Jan. 17, 1956 R. D. EASTON 2,731,086

DEVICE FOR STACKING MAGAZINES PRIOR TO TRIMMING

Filed July 3, 1951 5 Sheets-Sheet 1

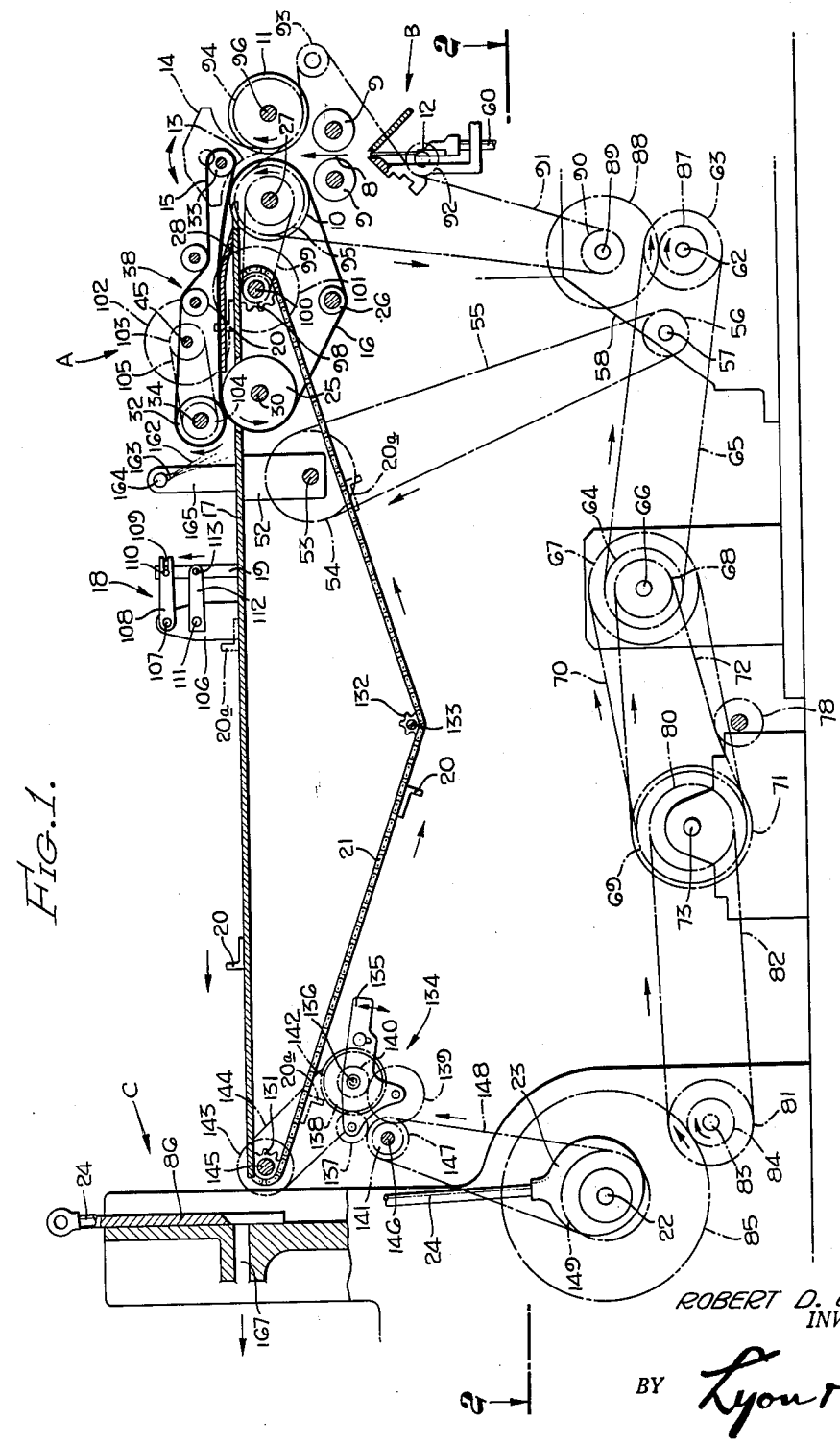


FIG. 1.

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BY Lyon & Lyon

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DEVICE FOR STACKING MAGAZINES PRIOR TO TRIMMING

Filed July 3, 1951 5 Sheets-Sheet 2

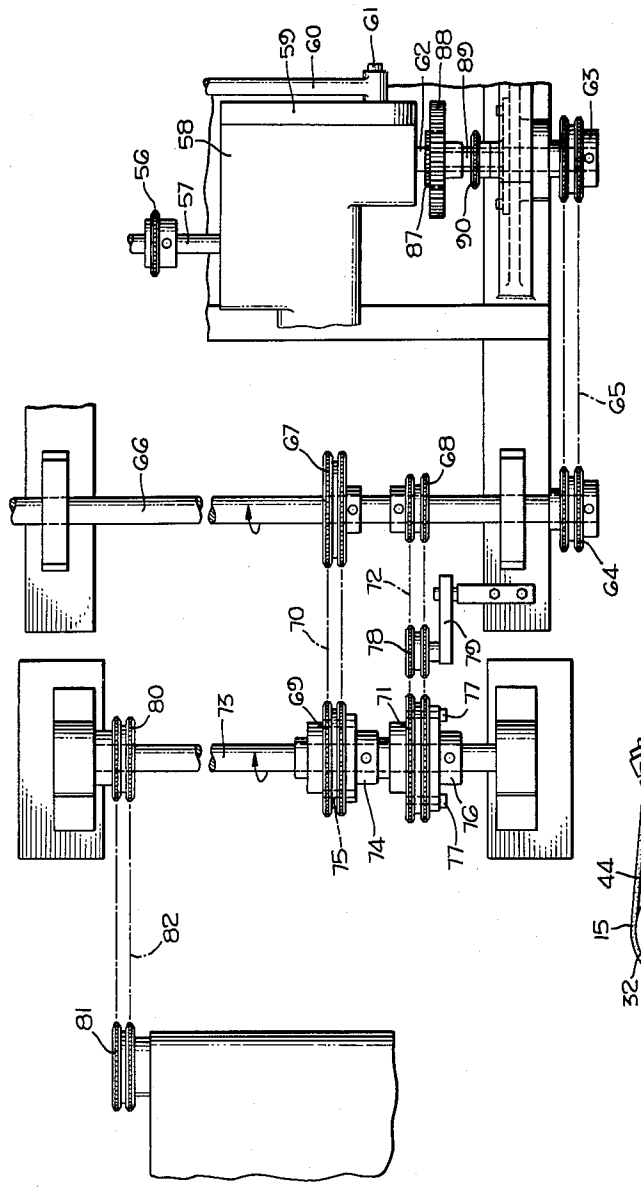


FIG. 2.

