

Feb. 6, 1962

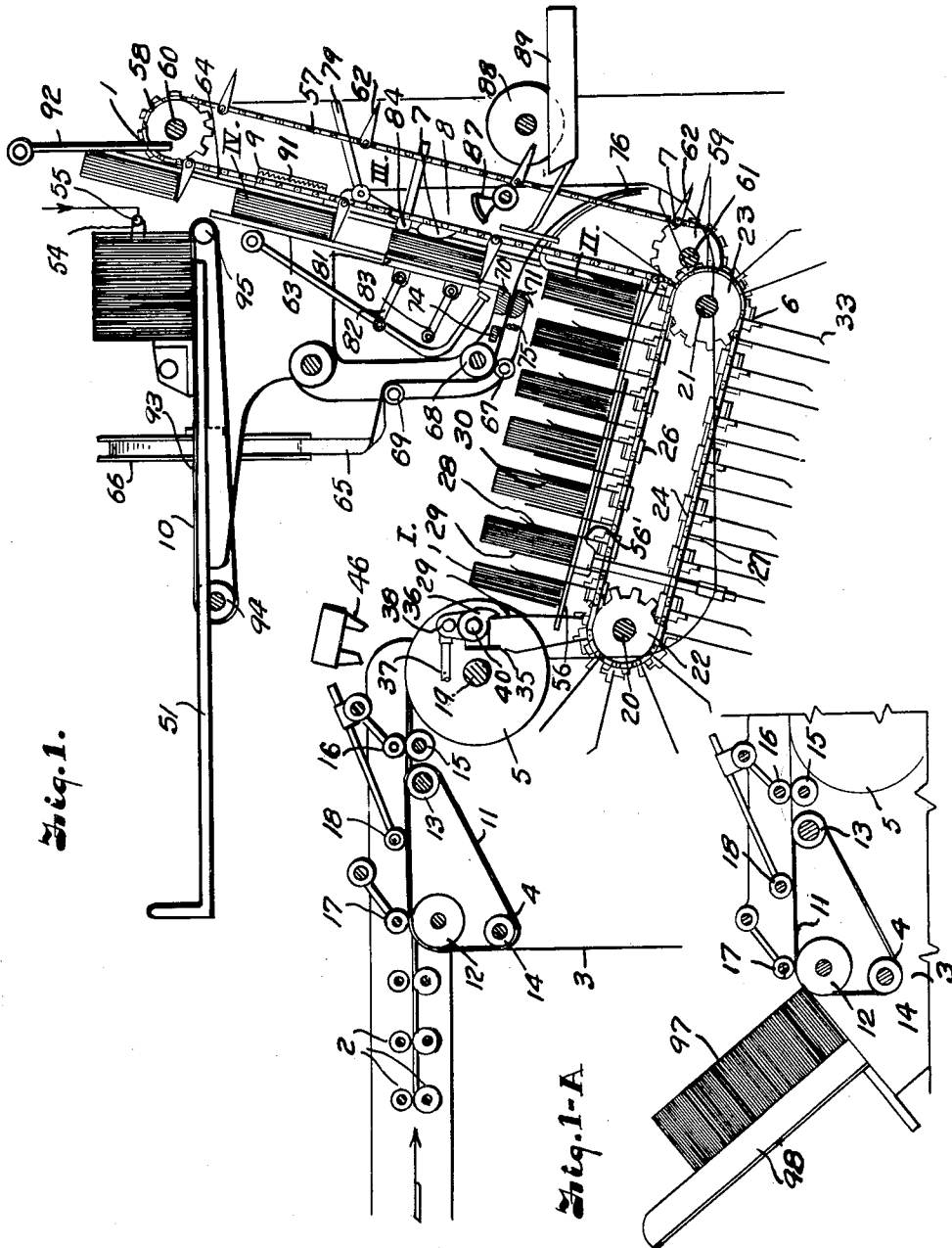
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3,019,886

APPARATUS FOR COUNTING AND BANDING ENVELOPES AND THE LIKE

Original Filed Aug. 20, 1956

5 Sheets-Sheet 1



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Fig. 4.

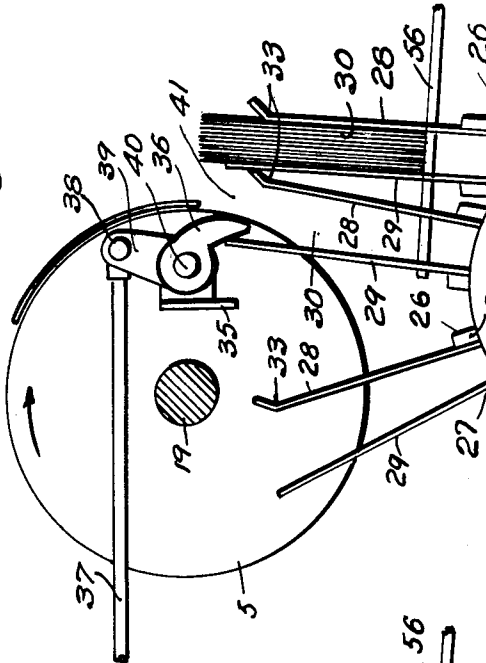


Fig. 2.A.

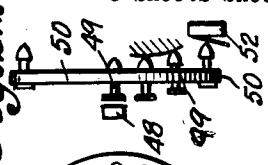


Fig. 2.

