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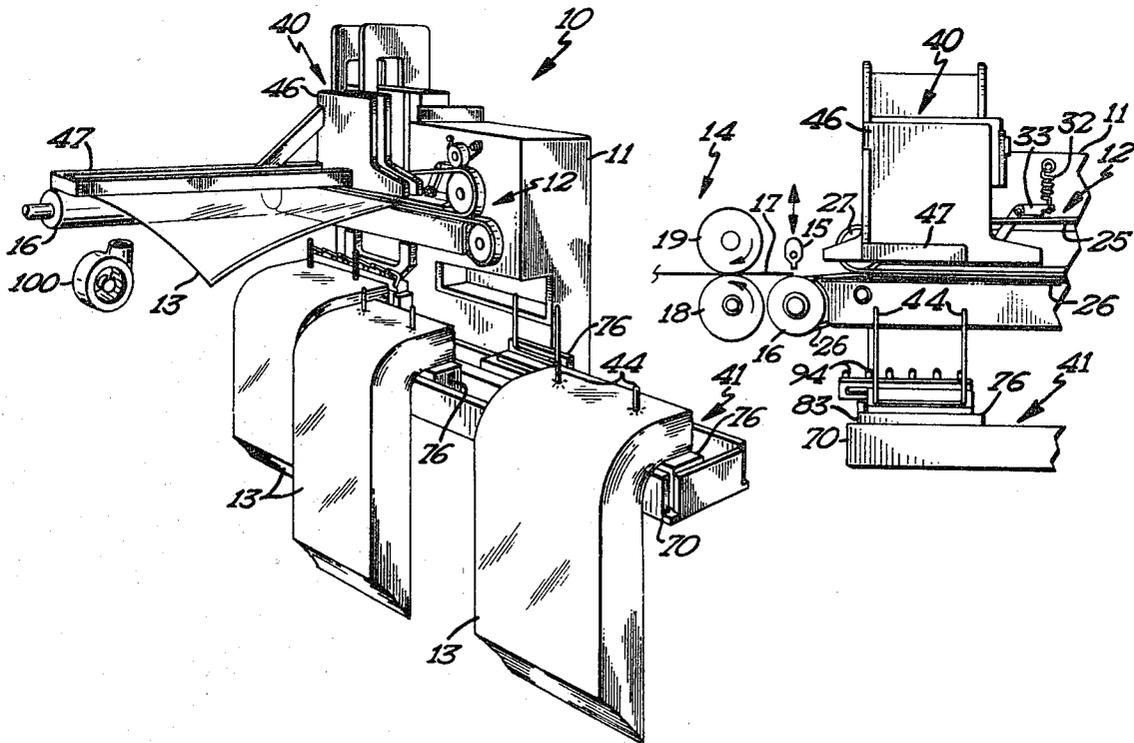
[54] **WICKET LOADER**
4 Claims, 15 Drawing Figs.

