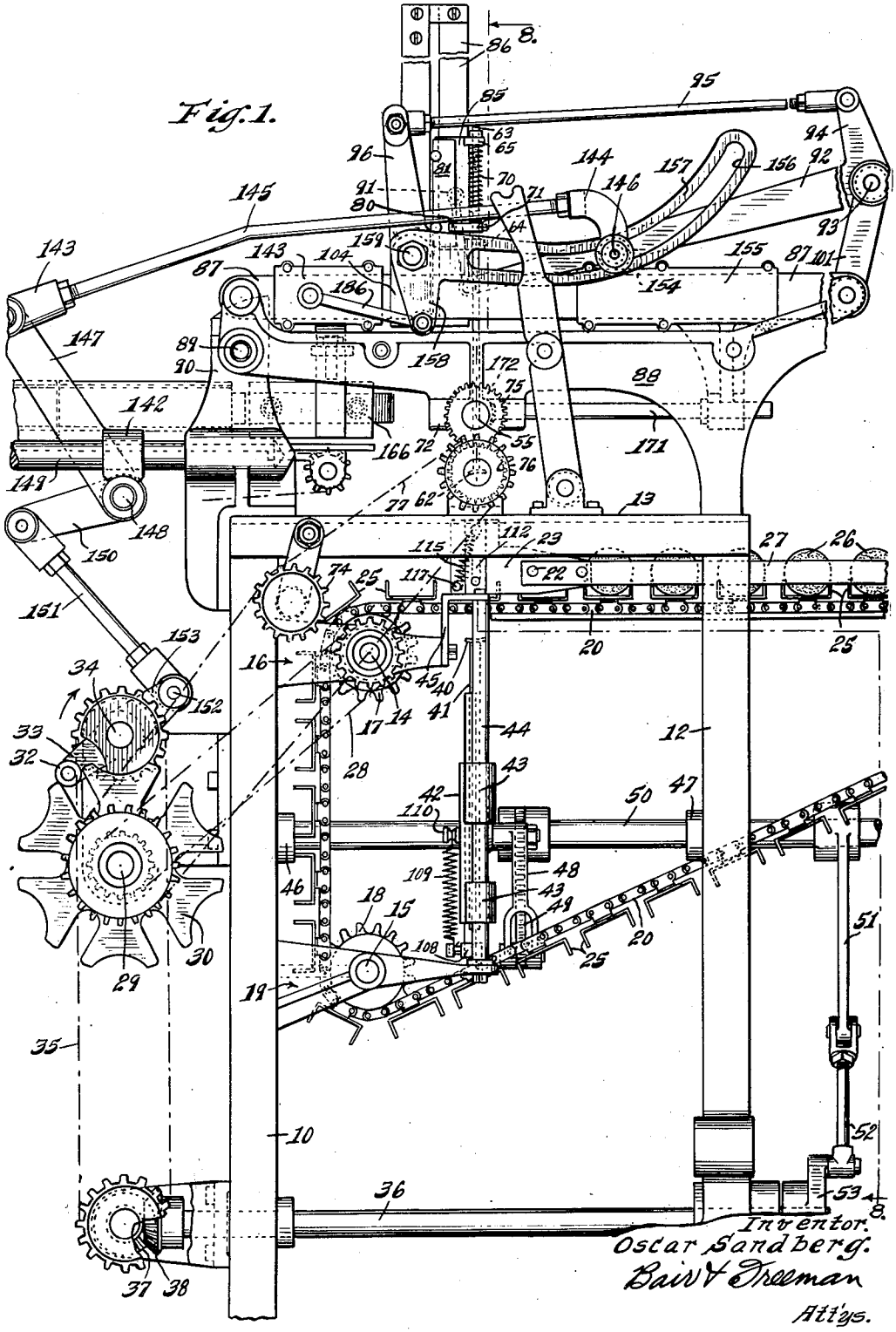
July 15, 1952 O. SANDBERG 2,603,048

PACKAGE WRAPPING MECHANISM

Filed Nov. 29, 1946 5 Sheets-Sheet 1

Fig. 1.



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PACKAGE WRAPPING MECHANISM

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Fig. 2.