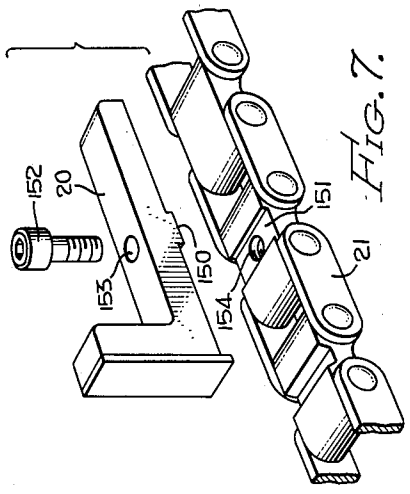


FIG. 7.

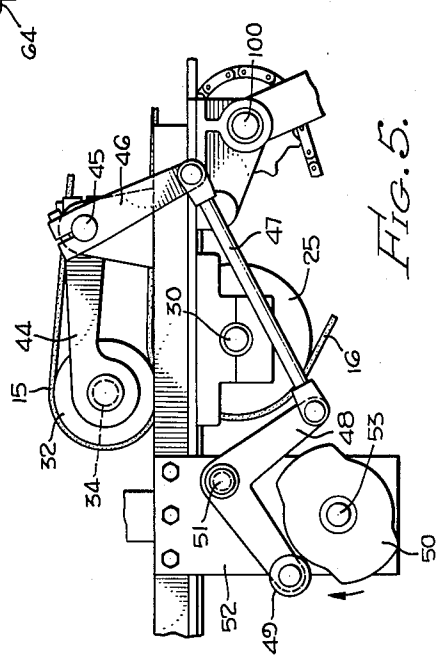


FIG. 5.

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DEVICE FOR STACKING MAGAZINES PRIOR TO TRIMMING

Filed July 3, 1951 5 Sheets-Sheet 3

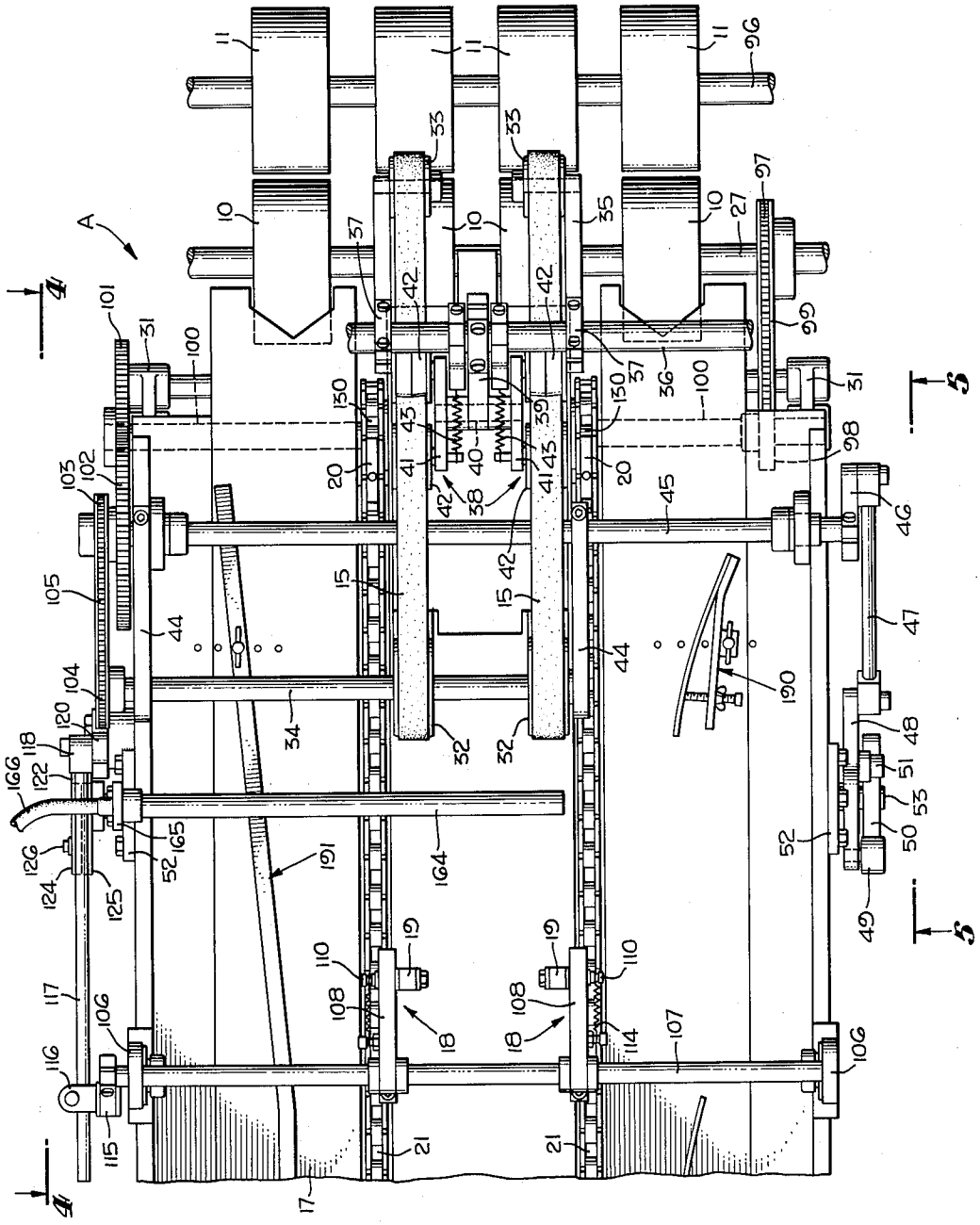


FIG. 3.