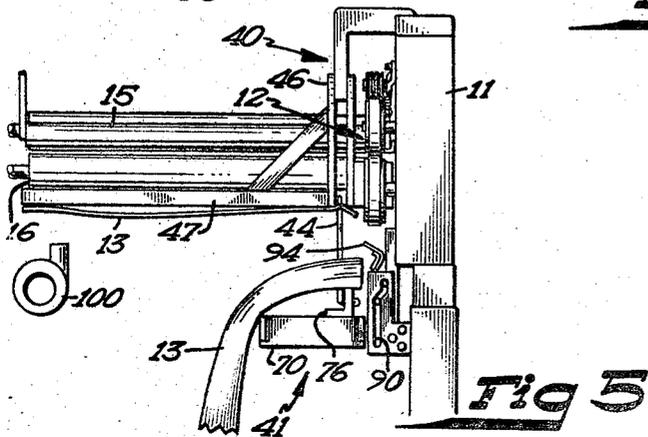
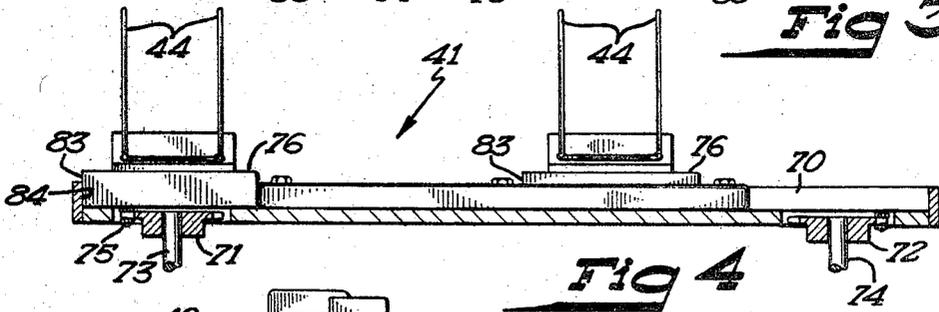
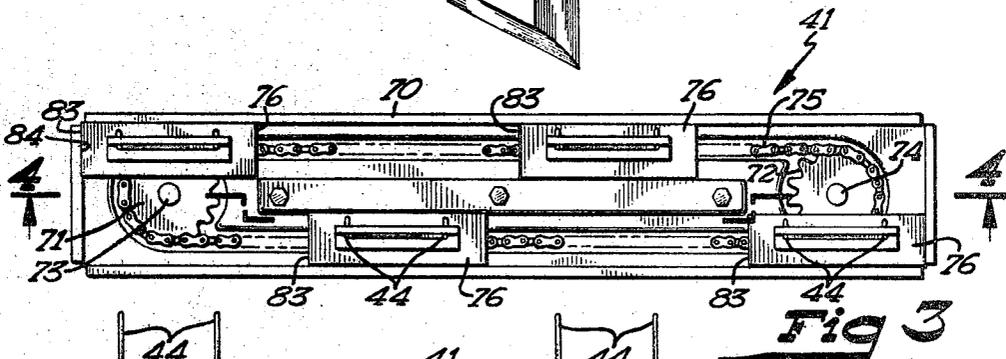
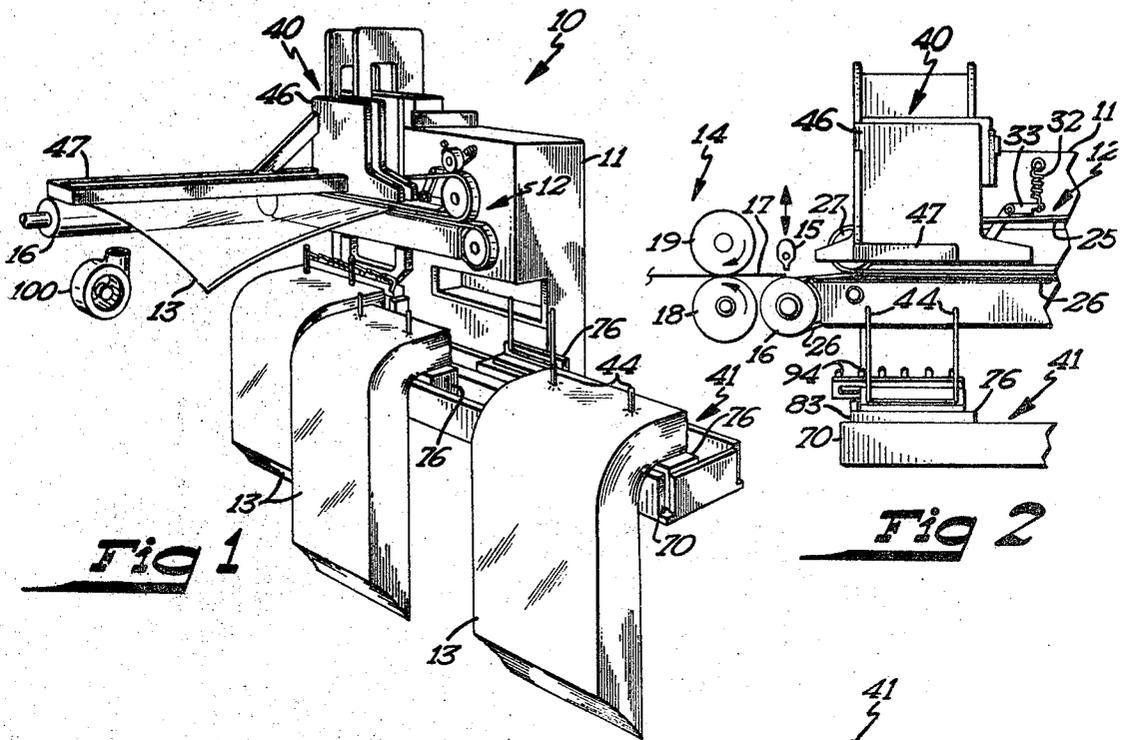
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 B65g 61/00; B65h 31/26
 [50] Field of Search..... 93/93 (.3),
 93 (HT), 27, 84, (88); 83/30, 95, 660;
 156/252—3; 270/12, 45; 336/58; 198/178

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ABSTRACT: Apparatus for receiving and loading a stack of film articles uniformly and in superimposed relationship upon a wicket or other support with retaining means being provided for forming a stack of said film articles, the apparatus being arranged in combination with conveying means arranged to sequentially deliver articles fabricated from said material along a certain directional axis, and including handling and stacking means for the articles. The apparatus includes means to deliver the articles to a discharge station, the discharge station having means for retaining the articles in generally captive relationship, pickup means adjacent the discharge station and including traveling guide means for intermittently releasably retaining an edge surface portion of said thin plastic sheet material for transporting the retained article to a sheet article stacking means. The sheet article stacking means comprises a shoe adapted for reciprocatory up and down motion, the shoe being arranged to strike said sheet article, remove it from the pickup means, and stack it upon a receiver. The receiver is arranged to move the individual superimposed stacked articles intermittently from said receiving zone.





