Aug. 10, 1954 E. H. F. MOBLEY 2,685,768

CARTON CLOSING MACHINE

Filed Sept. 15, 1951 4 Sheets-Sheet 1

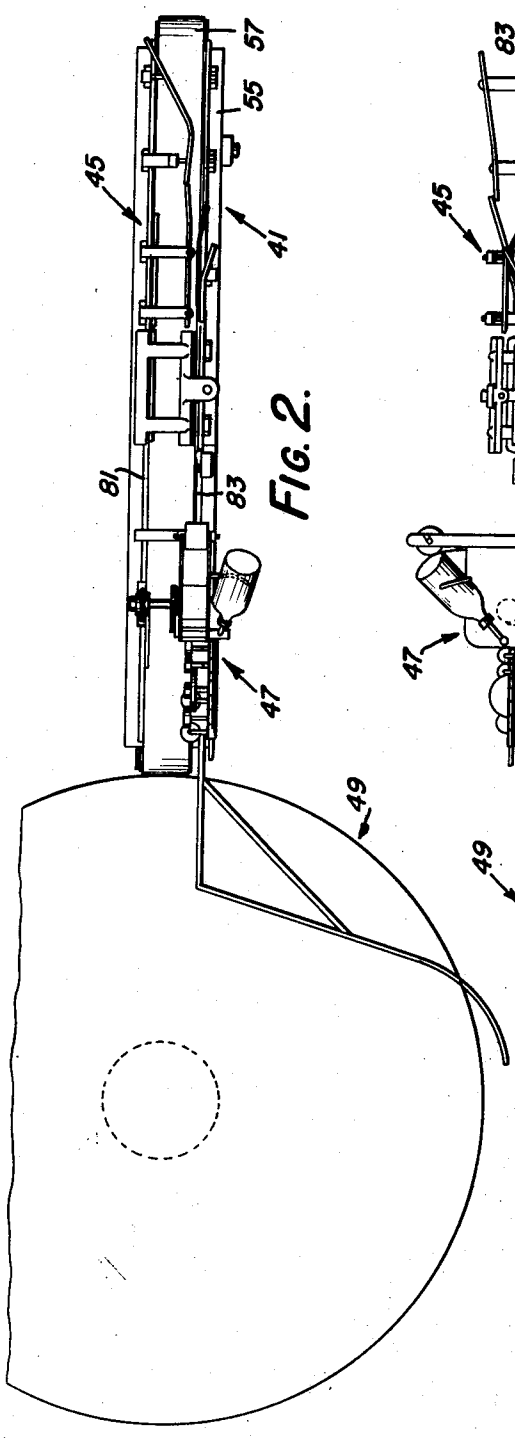


FIG. 2.

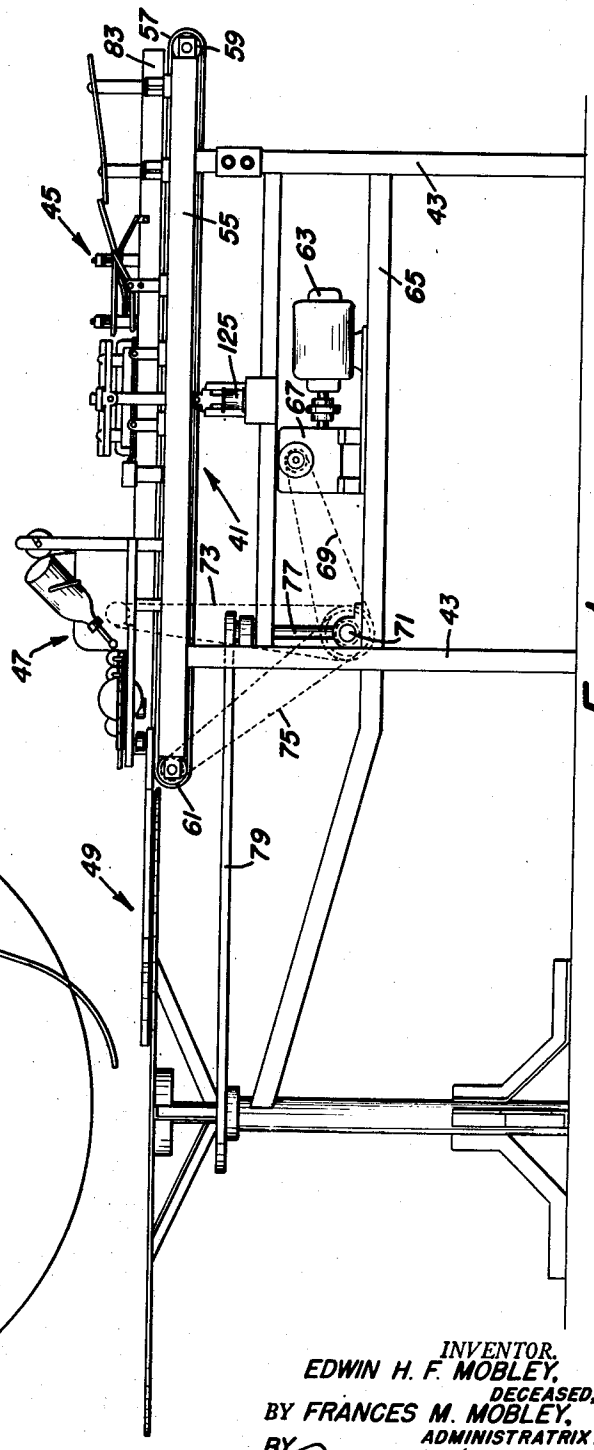


FIG. 1.