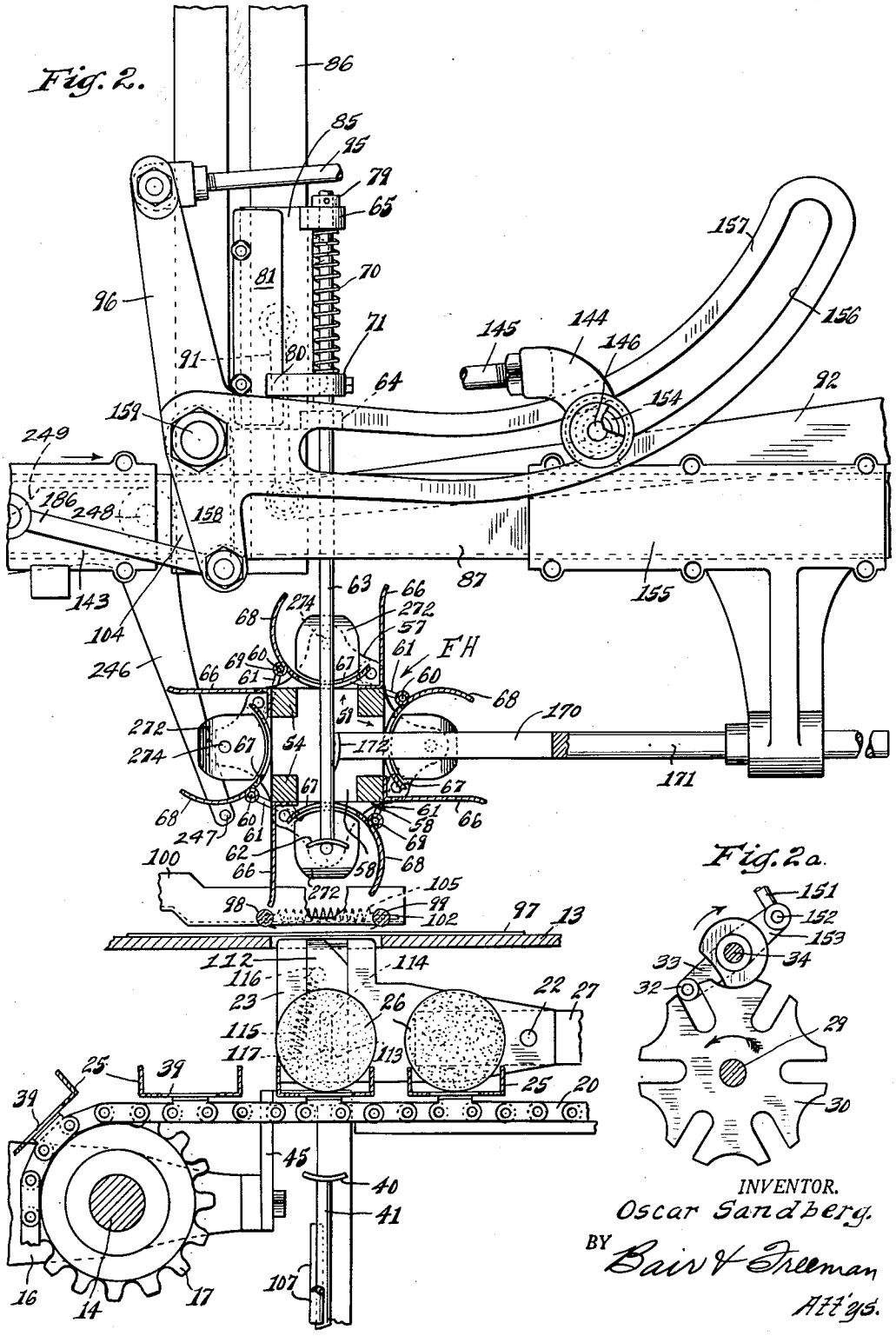


Fig. 2a.

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PACKAGE WRAPPING MECHANISM

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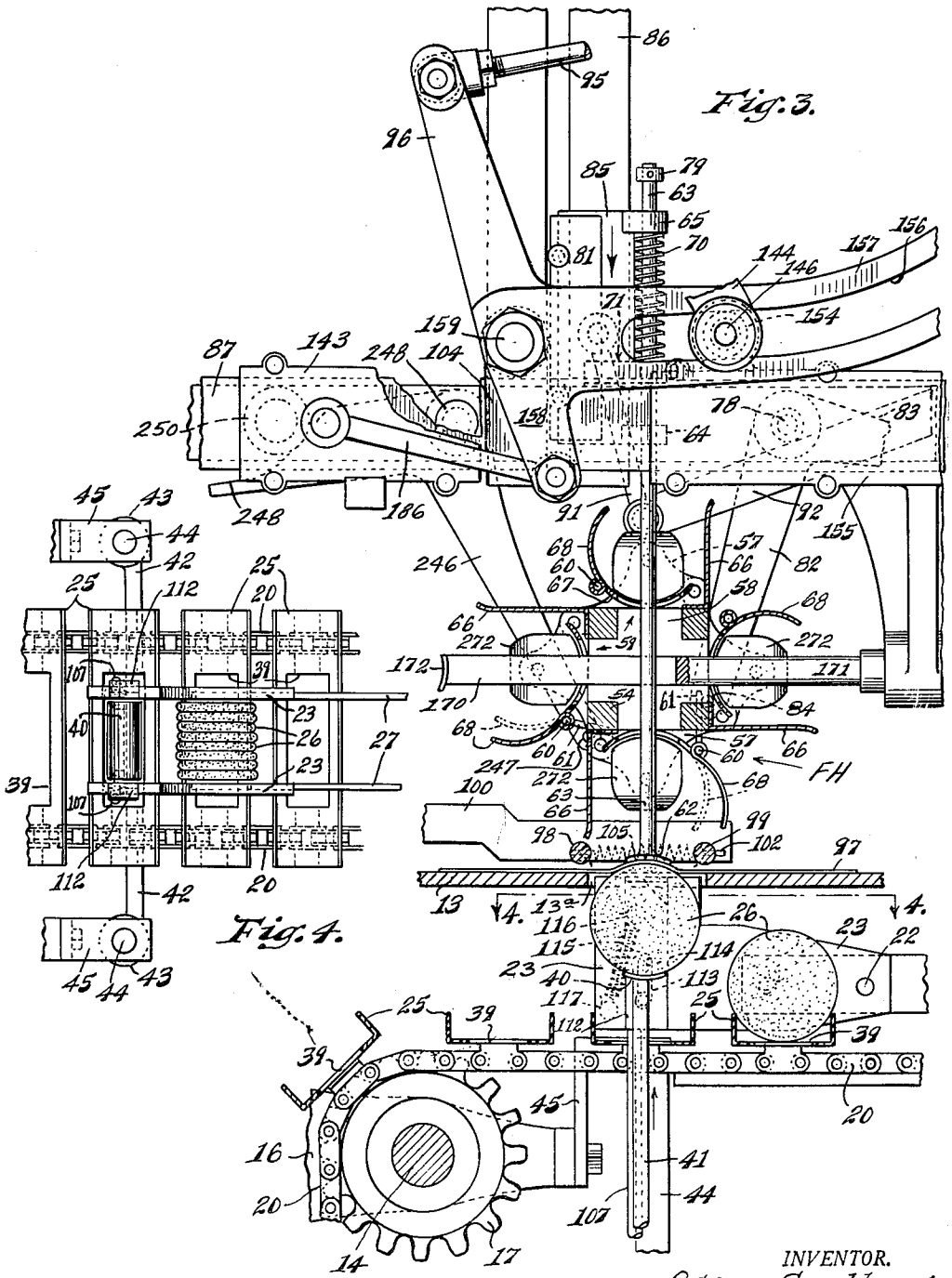


Fig. 3.