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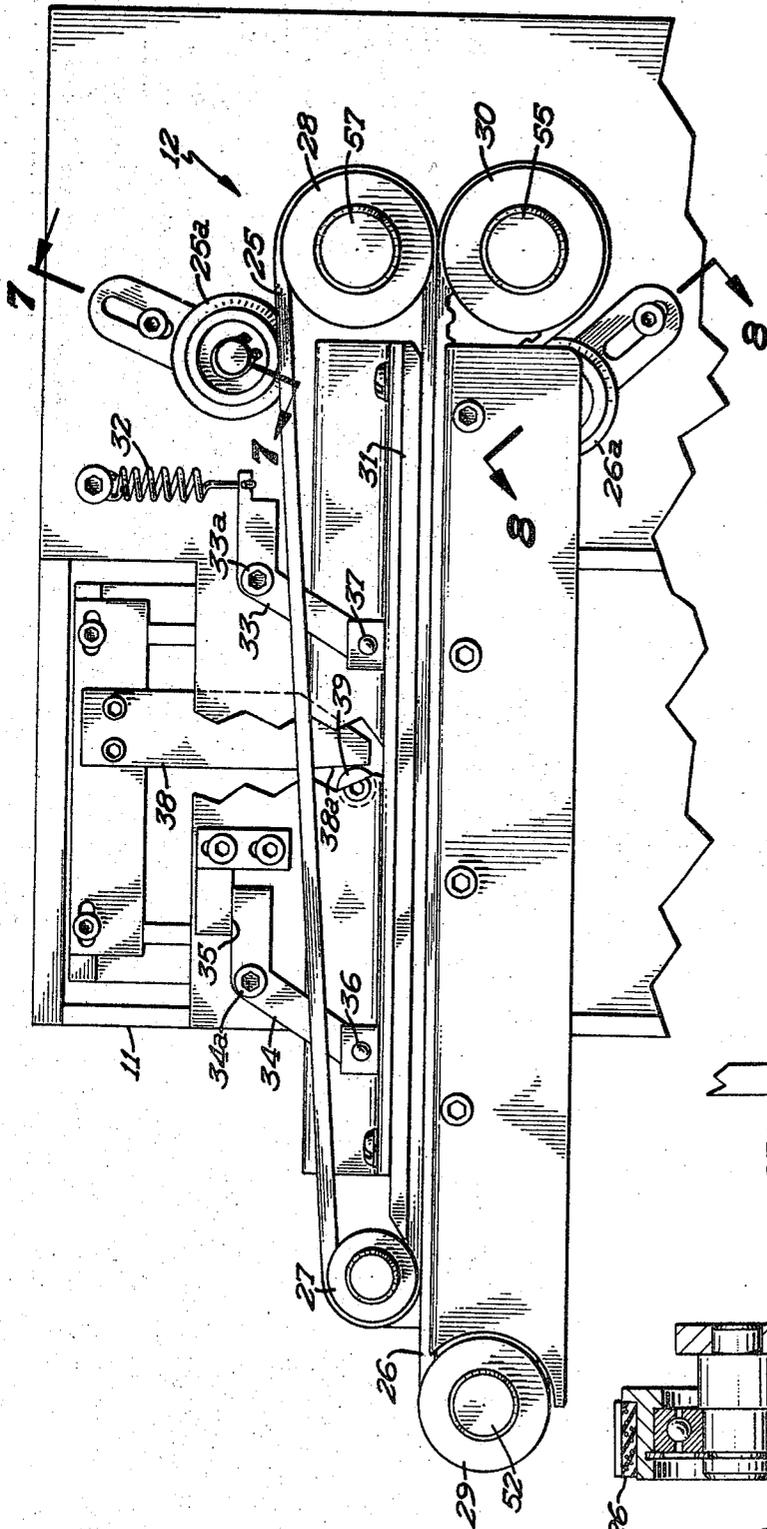