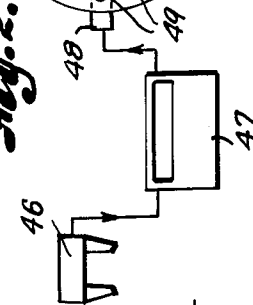
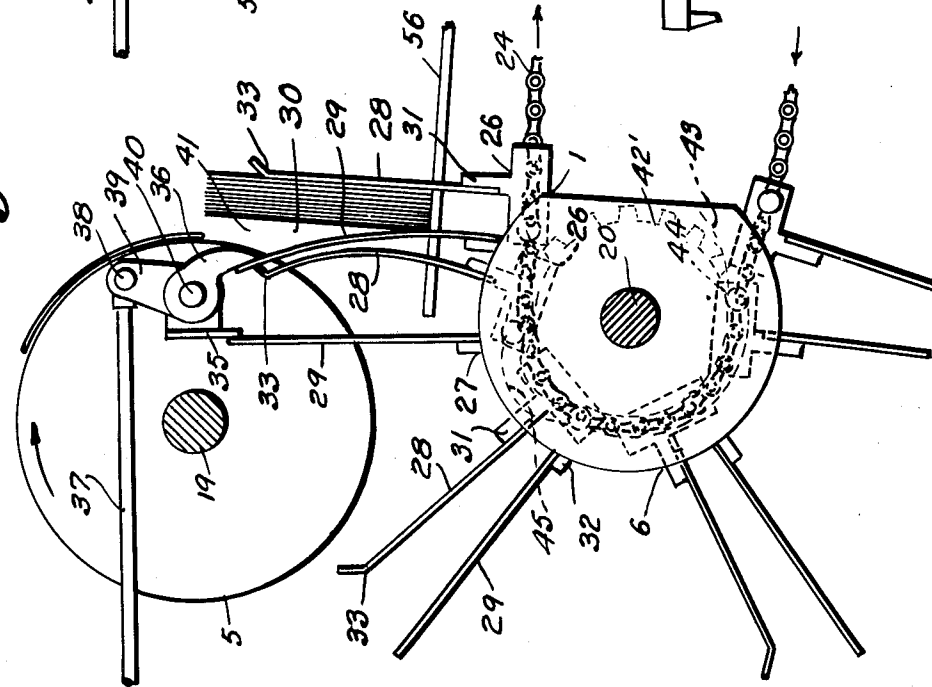


Fig. 3.



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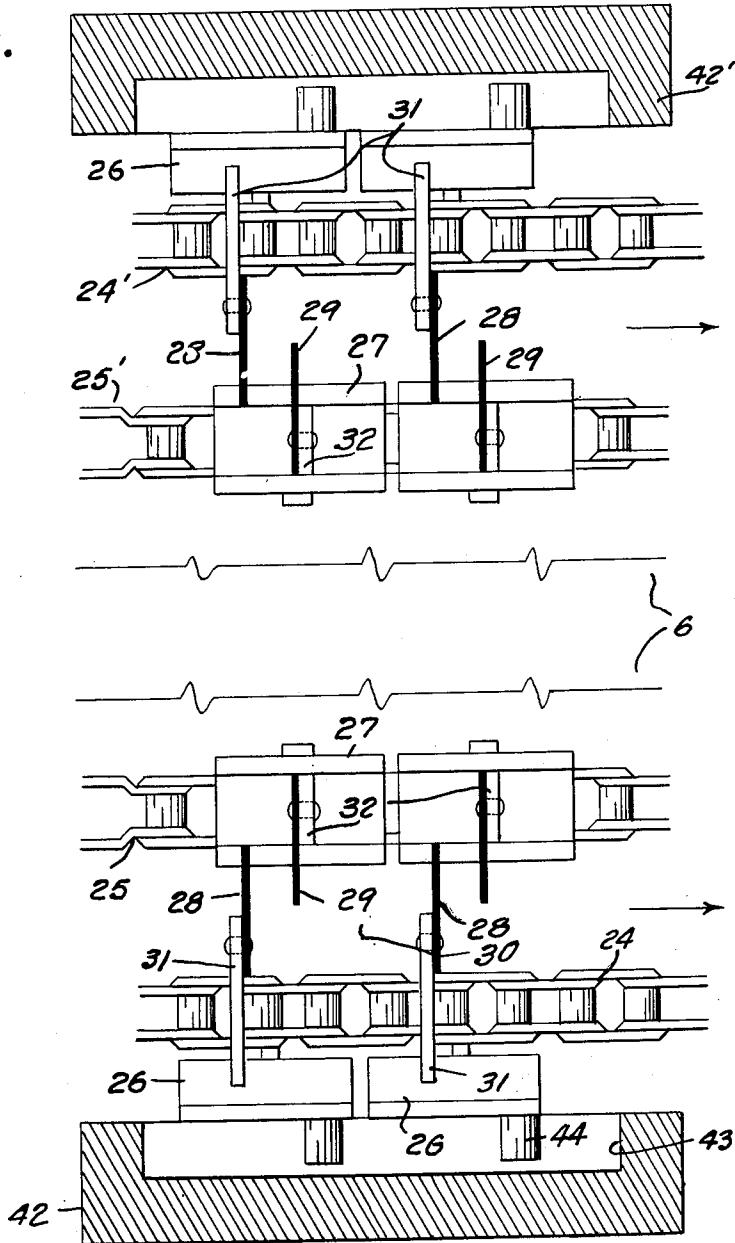
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Fig. 5.



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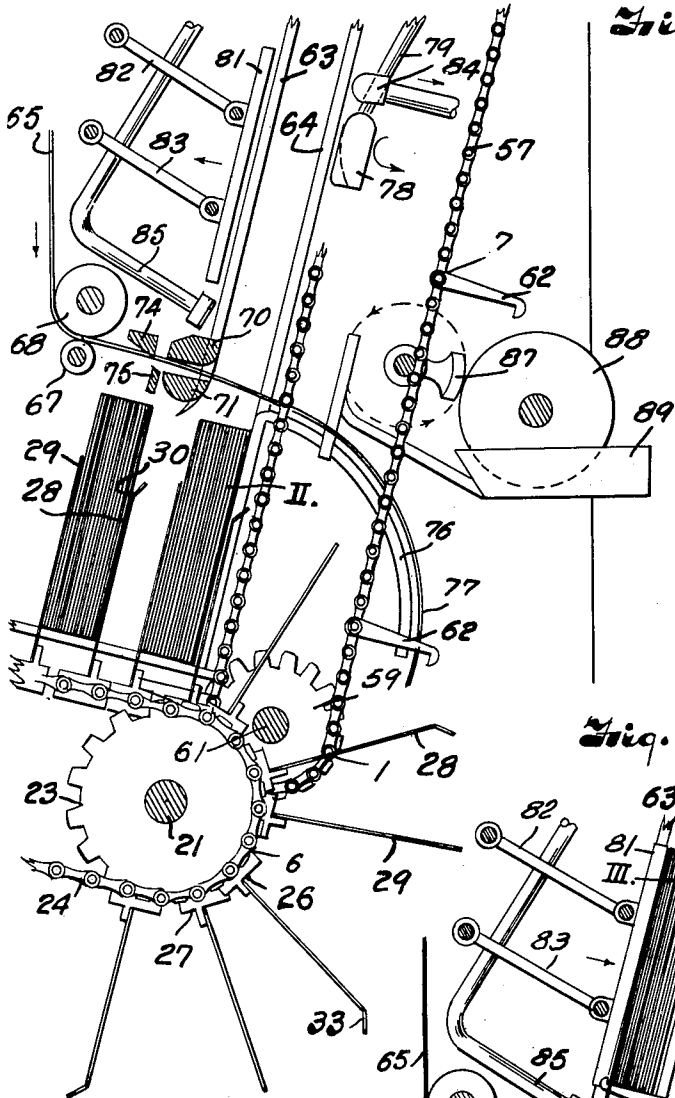


Fig. 6.