Fig. 4.

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PACKAGE WRAPPING MECHANISM

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Fig. 6.

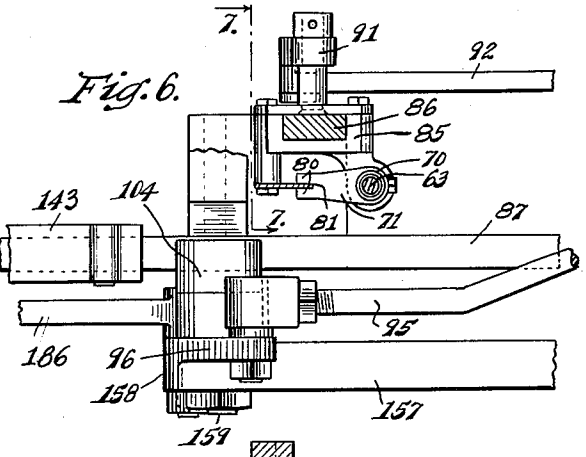


Fig. 5.

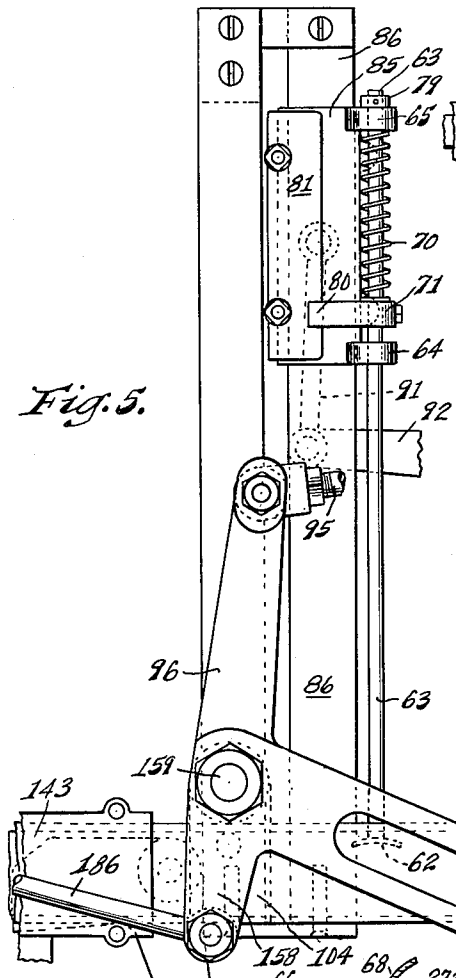


Fig. 7.

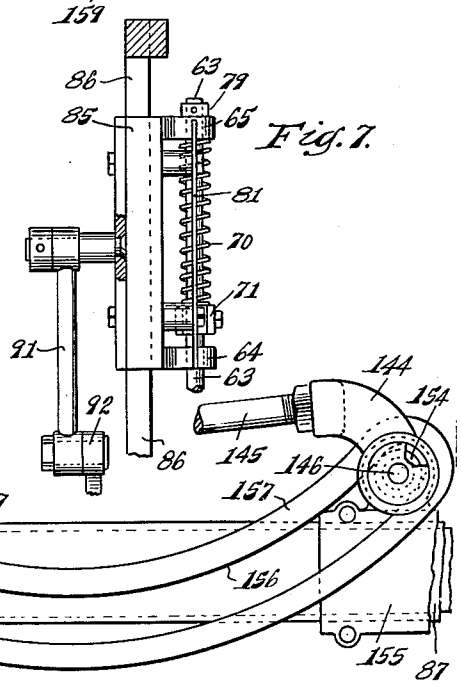
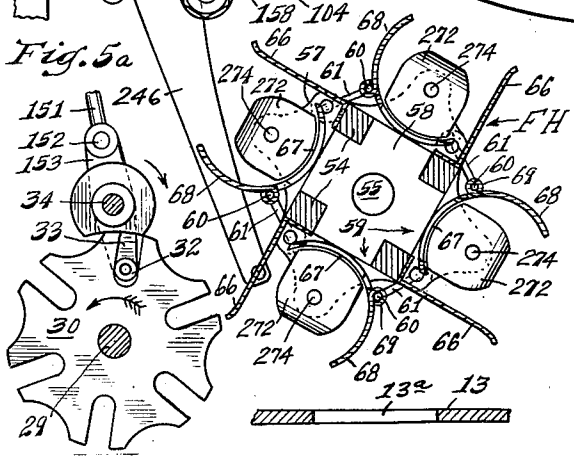
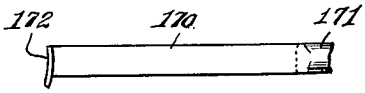


Fig. 5a





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PACKAGE WRAPPING MECHANISM

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Fig. 8.