Fig 6

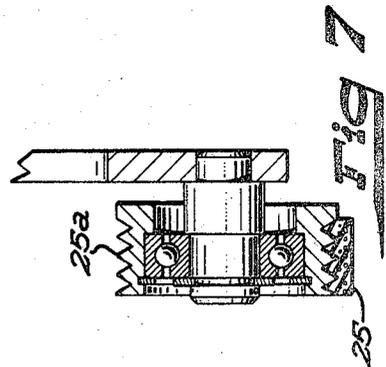


Fig 7

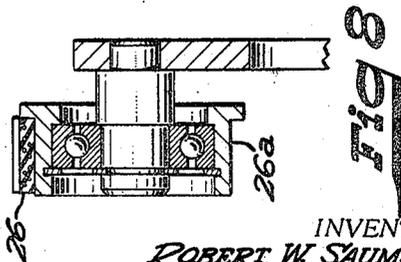


Fig 8

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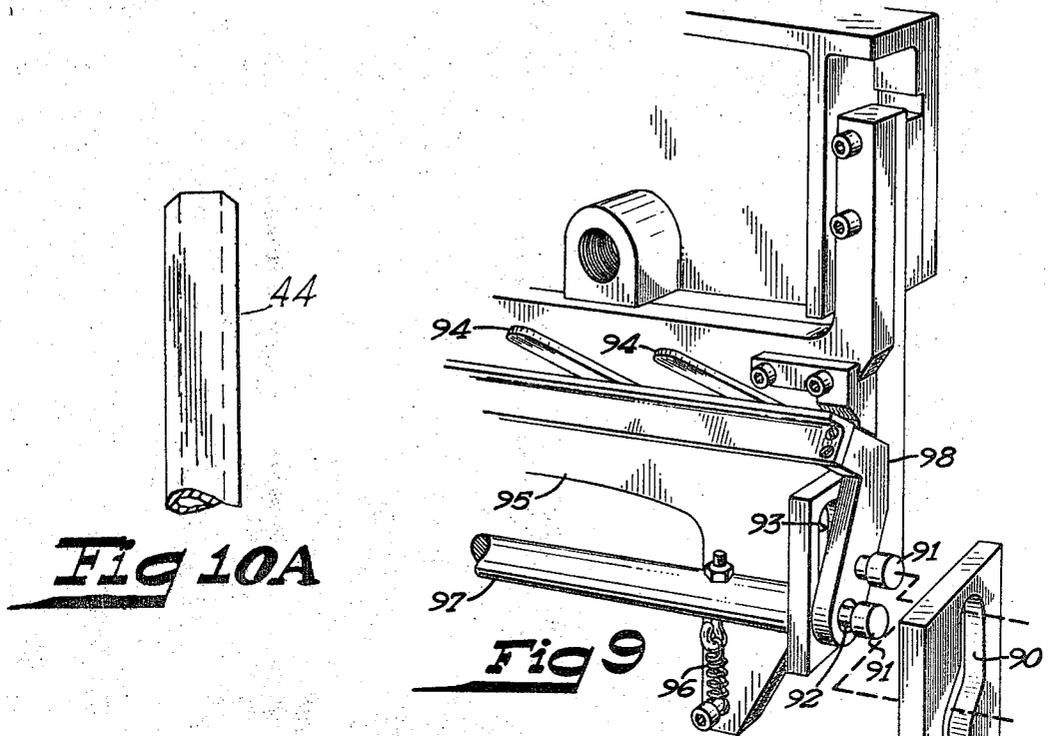


Fig 10A

Fig 9

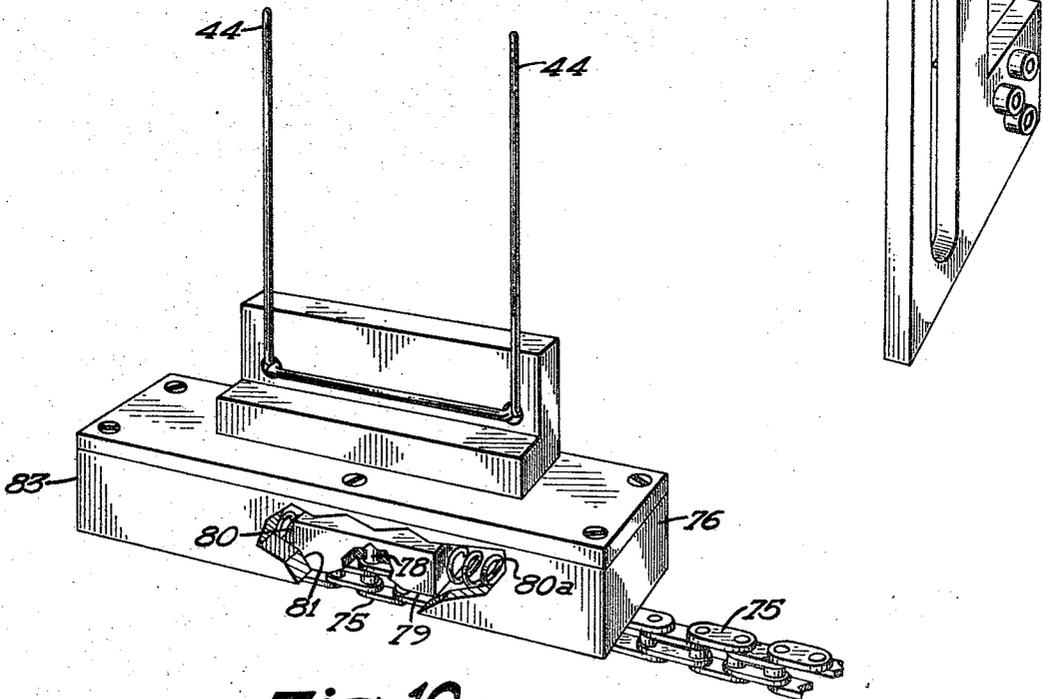
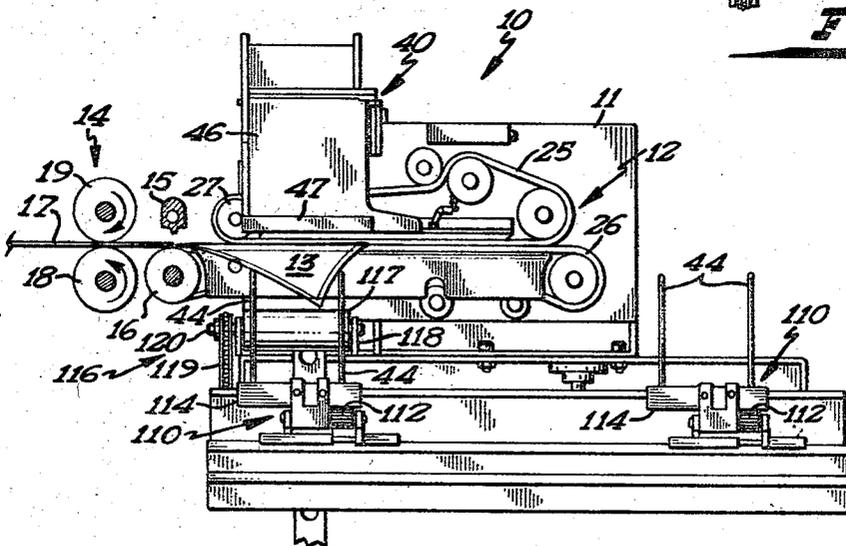
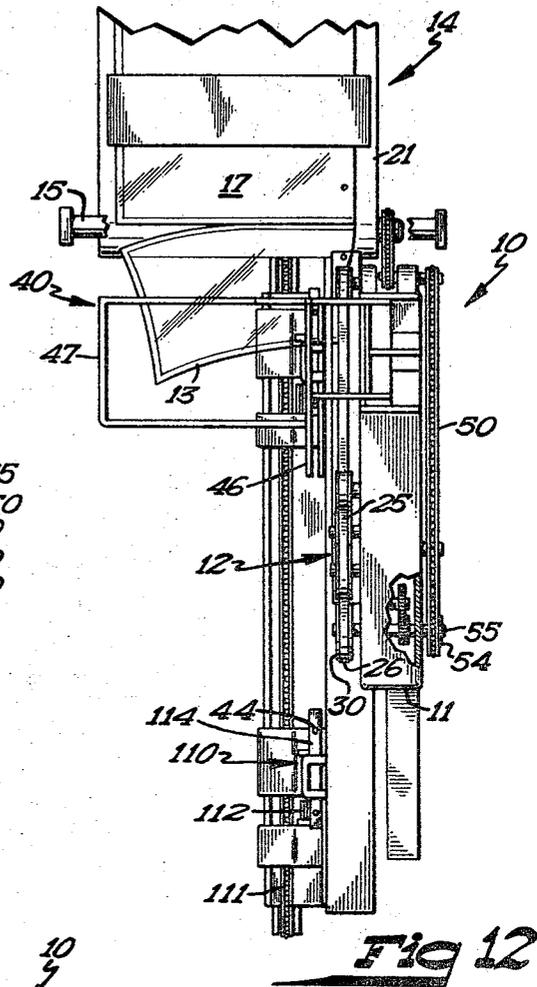
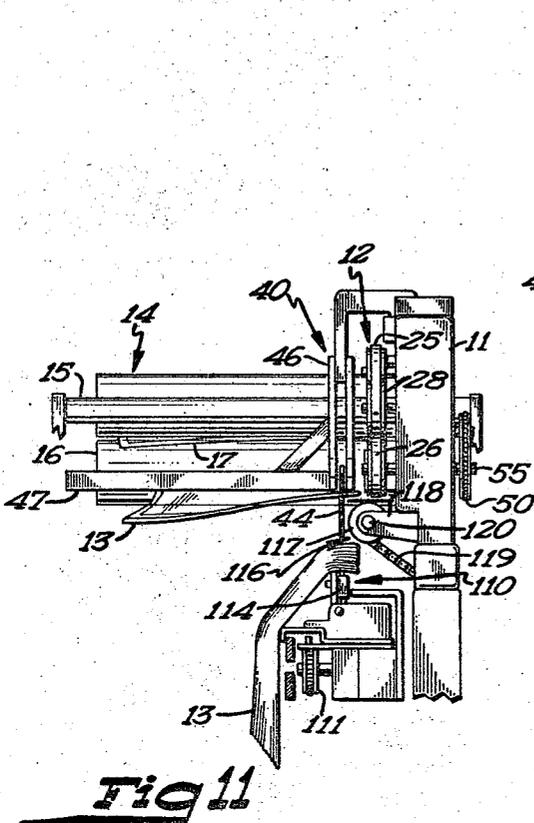