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CARTON CLOSING MACHINE

Filed Sept. 15, 1951 4 Sheets-Sheet 2

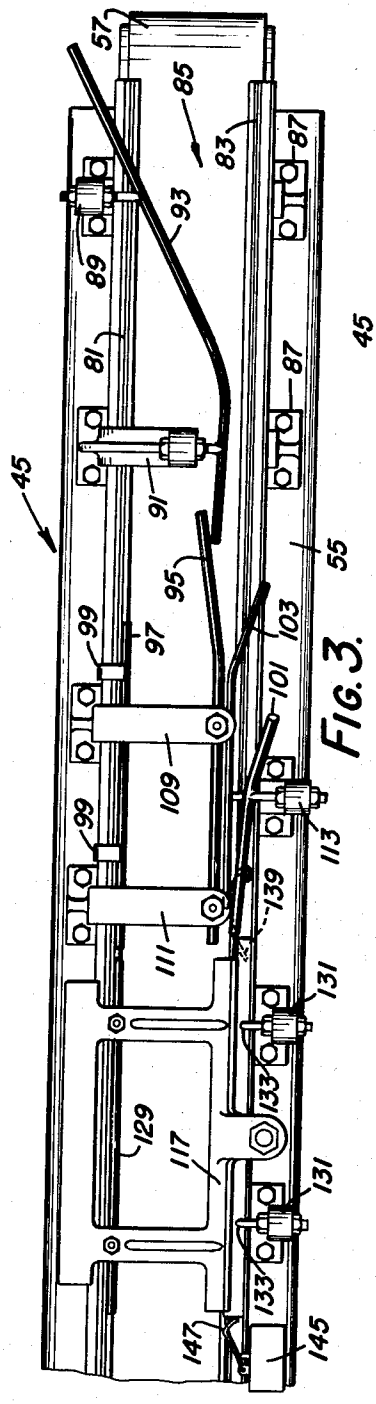


FIG. 3.

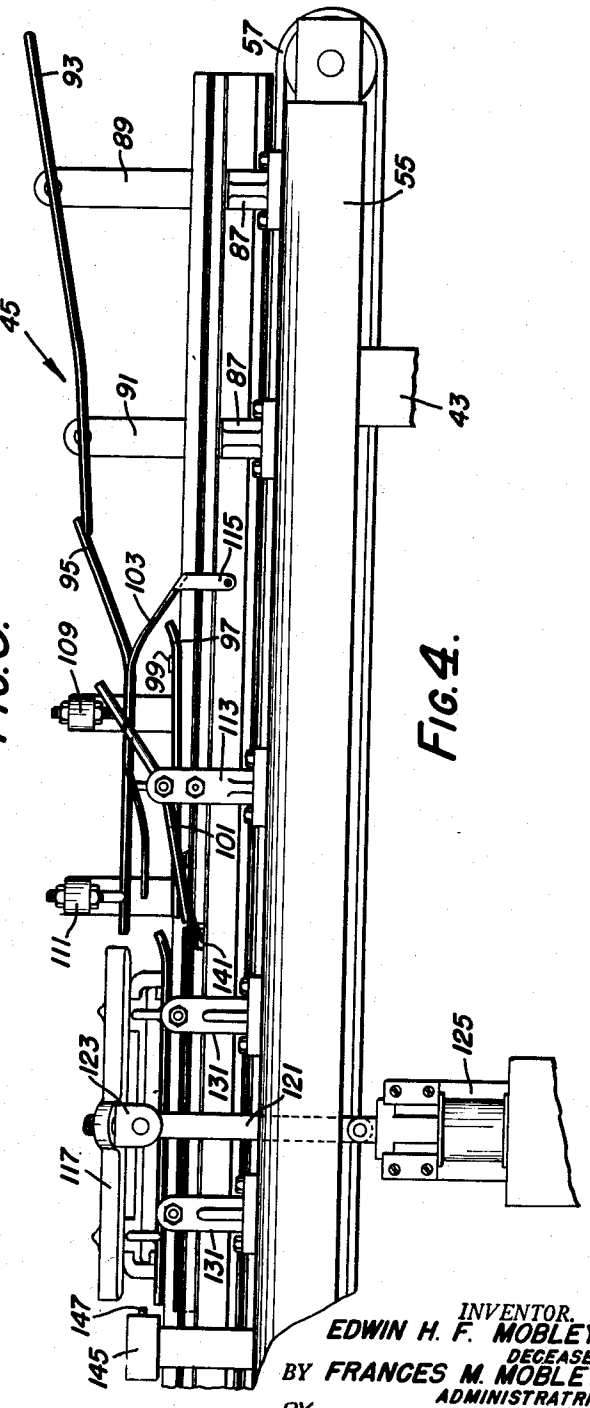


FIG. 4.

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CARTON CLOSING MACHINE

Filed Sept. 15, 1951 4 Sheets-Sheet 3

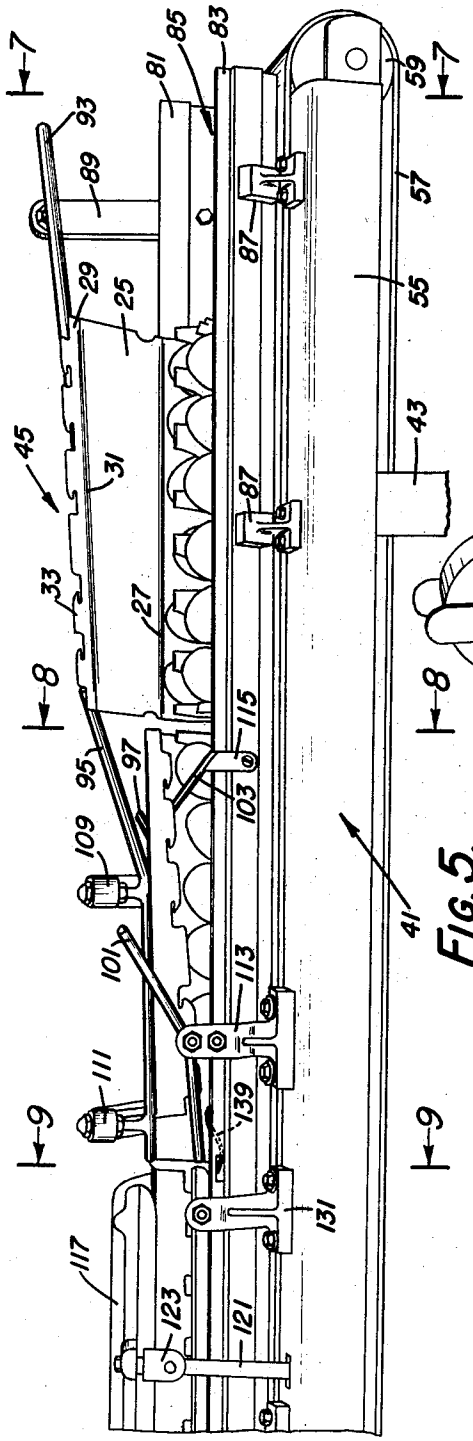


FIG. 5.