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DEVICE FOR STACKING MAGAZINES PRIOR TO TRIMMING

Filed July 3, 1951 5 Sheets-Sheet 4

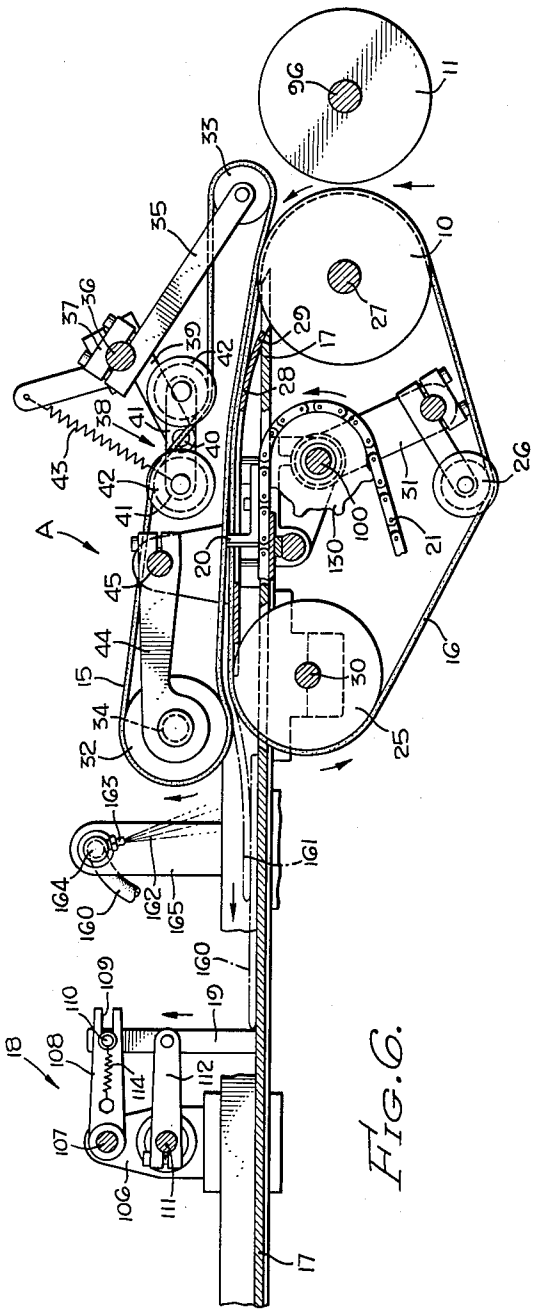


FIG. 6.

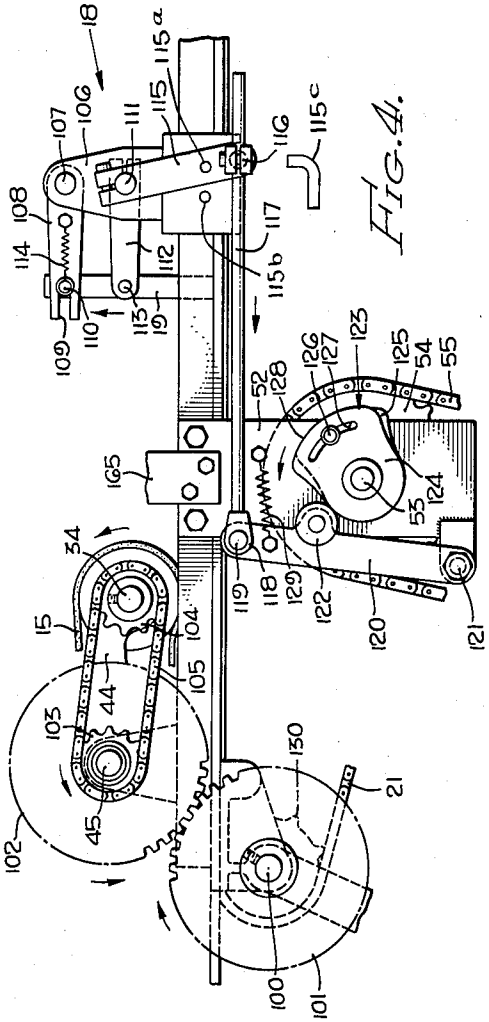


FIG. 4.

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DEVICE FOR STACKING MAGAZINES PRIOR TO TRIMMING

Filed July 3, 1951 5 Sheets-Sheet 5

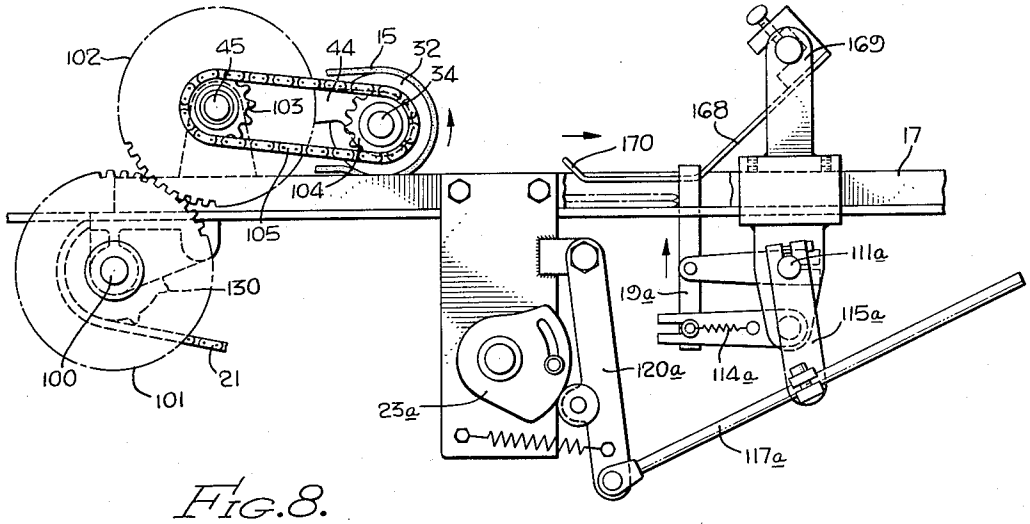


FIG. 8.