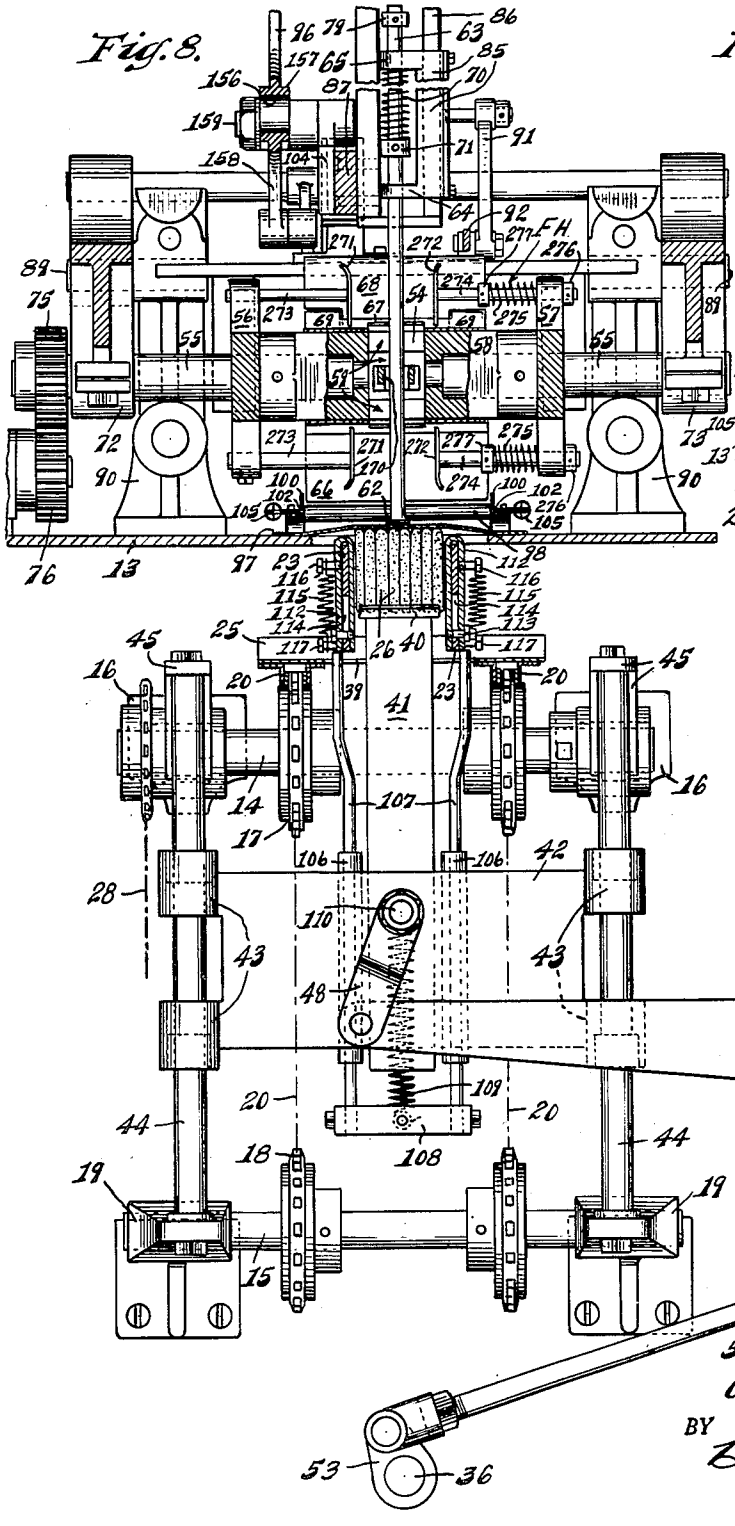
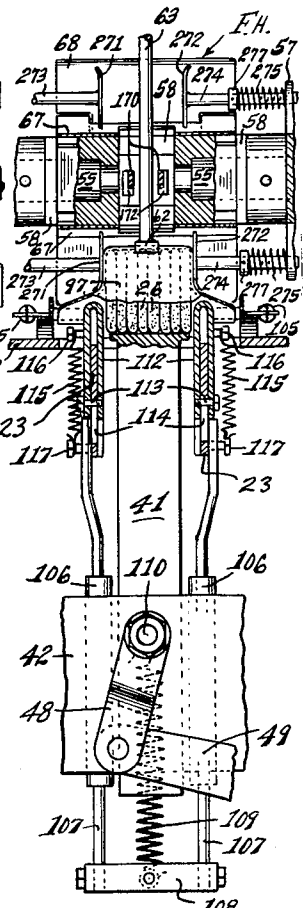


Fig. 9.



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Patented July 15, 1952 2,603,048

UNITED STATES PATENT OFFICE

2,603,048

PACKAGE WRAPPING MECHANISM

Oscar Sandberg, Toledo, Ohio, assignor to Lynch Corporation, Anderson, Ind., a corporation of Indiana

Application November 29, 1946, Serial No. 712,970

10 Claims. (Cl. 53—135)

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My present invention relates to a package wrapping mechanism and particularly to a means for holding a wrapper while bringing an article up to contact with its undersurface and end plates movable upwardly with an article such as a stack of cookies to serve as a means to keep the cookies properly stacked until the wrapping operation commences during movement of the article up into a folder head.

One object of the invention is to provide a wrapper hold-down element and means for retaining the ends of a stack of cookies intact until such time as they are received in a wrapper held thereagainst by said hold-down element and the wrapper is folded thereover, the retaining means being particularly effective for cookies or crackers horizontally stacked face to face and which have the natural characteristic of being somewhat variable as to the horizontal height dimension when so stacked, said retaining means including supporting plates that confine the ends of the stack as it is moved out of a pocket conveyor.

Another object is to eliminate the possibility of the end cookies or crackers being crumbled or otherwise damaged as the ends of the wrapper are folded over them during the initial or first folding operation performed on the wrapper so that I am assured of properly shaped and wrapped packages without their appearance being detracted from by crushed or crumbled cookies or crackers.

A further object is to provide for that type of wrapping machine in which a wrapper is deposited on a table top, an article is lifted through an opening in the table top, engaged with the wrapper and then pushed up into a folder head; a means to pass downwardly through the folder head and engage the wrapper with slight spring pressure for thereby holding it against the article as the article is elevated into the folder head.

Still a further object is to provide end supporting plates carried by the ram that raises the article into the folder head and positioned at the ends of the article or stack of cookies or crackers so that when they are moved from between side plates for a pocket conveyor, the stack does not fall apart.

An additional object is to provide the supporting plates floatingly carried by the pocket conveyor side plates and lifted by the ram by means of spring pressure so that they can be elevated up to the folder head but stopped there while the ram continues to lift the article into the folder head, the springs during such lift stretching to

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permit movement of the ram without moving the supporting plates.