Fig 10

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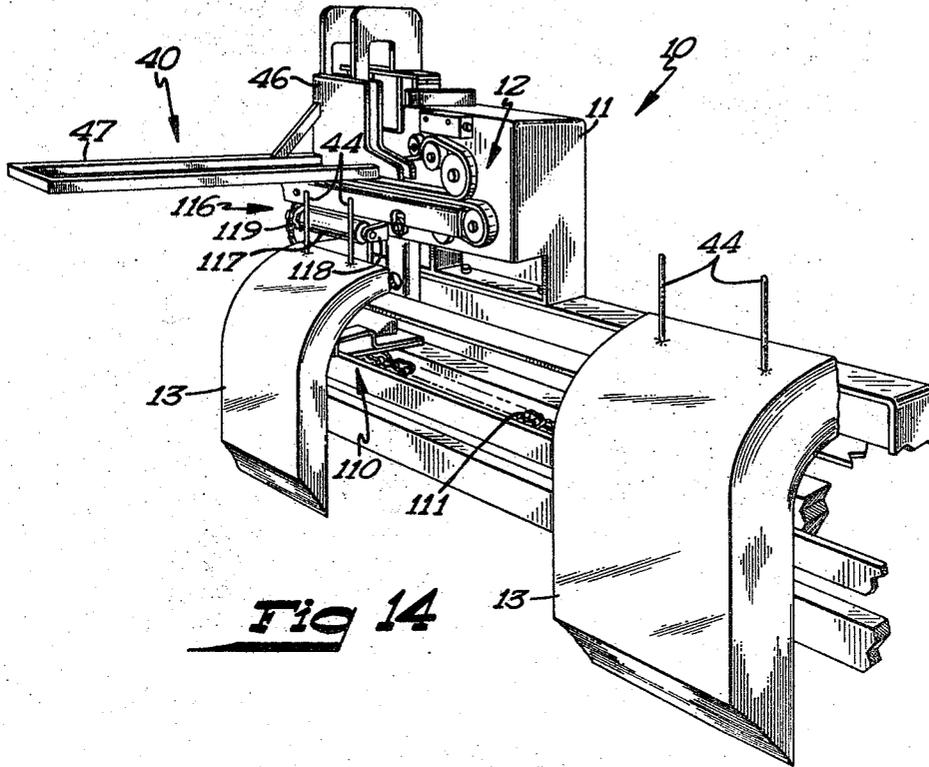


