machine comprising means for supplying containers, means for opening the containers, means for supplying platforms, means for inserting platforms into the containers, and means for indenting opposing material of the platforms and the containers.

5. A packaging machine comprising means for supplying collapsed containers, an opener for the containers, means to insert the opener in the containers and operate the opener to open the containers, means for supplying platforms, and means for inserting the platforms into the containers.

6. A packaging machine comprising means for supplying collapsed containers, an opener for the containers, means to insert the opener in the containers and operate the opener to open the containers, means for supplying platforms, means for inserting the platforms into the containers, and means for securing the platforms to the containers.

7. A packaging machine comprising means for supplying containers, means for opening the containers, means for supplying platforms, means for inserting platforms into the containers, and means for applying adhesive to the platforms to secure them in the containers.

8. A packaging machine comprising means for supplying containers, means for opening the containers, means for supplying platforms, means for inserting platforms into the containers along with an article, said platforms having wings, and means for folding wings of the platforms and pushing the latter with the wings into the container.

9. A packaging machine comprising means for supplying containers, means for opening the containers, means for supplying platforms, means for inserting platforms into the containers along with an article, said platforms having wings, means for folding wings of the platforms and pushing the latter with the wings into the container. and means for securing the wings to the container.

10. A packaging machine comprising means for supplying containers, means for opening the containers, means for supplying platforms, means for inserting platforms into the containers along with an article, said platforms having wings, means for folding wings of the platforms and pushing the latter with the wings into the container, and means for applying adhesive to the wings of the platforms to secure them in the containers.

11. A packaging machine comprising means for supplying containers, means for opening the containers, means for supplying platforms, means for inserting platforms into the containers along with an article, said platforms having wings, means for folding wings of the platforms and pushing the latter with the wings into the container, and means for indenting the material of the containers and wings to secure the latter to the platforms within the containers.

12. A packaging machine comprising means for supplying containers, means for opening the containers, means for supplying platforms, means for inserting platforms into the containers along with an article, said platforms having wings, means for folding wings of the platforms and pushing the latter with the wings into the container, means for applying adhesive to the wings, and means for indenting the material of the containers and wings to secure the latter to the platforms within the containers.

13. A packaging machine comprising means to supply containers, means for opening the containers, means to supply platforms for opposite ends of the containers, means to insert a platform together with an article into one end of a container, and means to insert a platform into the opposite end of the container into engagement with said article within the container.

14. A packaging machine comprising means to supply containers, means for opening the containers, means to supply platforms for opposite ends of the containers, means to insert a platform together with an article into one end of a container, means to insert a platform into the opposite end of the container into engagement with said article within the container, and means to secure the platforms to the containers.

15. A packaging machine comprising means to supply containers, means for opening the containers, means to supply platforms having wings, means for bending the wings of the platforms, and means for inserting platforms into the cartons with the wings extended along the walls of the cartons.

16. A packaging machine comprising means to supply containers, means for opening the containers, means to supply platforms having wings, means for bending the wings of the platforms, means for inserting platforms into the cartons with the wings extended along the walls of the cartons, and means for securing the wings to the cartons.

17. A packaging machine comprising means to supply containers to receive platforms, means to supply platforms having wings, supports for the platforms, means for moving the supports from platform receiving position into platform delivering position, means to operate the supports to insert the platforms within the containers and withdraw the supports therefrom, and means to fold the wings of the platforms for insertion in the containers.

18. A packaging machine comprising means to supply containers to receive platforms, means to supply platforms having wings, supports for the platforms, means for moving the supports from platform receiving position into platform delivering position, means to operate the supports to insert the platforms within the containers and withdraw the supports therefrom, and a die having an opening for the passage of the platforms, said die being in position to oppose the wings of the platforms to fold the latter when the support advances toward the container.

19. A packaging machine comprising means to supply containers to receive platforms, means to supply platforms having wings, supports for the platforms, means for moving the supports from platform receiving position into platform delivering position, means to operate the supports to insert the platforms within the containers and withdraw the supports therefrom, a die hav-

ing an opening for the passage of the platforms, said die being in position to oppose the wings of the platforms to fold the latter when the support advances toward the carton, and means to apply adhesive to a wing as its platform advances to the carton.

20. A packaging machine comprising means to supply containers to receive platforms, means to supply platforms having wings, supports for the platforms, means for moving the supports from platform receiving position into platform delivering position, means to operate the supports to insert the platforms within the containers and withdraw the supports therefrom, a die having an opening for the passage of the platforms, said die being in position to oppose the wings of the platforms to fold the latter when the support advances toward the carton, and means to indent the walls of the cartons and contiguous wings.