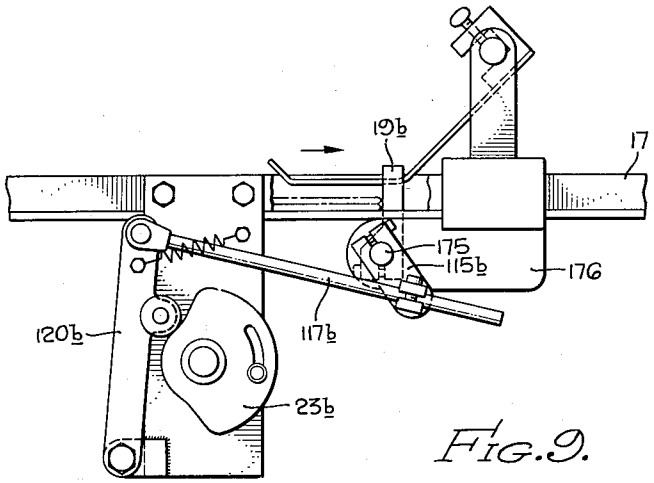
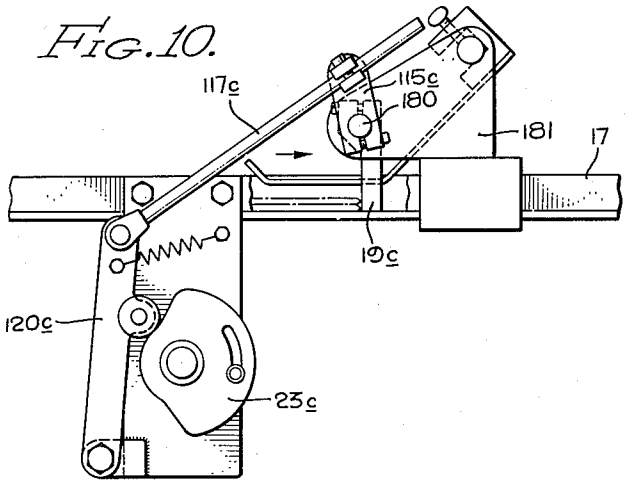


FIG. 9.

FIG. 10.



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United States Patent Office 2,731,086 Patented Jan. 17, 1956

2,731,086

DEVICE FOR STACKING MAGAZINES PRIOR TO TRIMMING

Robert D. Easton, San Gabriel, Calif., assignor to Pacific Press, Inc., Los Angeles, Calif., a corporation of California

Application July 3, 1951, Serial No. 234,959

20 Claims. (Cl. 164—48)

This invention relates to the art of assembling flexible-cover books such as magazines and is particularly directed to an improved form of stacking apparatus for placing one magazine upon another during the continuous feeding thereof in the course of their manufacture. This invention relates to improvements over that form of stacking apparatus shown in my prior Patent No. 2,236,336, issued March 25, 1941, for "Method of and Machine for Feeding Articles."

Trimmer mechanisms now in use employ reciprocating blades, and because of the rugged construction required for trimming the edges and one side of magazines the reciprocating blades and associated mechanism are relatively heavy. It is therefore desirable to limit the maximum operating speed of such trimmer devices, and in practice it is found that such maximum operating speed is less than that which may reasonably be performed by conventional gathering and stitching mechanisms. Accordingly, it is often desirable to operate the gathering mechanism and stitching mechanism at a relatively high speed and to feed the output from the stitcher in two-high stacks to the trimmer mechanism so that the latter may be operated at one-half speed, trimming two magazines per stroke.

It is the principal object of the present invention to provide an improved form of stacker device for use in the manufacture of flexible-cover books such as magazines, which device may be interposed between a stitcher mechanism and a trimmer mechanism and which may be operated either "one-up" or "two-up" to deliver magazines singly or in stacks as desired to the trimmer mechanism.

Another object is to provide a stacker mechanism which is simpler in design and operation than that shown in my prior patent and which moves all of the magazines through the same path and does not require that alternate magazines be diverted through a longer path for the purpose of stacking.

Another object is to provide a stacker device interposed between a stitcher mechanism and a trimmer mechanism which may be readily changed from one-up to two-up operation without delay.

A related object is to provide a novel form of stop means for arresting the forward travel of one magazine until a second magazine is stacked upon it.

Other and more detailed objects and advantages will appear hereinafter.

In the drawings:

Figure 1 is an elevation in diagrammatic form illustrating a preferred embodiment of my invention.

Figure 2 is plan view taken substantially on the line 2—2 as shown in Figure 1 and showing the power transmission device for operating the trimmer mechanism at either full speed or half speed as desired.

Figure 3 is a plan view of the stacker mechanism partly broken away and shown on an enlarged scale.

Figure 4 is a side elevation partly broken away taken substantially on the line 4—4 as shown in Figure 3 and showing the mechanism for operating the stop device.

Figure 5 is a side elevation partly broken away taken in the direction 5—5 as shown in Figure 3.

Figure 6 is a side elevation partly broken away showing the operation of the stacker device.

Figure 7 is an exploded view showing the manner of assembly of the driving lugs to the lug chains.

Figures 8, 9 and 10 are side elevations partly broken away showing modified forms of stop devices.

Referring to the drawings, the stacker mechanism A is operatively interposed between the stitcher mechanism B and the trimmer mechanism C. The stitcher mechanism B may be located at the end of a signature gathering mechanism (not shown). While any desirable form of stitcher mechanism may be employed, I have illustrated diagrammatically a device known in the trade as a Sheridan stitcher. The trimmer mechanism C may likewise be of any preferred type, and as shown in the drawings I have illustrated a Sheridan type trimmer having reciprocating knives.