Fig 14

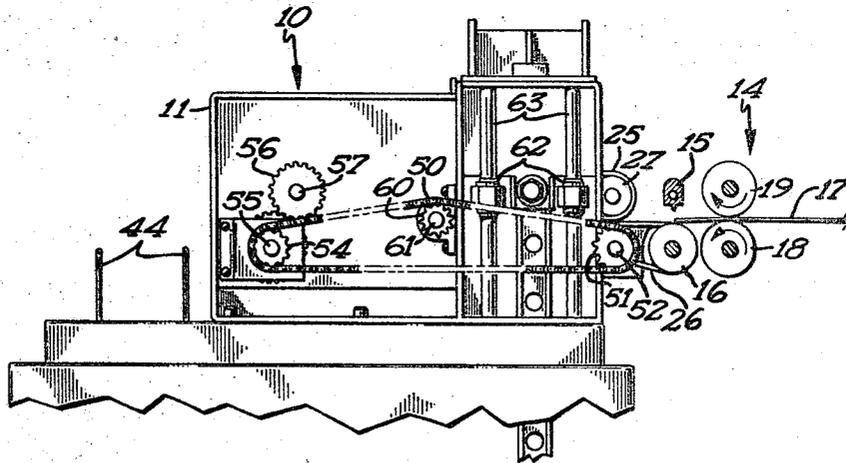


Fig 15

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WICKET LOADER

An apparatus for receiving and loading a stack of film articles uniformly in superimposed relationship upon a wicket or other support with means being provided for forming a stack, and with each member of the stack being received in rapid sequential precise superposed relationship thereon.

The invention relates specifically to the stacking of film article, such as peripherally formed articles, the stacking having reference to an accumulated stack. The individual articles are finely registered or otherwise arranged on a suitable receiving means. In addition, means are provided for receiving, collecting and ultimately permitting the discharge therefrom of these uniformly registered stacks.

In the packaging of various products, it frequently becomes desirable to provide means for conveniently arranging a number of receptacles, such as open-top bags fabricated from plastic film or the like, for providing this particular package. In order to satisfactorily and conveniently handle and work with these bags, it is frequently found desirable to arrange these bags in superimposed stacked relationship upon a suitable receiving means. This receiving means may be a loading pin, a single upstanding prong, twin or U-shaped carrier pins commonly called a "wicket," or if desired the individual bags may be deposited in a carefully controlled zone or area for other treatment prior to their being moved as a unit.

Normally, the arrangement of these individual bags upon a loading stem or the like, such as a wicket, creates substantial problems in the stacking, this being due to the tendency of thin film bags to fold upon themselves, or otherwise become difficult to handle or stack rapidly. These problems are complicated when it is attempted to move or remove these film bags from a converting machine at a rapid rate, particularly at a rate which is in accordance with that high rate of speed now capable in bag making equipment.

It will be seen, therefore, that the invention relates to a loading mechanism or bag-collecting mechanism which is particularly adapted for the receiving, collecting and stacking of loads of individual finished bags.

As indicated, this apparatus may be used in combination with a bag converting apparatus, and is well adapted for such use. In this connection, reference is made to U.S. Pat. No. 2,947,345 which describes the details of one suitable converting apparatus for use in conjunction with the device of the present invention.

Therefore, it is an object of the present invention to provide an improved apparatus for handling and stacking sheet articles, particularly plastic sheet articles fabricated from thin flexible plastic sheet which are received or collected so as to be discharged ultimately in uniformly registered stacks.

It is a further object of the present invention to provide a means for handling, collecting, and uniformly stacking plastic sheet bags on a wicket or similar collecting arrangement.

It is yet a further object of the present invention to provide an improved apparatus for handling and stacking plastic sheet articles in generally uniformly superimposed stacked relationship, the apparatus being adapted to handle and stack said articles uniformly at high rates of speed.

It is still a further object of the present invention to provide an improved sheet article stacking means which includes a sheet article stacking station, and is provided with a stacking shoe arranged in superimposed relationship over the stacking station, the shoe being adapted to intermittently move reciprocally so as to strike the plastic sheet article after its substantial formation and while the article is being held captive along one edge surface, and thereupon arrange the uniform stacking of the articles upon generally upstanding receiving pins.

It is yet a further object of the present invention to provide a sheet article stacking arrangement which operates in conjunction with a welding bar means, the stacking arrangement being adapted to withdraw sheet articles from the welding station after substantial completion or formation of the weld and thereafter immediately transfer the sheet articles upon a stacking pin means.