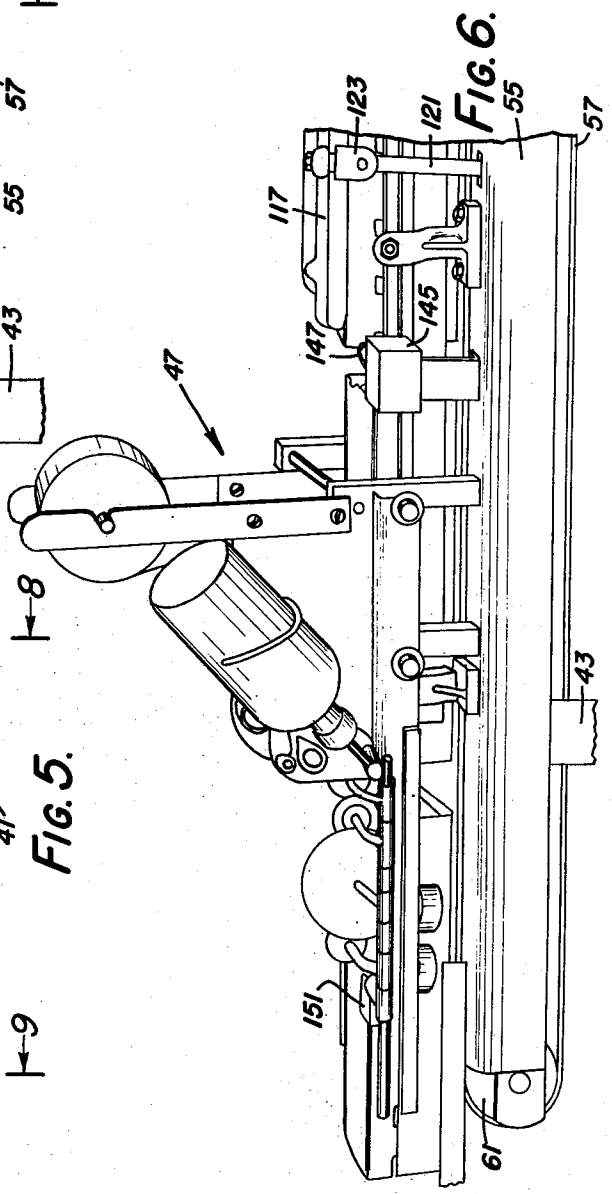


FIG. 6.

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CARTON CLOSING MACHINE

Filed Sept. 15, 1951 4 Sheets-Sheet 4

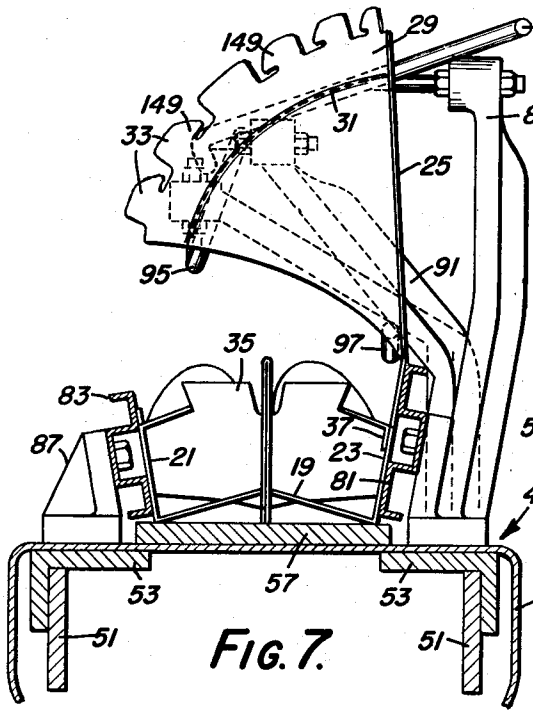


FIG. 7.

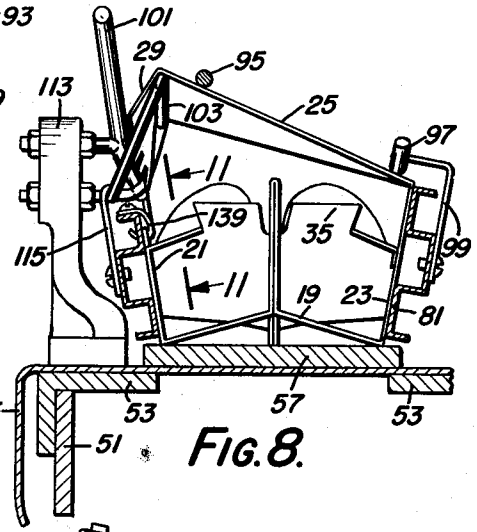


FIG. 8.