The general plan of operation requires magazines, or "books" as they are known in the trade, to pass upward in the direction of the arrow 8 from the stitcher mechanism B. For this purpose a stitcher tucker blade 12 pushes the books upwardly between the rollers 9 and between the rollers 10 and 11 against the curved surface 13 on the reject deflector 14. The books are thus moved into position between the upper tapes 15 and the lower tapes 16 which comprise part of the stacker mechanism A. These feed tapes 15 and 16 move about their respective pulleys to advance the books singly between them and to deliver them to the stationary platform or table 17. A stop mechanism generally designated 18 is provided with a movable abutment 19 which arrests the forward motion of alternate books as they are delivered from the moving tapes 15 and 16. A first book strikes the abutment 19 and remains stationary on the table 17 until a second book is stacked on top of it as it is delivered from the tapes 15 and 16. The stop mechanism 18 is then operated in timed sequence to move the abutment 19 to an inoperative position. One of the lugs 20 on the moving lug chain 21 then engages both of the stacked books and moves them to the left as viewed in Figure 1 into the trimmer mechanism C. The stacked books are delivered against an adjustable stop device (not shown) in the trimmer mechanism and the trimmer knives are then reciprocated vertically to trim the side edges and trailing edge of the stacked books by conventional means. The trimmer knives are operated from a crank shaft 22 through an eccentric strap 23 and pitman 24. The crank shaft 22 is driven in timed relationship with respect to the stitcher mechanism B, the tapes 15 and 16, the stop device 18 and the moving lug chain 21. Change speed devices as hereinafter described are provided for changing the speed of the lug chain 21 and trimmer mechanism C so that the device may be used to transfer books singly, rather than in stacked relationship, from the stitcher mechanism B to the trimmer mechanism C.

Proceeding with the description of the various parts in greater detail, the stacker device A includes certain of the rollers 10, the rollers 25 and the rollers 26 around which the lower tapes 16 are driven. Power is supplied to the shaft 27 to which the rollers 10 are secured. The tapes 16 pass over stationary plates 28 which are curved at their ends 29 and lie adjacent the rearward end of the stationary platform 17. The rollers 25 are each secured to an idler shaft 30. The rollers 26 are carried on arms 31 and serve as tighteners to maintain the tapes 16 in taut condition.

The upper tapes 15 are positioned directly above the lower tapes 16. The tapes 15 travel around forward rollers 32 and rearward rollers 33. Power is supplied to the shaft 34 and the rollers 32 are fixed thereon. The

rollers 33 are carried at the ends of arms 35 which are fixed to the stationary rod 36 by means of clamp plates 37. An idler roller assembly 38 is provided for maintaining the tapes 15 in taut condition, and as shown in the drawings this assembly 38 includes stationary arms 39 carried on the rod 36. A pin 40 positioned at the outer end of each arm 39 provides a fulcrum for the bars 41. The rollers 42 are turnably mounted at the outer ends of the bars 41. Each of the tapes 15 passes over one of the rollers 42 and under an adjacent roller 42. Coil springs 43 are attached to a pair of the roller supports so that the bars 41 are biased in a clockwise direction as viewed in Figure 6, thus serving to tension the tapes 15.

The shaft 34 is carried on parallel arms 44 which are each clamped to the transverse rockshaft 45. The rockshaft 45 is supported in suitable bearings carried on the frame of the machine, and means are provided for oscillating the shaft 45 through a small angle so that the rollers 32 are raised and lowered during the operation of the machine. As shown in Figures 3 and 5 of the drawings, a crank arm 46 may be fixed to one end of the rockshaft 45 and connected through a link 47 to one arm of a bell crank 48. The other arm of the bell crank 48 carries a follower roller 49 which is adapted to be actuated by means of the rotary cam 50. The bell crank 48 is pivotally mounted at 51 to one of a pair of stationary brackets 52 secured to the frame of the machine. The cam 50 is fixed to one end of the camshaft 53, and this shaft is rotatably mounted on the spaced brackets 52. A sprocket 54 shown diagrammatically in Figure 1 is driven by a chain 55 from drive sprocket 56. As shown in Figure 2, this drive sprocket 56 is fixed to camshaft 57 driven by gear box 58. From this description it will be understood that rotation of the drive sprocket 56 causes the cam 50 to rotate and thus causes the rockshaft 45 to oscillate through a small angle, thereby raising and lowering the rollers 32 during operation of the machine.

The gear box 58 also contains a right angle drive mechanism (not shown) for rotating the crank disk 59. The lower end of the pitman 60 is pivotally connected to the crank pin 61 fixed to the disk 59. The upper end of the pitman 60 is pivotally connected to the stitcher gripper bar (not shown). A cam on the opposite end of the shaft carrying the crank disk 59 operates the tucker blades 12 through linkages (not shown).

The input or driving shaft 62 of the gear box 58 is driven from a sprocket 63 fixed thereto. The sprocket 63 is driven from sprocket 64 through chain 65. The sprocket 64 is fixed to the main drive shaft 66 which operates in timed relation with the signature gathering device which feeds the stitcher mechanism B. Also fixed on the drive shaft 66 are a large sprocket 67 and a small sprocket 68. The sprocket 67 drives the sprocket 69 through chain 70 and the sprocket 68 drives the sprocket 71 through chain 72. The sprockets 69 and 71 are each rotatably mounted on the countershaft 73. A hub 74 fixed to the countershaft 73 is adapted to be connected in driving relation with the sprocket 69 by means of axially extending cap screws (not shown) which may be inserted into aligned apertures 75. Similarly, a hub 76 is fixed on the countershaft 73 and is adapted to be placed in driving relation with the sprocket 71 by means of cap screws 77. One or the other of the sprockets 69 and 71 is connected to the countershaft 73. An idler sprocket 78 carried on an adjustable arm 79 may be employed for maintaining tension in the chain 72. When the sprocket 69 is connected to its hub 74 the countershaft 73 is driven at substantially the same speed as the drive shaft 66. When the sprocket 71 is connected to its hub 76 the countershaft 73 is driven at one-half the speed of the drive shaft 66.

The sprocket 80 is fixed to the countershaft 73 and drives sprocket 81 through chain 82. The sprocket 81 is fixed on a power shaft 83. A gear 84 is also fixed to the shaft 83 and meshes with a larger gear 85 fixed on shaft 22. From this description it will be understood that rotation of the drive shaft 66 is effective to operate the countershaft 73, shaft 83, shaft 22, pitman 24 and reciprocating knife 86 of the trimmer mechanism C. The speed of operation of the trimmer mechanism C can be changed by connecting either the sprocket 69 or the sprocket 71 in driving relation with the countershaft 73.

A spur gear 87 fixed on the drive shaft 62 of the gear box 58 meshes with a larger spur gear 88 idling on the stud 89. A sprocket 90 fixed to the spur gear 88 drives a chain 91 which passes over idler sprockets 92 and 93. The chain 91 passes around sprocket 94 in one direction and around sprocket 95 in the other direction. Sprocket 94 is fixed on the roller shaft 96 and the sprocket 95 is fixed to the roller shaft 27. When the chain 91 is driven by the sprocket 90 the effect is to drive the roller shafts 27 and 96 in opposite directions as shown by the arrows in Figure 1. The rollers 10 and 11 which are fixed to the shafts 27 and 96 respectively are accordingly driven in opposite directions.