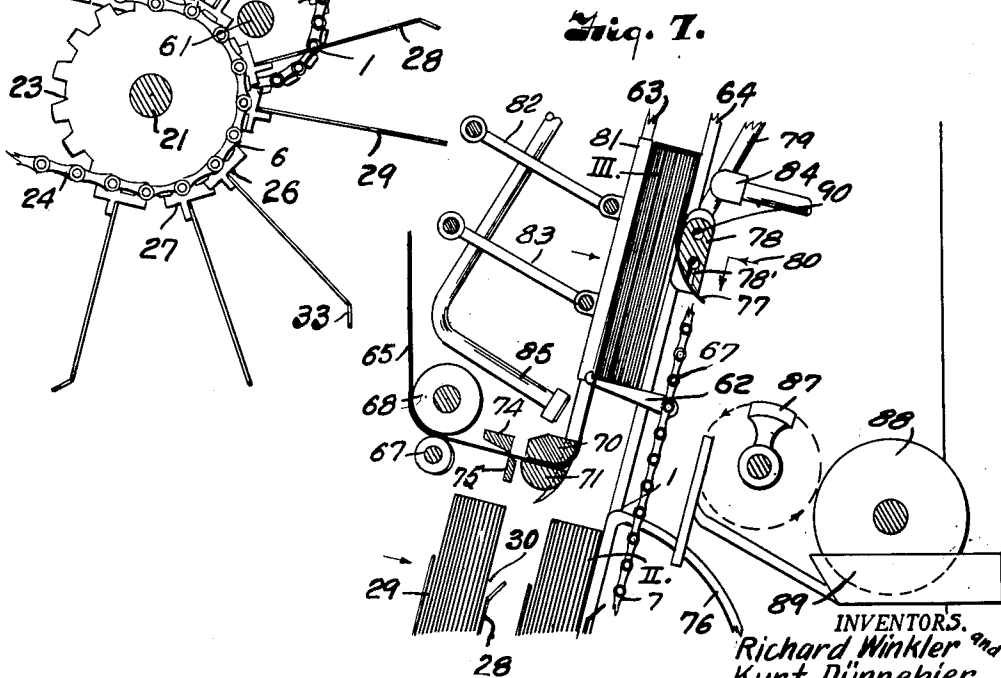


Fig. 1.

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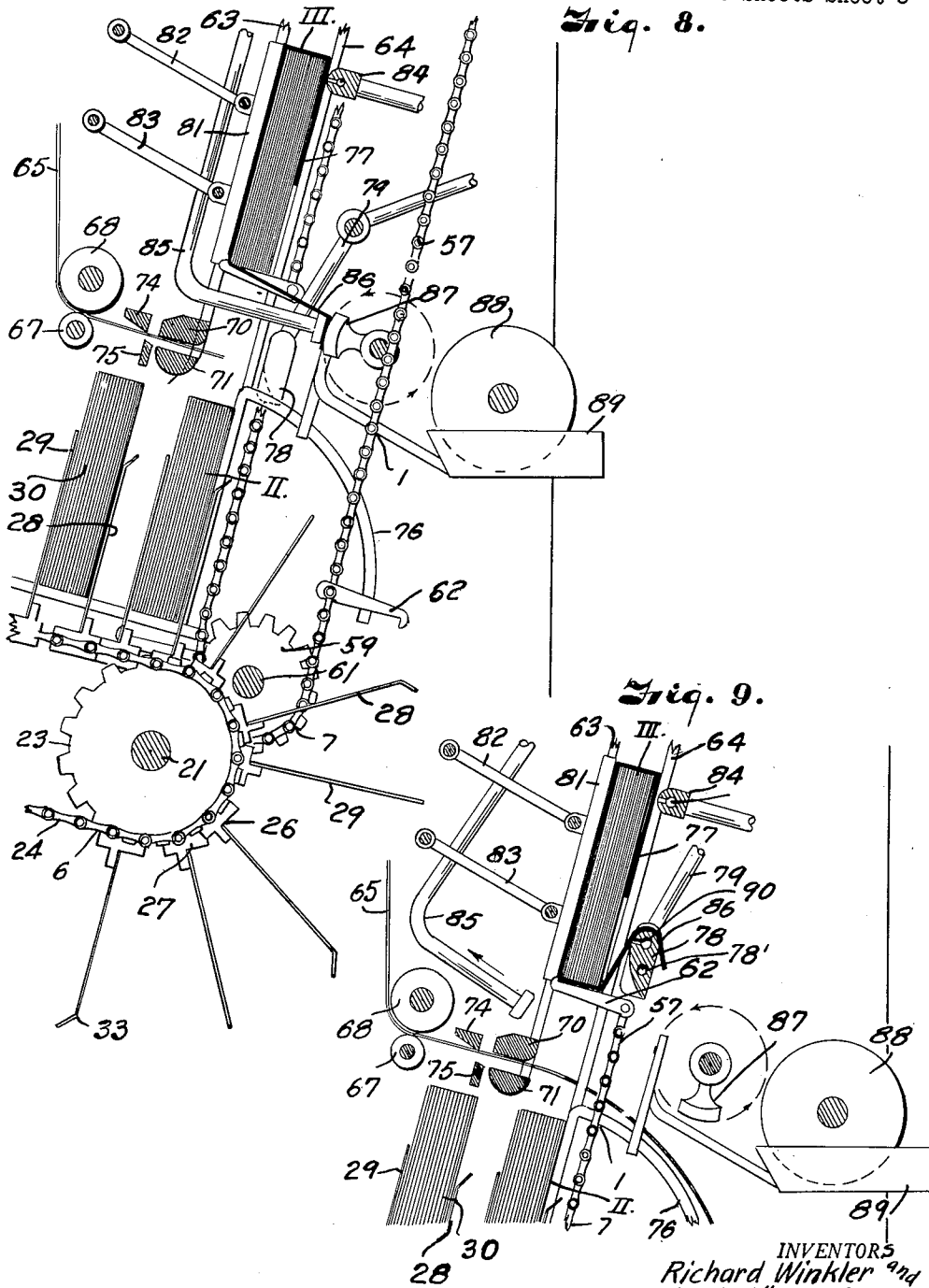


Fig. 8.