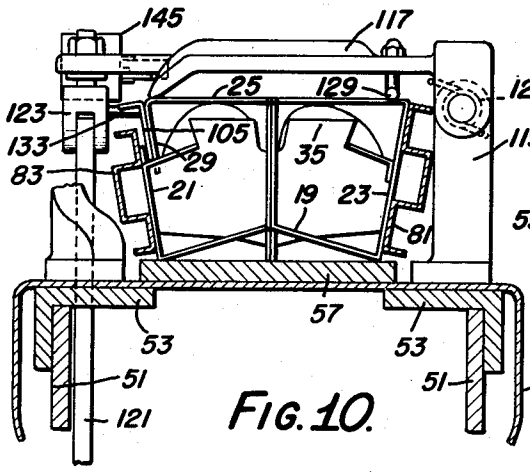


FIG. 10.

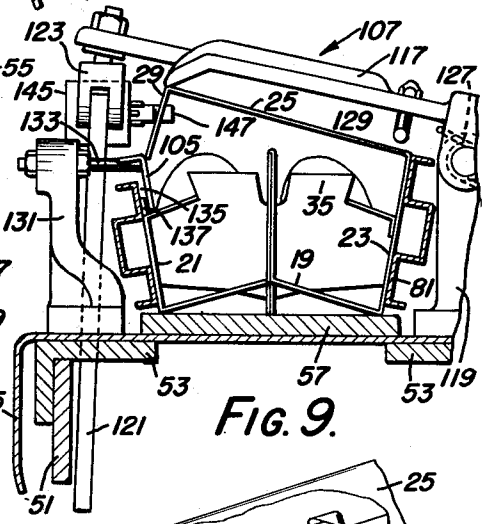


FIG. 9.

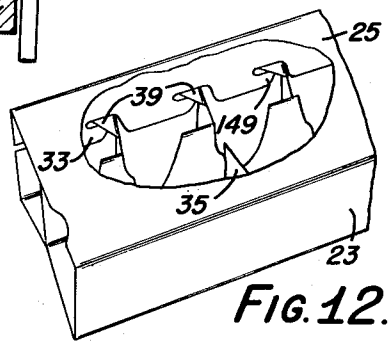


FIG. 12.

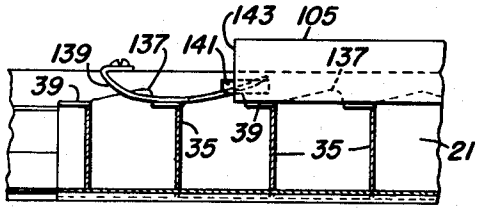


FIG. 11.

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Patented Aug. 10, 1954

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UNITED STATES PATENT OFFICE

2,685,768

CARTON CLOSING MACHINE

Edwin H. F. Mobley, deceased, late of Sodus, N. Y., by Frances M. Mobley, administratrix, Sodus, N. Y., assignor to Bloomer Bros. Company, a corporation of New York

Application September 15, 1951, Serial No. 246,847

9 Claims. (Cl. 53—44)

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This invention relates to machines for automatically closing cartons, and more particularly, to cartons of the cellular variety for holding eggs and the like. Such cartons commonly comprise a bottom, front and rear side walls, a cover having a securing flap along one side thereof formed with a series of hooks or other suitable securing means and a plurality of transverse partitions connected to the front and rear walls by hinge portions and adapted to engage said hooks for securing the carton in closed position, as described in detail, for example, in Letters Patent to William H. Inman, No. 2,277,327, dated March 24, 1942, and No. 2,556,088, dated June 5, 1951.

One object of the present invention is to provide an improved machine having a more simple, practical and efficient type of construction.

Another object is to provide a machine which is positive in operation and which has a minimum number of moving parts.

Still a further object is to provide a closing machine having the above advantages in which the pressure for closing the top is applied only to the corners or reinforced portions of the carton, at which points the stresses are absorbed fully by the carton and are not transmitted to the enclosed eggs.

To these and other ends the invention resides in certain improvements and combinations of parts, all as will be hereinafter more fully described, the novel features being pointed out in the claims at the end of the specification.

In the drawings:

Fig. 1 is a side elevation of a closing machine embodying the present invention;

Fig. 2 is a top plan view of the machine as shown in Fig. 1;

Fig. 3 is an enlarged plan view of the right hand end of the closing machine as shown in Fig. 2;

Fig. 4 is an enlarged side elevation of the right hand end of the closing machine as shown in Fig. 1;

Fig. 5 is an enlarged, perspective view of the closing mechanism showing a plurality of cartons in different stages of closing;

Fig. 6 is an enlarged perspective view of the sealing mechanism;

Fig. 7 is a sectional elevation substantially along line 7—7 in Fig. 5 and shows the cover being moved into closed position;

Fig. 8 is a sectional elevation substantially along the line 8—8 in Fig. 5 and shows the cover in more nearly closed position and the securing flap being moved into depending position relative to said cover;

Fig. 9 is a sectional elevation substantially along line 9—9 in Fig. 5 showing the cover in position for closing;

Fig. 10 is similar to Fig. 9, but shows the cover in closed position;

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Fig. 11 is a fragmentary sectional elevation substantially along line 11—11 in Fig. 8, and

Fig. 12 is an enlarged, fragmentary, perspective view of a closed carton showing the cover in closed position.

The invention is embodied in the present instance, by way of illustration, in a machine adapted for closing a carton such as disclosed in said patents and shown in Figs. 5 and 7 of the present application, comprising a one-piece blank which is cut, scored and folded to form a cushioning bottom wall 19 (Fig. 7) of inverted V-shape, a front wall 21, a rear wall 23, a cover 25, foldably connected to said rear wall along a score line 27 (Fig. 5), a securing flap 29 (Fig. 7) foldably connected to said cover along the free side thereof by a score line 31 and having a series of hooks 33 along the opposite side thereof, and a plurality of transverse partitions 35 which are foldably connected at one side with the top of the front wall 23 and at the other side with an edge strip 37 (Fig. 7) which is glued to the top of the rear wall. Partitions 35 are foldably connected at opposite top corners to said front and rear walls by triangular hinge portions 39, as shown in Fig. 12 and as more fully disclosed in said patents.