Means are provided for driving the shaft 34 from the shaft 27, and as shown in the drawings this means includes sprocket 97 fixed on shaft 27 and arranged to drive sprocket 98 through chain 99. The sprocket 98 is fixed on the jackshaft 100 which is rotatably supported in spaced bearings carried on the transfer table. A gear 101 fixed on the jackshaft 100 meshes with gear 102 which is rotatably mounted on one end of the rockshaft 45. A sprocket 103 fixed to the gear 102 is arranged to drive sprocket 104 through chain 105. The sprocket 104 is fixed to the shaft 34. From this description it will be understood that the upper tapes 15 are driven from the shaft 27 through chain 99, jackshaft 100, gears 101 and 102, and sprockets 103 and 104. It will further be observed that no change in center distance between the sprockets 103 and 104 occurs when the arms 44 are oscillated about the axis of the rockshaft 45 for the purpose of raising and lowering the rollers 32.

The stop mechanism 18 includes a pair of upright standards 106 clamped to the edges of the transfer table 17. A shaft 107 is carried on the standards 106 and is provided with a pair of arms 108 which are pivoted thereon. Each of the arms is provided with a slot 109 at its outer end to receive a pin 110 fixed to the upper end of the movable abutments 19. A rockshaft 111 also extends between the standards 106 and is supported on them for oscillatory movement. A pair of arms 112 is fixed to the rockshaft 111, and a pivot pin 113 connects each of the arms to one of the movable abutments 19. A tension spring 114 is mounted on each of the arms 108 and serves to maintain the pin 110 in the bottom of the slot 109. An arm 115 is fixed to the overhanging end of the rockshaft 111 and is connected by means of a suitable clamp device 116 to the actuating link 117. A clevis 118 is fixed to one end of the link 117 and is connected by means of a pivot pin 119 to one end of a lever 120. The lever 120 is pivotally mounted at 121 on the bracket 52. A follower roller 122 is rotatably mounted on the lever and engages a two-part cam member 123. This cam member 123 includes a first plate 124 turnably mounted on the camshaft 53 and a second plate 125 fixed to the camshaft 53. A thumb screw 126 extends through an arcuate slot 127 in the plate 124 and serves to clamp the plates 124 and 125 is selected position. The effective length of the arc surface 128 may be varied by changing the relative angular positions of the cam plates 124 and 125, as will be readily understood. A tension spring 129 may be provided for maintaining the follower roller 122 in engagement with the cam member 123. From this description it will be understood that rotation of the camshaft 53 causes the lever 120 to oscillate about the pivot 121 and thereby act through the link 117 and arm 115 to raise and lower the movable abutments 19. Adjustments of the position of the abutments 19 relative

to the rollers **25** and **34** as required by different sizes of books from backbone to front margin are accomplished by moving the upright standards **106** forward or back, and by moving the clamp device **116** forward or back on the link **117** a corresponding amount.

The lug chains **21** extend over idler sprockets **130** which are rotatably mounted on the jackshaft **100**. The lug chains **21** also extend over driving sprockets **131** at the other end of the transfer table **17**. Idler sprockets **132** mounted on the shaft **133** may be provided for taking the slack out of lug chains **21**. Means are provided for driving the sprockets **131** at a plurality of speeds. As shown in the drawings, this means includes the change-speed mechanism generally designated **134**. This mechanism includes the bracket **135** pivotally mounted on the stud **136** and having gears **137**, **138**, **139** and **140** rotatably mounted thereon. The gears **138** and **140** are coaxial and are connected to rotate as a unit. Gear **137** meshes with gear **138**, while gear **139** meshes with gear **140**. When the bracket **135** is in the position shown in Figure 1, gear **139** also meshes with driving gear **141** and thus drives the gear **140** and sprocket **142** which is fixed to gear **140**. The sprocket **142** drives the sprocket **143** through chain **144**. The sprocket **143** is fixed to the shaft **145**, and the sprockets **131** which drive the lug chains **21** are also fixed to the shaft **145**. When the bracket **135** is swung in a counterclockwise direction as viewed in Figure 1, gear **139** is moved out of mesh with driving gear **141** and gear **137** is brought into mesh with driving gear **141**. Power then flows from gear **141** through gear **137**, gear **138**, and sprocket **142** to drive the chain **144**. A two-speed power transmission device is thus provided between the driving gear **141** and the driven sprocket **143**.

The driving gear **141** is fixed to a driven sprocket **147** which is journaled on a stud **146**. The sprocket **147** is driven by chain **148** from the driving sprocket **149** fixed on the trimmer crank shaft **22**.

As shown in Figure 7, the lugs **20** are provided with a key portion **150** which is received within a keyway **151** provided in one of the chain links. A cap screw **152** extends through an aperture **153** in the lug **20** and into a threaded opening **154** in the chain link in order to secure the lug **20** to the lug chain **21**.

In operation, books are delivered to the saddle stitcher mechanism B by the signature gathering mechanism (not shown). The stitcher tucker blade **12** pushes each book up between the rollers **9** and between the rollers **10** and **11**. The reject deflector **14** is operated by conventional means (not shown) and causes the books to be deflected to the right over the top of pulleys **11** whenever the book contains too many or too few pages. When the books contain the proper number of pages the reject deflector **14** remains in the position shown in Figure 1. The backbone of the book engages the curved surface **13** on the reject deflector and passes between the power driven pairs of tapes **15** and **16**. The tapes carry the book forward, passing over the curved plate **28**, and between the rollers **32** and **25**. The backbone of the book drops to the surface of the transfer table **17** and the book is fed forward by the tapes **15** and **16** until the trailing edge is ejected from between the tapes and its forward motion is arrested by contact of its backbone with the movable abutments **19**. The book **160** shown in Figure 6 is in the position just described. This book **160** remains at rest on the surface of the transfer table **17** until a second book **161** is conveyed by the tapes **15** and **16** and fed into position on top of the book **160**. When the backbone of the second book **161** approaches the upper rollers **32** the arms **44** are raised by means of the cam **50** so that the backbone of the second book **161** is not deflected downward but instead passes over the top of the first book **160** and engages the movable abutments **19**.