Another additional object is to provide means for operating the wrapper hold-down element and the article end supporting plates in timed relation to other parts of the wrapping machine so that they perform their functions at the proper times in a cycle of operation of the machine.

With these and other objects in view, my invention consists in the construction, arrangement and combination of the various parts of my device whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, wherein:

Figure 1 is a side elevation of a portion of a wrapping machine to which my present invention is applied.

Figure 2 is an enlarged view thereof partially in section and showing the parts in one operating position during a cycle of operation of the machine.

Figure 2a is a side elevation of a Geneva movement showing its position when the parts are in the position shown in Figure 2.

Figure 3 is a view similar to Figure 2 showing the parts in another position.

Figure 4 is a plan view of a pocket conveyor and a ram of the machine as taken on the line 4—4 of Figure 3.

Figure 5 is a view similar to Figures 2 and 3 showing still another position of the parts.

Figure 5a is a side elevation of the Geneva movement in its position corresponding to Figure 5.

Figure 6 is a plan view of Figure 5.

Figure 7 is a sectional view on the line 7—7 of Figure 6.

Figure 8 is a sectional view on the line 8—8 of Figure 1; and

Figure 9 shows a portion of Figure 8 with the parts in this position.

On the accompanying drawings I have used the reference numerals 10 and 12 to indicate supporting frame members for the wrapping machine. At the top of the frame members a table 13 connects them together and the three elements 10, 12 and 13 constitute the main supporting frame of the machine.

The particular machine being described is similar to the one shown in my copending application, Serial No. 654,079, filed March 13, 1946, now Patent No. 2,567,405, granted September 11, 1951, the wrapper hold-down and article end supporting plate mechanism of my present invention

being added thereto. Where practical, I have used the same reference numerals as in the copending application.

Pocket conveyor shafts 14 and 15 are suitably journaled in brackets 16 and 19 which extend from the frame member 10. The shafts carrying sprockets 17 and 18, respectively. A pocket conveyor chain 20 surrounds the sprockets 17 and 18 and also a third sprocket at the same elevation as the sprocket 17 and to the right of the drawing in Figure 1. The third sprocket is not illustrated in this application but is shown in my copending application above referred to.

The conveyor chain 20 has spaced channel shaped article receiving pockets 25 mounted thereon. The pockets 25 are adapted to receive a stack of articles 26 such as cookies, crackers or "sandwiches" (of the type formed of two crackers with cheese or the like between them). Several of the articles are arranged in a horizontal stack and in face to face relation in each pocket. Side bars 27 are located at each end of the stack to keep the cookies properly upright in the pockets until they reach a "ram station" over a ram head 40. The forward ends of the bars 27 (left end in Figure 1) are secured as by rivets 22 to end plates 23.

The pocket conveyor 20—25 is driven by rotating the shaft 14 through a chain drive 28 from in intermittently operated shaft 29. The shaft 29 is driven through a Geneva movement including a notched disc 30 and a crank pin 32 to coact with the notches. The crank pin 32 extends from a crank arm 33 which is secured to a shaft 34.

The shaft 34 is driven by a chain drive 35 from a main shaft 36 adjacent the lower part of Figure 2 through bevel gears 37 and 38. The main shaft 36 is driven in any suitable manner as from an electric motor for instance through step down gearing or the like as shown in my Patent No. 2,283,097, issued May 12, 1942.

Each channel shaped pocket conveyor is provided with a rectangular opening 39 (see Figure 4) adapted to permit the ram head 40 to pass up through the pocket. The ram head is on the upper end of a vertical post 41 secured to a slide 42 provided with four bearings 43. The bearings 43 slide on vertical guide rods 44 which are stationarily mounted with respect to the frame 10—12—13 by having their lower ends supported by the brackets 19 and their upper ends supported by brackets 45 connected to the brackets 16.

For vertically reciprocating the slide 42 and thereby the ram post 41 I provide a link 48 pivoted to the slide and to an arm 49. The arm 49 is secured to a rock shaft 50 journaled in bearings 46 and 47 of the frame members 10 and 12. The rock shaft 50 has also secured thereto an arm 51 which is connected by a link 52 to a crank arm 53 on the main shaft 36. The main shaft 36 is rotated once each cycle of operation of the wrapping machine so that the ram head is thereby elevated and returned downwardly once each cycle and the Geneva movement disc 30 is advanced one-sixth of a revolution each cycle. The advance of the Geneva disc advances the pockets 25 one station each cycle and holds them at their stations, the ram station of course being the one in which the opening 39 of a pocket is directly above the ram head 40 so that the ram head can pass up through the pocket.

Above the pocket 25 a rotary folder head FH (omitted from Figure 1) is provided. The folder head consists of a pair of stub shafts 55 on which a casting is mounted. The casting includes two end plates 56 and 57 with a square connecting post 58 between them. At the center of the post 58 two cross passageways 59 are provided at right angles to each other which result in the post 58 having four connecting portions 54.

Each end plate 56 and 57 has journaled therein a rod 60. It will be noted that four of the rods 60 are provided and that the folder head FH is arranged with four cooky receiving pockets each formed by a flat plate 66 and arcuate plates 67 and 68. The plates 67 are fixed relative to the folder head and have eyes 69 loosely journaling the rods 60 so that the rods can rotate therein. The plates 66 are secured to the post sections 54 so that they are fixed with respect to the rotary folder head FH.

The folder head includes compression plates 271 and 272, one of each for each of the four pockets of the head. Each plate 271 is carried by a rod 273 (see Figure 8) which is fixed with respect to the folder head by being carried in the end plate 56. Each plate 272 is carried by a rod 274 which is slidable in the end plate 57 and is constrained to move in an inward direction by a spring 275. The inward limit of movement is determined by a stop collar 276 on the outer end of the rod 274 striking the end plate 57. The inner end of the spring 275 bears against a collar 277 on the rod 274.