The machine preferably comprises an elongated table shown generally at 41 mounted upon suitable depending leg members 43 as shown in Fig. 1. Table 41 has mounted thereon adjacent the right end thereof (as viewed in Figs. 1 and 2) a closing mechanism, shown generally at 45 (Figs. 1, 2, 3 and 4), and hereafter more fully described, for closing the top of a carton as said carton is moved by conveyor means along said table. After the carton is closed by the above mechanism, it passes through a sealing machine, shown generally at 47 (Figs. 1 and 2), of known and suitable construction and forming no part of the present invention for sealing the carton to prevent unauthorized opening of the same, as well understood in the art. The sealed carton then passes onto a revolving turntable shown generally at 49 (Figs. 1 and 2) of known and suitable construction from which it may be readily removed for packing into a crate or carton.

Table 41 preferably comprises a pair of longitudinally extending bars 51 (Fig. 7) which are fastened to the upper end portions of leg members 43, by suitable means (not shown), and form therewith a rigid supporting structure for the remaining top members as presently described. Bars 51 have a pair of longitudinally extending angle irons 53 detachably fastened thereto by suitable means (not shown), which in turn have secured thereto a rigid covering or apron 55 (Fig. 7), preferably of sheet steel or the like, in the shape of an inverted U, as shown in Fig. 7. Apron 55 forms a smooth, unbroken surface upon which is mounted the closing mechanism 45, the sealing mechanism 47, and upon which passes the

upper course of a conveyor belt 57 which carries the carton through the machine for the successive closing and sealing of the same and thereafter deposits said carton on turntable 49. Table 41 has a pair of rollers 59 and 61 (Fig. 1) at the right and left ends thereof, respectively, for supporting and driving conveyor belt 57.

The means for actuating conveyor belt 57, sealing mechanism 45 and turntable 49 is, preferably, provided by an electric motor 63 (Fig. 1) which is mounted on an intermediate platform or shelf 65 (Fig. 1) and is connected to a suitable speed reducing gear box 67 also mounted on shelf 65, as shown in Fig. 1. Gear box 67 is connected by a suitable chain or belt 69 to a transversely extending shaft 71 which in turn is connected to sealing mechanism 47 and conveyor belt roller 61 by a pair of suitable chains or belts 73 and 75, respectively. Shaft 71 drives a vertically extending shaft 77 (Fig. 1) which is connected to and drives turntable 49 by a suitable belt 79 (Fig. 1). The said actuating means, as shown, thus effects continuous operation of the conveyor belt, sealing mechanism and turntable.

Apron 55 has mounted on the upper surface thereof, on opposite sides of belt 57, a pair of longitudinally extending guide members or walls 81 and 83 which form the right and left hand side walls, as viewed in Fig. 7, of an open channel of path shown generally at 85 (Figs. 3 and 5) through which the carton is moved by conveyor belt 57 from right to left as viewed in Figs. 1–6. Guide walls 81 and 83 are preferably so spaced and arranged as to be at the same angle of inclination to belt 57 as are the front and rear walls of the carton, for closely engaging the same, as shown in Figs. 7 and 8, to prevent lateral movement of the carton. The left ends of guide walls 81 and 83 are fastened to sealing mechanism 47 by suitable means (not shown) for support thereby. The opposite or right end of left hand guide wall 83 is secured to apron 55 by suitable brackets 87, as shown in Figs. 5 and 7. Right hand guide wall 81 is secured to a pair of supporting arms 89 and 91 (Fig. 7) which are mounted on apron 55, and which extend upwardly over guide wall 81 for supporting part of cover closing mechanism 45, as hereafter described.

The means for closing the top of the carton as said carton progresses through the machine preferably comprises a series of stationary elements or guide rods which move the cover of the carton from its upright position as shown in Fig. 7 to its nearly closed position as shown in Fig. 9, and movable depressor means, hereafter more fully described, for driving said cover into fully closed position. The action of the stationary guide rods can be easily seen in Figs. 5 and 7–9 and their shape and position seen in Figs. 3–5 and 7–10.

When the carton is placed on the right end of conveyor belt 57, the cover is substantially upright and as said carton progresses to the left the cover engages guide rod 93 which is fastened to the upper ends of supporting arms 89 and 91 and, as viewed in Fig. 7, extends from a position adjacent the right hand side of table 41 toward the left side thereof and at the same time slants downwardly, as shown in Fig. 4. As the carton is moved along by conveyor belt 57, rod 93 moves cover 25 downwardly as shown in Figs. 5 and 7 and feeds said cover under a second stationary guide rod 95 which slants downwardly to the left, as viewed in Fig. 4, and thereby further

moves the cover toward closed position. In order to insure proper bending of the cover, a stationary guide rod 97 (Figs. 3 and 8) is secured to the right hand side member 81 by a pair of spring metal arms 99 (Figs. 3 and 8). Rod 97 engages cover 25 adjacent the hinge line thereof and in conjunction with the folding action of rod 95, insures the proper folding of cover 25 about said hinge line.

In order to lock the cover in closed position it is necessary to bend securing flap 29 about score or hinge line 31 into depending position substantially perpendicular to cover 25 and then move said cover and securing flap into their lowermost positions where the hooks 33 on securing flap 29 will engage triangular portions 39 of the transverse cell partitions 35.

This further bending action is accomplished by a second pair of stationary guide rods 101 and 103 (Figs. 3 and 4). Rod 101 engages the outer or free edge of securing flap 29 as shown in Fig. 8. Rod 103 engages the under surface of the outer edge of cover 25 adjacent the hinge line of securing flap 29, as shown in Fig. 8. Rods 101 and 103 in conjunction with rod 95, as best shown in Figs. 5 and 8, move securing flap 29 from its initial position parallel with cover 25, as shown in Fig. 7, to its depending position shown in Fig. 9.