Fig. 9.

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APPARATUS FOR COUNTING AND BANDING ENVELOPES AND THE LIKE

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Original application Aug. 20, 1956, Ser. No. 604,878, now Patent No. 2,917,884, dated Dec. 22, 1959. Divided and this application Oct. 28, 1959, Ser. No. 849,290
14 Claims. (Cl. 198—134)

This invention relates to machines for making envelopes and similar articles, and more particularly to an apparatus in association with such machines for automatically counting and packeting such envelopes or similar articles, the present application being a division of our copending application for patent filed August 20, 1956, Serial No. 604,878 now Patent No. 2,917,884.

Heretofore it has been the practice to provide such machines with counting devices whereby the envelopes may be counted and separated into groups, or the envelopes are counted by hand, after which the groups to be formed into packets are introduced into a separate wrapping machine, all of which requires a considerable amount of time and labor and there is possibility of error so that the proper number of envelopes are not included in each packet.

Another difficulty is that modern high speed envelope making machines are capable of a very high output, but when the envelopes are to be packeted the output must be limited in coordination with the present comparatively slow methods of counting and packeting the envelopes. If additional operators and wrapping machines are employed to keep up with the normal capacity of the envelope making machine, the labor cost and investment overcome the advantage gained by the high speed machines.

It is therefore the principal object of the present invention to provide counting and packeting mechanism which is adapted to count and packet automatically the output of modern envelope machines.

Other objects of the invention are to provide for automatically depositing envelopes in timed relation within traveling pockets to assure the desired number of envelopes in each pocket; to provide automatic removal of the envelopes from each pocket and banding them together with a wrapping strip; to provide for automatically detecting packets containing less than the required number of envelopes; to provide the traveling pockets with flexible elements arranged to be spread apart for facilitating insertion of the envelopes and to close suddenly on the envelopes when a given number has been deposited so as to divert the next envelope into the following pocket; to provide pockets that are readily adjustable to accommodate any desired number of envelopes; and to provide elevating means for lifting the envelopes from the pockets and carrying them through the wrapping stations to a delivery table.

Other objects of the invention are to provide means for feeding the wrapping strip from a roll, cutting off the required length, extending it around a packet, and sealing the ends of the strip together.

In accomplishing these and other objects of the invention, as hereinafter pointed out, we have provided improved structure, the preferred form of which is illustrated in the accompanying drawings wherein:

FIG. 1 is a longitudinal section through an apparatus constructed in accordance with the present invention for receiving the envelopes from an envelope making machine, assembling the envelopes into groups each containing a given number, wrapping each group into a packet and delivering the packets for boxing.

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FIG. 1A shows a portion of the apparatus of a type for feeding the envelopes from a stack after they have been removed from the delivery end of an envelope making machine.

FIG. 2 illustrates diagrammatically a detector mechanism for indicating and/or discarding a packet having less than a proper number of envelopes.

FIG. 2A is a side elevational view of the detector.

FIG. 3 is an enlarged longitudinal section of the pocket filling mechanism, and showing a pocket in open position to receive envelopes one at a time from a feed wheel.

FIG. 4 is a similar view but showing the pocket snapped closed and containing a group of envelopes to form a given size packet.

FIG. 5 is a fragmentary plan view of the conveyer mechanism particularly illustrating the arrangement of the resilient elements which form the front and rear walls of a pocket.

FIG. 6 is an enlarged vertical section of the delivery end of the pocket conveyer, the lower end of the packet elevator, and the mechanism for applying a wrapping band.

FIG. 7 is a similar section showing a strip being wrapped about a packet of envelopes as they are lifted by the packet elevator.

FIG. 8 is a section similar to FIG. 6 and showing the parts in position for gumming the wrapping strip.

FIG. 9 is a similar section showing movement of the gummed end of the strip into sealing contact with the opposite end.

Referring more in detail to the drawings:

1 illustrates an envelope packeting mechanism constructed in accordance with the present invention for receiving completed envelopes from off the delivery rollers 2 of a modern high speed envelope making machine. The mechanism 1 includes spaced apart side frames 3 for carrying therebetween the various operating parts, which generally include a conveyer 4 for feeding the envelopes to a rotor 5 for depositing the envelopes into a pocket conveyer 6 for delivery to an elevator 7 which in turn removes the envelopes from the pocket conveyer 6 and conveys them through a strip wrapping mechanism 8 and a drier 9 for discharge onto an offtake conveyer 10.

The conveyer 4 includes an endless belt 11 operating over rollers 12, 13 and 14, that are suitably carried between the side frames 3 and continuously operated in the direction of the arrow. The rollers 12 and 13 carry the upper run of the conveyor belt in aligning registry with the path of travel of the envelopes fed by the rollers 2 to carry the envelopes to a roller 15 which cooperates with pressure rollers 16 to feed the envelopes onto the rotor 5. Suitable pressure rollers 17 and 18 are also used to cooperate with the upper run of the conveyor belt for assuring forward movement of the envelopes in successive order.

The rotor 5 is carried on a shaft 19 that is continuously driven in timed relation with the conveyer 4 for depositing envelopes one at a time into an open pocket of the pocket conveyer 6, as later described.