The stub shafts 55 are journaled in a bearing 72 on the left side of the machine (see Figure 8) and in a bearing 73 on the right side. The rotary folder head is periodically rotated one-fourth of a revolution by means of gears 75 and 76, and a chain drive 77 over an idler 74 from the shaft of the gear 76 to the shaft 29, the ratio being 6 to 4 as the shaft 29 is to be rotated a sixth revolution each cycle and the folder head is to be rotated a fourth revolution each cycle.

With further reference to details of the folder head FH, means is provided to automatically open the lowermost one of the pockets as the ram head 40 rises. This means consists of a bell crank 82—83 (see Figure 3) pivoted at 78 and carrying a pin 84 at the lower end of the arm 82. The pin 84 is adapted to engage an arm 61 bent at right angles from the rod 60. The bell crank is rocked to the position shown in Figure 3 for opening the lowermost plate 68 from the dotted position to the full line position shown to permit entry of an article into the pocket of the rotary folder head. The means for operating the bell crank 82—83 is shown in my copending application.

After the article and its wrapper have entered the pocket, the bell crank 82—83 is rocked counter-clockwise for releasing the extension 61 of the rod 60 so that the plate 68 is then spring returned to closed position for retaining the partially wrapped package therein in cooperation with the plates 66 and 67.

A wrapper for wrapping the package is shown at 97 in Figures 2 and 3. The wrapper is preferably supplied to the wrapping machine in roll form, the wrapping machine being provided with means to cut the strip from the roll into individual wrappers as shown for instance in my Patent No. 2,883,096 of May 12, 1942. A paper supply mechanism accordingly is not illustrated in the present drawings.

The wrapper 97 is fed on to the table 13 in flat form beneath a pair of wrapper control rods 98 and 99. The rods are supported by a pair of supports 100. One of the rods is capable of slight floating movement as its ends are mounted in slots 102 of the supports 100 and springs 105 normally pull the rod 99 toward the rod 98. The space between the rods is normally slightly less than the diameter of the article. The rods thereby effect a close wrapping of the wrapper 97 around a stack of cookies.

When the wrapper 97 is in the position of Figure 2 it is relatively undisturbed but as the ram head 40 rises as in Figure 3 there is sometimes a tendency for the wrapper to be displaced in one direction or another and result in an improperly wrapped package. I have found therefore that a hold-down plate 62 engageable under slight spring pressure with the wrapper as in Figure 3 to be an effective means to eliminate any such displacement.

The hold-down element 62 is mounted on a vertical rod 63 which rod is slidable in bearings 64 and 65. Spring pressure is provided by means of a spring 70 interposed between the bearing 65 and a collar 71 on the rod 63. A second collar 79 is mounted on the rod above the bearing 65 to limit the downward movement of the rod. The collar 71 is provided with a bifurcated extension 80 which straddles a guide plate 81 to keep the rod 63 from turning and the hold-down element 62 which is slightly arcuate properly aligned with the article to be wrapped.

The bearings 64 and 65 and the guide plate 81 are carried by a slide 85 which surrounds a stationary vertical guide bar 86. The guide bar 86 is supported on a horizontal guide bar 87 which in turn is supported by a frame 88 pivoted at 89 to a stationary bracket 90. Full details are shown in another of my copending applications, Serial No. 691,081, filed August 16, 1946, now Patent No. 2,443,992, granted June 22, 1948.

For vertically reciprocating the slide 85 I provide a link 91 pivoted thereto and to an arm 92 of a bell crank pivoted at 93. The bell crank has a second arm 94 connected by a link 95 to a lever 96. The pivot 93 is supported by a bracket 101 mounted on the frame 88.

The lever 96 is pivoted at 159 on a bracket 104 secured to the horizontal guide bar 87. The lever 96 is part of a three-armed bell crank, the other two arms of which are indicated at 157 and 158. The arm 157 has a curved slot 156 in which a roller 154 is adapted to travel. The roller is mounted on a slide 155. The means for reciprocating the slide 155 comprises a pivot 146 on which the roller 154 is mounted and on which a fitting 144 is pivoted. Connected with the fitting 144 is a rod-like link 145 terminating at its forward end in a fitting 143 pivoted to a rock arm 147. The rock arm 147 is secured to a rock shaft 148 which is journaled in brackets 142 mounted on stationary rods 149 extending forwardly from the brackets 90.

Also secured to the rock shaft 148 is an arm 150 connected by a link 151 to a crank arm 153. The crank arm 153 is secured on the shaft 34 to rotate therewith. The crank arm carries a crank pin 152 on which the link 151 is rotatably mounted.

From the construction of the parts just described, it will be obvious that rotation of the shaft 34 (clockwise) will result in rotation of the crank pin 152 and thereby oscillation of the rock shaft 148. Such oscillation is transformed into

reciprocation of the slide 155 with the roller 154 reciprocating in a horizontal direction. An intermediate position is shown in Figures 1 and 2 and it will be obvious that any movement to the left will slightly raise the arm 157 as in Figure 3, whereas movement to the right will lower the arm as in Figure 5.

The curvature of the slot 156 is such that considerable movement of the slide 155 and the roller 154 will result in much less oscillation of the bell crank 96—157—158 about its pivot 159 than the oscillation of the rock shaft 148. The purpose of this is so that a second slide 143 which is slidable on the horizontal guide bar 87, is connected with the arm 158 by a link 186 and carries package end folder plates 166 (see Figure 1) will have less movement than the slide 155 which carries a package pusher rod 171. The rod 171 splits into two bars 170 that terminate in pusher plates 172.

It is desirable however to operate the vertical slide 85 from the lever 96 and at an even higher rate of speed than the reciprocations of the pusher plates 172. This is accomplished by the short lever 94 and the long lever 92 with the outer end of the long lever connected by the link 91 to the vertical slide.