After the backbone of each book has passed under the roller **32**, cam **50** causes roller **32** to be lowered, squeezing tapes **15** and **16** against the book until it has passed from between the tapes. Each book is positively ejected from between the tapes, and because the roller **32** overhangs roller **25**, the tail of each book is fed into a position insuring that the lugs **20** cannot pass beneath the ejected book.

It is important that the second book be delivered by the tapes **15** and **16** to a position above the first book **160** and not to be inserted into the leaves of the first book. For this reason the rollers **32** are raised each time the backbone of each book approaches the rollers **32**.

As an additional safeguard against undesirable interleaving of the books, I prefer to provide air jet **162** issuing from nozzles **163** which is directed against the upper surface of the transfer table **17** in the region where the trailing edges of the pages of the books will lie. This air jet has the effect of holding the pages of the first book in tightly closed relationship and thus minimizes the possibility that the leading edge or backbone of the second book might pass between pages of the first book. The nozzles **163** may be mounted on a pipe **164** supported on a stationary bracket **165** and supplied with air under pressure through flexible hose **166**.

The cycle of operations is timed so that shortly after the leading edge or backbone of the second book **161** engages the movable abutment **19** a pair of lugs **20** on the lug chains **21** engages the rear ends of the books **160** and **161** which are now stacked with one directly over the other. The cam member **123** acts to raise the abutments **19** upwardly away from the surface of the transfer table **17**. The continuously moving lugs **20** then move the stacked books **160** and **161** along the transfer table **17** and into the opening **167** in the trimmer mechanism C. The stacked books engage the stop means (not shown) customarily provided in the trimmer mechanism C and after they have come to rest against such stop means the knife **86** operates to trim the pages of the books. Side knives (not shown) may also be provided in the trimmer mechanism for trimming the side edges of the books, as will be readily understood by those skilled in the art.

The modified forms of my invention shown in Figures 8, 9 and 10 show various devices for moving abutment elements to and from operative position. In the device shown in Figure 8 the abutment elements **19*a*** are moved downward through slits provided in the transfer table **17**. The mechanism shown is similar to that illustrated in Figures 1–7 but is inverted so that the abutments **19*a*** move downward away from the transfer table **17** instead of upwardly and away from it. Thus the pivoted follower lever **120*a*** actuates the link **117*a*** as the cam member **23*a*** rotates. The link in turn actuates the crank lever **115*a*** and thus causes the rockshaft **111*a*** to lower the abutments **19*a*** and then to return them to operative position as shown. The springs **114*a*** perform the same function as the springs **114** described above, namely, they serve to cushion the impact of the books against the abutments by permitting the abutments to have limited rocking motion against the action of the springs. A deflector bar **168** may be clamped with respect to a stationary post **169** on the frame, and this deflector bar has an upturned end **170** which directs the books toward the upper surface of the transfer table **17**.

In that form of stop mechanism shown in Figure 9, the abutments **19*b*** are mounted for turning movement rather than translation between their operative and inoperative positions. The abutments **19*b*** are fixed to a rockshaft **175** carried on stationary brackets **176**. The crank arm **115*b*** turns the abutments **19*b*** from the position shown to an inoperative position whenever the cam member **23*b*** actuates the follower lever **120*b*** and link **117*b***.

In that form of stop mechanism shown in Figure 10, the abutments **19*c*** are caused to swing up and away from operative position with respect to the transfer table

17. The abutments 19c are clamped to a rockshaft 180 which is carried on bracket 181. When the cam member 23c is rotated the follower lever 120c actuates the link 117c so that the crank 115c causes the rockshaft 180 to oscillate.

Suitable guide devices 190 and 191 may be adjustably mounted on the transfer table 17 for guiding the books as they are delivered by the tapes 15 and 16.

When the device is to be operated one-up instead of two-up, additional lugs 20a are mounted on the lug chains 21 to double the total number of lugs. The bracket 135 is shifted counter-clockwise to its extreme up position to decrease the speed of drive to the lug chains 21 with respect to the speed of drive for the trimmer mechanism C. The sprocket 69 is connected in driving relation with its hub 74 and the cap screws 77 are removed to disconnect the sprocket 71 from its hub 76. This has the effect of increasing the speed of drive from the drive shaft 66 to the cutter shaft 83. The abutments 19 are raised to their inoperative position and are silenced by any convenient means, such as, for example, swinging the crank arm 115 to bring holes 115a and 115b into alignment and then inserting pin 115c into the aligned holes. This serves to hold the roller 122 away from the cam 123. The books are then fed individually to the trimmer mechanism C and no stacking occurs. Each time a book is delivered to the transfer table 17 by the tapes 15 and 16, one of the lugs 20 or 20a engages the trailing edge of the book and carries it to the trimmer C. The mechanism may thus be operated one-up when desired and may quickly be changed over from one-up to two-up operation, and vice versa.

Having fully described my invention, it is to be understood that I do not wish to be limited to the details herein set forth, but my invention is of the full scope of the appended claims.

I claim:

1. Apparatus for feeding articles such as magazines from a first mechanism which performs work on the articles singly and individually to a second mechanism which performs work on the articles when stacked in groups, comprising in combination: a transfer table, continuously operating upper and lower feed tapes for moving a series of articles between them singly to a stacking position on said transfer table, the surface of the transfer table being below the level of delivery of the articles from the feed tapes, so that the articles drop by gravity in stacking position, means for cyclically raising the delivery end of the upper feed tape, stop means for arresting forward motion of each article at said stacking position, means for cyclically moving the stop means to an inoperative position in timed relationship with the raising movement of the upper feed tape, and conveyor means for moving articles in stacked groups to said second mechanism.

2. Apparatus for feeding articles such as magazines from a first mechanism which performs work on the articles singly and individually to a second mechanism which performs work on the articles when stacked in groups, comprising in combination: a transfer table, continuously operating upper and lower feed tapes for moving a series of articles between them singly to a stacking position on said transfer table, the upper feed tape passing over a roller at its delivery end, means for cyclically raising said roller, the surface of the transfer table being below the level of delivery of the articles from the feed tapes, so that the articles drop by gravity in stacking position, selectively operable stop means for arresting forward motion of each article at said stacking position, means for cyclically moving the stop means to an inoperative position, means for actuating the latter said means and the roller raising means in timed relationship, and continuously operating conveyor means having spaced lugs thereon for moving articles either singly or in stacked groups to said second mechanism.