The pocket conveyer 6 includes spaced apart transverse shafts 20 and 21 that are rotatably carried by the side frames 3, with the shaft 20 being located below the rotor 5 and the shaft 21 at a lower level and spaced forwardly therefrom, as shown in FIG. 1. Adjustably mounted on each of the shafts 20 and 21 are two pairs of sprockets 22 and 23 carrying two pairs of laterally aligned parallel chains 24—25 and 24'—25'. Pivotaly mounted on the chains 24 and 24' of each pair are rocking holders 26, and fixed to selected links of the chains 25—25' are fixed holders 27. Fixed to the rocking and fixed holders are flexible elements 28 and 29 forming

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the flexible front and rear walls of pockets 30. The pairs of sprockets are spaced on their shafts so that the spring elements 28 and 29 of one pair of chains cooperate with the spring elements 28 and 29 of the other pair of chains to hold the envelopes at both sides of their center lines, with the ends of the envelopes projecting outwardly therefrom.

The sprockets carrying the chains 24 and 25 are positioned radially on their supporting shafts, so that the chains 24 and 24' are in advance of the chains 25 and 25' to carry the spring elements 28 and 29 in spaced apart relation in accordance with the spacing required to accommodate the number of envelopes for a given size packet. For example, this spacing may be adjusted to accommodate a packet of twenty-five envelopes by moving one or the other sprockets so as to bring the spring elements 28 and 29 sufficiently close together to accommodate twenty-five envelopes therebetween, or they may be moved apart a greater distance to accommodate, for example, fifty envelopes therebetween. With this arrangement, the outer chains 24—24' carry only the spring elements 28, and the chains 25—25' carry the spring elements 29. The spring elements 28 and 29 each preferably constitute flat springs that are fixed at their lower ends to suitable lugs 31 and 32 carried by the respective holders 26 and 27. The spring elements 28 which constitute the front walls of the pockets are slightly bent at their upper ends, as indicated at 33, in the traveling direction of the upper runs of the chains, and are of shorter length than the substantially straight elements 29 that form the rear walls of the pockets. In consequence of this arrangement, the longer spring elements 29 in their advancing movement are able to strike catch mechanisms at the respective sides of the rotor 5.

Each catch mechanism has a stop 35, which may or may not be movable, and a pawl 36 which is under control of the driving mechanism of the machine by means of a reciprocating rod 37. The rod 37 is pivotally connected by a pin 38 with an arm 39 fixed to a rock shaft 40 on which the pawl 36 is supported. The rock shafts 40 are suitably carried by the respective side frames 3. Owing to the continuous travel of the chains, the outer portions of the longer spring elements 29 that form the back walls of the pockets engage the stops 35 and bend backwardly until they slip underneath the stops 35 and the spring action therein flings them into contact with the pawls 36, to be detained or held thereby and flexed backwardly. In this way the entrance opening 41 between the outer portions of the front and rear walls of the pocket to be filled becomes temporarily enlarged or widened and the rotor 5 does not fail to deposit the envelopes therein as long as an envelope is in position on the rotor. The delay just described by the stops 35, in advance of contact with the pawls 36 permits time for the pawls 36 to release the spring elements 29 of the pocket being filled, which release occurs at a predetermined interval, that is, at the moment when the filling of the pocket has been completed. When the outer ends of the spring elements 29 are detained by the pawls 36, the outer ends of the spring elements 28 catch up and make pressing contact with the spring elements 29. The tension of the elements 28 and 29 in cooperation with the pawls 36 is increased by action of the holders 26 being rocked in a forward direction during the advance of the chains of the pocket conveyer. This is effected by cams 42 and 42' (FIG. 5) having cam grooves 43 in inner side faces thereof for engaging pins 44 that extend from the side faces of the pivoted holders. Therefore, as the chains move around the sprockets, the pins 44 enter the cam grooves and pass through a high lobe portion 45 thereof to bring the following spring elements 28 into pressing contact with the spring elements 29 that have been detained by the pawls 36.

As soon as a pocket has been filled with a predetermined number of envelopes, the pawl 36 is moved in a

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counterclockwise direction (FIG. 3) by pull on the rods 37, whereby both of the detained spring elements 28 and 29 are suddenly released to close the filled pocket and initially open the succeeding pocket. As will be noted in FIG. 3, the added tension of the spring element 28 is brought about by direct pressing contact of that spring element 28 with the element 29, and the corresponding rocking movement of the holder for the spring element 28. As soon as the spring elements are released by the pawls 36, the spring action therein flings or flips them into position shown in FIG. 4, thus terminating the filling of the pocket and starting the opening of a succeeding pocket. By this time, the pawl 36 has been returned to its position where it engages the succeeding spring elements. In this way the action is sufficiently fast to assure that the next envelope slides or drops into the pocket behind the spring element 28 because the spring element 28 retains its pressing contact with the spring element 29, as shown in FIG. 4. During this procedure, the spring elements forming the rear wall of the pocket now to be filled are freed from the stop 35 to come into contact with the meanwhile returned pawl 36.

If it happens that the rotor 5 fails to supply the correct number of envelopes, this would result in a faulty filling of a pocket 30. In order to avoid such exigency, a photoelectric cell 46 (FIGS. 1 and 2) of any known or convenient type is arranged above the delivery rotor 5. Every time an envelope fails to appear under the cell, the photoelectric cell functions to cause an electric impulse to be transmitted to an intensifier relay 47 (FIG. 2) to energize a solenoid 48 that pushes a pin 49 in a wheel 50 from one side of the wheel to project to the opposite side of the wheel, so that eventually when a faulty packet has arrived at the stacking table 51 of the conveyer mechanism 9, the protruding pin 49 of the wheel 50 makes contact with a switch 52 to establish circuit with an ejector 54 that is operated by an electromagnet 55 to eject that packet and push the faulty packet out of the stack of packets being moved along the table 51. The wheel 50 may be rotatably mounted in any suitable position on one of the side frames and driven in timed relation with movement of the packets of envelopes so that when the faulty packet reaches the place of the ejector, it is discarded.

During movement of the pockets, the lower edges of the envelopes therein or supported on the rails 56 (FIGS. 1, 3 and 4) and are joggled by a suitable vibrating mechanism, as indicated at 56', to register the edges of the respective edges of the envelopes preparatory to applying the wrapping band, as now to be described, and which section of the apparatus is best illustrated in FIGS. 6 to 9, inclusive.