Rod 101 extends inwardly toward the center of the table, as shown in Fig. 3, and downwardly to the left, as shown in Fig. 4, and together with guide rods 103 and 95, guides securing flap 29 inside of a stationary guide plate 105 (Fig. 9) which in turn guides said flap into locking position as hereafter described. It is to be noted that the left end of guide rod 95 is sufficiently close to the surface of conveyor belt 57 so that the cover of the carton will pass beneath the movable depressor bar mechanism shown generally at 107 in Fig. 9, and as hereafter described.

Rod 95 is fastened to the upper ends of a pair of supporting arms 109 and 111 which are mounted at the lower ends thereof on table 41, adjacent the right side thereof, as shown in Fig. 3. Rod 101 which engages securing flap 29 along the outer surface thereof is fastened to the upper end of a supporting arm or bracket 113 mounted on table 41 adjacent the left side thereof, as shown in Figs. 3 and 4. Rod 103 which engages the under side of cover portion 25 is secured at the right end thereof to left hand guide member 83 by a depending arm 115 (Fig. 3) and is fastened adjacent the other end thereof to supporting arm 113.

The means for completing the closure of the carton and for moving hook portions 33 of securing flap 29 into locking engagement with triangular portions 39 of the transverse partitions of the carton comprises, preferably, a movable depressor bar 117 (Fig. 9) pivotally mounted adjacent the right end thereof on a pair of vertically extending supporting arms 119, as shown in Fig. 10. Bar 117 has a depending rod or lever 121 (Figs. 4 and 10) pivotally attached thereto adjacent the opposite side thereof by a yoke 123, by means of which bar 117 is adapted to be swung from its normal position shown in Fig. 9 to its depressed position shown in Fig. 10. Rod 121 is moved downwardly by a solenoid 125 (Fig. 4) when the partially closed carton is positioned under depressor bar 117 by means to be hereafter described. Depressor bar 117 and rod 121 are urged upwardly to their normal positions as shown in Fig. 9 by a coil spring 127 (Figs. 9 and 10).

Depressor bar 117 is preferably slightly shorter in length than the standard cartons used but extends for substantially the length of the cover flap 29, as shown, and is shaped in cross-section so as to engage cover 25 adjacent the free edge thereof substantially along the fold line 31 between cover 25 and securing flap 29, as shown in Figs. 9 and 10. Depressor bar 117 has a guide rod 129 (Figs. 3, 9 and 10) fixed thereto adjacent the opposite side thereof for engaging cover 25 adjacent the hinged side thereof as shown in Figs. 9 and 10. Thus, it will be seen that the force for closing the cover is applied thereto adjacent the opposite sides thereof, thereby allowing the stresses to be transmitted to the rest of the carton without damaging the eggs or other fragile articles therein.

In the closing of the cover by depressor bar 117 it is important that securing flap 29 be moved downwardly to its closed position inside of the front wall of the carton so that hook portions 33 will engage triangular hinge portions 39. To this end stationary guide plate 105 is mounted on a pair of vertically extending supporting arms or brackets 131 (Figs. 3 and 9) by connecting members 133 (Fig. 3) so that it extends adjacent and parallel to, but spaced from, left guide wall 83, as shown in Fig. 9. Guide plate 105 is spaced inwardly of side member 83 and forms therewith a narrow passageway 135 (Fig. 9) through which the upper tip portions 137 (Figs. 9 and 11) of the front wall of the carton pass as the carton moves into position beneath depressor bar mechanism 107, as shown in Figs. 9 and 10, which, when the carton is positioned therebeneath, moves securing flap 29 downwardly along the opposite side of said guide plate and into fully closed position. Guide plate 105 prevents tip portions 137 from lying in the path of securing flap 29 and interfering with the closing movement thereof. The lower edge of plate 105 extends downwardly so as to clear carton hinge portions 39 with a minimum of frictional resistance as shown in Fig. 11.

It is to be noted that passageway 135 is only slightly greater in width than the thickness of tip portions 137 and is so positioned that when portions 137 pass therethrough they are substantially coplanar with the remaining portion of front wall 21, as shown in Figs. 9 and 10. However often during the erection or filling operation, the tip portions 137 of the front wall are bent out of alignment with one another and with the front wall of the carton, and, because of this, said tip portions would not be in position for movement through passageway 135, but rather would move along the opposite side of guide plate 105 and would interfere with and prevent the proper closing of flap 29. The present invention also includes means, as presently described, for aligning said tip portions and guiding the same into passageway 135 as the carton passes beneath the depressor bar mechanism.

The means for aligning tip portions 137 preferably comprises a curved, flexible wire member 139 (Figs. 3 and 11) which, as viewed from above, Fig. 3, bows inwardly towards the center of table 41. The left end of wire member 139, as viewed in Fig. 3, is free and extends outwardly through an opening 141 (Figs. 4 and 11) in left side member 83. Wire 139 as viewed from the side, Fig. 11, bows downwardly adjacent the middle thereof so that at its lowest point it lightly engages the top of carton hinge portions 39 as shown in Fig. 11. Thus shaped, wire 139 forms with the inner

surface of left guide wall 83 a tapering or funnel-like pocket, the larger end of which opens to the right as viewed in Fig. 3, to the left as viewed in Fig. 11. Thus, wire 139 readily engages tip portions 137 as the carton is moved by conveyor belt 57 from right to left in Figs. 1–6 and from left to right in Fig. 11 and any tip portions which may be bent inwardly out of alignment with the remaining portion of front wall 21 will be moved by said wire outwardly against side member 83 and into alignment with said carton front wall for subsequent movement through passageway 135.