3. Apparatus for feeding articles such as magazines from a first mechanism which performs work on the articles singly and individually to a second mechanism which performs work on the articles either singly or when stacked in groups, comprising in combination: a transfer table, continuously operating feed means for moving a series of articles singly to a stacking position on said transfer table, stop means for arresting forward motion of each article at said stacking position to form a stack, means for cyclically moving the stop means to an inoperative position, means for rendering the stop means totally inoperable so as to eliminate stacking, conveyor means for moving articles either singly or in stacked groups of two to said second mechanism, power means for driving the feed means, conveyor means and second mechanism in timed relation, said power means including a change speed device for doubling the speed of the second mechanism with respect to the speed of the feed means, when the articles are moved singly to the second mechanism.

4. Apparatus for feeding articles such as magazines from a stitcher to a trimmer, comprising in combination: a transfer table, continuously operating feed tapes for moving a series of articles singly to a stacking position on said transfer table, the surface of the transfer table being below the level of delivery of the articles from the feed tapes, so that the articles drop by gravity in stacking position, stop means for arresting forward motion of each article at said stacking position to form a stack, means for cyclically moving the stop means to an inoperative position, means for rendering the stop means totally inoperable so as to eliminate stacking, continuously operating conveyor chains having spaced lugs thereon for moving articles either singly or in stacked groups to said trimmer, power means for driving the feed tapes, conveyor chains and trimmer in timed relation, said power means including a change speed device for doubling the speed of the trimmer with respect to the speed of the feed tapes and conveyor chains, when the articles are moved singly to the trimmer.

5. Apparatus for feeding articles such as magazines from a first mechanism which performs work on the articles singly and individually to a second mechanism which performs work on the articles when stacked in groups, comprising in combination: a transfer table, continuously operating parallel conveyor chains having spaced lugs thereon and travelling lengthwise of said transfer table, continuously operating upper and lower feed tapes positioned between said parallel chains, the tapes being adapted for moving a series of articles between them singly to a stacking position on said transfer table, the upper feed tape passing over a roller at its delivery end, means for cyclically raising said roller, the surface of the transfer table being below the level of delivery of the articles from the feed tapes, so that the articles drop by gravity in stacking position, selectively operable stop means for arresting forward motion of each article at said stacking position, and means operating in timed relation with the cyclical movement of said roller for cyclically moving the stop means to an inoperative position.

6. An apparatus as set forth in claim 1, wherein: said stop means includes an abutment mounted for vertical linear movement through a slot in said transfer table between an inoperative position below the transfer table and an operative position, wherein said abutment projects above said table in the path of travel of said articles.

7. An apparatus as set forth in claim 1, wherein: said stop means includes an abutment mounted for turning movement below said transfer table, and said transfer table is provided with a slot through which the extremity of said abutment moves between an inoperative position below said table and an operative position above said table in the path of travel of said articles.

8. An apparatus as set forth in claim 1, wherein: said stop means includes an abutment mounted for turning movement above said table, the extremity of said abut-

ment being movable between an inoperative position above the transfer table and an operative position adjacent the transfer table in the path of travel of said articles.

9. An apparatus as set forth in claim 2, wherein: said stop means includes an abutment mounted for vertical linear movement through a slot in said transfer table between an inoperative position below the transfer table and an operative position, wherein said abutment projects above said table in the path of travel of said articles.

10. An apparatus as set forth in claim 2, wherein: said stop means includes an abutment mounted for turning movement below said transfer table, and said transfer table is provided with a slot through which the extremity of said abutment moves between an inoperative position below said table and an operative position above said table in the path of travel of said articles.

11. An apparatus as set forth in claim 2, wherein: said stop means includes an abutment mounted for turning movement above said table, the extremity of said abutment being movable between an inoperative position above the transfer table and an operative position adjacent the transfer table in the path of travel of said articles.

12. An apparatus as set forth in claim 3, wherein: said stop means includes an abutment mounted for vertical linear movement through a slot in said transfer table between an inoperative position below the transfer table and an operative position, wherein said abutment projects above said table in the path of travel of said articles.

13. An apparatus as set forth in claim 3, wherein: said stop means includes an abutment mounted for turning movement below said transfer table, and said transfer table is provided with a slot through which the extremity of said abutment moves between an inoperative position below said table and an operative position above said table in the path of travel of said articles.

14. An apparatus as set forth in claim 3, wherein: said stop means includes an abutment mounted for turning movement above said table, the extremity of said abutment being movable between an inoperative position above the transfer table and an operative position adjacent the transfer table in the path of travel of said articles.

15. An apparatus as set forth in claim 4, wherein: said stop means includes an abutment mounted for vertical linear movement through a slot in said transfer table between an inoperative position below the transfer table and an operative position, wherein said abutment projects above said table in the path of travel of said articles.

16. An apparatus as set forth in claim 4, wherein: said stop means includes an abutment mounted for turning movement below said transfer table, and said transfer table is provided with a slot through which the extremity of said abutment moves between an inoperative position below said table and an operative position above said table in the path of travel of said articles.

17. An apparatus as set forth in claim 4, wherein: said stop means includes an abutment mounted for turning movement above said table, the extremity of said abutment being movable between an inoperative position above the transfer table and an operative position adjacent the transfer table in the path of travel of said articles.

18. An apparatus as set forth in claim 5, wherein: said stop means includes an abutment mounted for vertical linear movement through a slot in said transfer table between an inoperative position below the transfer table and an operative position, wherein said abutment projects above said table in the path of travel of said articles.

19. An apparatus as set forth in claim 5, wherein: said stop means includes an abutment mounted for turning movement below said transfer table, and said transfer table is provided with a slot through which the extremity of said abutment moves between an inoperative position below said table and an operative position above said table in the path of travel of said articles.

20. An apparatus as set forth in claim 5, wherein: said stop means includes an abutment mounted for turning movement above said table, the extremity of said abutment being movable between an inoperative position above the transfer table and an operative position adjacent the transfer table in the path of travel of said articles.

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