As a pocket is filled by the rotor 5 at a station designated I, a filled pocket reaches a station II at the delivery end of the pocket conveyer and in a position where the envelopes are lifted out of the pocket by means of the elevator 7. The elevator 7 includes an endless chain 57 operating over upper and lower sprockets 58 and 59 that are carried on transverse shafts 60 and 61. The shaft 60, along with, for example, the shaft 20, is operated in timed relation with the shaft 9 of the wheel 5, so that the conveyer and elevator are in continuous movement with the pocket conveyer advancing at a rate relative to the wheel 5 so that the proper number of envelopes is delivered into each pocket, depending upon the relative spacing of the spring elements 28 and 29 which form the front and rear walls of the pockets. The elevator chain 57 carries at spaced intervals laterally extending arms 62 to engage under a packet of envelopes at the station II, as shown in FIG. 1, and to lift the packet of envelopes upwardly between guide rails 63 and 64.

Just prior to lifting of the packet of envelopes out of the pocket, a strip of wrapping material 65 is pulled from a reel 66 and moved across the path of the packet by feed rollers 67 and 68, a suitable guide roller 69 be-

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ing provided to change the direction of the strip. The strip 65 is fed between upper and lower grippers 70 and 71 for gripping the strip after a predetermined amount has been fed between knife blades 74 and 75. When the strip is gripped, the knives come into position to sever a sufficient length of strip to extend about the packet of envelopes. The cut off strip thus extends across the path of the packet with its free end supported on a guide 76, so that as the upward movement of the packet continues, the packet forms a loop in the strip that extends upwardly of the rear face of the packet across the upper edge thereof and downwardly across the forward face, where the end 77 is engaged and held by a downwardly moving suction nozzle 78 having a suction port 78'. The nozzle in its movement presses the free end 77 of the strip downwardly over the front face of the packet while the opposite end is still being held by the grippers, as shown in FIG. 7. The suction nozzle 78 is carried by an arm 79 and moves the nozzle in a direction as indicated by the broken arrow 80 in FIG. 7. At this point a pressure plate 81 is brought into contact with the rear face of the packet by parallel links 82 and 83 to cooperate with the nozzle 78 in holding the packet in compression as the strip is being tensioned therearound. At this point another suction nozzle 84 comes into position to hold the tape in contact with the rear face of the packet while the vacuum through the port 78' is released and the nozzle 78 slides over the free end 77 of the strip as it moves downwardly to its lowermost position below the packet, as shown in FIG. 8. Meanwhile, a strip pusher 85 catches the other end 86 of the strip with release of that end of the strip by the grippers 70 and 71, and moves it underneath the packet and into contact with a gumming segment 87 which is supplied with adhesive from a pickup roller 88 rotatably mounted within an adhesive container 89 that is suitably carried between the frames 3 of the machine. As soon as the gum has been applied, the nozzle 78 begins its return movement and the strip pusher 85 begins its return to its original retracted position, whereupon the gummed end of the strip is re-engaged by the suction nozzle 78, but this time a suction port 90 therein becomes effective to grip the end 86 of the strip and as the nozzle moves upwardly to tighten the strip about the lower portion of the packet and to bring the gummed portion thereof into contact with the other end 77 of the strip, that is, the end being held by the suction nozzle 84. When the suction nozzle 78 has contacted the gummed end 86 of the strip with the end 77, the vacuum through the port 90 is shut off and the pressing face of the nozzle 78 completes the contact. The suction nozzles 78 and 84 and pressure plate 81 now return to their original positions. The wrapped packet continues its upward movement from the banding station III to a drying station IV, which may comprise the drying tunnel 9 in which the adhesive is dried by action of a heating element 91 (FIG. 1), hot air or any other suitable heating medium.

When the wrapped packet reaches a position above the table 51, an oscillatory arm 92 swings into position to move the wrapped packet off the arm 62 of the elevator 7 and onto the table 51 for movement therealong by means of the upper run 93 of the conveyor 10. The conveyor 10 is operated by rollers 94 and 95, so that the upper run 93 thereof extends along the table to carry the wrapped packets in stacked relation to the rear end thereof, where they are removed for boxing.

If an electric eye has previously spotted failure of an envelope to be fed into a packet, the pin actuated by the electric eye is now in position to engage the switch 52 which energizes the electromagnet 55 so that the pusher 54 comes into play and moves the packet off of the conveyor 10.

In the form of the invention illustrated in FIG 1A, the envelopes are fed from the bottom of a stack 97 that is carried by a stack support 98 onto the upper run of the feed conveyer belt 10. With this type of feed,

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the envelopes are removed as they are discharged from the envelope making machine and placed in the stack support 98 from where they are delivered to the counting wheel, pocket conveyer and strip wrapping mechanism, as previously described.

The operation of the machine has been set out in the description of the machine, however, a brief summary of the operation is as follows:

Assuming that the envelopes are being delivered in successive order from an envelope making machine as shown in FIG. 1, the envelopes pass onto the upper run of the conveyer 11 and between the feed rollers 15 and 16, where they are picked up by the rotor 5 and moved into the first pocket 30 that is moving under the discharge side of the rotor. The pawls 36 have detained the rear spring elements 29 for that pocket and are holding them in open position as the front spring elements 28 continue their forward movement. The envelopes are deposited in the pocket one at a time until the pawl 36 is retracted to release the spring elements 29 of the pocket. Prior to this time the following spring elements 28 of the next pocket were pressing the spring elements 29 so that they snap across the discharge point of the rotor 5 and the next envelope is delivered into the following pocket. Time is allowed for the release of the elements 29 since the stop 35 detains the elements 29 of the following pocket. As the pockets continue their movement, the elements 29 of the following pockets slip from under the stop 35 and are engaged by the pawl 36 until the following pocket has been filled with the required number of envelopes. The envelopes are joggled on the rails 56 by the agitator 56' so that the edges thereof are registered in the respective pockets.