The parts which I add to the ram 41 and adjacent parts of the machine for the purpose of the present invention will now be described. Referring to Figure 5 I have added a pair of vertical guide tubes 106 to the slide 42 in which push rods 107 are slidable. The push rods are connected together at their lower ends by a cross bar 108 and the cross bar is connected by a spring 109 to the slide 42 as, for instance, to the upper pivot bolt 110 for the link 48.

The upper ends of the push rods 107 are spread apart to such an extent as to just pass through the opening 39 of a pocket 25 at the ram station.

The brackets 23 which are plate-like in character have article end supporting plates 112 which are bent to an inverted U-shape with the arms on opposite sides of the plate 23 as shown in Figures 8 and 9. The plates 112 are thus vertically slidable in relation to the plates 23. They are limited in their sliding movement by pins 113 in vertical slots 114 of the plates 23 and are normally constrained to their lower limits of movement as in Figure 8 as by springs 115. The springs 115 are connected to pins 116 at their upper ends and pins 117 at their lower ends. The pins 116 are carried by the reciprocable plates 112 and the pins 117 by the stationary plates 23.

Practical operation

In the operation of my package wrapping mechanism when a pocket of cookies 26 reaches the ram station as shown in Figure 2, the wrapper hold-down element 62 will be at about the position shown and traveling downward while the ram head 40 will be traveling upward. The ram head will engage the cookies and lift them as in Figure 3 while the wrapper hold-down element 62 will engage the wrapper 97 and as the slide 85 continues to move downwardly will cause compression of the spring 70 as shown in this figure, the bearing 65 leaving the collar 79 behind.

The cookies are now held between the ram and the wrapper hold-down element 62 so that as the ram is elevated the pressure of the spring 70 keeps the element 62 against the wrapper and the wrapper against the cookies and thereby

against any accidental lateral slippage of the wrapper. This continues while the cookies are being forced up into the folder head FH and while the ends of the package are being folded by the plates 271 and 272.

At the same time the package pusher rod 171 is traveling to the left for expelling a previously partially wrapped package from that pocket of the folder head which is at the left in Figure 3 as described in my first mentioned copending application. The pusher rod 171 being bifurcated at 170 avoids interference of the pusher plates 172 with the hold-down rod 63. At the time the pusher plates 172 are pushing a partially wrapped article out of the folder head the pocket side 68 will be open as in Figure 3 (left hand pocket) due to a pin 247 on a bell crank 246 engaging the angled extension 61 of the rod 60 for this pocket. The bell crank 246 is rocked counter-clockwise from the position of Figure 2 to the position of Figure 3 by reason of a cam surface 249 thereof being engaged by a roller 250 carried by the slide 143.

As the ram head 40 continues upwardly from the position of Figures 3 and 8 the push rods 107 under the constraint of the spring 109 cause the inverted U-shaped article end supporting plates 112 to be elevated as to the position in Figure 9 against the action of the lighter springs 115. These plates thereby keep the stacks of cookies from falling apart particularly at the ends while they are being moved upwardly from between the plates 23 (which must necessarily be below the top surface of the table 13) and the pocket end plates 271 and 272 spaced some distance thereabove.

The plates 112 finally stop in their upward movement due to the pins 113 engaging the tops of the slots 114 after which the ram 40 and the ram post 41 may continue to elevate without the rods 107 pushing the plates 112 upward any farther. During the additional movement of the ram post the spring 109 merely stretches as in Figure 9 to permit of such movement while the plates 112 are in stopped position.

As the ram is being elevated the slide 85 is also moving upwardly but at a position trailing the upward movement of the hold-down rod 63 caused by the ram pushing it up through the medium of the stack of cookies 26 interposed between the ram head and the wrapper under the hold-down foot 62. Thus the spring pressure 70 is kept on the hold-down foot all during the movement of the articles up into the folder head FH, the bearing 65 thereupon catching up with the collar 79 and elevating the hold-down foot 62 as to the position of Figure 5 just prior to the rotary folder head rotating a quarter revolution as in Figures 5 and 5a. At this time also the pusher plates 172 are out of the folder head as illustrated so that there is nothing to interfere with the rotation of the head.

From the foregoing description it will be obvious that I have provided an effective means to control a stack of articles and a wrapper therefor from the time the article is lifted out of a pocket conveyor until it is partially wrapped in a folder head. The parts are so designed and timed in their operating relation to each other that the wrapper is folded in the most efficient manner over the ends of the stack of articles as in Figure 9 after which the other folding operation to complete the package may be performed as described in my first mentioned copending application.

Some changes may be made in the construction and arrangement of the parts of my device without departing from the real spirit and purpose of my invention, and it is my intention to cover by my claims any modified forms of structure or use of mechanical equivalents which may be reasonably included within their scope.

I claim as my invention:

1. In a wrapping machine, a pocket conveyor, a ram for elevating a stack of articles out of a pocket of said conveyor, end members along said conveyor for supporting the end articles of the stack, a table having an opening therethrough and adapted to receive a wrapper above the opening, said ram elevating the stack of articles through said opening and against the wrapper, a folder pocket above the table top to receive the articles, a wrapper hold-down element movable downwardly through said folder pocket and engageable with the wrapper, means to move said hold-down element, said hold-down element being connected with said means through a resilient connection that biases the hold-down element against the wrapper as it is moved up into the pocket of the folder, and means for spanning the distance between said end members and said folder pocket comprising end supporting plates carried by said end members and slidable upwardly relative thereto, stop means to limit the upward sliding of said end supporting plates relative to said end members, means slidably carried by said ram and engageable with said end members to elevate them upon elevation of the ram, and a spring connection from said ram to said means permitting continued elevation of the ram after said end supporting plates have been elevated to a position engaging said stop means.