Other and further objects of the present invention will become apparent to those skilled in the art upon a study of the following specification, appended claims and accompanying drawings, wherein:

FIG. 1 is a front perspective view of a sheet article stacking apparatus prepared in accordance with the preferred modification of the present invention;

FIG. 2 is a detail front elevational view of the sheet article receiving mechanism shown in FIG. 1;

FIG. 3 is a top elevational view of the wicket pin transporting track arrangement with the sheet articles shown removed therefrom;

FIG. 4 is a detail vertical sectional view taken along the line and in the direction of arrows 4-4 of FIG. 3;

FIG. 5 is a detail end view on a somewhat reduced scale of that portion of the apparatus shown in FIG. 1 and showing the stacking shoe or stomper in a downwardly extended disposition;

FIG. 6 is a detail elevational view of the transfer portion of the apparatus utilized to carry the plastic sheet articles from the converting station to the stacking station in the apparatus shown in FIG. 1, this view showing the stacking station removed;

FIGS. 7 and 8 are detail sectional views taken along the line and in the direction of the arrows 7-7 and 8-8 respectively of FIG. 6;

FIG. 9 is a detail perspective view, partially exploded, and on a slightly enlarged scale, illustrating the details of the cam finger arrangements utilized to control the disposition of the sheet articles as they are placed upon the stacking arrangement;

FIG. 10 is a detail perspective view, also on a slightly enlarged scale, illustrating the details of the slide block assembly used to retain a wicket member therein, this view being partially broken away;

FIG. 10A is a fragmentary detail elevational view of a portion of a hollow pin used to receive sheet articles;

FIG. 11 is a view similar to FIG. 5, and illustrating details of a modified means by which the inner edge portions of the bag stacks may be held in proper vertical alignment, and showing the stacking shoe or stomper in a downwardly extended disposition;

FIGS. 12 and 13 are top and front elevational views respectively of that portion of the apparatus shown in FIG. 11 and showing the stacking shoe or stomper in an upwardly extended or normally up disposition;

FIG. 14 is a front perspective view of a bag stacking device having a somewhat modified form of stack receiving mechanism associated therewith; and

FIG. 15 is a rear elevational view of a portion of that apparatus shown in FIGS. 1-14, with a somewhat modified form of coupling to the converter.

In accordance with the preferred modification of the present invention, and with particular attention being directed to FIGS. 1-10 of the drawings, the plastic sheet handling apparatus generally designated 10 includes a frame apparatus 11 supporting a pickup means 12 for receiving and handling thin plastic sheet articles 13, these articles being received or delivered into the pickup means from or by the draw or feed roll arrangement 14. It will be observed, particularly at FIGS. 2, 13 and 15, that this arrangement is terminated by the presence of a reciprocity movable welding bar 15 extending generally across the entire extent of the draw roll area, the welding bar 15 operating in conjunction with a converting operation and including a sealing roll 16. The thin plastic film material 17 shown along the draw roll area in FIG. 13 is carried by the rotating draw rolls 18 and 19.

With particular attention being directed to FIGS. 1, 2 and 6, and referring in detail to the pickup means generally designated 12, this portion of the apparatus which functions as a transfer means between the draw rolls and the stacking zone includes a pair of endless belts 25 and 26 which are carried along a predetermined path by means of the pulleys 27, 28, 29 and 30. These pulleys define the path traversed by the belts 25

and 26 and provide a nip area therebetween. A portion, such as an outwardly extending lip portion of the individual plastic film articles formed from the film material 17 is, therefore, held in captive relationship in the nip formed between the belts 25 and 26, and it is frequently desirable to hold the extent of travel of the lower belt such as the belt 26 to a point more closely adjacent the discharge area of the draw roll mechanism. In order to control the clamp pressure in the belts 25 and 26, and accordingly the force in the nip area therebetween, means are provided for applying a force which may be released from time to time on one of the belts, such as the belt 25, this means being in the form of a reciprocating shoe member 31 which is maintained in a normal force applying relationship to the belt 25 by means of the resilient spring member 32. Bell cranks 33 and 34 are utilized to rock the pressure applying shoe 31 in an upwardly and downwardly direction about their respective pivot points 33a and 34a respectively. A vertically adjustable stop member 35 is provided having a surface which meets the upper surface of one of the arms of the bell crank 34. It will be appreciated, of course, that pivot means are provided at the shoe base clamps as at 36 and 37, in order to permit proper movement of the shoe 31. In order to establish periodic releasing of the downward force of the shoe 31, a reciprocating cam 38 is provided which is coupled to the stomper shoe member 40 and thus operating in time therewith. The cam 38 has a cam surface 38a which functions against the cam follower 39, cam follower 39 being in turn coupled to the shoe 31 by means of a suitable linkage, not shown, coupled to pivot 36, for example. Thus, at the time the shoe member 40 moves reciprocatorily downwardly, for a reason more fully disclosed hereinafter, the immediate disposition of the cam 38 will determine the amount of clamping pressure available between the belt 25 and the belt 26, this clamping pressure being the force available for holding portions of the plastic sheet articles in the nip of the belts.

With attention being directed to FIGS. 7 and 8, it will be seen that the belt tensioning apparatus includes a pair of selectively movable pulleys 25a and 26a for use in conjunction with their respective belts. As indicated in FIG. 7, the belt 25 may be provided with a serrated surface in order to better grasp the sheet articles.