Should an envelope fail to appear in position on the rotor 5 below the photoelectric cell 46, a current impulse is passed to the relay 47 to energize the solenoid 48 to cause the pin 49 then registering therewith to be projected from the opposite side of the wheel 50. When the first pack of envelopes reaches the end of the conveyer 6, an arm 62 on the elevator 7 moves under the pack at the station II. Previous to this time a section of the strip 65 has been fed across the upward path of that pack of envelopes so that the free end of the strip is carried on the support 76. The grippers 70 and 71 close on the strip and the blades 74 and 75 operate to shear off the gripped end of the strip. As the pack is carried upwardly by the elevator, the upper edge of the pack makes contact with the strip and carries it upwardly therewith so that a portion of the strip is carried up the rear face of the pack, across the top edge thereof, and partially down the forward face of the pack, as shown in FIG. 7. The nozzle 78 has now come into contact with the free end 77 of the strip and the vacuum port 78' is effective to engage the end of the strip and pull it down over the pack of envelopes. The vacuum through the port 78' is shut off and the nozzle 78 continues its downward movement relative to the front face of the pack. However, before the free end 77 of the strip is released by the nozzle, the nozzle 84 comes into play to hold the tension on the strip as the nozzle 78 slides therefrom and continues its movement to a position below the upwardly moving pack, as shown in FIG. 8. The pressure plate 81 now comes into pressing contact with the pack to cooperate with the nozzle 78 in pressing the envelopes together. The pusher 85 then comes into play and the grippers 70 and 71 are released so that the pusher 85 carries the free end of the strip 86 under the pack and in position for the end thereof to be engaged by the gum applicator segment 87 to apply gum on the free end of the strip while it is being held by the pusher 85. The adhesive applicator 87 continues its movement past the pusher. The pusher 85 retracts out of the way of upward movement of the nozzle 78. A suction is effected through the port 90 of the nozzle as the nozzle engages the gummed end 86 of the strip, so that the end 86 of the strip is carried upwardly

of the forward face of the pack and into lapping contact with the end 77, the pressure of the nozzle being sufficient to effect a seal and completion of the band. The pressure plate 81 having been released, the wrapped packet of envelopes passes freely therefrom and is carried by the elevator through the drying tunnel to a position where it is discharged onto the conveyer 10 of the table 51, as shown in FIG. 1, from where it is removed for boxing.

If a packet of envelopes reaching the table 51 is one containing a fewer than the required number of envelopes, the projected pin makes contact with the switch 52 to effect operation of the ejector 54. After contact with the switch 52, the projected pin is returned to retracted position by means of a cam 99 (FIG. 2A).

If the counting and wrapping machine is a separate and distinct machine from the envelope making machine, the envelopes may be removed from the envelope making machine and placed in a stack 97, as shown in FIG. 1A, from where they are delivered onto the conveyer 4.

From the foregoing it is obvious that we have provided for the counting and wrapping of envelopes into packets in a simple and efficient manner and in conformity with the output of a modern high speed envelope making machine.

What we claim and desire to secure by Letters Patent is:

1. In a machine of the character described, means for forming envelopes into packs of a given size, including a conveyer means having a series of pockets provided with front and rear resilient walls arranged transversely with respect to the direction of movement of the conveyer and having outer portions providing entrances therebetween for the envelopes, means for discharging envelopes in successive order into one of the pockets while the conveyer is in motion, detent means for engaging and holding back the outer portion of the resilient rear wall of said pocket to widen the entrance to the pocket while receiving a given quantity of envelopes from said discharging means and to impart tension therein incidental to bending of said resilient wall responsive to movement of the conveyer, and means for releasing the detent means for return of the resilient rear wall to normal position under snap action to hold the envelopes in a pack.

2. In an envelope making machine, an apparatus for packeting envelopes in predetermined numbers including means for delivering envelopes in successive order, a traveling conveyer having envelope receiving pockets provided with mutually independent flexible rear and front walls having outer portions open therebetween to provide entrances for the envelopes, detent means operable in association with said delivering means for detaining the outer portion of the flexible rear wall of a pocket to widen said entrance while it is being filled with envelopes discharged by the delivering means, said means also being operable to detain the front wall of a succeeding pocket in pressing contact with the detained wall of the pocket, and means for releasing the detent means when a predetermined number of envelopes have been delivered into the pocket for releasing said walls to flip in said pressing contact across the path of the envelopes discharged by the delivering means so that the next envelope from the delivering means is delivered into the succeeding pocket.

3. In an envelope making machine, an apparatus for packeting envelopes in predetermined numbers including means for delivering envelopes in successive order, a traveling conveyer having envelope receiving pockets provided with mutually independent flexible rear and front walls, detent means operable in association with said delivering means for detaining the flexible rear wall of a pocket while it is being filled with envelopes discharged by the delivering means, said means also being operable to detain the front wall of a succeeding pocket, means for releasing the detent means when a predetermined number of envelopes have been delivered into the pocket to release said walls to flip across the path of the envelopes discharged by the delivering means so that the

next envelope from the delivering means starts the filling of the succeeding pocket, and means for detaining the rear wall of the succeeding pocket while the rear wall of the filled pocket is being released by said detent means.

4. In an envelope making machine, an apparatus for packeting envelopes in predetermined numbers including means for delivering envelopes in successive order, a traveling conveyer having envelope receiving pockets provided with mutually independent flexible rear and front walls, detent means operable in association with said delivering means for detaining the flexible rear wall of a pocket while it is being filled with envelopes discharged by the delivering means, said means also being operable to detain the front wall of a succeeding pocket, means for releasing the detent means when a predetermined number of envelopes have been delivered into the pocket to release said walls to flip across the path of the envelopes discharged by the delivering means so that the next envelope from the delivering means starts the filling of the succeeding pocket, and cam means associated with the conveyer for increasing the tension in said walls for speeding the flip action.

5. In an envelope making machine, an apparatus for packeting envelopes in predetermined numbers including means for delivering envelopes in successive order, a traveling conveyer having envelope receiving pockets provided with mutually independent flexible rear and front walls, detent means operable in association with said delivering means for detaining the flexible rear wall of a pocket while it is being filled with envelopes discharged by the delivering means, said means also being operable to detain the front wall of a succeeding pocket, means for releasing the detent means when a predetermined number of envelopes have been delivered into the pocket to release said walls to flip across the path of the envelopes discharged by the delivering means so that the next envelope from the delivering means starts the filling of the succeeding pocket, means for detaining the rear wall of the succeeding pocket while the rear wall of the filled pocket is being released by said detent means, and cam means associated with the conveyer for increasing the tension in said walls for speeding the flip action.