2. A wrapping machine comprising a pocket conveyor, a ram for elevating a stack of articles out of a pocket of said conveyor, end members along said conveyor for supporting the end articles of the stack, a table having an opening and adapted to receive a wrapper on top of the table above the opening, a ram for elevating the stack of articles through said opening and against the wrapper, a folder pocket above the table top to receive the article and partially fold the wrapper therearound, a hold-down element movable downwardly through said pocket and engageable with the wrapper, means to move said hold-down element, said hold-down element being connected with said means through a resilient connection that biases the hold-down element against the wrapper as it is moved up into the pocket of the folder by said ram, means for spanning the distance between said end members and the ends of the folder pocket comprising end supporting plates carried by said end members and slidable upwardly relative thereto, means slidably carried by said ram and engageable with said end members to elevate them upon elevation of the ram, and a lost motion spring connection between said ram and said end supporting plates permitting continued elevation of the ram after the end supporting plates have been elevated to a position adjacent said folder pocket, said end supporting plates being engageable with said end members for positively stopping said end supporting plates in said position.

3. In a wrapping machine of the character having a pocket conveyor, a ram for elevating a horizontal stack of articles out of a pocket at a ram station, a folder head having a folder pocket to receive the articles, and a table between said pocket conveyor and said folder head having an opening therethrough for the articles and adapted

to receive a wrapper above the articles, end supporting plates for the stack of articles movable upwardly through said opening, a hold-down element movable downwardly through said folder head and engaging a wrapper on said table with the articles moved upwardly by the ram, means for permitting articles to raise said hold-down element under spring pressure applied to the hold-down element for preventing displacement of the wrapper as it is partially folded by entry into said folder head, said end supporting plates being moved upwardly with the article by said ram to a position where they commence to enter the folder pocket, a stop to limit said end supporting plates in their upward movement beyond such position while said ram continues to move, and a spring connection between said ram and said end supporting plates to permit said plates to stop while said ram continues to move.

4. In a wrapping machine of the character having a pocket conveyor, a ram for elevating a stack of articles out of a pocket at a ram station, a folder head having a folder pocket to receive the articles, and a table between said pocket conveyor and said folder head having an opening therethrough for the articles and adapted to receive a wrapper above the articles, end supporting plates for the stack of articles movable upwardly through said opening, a hold-down element movable downwardly through said folder head and engaging a wrapper on said table with the articles moved upwardly by the ram, means for permitting articles to raise said hold-down element under spring pressure applied to the hold-down element for preventing displacement of the wrapper as it is partially folded by entry into said folder head, said end supporting plates being movable upwardly with the article to a position where they commence to enter the folder pocket, and means to stop their upward movement beyond such position, said means comprising stationary stops for said end supporting plates and a spring connection between said end supporting plates and said ram.

5. In a wrapping machine having a pocket conveyor and a folder head provided with pockets having sides and ends, a ram for elevating a stack of articles out of a pocket of said conveyor and into a pocket of said head, said sides projecting farther toward said ram than said ends, and means to prevent separation of the articles in the stack from each other while being transferred from a conveyor pocket to a head pocket comprising end plates for the ends of the stack movable with said ram as the articles are elevated from a conveyor pocket and until they enter between said sides of a head pocket.

6. Wrapper control mechanism for a wrapping machine of the character having a folder head comprising a wrapper hold-down element movable downwardly through said head and engageable with a wrapper on a table top having an opening therein through which articles are elevated, said hold-down element being resiliently mounted to permit the articles while being elevated to move the hold-down element upwardly, the hold-down element under resilient constraint of said resilient mount retaining the wrapper on the article against displacement until the article and wrapper enter the pocket of the folder head, and means to thereafter positively move said hold-down element away from the wrapper.

7. Wrapper control mechanism for a machine having a folder pocket comprising a wrapper hold-down element movable downwardly through said pocket and engageable with a wrapper on a table top through which articles are elevated, said hold-down element being resiliently mounted to permit the article to elevate the hold-down element, and means for moving the hold-down element away from the wrapper after the article and wrapper enter the folder pocket.

8. Wrapper control mechanism comprising a wrapper hold-down element, mechanical means for moving said hold-down element downwardly through a folder pocket engageable with a wrapper on a table top having an opening through which articles are elevated, said mechanical means thereafter moving said hold-down element upwardly while the articles are being elevated, a spring connection between said mechanical means and said hold-down element to permit the article as it is elevated to move the hold-down element upwardly under resilient constraint of said spring connection, said hold-down element thereby retaining the wrapper on the article against displacement and said mechanical means positively moving said hold-down element upwardly after the articles are received in said folder pocket.

9. In a wrapping machine having a fixed table provided with an opening therethrough and adapted to support a wrapping sheet above said opening, having a folder head provided with pockets having sides and ends, and having a conveyor for articles to be wrapped extending below said table under said opening, a stationary erect retaining member extending along each side of said conveyor and under said opening, a ram for elevating a stack of articles from said conveyor between said retaining members and through said opening into contact with said wrapping sheet and then into a pocket of said folder head, said folder head pocket sides projecting farther toward said ram than said pocket ends, means for elevating and retracting said ram, side plates vertically movable over the facing sides of said retaining members through said opening, and means for elevating said side plates with said ram until the articles enter between said sides of said folder head pocket and for retracting said side plates while maintaining them in contact with said retaining members to be guided thereby.

10. In a wrapping machine having a fixed table provided with an opening therethrough and adapted to support a wrapping sheet above said opening, having a folder head provided with pockets having sides and ends, and having a conveyor for articles to be wrapped extending below said table under said opening, a stationary erect retaining member extending along each side of said conveyor and under said opening, a ram for elevating a stack of articles from said conveyor between said retaining members and through said opening into contact with said wrapping sheet and then into a pocket of said folder head, said folder head pocket sides projecting farther toward said ram than said pocket ends, means for elevating and retracting said ram, side plates of inverted U-shape straddling said retaining members and vertically movable through said opening, and means for elevating said side plates with said ram until the articles enter between said sides of said folder head pocket and for retracting said side plates while maintaining them in straddling contact with said retaining members to be guided thereby.

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