It is to be noted that the point at which wire member 139 passes out through opening 141 is behind the leading edge 143 of guide member 105, as shown in Fig. 11, and therefore, tip portions 137, when once engaged by guide wire 139, are effectively aligned and guided into passageway 135. At the same time, guide wire 139 is sufficiently yieldable so that it will not damage the eggs or other fragile contents of the carton if the same should strike thereagainst during the movement of the carton through the machine. Moreover, because the alignment of tip portions 137 is accomplished by guide wire 139, stationary guide plate 105 has only to hold said tip portions in alignment and out of the path of securing flap 29 during the closing of the carton, and therefore, needs to be spaced inwardly of left side member 83 by a distance only slightly in excess of the thickness of tip portions 137. Thus, guide plate 105 may be sufficiently close to the front of the carton to avoid striking against the contents thereof as the carton passes therealong.

The means for controlling solenoid 125 and thereby controlling the closing movement of depressor bar 117 comprises a single electrical switch 145 (Figs. 3 and 4) preferably of the known micro switch construction, normally in the open position, which is in series with the electrical circuit leading to solenoid 125. Switch 145 is located on the left side of the table 41 as shown in Figs. 9 and 10, and adjacent the left end of depressor bar 117, as shown in Fig. 4. Switch 145 has an actuating lever 147 (Fig. 3) extending therefrom which is positioned so as to be engaged by the cover of the carton as said partially closed carton moves under depressor bar 117.

When the partially closed carton cover strikes switch lever 147, as shown in Fig. 9, it closes switch 145 and closes the circuit to solenoid 125 which pulls lever 121 and depressor bar 117 downwardly, driving cover 25 and securing flap 29 into their closed positions, as shown in Fig. 10, while said carton is progressing continuously along its path on conveyor belt 57. However, as soon as the carton cover is moved out of engagement with actuating switch lever 147, a spring (not shown) within switch 145 opens said switch and deenergizes solenoid 125. It would be expected that at this point the downward movement of depressor bar 117 would end, and said bar would be moved upwardly under the action of spring 127 towards its normal position shown in Fig. 9, but due to the inertia of the depressor bar and its associated parts, said bar continues downwardly to its fully lowered position shown in Fig. 10, thereby driving hooks 33 beneath hinge portions 39 and into locking engagement therewith. Hooks 33 are slightly tapered on the free side thereof as at 149 (Fig. 7) and due to a slight yielding thereof and of hinge portions 39 are readily forced beneath the same by the above

rapid and positive downward movement of the depressor bar.

Not only is the above solenoid control circuit simple in operation and construction, but as the circuit to solenoid 125 is open before depressor bar 117 reaches its lowermost position (Fig. 10), it is impossible for the depressor bar to be held down for other than the instant required to drive securing flap 29 into securing position. Because of this short cycle of operation for bar 117 plus the fact that said bar is slightly shorter in length than the carton being closed, the depressor bar engages but one carton at a time and will always be in its uppermost position (Fig. 9) prior to the movement thereunder of the next succeeding carton, even if said carton is in abutting relation with the next preceding carton which has just been closed, as above.

After the carton is closed, it moves through sealing mechanism 47 which glues a small unbroken strip of paper, or the like, partially shown at 151 (Fig. 6), along the top of the cover downwardly over the exposed portion of the securing flap and onto the front wall of the carton, thereby sealing the same against unauthorized opening, as well understood in the art. Conveyor belt 57 thereafter delivers the closed and sealed carton onto turntable 49 from which it is subsequently removed for packing.

Thus it will be seen that the present invention provides a novel carton sealing machine which has but a few parts and in which the carton is moved continuously therethrough, thereby eliminating the possibility of damaging the contents by sudden stopping and starting of the carton. Moreover, the cover is simultaneously closed for its entire length by a single positive closing movement which forces the securing hooks 33 beneath the triangular locking portions 39. This is done rapidly, accurately and without danger to the contents of the carton. As the closing of the cover by depressor bar 117 releases said depressor bar for movement to its initial position, there is no danger of the machine jamming because the cartons are passing therethrough in abutting relation, and as a result, the machine may be safely operated at high rates of speed with a continuous flow of cartons therethrough.

It will thus be seen that the invention accomplishes its objects and while it has been herein disclosed by reference to the details of a preferred embodiment, it is to be understood that such disclosure is intended in an illustrative, rather than a limiting sense, as it is contemplated that various modifications in the construction and arrangement of the parts will readily occur to those skilled in the art, within the spirit of the invention and the scope of the appended claims.

What is claimed is:

1. A machine for closing cellular cartons of the type having front and rear walls, a plurality of cross partitions extending between said walls, a cover hingedly connected to one of said walls, a cover securing flap hingedly connected to said cover and having hooks thereon adapted to engage portions of said cross partitions, said machine comprising means for continuously progressing said cartons along a path therethrough, means for moving said cover into substantially closed position, means for moving said cover flap into depending position substantially perpendicular to said cover, movable bar means having substantially the length of said cover flap for simultaneously depressing said hooks beneath said portions on the cross partitions and means for effecting a substantially instantaneous depressing movement of said bar means to secure said cover in closed position during said continuous progression of said carton along said path.

2. A machine for closing a cellular carton of the type having front and rear walls, a plurality of cross partitions attached to the front wall by means of hinge portions, a cover hingedly connected along one side thereof to said rear wall, a cover securing flap hingedly connected to said cover along the opposite side thereof and having hooks thereon adapted to be engaged beneath said hinge portions, said machine comprising means for continuously progressing said carton along a path therethrough, means for moving said cover into partially closed position, means for moving said cover flap into depending position substantially perpendicular to said cover, a depressor bar pivotally mounted at one end thereof on said machine and arranged to engage substantially the full length of said cover adjacent said opposite side thereof, and means for effecting a substantially instantaneous actuation of said bar for simultaneously depressing said hooks beneath said hinge portions to secure said carton in closed position during said continuous progression of said carton along said path.