6. In an envelope making machine, an apparatus for packeting envelopes in predetermined numbers including means for delivering envelopes in successive order, a traveling conveyer having envelope receiving pockets provided with mutually independent rear and front walls, said traveling conveyer comprising two pairs of laterally aligned endless chains, sprockets for carrying the chains, shafts carrying the sprockets, means supporting the rear walls of the pockets on one chain of each pair, and means supporting the front walls on the other chains of said pairs, said sprockets being adjustable circumferentially and laterally on the shafts to shift the chains carrying the front walls relative to the chains carrying the rear walls for adjusting the size of the pockets for lateral width and capacity.

7. In an envelope making machine, an apparatus for packeting envelopes in predetermined numbers including means for delivering envelopes in successive order, a traveling conveyer having envelope receiving pockets provided with mutually independent flexible rear and front walls, means operable in association with said delivering means for detaining the flexible rear wall of a pocket while it is being filled with envelopes discharged from the delivering means, said detaining means also being operable to detain the front wall of a succeeding pocket in pressing contact with the rear wall of the preceding pocket, means for releasing the detaining means to release said walls to flip across the path of the envelopes discharged by the delivering means so that the next envelope from the delivering means starts the filling of the succeeding pocket, said traveling conveyer comprising two pairs of laterally aligned endless chains, sprockets for carrying the chains, shafts carrying the sprockets, means support-

ing the rear walls of the pockets on one chain of each pair, and means supporting the front walls on the other chains of said pairs, said sprockets being adjustable on the shafts to shift the chains carrying the front walls relative to the chains carrying the rear walls for adjusting the size of the pockets.

8. In an envelope making machine, an apparatus for packeting envelopes in predetermined numbers including means for delivering envelopes in successive order, a traveling conveyer having envelope receiving pockets provided with mutually independent flexible rear and front walls open therebetween to provide an entrance for the envelopes, means operable in association with said delivering means for holding back the flexible rear wall of a preceding pocket to enlarge the entrance to said pocket while the said preceding pocket is being filled with envelopes discharged from the delivering means, means for releasing the detaining means to release said wall to flip across the path of the envelopes discharged by the delivering means, said traveling conveyer comprising two pairs of laterally aligned endless chains, spaced holders on one chain of each pair for carrying the rear walls, spaced holders having pivotal connection with the other of said chains for mounting the front walls, cam means in the path of the pivoted holders effective during filling of a pocket for maintaining the front wall of the succeeding pocket in pressing contact with the detained wall of the preceding pocket for imparting an additional tension in said walls and to maintain said contact as the walls flip across the path of the envelopes discharged by the delivery means to assure that the next envelope is delivered into the succeeding pocket, and means for shifting the chains carrying the front walls relative to the chains carrying the rear walls for adjusting the size of the pockets.

9. A machine of the character described including pocket conveyer, means for depositing of envelopes on edge into the pockets one after another until a predetermined number of envelopes have been deposited in pockets to form packs, means extending along the pocket conveyer to engage and support bottom edges of the envelopes in said pockets, means for actuating the pocket conveyer to carry the packs in successive order from said depositing means, and means associated with the said supporting means for joggling the envelopes within said pockets to align and straighten the envelopes with respect to the edges thereof for assuring the orderly positioning of the envelopes in the packs.

10. In an envelope making machine, an apparatus for packeting envelopes in predetermined numbers including means for delivering envelopes in successive order, a traveling conveyer having envelope receiving pockets provided with mutually independent flexible rear and front walls, a detent operable in association with said delivering means for detaining the flexible rear wall of a pocket while it is being filled with envelopes discharged and for detaining the front wall of a following pocket, means for releasing the detaining means to release said walls to flip across the path of the envelopes discharged by the delivering means so that the next envelope from the delivering means starts the filling of the following pocket, and a stop in the path of the rear wall for detaining the rear wall of said following pocket while the detent is released, said front walls being shorter than the rear walls for the front walls to move under the stop into contact with the rear wall of a preceding pocket.

11. In an apparatus of the character described, a conveyer having a series of pockets, each pocket being provided with a front wall and a resilient rear wall normally spaced apart to contain snugly a pack of articles therebetween while the conveyer is in motion, means for detaining a rear wall of an empty pocket while the front wall is advanced for widening the pocket and facilitating insertion of the articles into the pocket when forming the pack of articles in the pocket, means for releasing the detaining means from the rear wall to establish contact with the pack of articles, and means in the path of the conveyer and having contact with edges of the articles in said pockets to joggle the articles in said pockets to bring said edges in registry.

12. In an apparatus of the character described, a conveyer having a series of spaced apart pockets, each pocket being provided with a front wall and a resilient rear wall normally spaced apart to contain snugly a pack of articles therebetween while the conveyer is in motion, means for engaging an upper portion of the rear wall for flexing the rear wall within the space between the adjacent pockets for widening entrances into said pockets for facilitating placement of the articles through the widened entrance to an empty pocket, and means for releasing the detaining means for releasing said rear wall for movement into contact with the pack of articles.

13. In an apparatus of the character described, a conveyer having a series of spaced apart pockets, each pocket being provided with resilient front and rear wall members normally spaced apart to contain snugly a pack of articles therebetween while the conveyer is in motion, means for engaging an upper portion of the rear wall members for flexing the rear wall members of an empty pocket within the space between the adjacent pockets and into contact with the front wall members of a following pocket for widening the entrance into said empty pocket for facilitating placement of the articles through the widened entrance to an empty pocket, and means for releasing the detaining means for releasing said wall members for movement of the rear wall into contact with the pack of articles responsive to the resiliency of said wall members.

14. In an apparatus of the character described, a conveyer having a series of spaced apart pockets, each pocket being provided with a front wall and a resilient rear wall normally spaced apart to contain snugly a pack of articles therebetween while the conveyer is in motion, means for engaging an upper portion of the rear wall for flexing the rear wall within the space between the adjacent pockets for widening entrances into said pockets for facilitating placement of the articles through the widened entrance to an empty pocket, means for releasing the detaining means for releasing said rear wall for movement into contact with the pack of articles, and a stop in the path of the rear wall of the succeeding pocket for flexing said wall to store up action therein, said rear wall of the succeeding pocket being releasable from said stop by continued movement of the conveyer to flip said wall into contact with the detaining means after release of the rear wall of the preceding pocket.

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