21. A packaging machine comprising means to supply containers to receive platforms, means to supply platforms having wings, supports for the platforms, means for moving the supports from platform receiving position into platform delivering position, means to operate the supports to insert the platforms within the containers and withdraw the supports therefrom, a die having an opening for the passage of the platforms, said die being in position to oppose the wings of the platforms to fold the latter when the support advances toward the carton, means to apply adhesive to a wing as its platform advances to the carton, and means to indent the walls of the cartons and contiguous wings.

22. A packaging machine comprising means to supply containers to receive platforms, means to supply platforms having wings, supports for the platforms, means to retain articles on the supports in conjunction with the platforms, means to move the supports from platform and article receiving position into platfrom and article delivering position, means to operate the supports to insert the platforms within the containers and withdraw the supports therefrom, and means to fold the wings of the platforms for insertion in the containers.

23. A packaging machine comprising means to supply containers to receive platforms, means to supply platforms having wings, supports for the platforms, the supports having a recess containing gripping means for the article, means to move the supports from platform and article receiving position into platform and article delivering position, means to operate the supports to insert the platforms within the containers and withdraw the supports therefrom, and means to fold the wings of the platforms for insertion in the containers.

24. A packaging machine comprising means to supply containers to receive platforms, means to supply platforms having wings, a support for the platforms provided with a resilient finger to enter a hole in the platform to temporarily retain the latter on the support, means to move the support from platform receiving position into platform delivering position, means to operate the support to insert the platform within the containers and withdraw the support therefrom, and means to fold the wings of the platforms for insertion in the containers.

25. A packaging machine comprising means to supply containers to receive platforms, means to supply platforms having wings, a support for the platforms, a post pivotally carrying the support, means to move the post with the support toward and from the containers, the support being provided with an eccentric pin, a bar cooperative with the pin to rock the support from platform receiving to platform delivering position and vice versa, means to reciprocate the bar, and a die having an opening for the passage of the platforms as the support advances toward the container.

26. A packaging machine comprising means to supply containers to receive platforms, means to supply platforms having wings, supports for the platforms, means to move the supports from platform receiving to platform delivering position, means to operate the supports to insert the platforms within the containers and withdraw the supports therefrom, means to fold the wings of the platforms for insertion in the containers, and means to indent the material of the containers and the wings to retain the platforms within the containers.

27. A packaging machine comprising means to supply containers to receive platforms, means to supply platforms having wings, supports for the platforms, means to move the supports from platform receiving to platform delivering position, means to operate the supports to insert the platforms within the containers and withdraw the supports therefrom, means to fold the wings of the platforms for insertion in the containers, a punch and die to indent the material of the container, means to advance the die into the container with the punch opposing the container and retract the die from the container, and means to operate the punch when the die is within the container.

28. A packaging machine as set forth in claim 27, in which the means for operating the punch comprises a lever operatively connected with the punch, a cam to actuate the lever, said lever being adapted to slide relatively to the cam, and means to operate the cam.

29. A packaging machine as set forth in claim 27, in which the means for operating the punch comprises a lever operatively con-

nected with the punch, a cam to actuate the lever, said lever being adapted to slide relatively to the cam, means to operate the cam, and a spring retaining the lever in cooperation with the cam.

30. A packaging machine comprising means for supplying a container, means for erecting an article support in the container, and means for inserting an article within the container and releasing the article in engagement with said support.

31. A packaging machine comprising means for supporting a container, and means for inserting an article into the container along with a support for the article and releasing the article and the support within the container.

32. A packaging machine comprising means for supporting a container, means for supporting an article support, and means for inserting the article support into an end of the container and releasing the support within the container.

33. A packaging machine comprising means for supplying a container, means for inserting an article support into the container and releasing the same therein, and means to secure the support to the container.

34. A packaging machine comprising means for supplying a container, and means for erecting article supports in spaced relation transversely within the container.

35. A packaging machine comprising means for supplying a container, and means to insert article supports into opposite ends of the container and release said supports in spaced relation therein.

36. A packaging machine comprising means for supplying a container, means to insert article supports into opposite ends of the container and release said supports in spaced relation therein, and means to secure said supports to the container.

37. A packaging machine comprising means to supply containers, means for inserting articles within the containers, and means for erecting supports in the containers in engagement with the articles therein.

38. A packaging machine comprising means for supplying containers, means for supplying platforms, and means for erecting platforms in the containers.

39. A packaging machine comprising means for supplying containers, means for supplying platforms, means for erecting platforms in the containers, and means for securing the platforms to the containers.

40. A packaging machine comprising means for supplying containers, means for supplying platforms, means for inserting platforms into the containers along with an article, and means for securing the platforms to the containers.

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