3. A machine for closing a cellular carton of the type having front and rear walls, a plurality of cross partitions attached to the front wall by means of hinge portions, a cover hingedly connected along one side thereof to said rear wall, a cover securing flap hingedly connected to said cover along the opposite side thereof and having hooks thereon adapted to be engaged beneath said hinge portions, said machine comprising means for continuously progressing said carton along a path therethrough, means for moving said cover into partially closed position, means for moving said cover flap into depending position substantially perpendicular to said cover, a pivoted depressor bar engaging said cover adjacent said opposite side thereof, means including a spring actuated electrical switch located for engagement by said carton cover in the partially closed position thereof for effecting substantially instantaneous actuation of said bar for simultaneously depressing said hooks into securing position beneath said hinge portions while said carton is progressing continuously along said path, and spring means for returning said depressor bar and actuating means to their initial positions.

4. A machine for closing a cellular carton of the type having front and rear walls, a plurality of cross partitions attached to the front wall by means of hinge portions, a cover hingedly connected along one side thereof to said rear wall, a cover securing flap hingedly connected to said cover along the opposite side thereof and having hooks thereon adapted to be engaged beneath said hinge portions, said machine comprising means for progressing said carton along a path therethrough, means for moving said cover into partially closed position, means for moving said cover flap into depending position substantially perpendicular to said cover, a pivoted depressor bar engaging said cover adjacent said opposite side thereof, electric circuit means comprising solenoid means for actuating said bar for simultaneously driving said hooks into securing position beneath said hinge portions, switch means

momentarily closed by said carton for energizing said solenoid, and spring means for opening said switch to release said solenoid and depressor bar.

5. A machine for closing a cellular carton of the type having front and rear walls, a plurality of cross partitions attached to the front wall by means of hinge portions, a cover hingedly connected along one side thereof to said rear wall, a cover securing flap hingedly connected to said cover along the opposite side thereof and having hooks thereon adapted to be engaged beneath said hinge portions, said machine comprising means for continuously progressing said carton along a path therethrough, means for moving said cover into partially closed position, means for moving said cover flap into depending position substantially perpendicular to said cover, a depressor bar pivotally mounted at one end thereof on said machine and arranged to engage substantially the full length of said cover adjacent said opposite side thereof, guide means fixed on said machine for holding the upper portions of said front wall out of engagement with said cover flap as said flap is moved into securing position, and means for effecting a substantially instantaneous actuation of said bar for simultaneously driving said hooks into securing position beneath said hinge portions while said carton is progressing continuously along said path.

6. A machine for closing a cellular carton of the type having front and rear walls, a plurality of cross partitions attached to the front wall by means of hinge portions, a cover hingedly connected along one side thereof to said rear wall, a cover securing flap hingedly connected to said cover along the opposite side thereof and having hooks thereon adapted to be engaged beneath said hinge portions, said machine comprising means for continuously progressing said carton along a path therethrough, means for moving said cover into partially closed position, means for moving said cover flap into depending position substantially perpendicular to said cover, a depressor bar pivotally mounted at one end thereof on said machine and arranged to engage said cover adjacent said opposite side thereof, guide means fixed on said machine for holding the upper portions of said front wall out of the path of said cover flap and for guiding said strip inside said wall portions as said flap is moved into securing position, resilient wire means for guiding the upper portions of the front wall into position behind said fixed guide means, and means for effecting a substantially instantaneous actuation of said depressor bar for simultaneously depressing said hooks beneath said hinge portions and into securing engagement therewith while said carton is progressing continuously along said path.

7. A machine for closing cellular cartons of the type having front and rear walls, a plurality of cross partitions attached to said front wall by means of hinge portions, a cover hingedly connected along one side thereof to said rear wall, a cover securing flap hingedly connected to said cover along the free side thereof and having hooks thereon adapted to be engaged beneath said hinge portions, said machine comprising means for continuously progressing said carton along a path therethrough, stationary guide means for rotating said cover to partially closed position as said carton is moved thereunder, fixed guide means engaging said cover flap for rotating it into depending position relative to said cover, a depressor bar pivotally mounted at one end thereof on said machine and arranged to engage said cover adjacent the free side thereof for fully closing the same, and means for effecting a substantially instantaneous actuation of said bar for simultaneously depressing said hooks beneath said hinge portions while said carton is progressing continuously along said path, for securing said carton in closed position.

8. A machine for closing cellular cartons of the type having front and rear walls, a plurality of cross partitions attached to said front wall by means of hinge portions, a cover hingedly connected along one side thereof to said rear wall, a cover securing flap hingedly connected to said cover along the free side thereof and having hooks thereon adapted to be engaged beneath said hinge portions, said machine comprising means for continuously progressing said carton along a path therethrough, stationary guide means engaging the top surface of said cover adjacent the free side thereof for rotating said cover into partially closed position as said carton is moved thereunder, a pair of stationary guide elements engaging opposite surfaces of said cover flap for rotating said flap into depending position relative to said cover, a depressor bar pivotally mounted at one end thereof on said machine and arranged to engage said cover adjacent the free side thereof for moving the same into fully closed position, and means for actuating said bar for simultaneously depressing said hooks beneath said hinge portions while said carton is progressing continuously along said path for securing said carton in closed position.

9. A machine for closing cellular cartons of the type having front and rear walls, a plurality of cross partitions attached to said front wall by means of hinge portions, a cover hingedly connected along one side thereof to said rear wall, a cover securing flap hingedly connected to said cover along the free side thereof and having hooks thereon adapted to be engaged beneath said hinge portions, said machine comprising means for continuously progressing said carton along a path therethrough, stationary guide means engaging the top surface of said cover adjacent opposite sides thereof for rotating said cover into partially closed position as said carton is moved thereunder, a pair of stationary guide rods engaging opposite surfaces of said cover flap for rotating said flap into depending position relative to said cover, a depressor bar pivotally mounted at one end thereof on said machine and arranged to engage substantially the full length of said cover adjacent opposite sides thereof for moving the same into fully closed position, and means for effecting a substantially instantaneous actuation of said bar for simultaneously depressing said hooks beneath said hinge portions for securing said carton in closed position during said continuous progression of said carton along said path.

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