Referring now to FIGS. 1-10, wherein the article stacking means is described in some detail, it will be observed that this feature of the apparatus includes a shoe or stomper member 40 arranged for reciprocatory up-and-down motion, and further includes a wicket transfer arrangement shown generally at 41 in FIGS. 3 and 4. The wicket transfer arrangement 41 operates in synchronism and in conjunction with the reciprocating shoe assembly 40, and after a sufficient number of plastic articles or bags have been received on an individual wicket assembly in the arrangement 41, as determined by a suitable counting apparatus, now shown, the individual wicket elements will move from a loading position to a position in or directed toward an unloading position. During the period of time of travel of the mechanism 41, the remaining drive portions of the assembly 47 should reasonably be held temporarily idle.

With the individual bags or plastic sheet articles moving from the conveyor 14 and into the pickup means 12 by means of the belts 25 and 26, the stacking arrangement will remove the bags from the pickup means and deposit them in a suitable uniform superimposed relationship upon the bag receiving means such as the upstanding wicket pins such as are shown at 44 in FIG. 4. With the pickup means at idle, the wicket pins 44 are transferred by means of conveyance apparatus to be more fully described hereinafter, from the loading position as indicated in the upper lefthand portion of FIG. 3 to a discharge position in the lower right-hand position in the same FIG. If desired, a multitude of pickup pin assemblies may be utilized, as illustrated.

Referring now in detail to the stacking means, such as shown in FIGS. 1 and 2, this means includes a reciprocatorily

moving shoe carrying member generally designated 40 including a frame element 46 and a sheet article striking shoe or stomper member 47. The sheet article striking shoe 47 may be provided with serrations along at least the rear face thereof, particularly as shown in FIG. 2. These serrations assist in positive grasp of the article surface and appropriate removal of the bags from between the belts 25 and 26 as they come into contact with the shoe and are driven downwardly into stacked arrangement on the individual wicket pins. If desired, additional serrations may be provided, such as on the lateral surfaces of the shoe, however it has been generally found satisfactory to provide these serrations at the rear face thereof only. The shoe 47 may be provided with additional cross members, if desired. As indicated previously, the reciprocating shoe together with its frame mechanism 46 operates in synchronism with the conveyor mechanism 14, and is arranged to strike the sheet articles as they lie substantially at dwell in the system, and while the cam 38 releases the clamp pressure established in the nip formed between the belts 25 and 26. Also, it is possible that the bags can be prepunched in order that they will be more readily received on the individual upstanding pins 44, this being in accordance with the normal operation of such a system. If desired, the individual sheet articles, such as bags, can be driven onto the upstanding pins in such a manner that they will be perforated upon contact therewith.

Particular attention is now directed to FIG. 15 of the drawings wherein the driving mechanism for the article stacking means as well as for the pickup means is illustrated in detail. While the pickup means may be driven off the same source of power which is utilized in the draw roll and converting apparatus, it may also be equipped with its own source of driving energy. The drive mechanism utilizes principally, an endless link chain 50 which is operatively coupled with a suitable sprocket 51, sprocket 51 being arranged for axial rotation with the journaled shaft 52. The endless chain 50 likewise engages sprocket member 54 which is suitably journaled for rotation, particularly on the shaft 55. On the opposite surface of the shafts 52 and 55 respectively are coupled the driven pulleys 30 and 28 respectively. Gear 56 is likewise journaled for rotation about shaft 57, shaft 57 extending through the frame means 11 and being cooperatively coupled with the pulley 28. In addition, the take-up sprocket 60 is journaled for rotation upon the shaft 61. In addition, a main drive mechanism utilizing a separate motor, not shown, is coupled between the mechanism driving the welding bar 15 and the support sleeves 62-62 which are utilized to provide the reciprocatory up-and-down motion of the article stacking means generally designated 40. Therefore, the motion of the welding bar is synchronized with the motion of the article stacking means by a suitable mechanical and electrical coupling linkage, such as, for example, a linkage obtained from coupling a crank arm radially outwardly on a rotating wheel, such as may be accomplished in connection with the drive for the welding bar 15. Similarly, the energy for driving the sprocket member 51 and accordingly the endless chain 50 is derived from the same source of power which drives the draw roll section 14 of the bag making machine such as, for example, from the draw rolls 18 and 19.

In order to synchronize the operation of the entire apparatus and permit cycling of the wicket loading apparatus 41, suitable counting means will be interposed between the mechanism driving the conveyor means, the pickup means, and the article stacking means in order that the conveyor means 14 may be held idle while the individual loads of sheet articles such as bags are transferred from a loading position to an idle station or ultimately to an unloading position. With particular attention being directed to FIGS. 3, 4 and 10 of the drawings, the wicket assembly 41 includes a suitable framing apparatus 70 which supports the pair of horizontal sprocket wheels 71 and 72 upon the individual vertical shafts or axes 73 and 74 respectively, the chain member 75 being interposed in driven relationship therebetween. At suitable evenly spaced positions along the endless chain 75, a plurality of wicket

retaining boats 76-76 are secured, these boats moving with the endless chain 75. With attention being directed to FIG. 10 of the drawings, each of the boats carries a coupling sprocket 78 which is secured or coupled at one end to a specific link in the chain 75, and is further coupled or secured at the other end to a header 79 within the individual boats 76. Resilient spring member 80 is also coupled to the header 79 and axial or longitudinal motion of the sprocket and header 78 and 79 is permitted within the confines of the slot 81 formed within the carrier 76. Thus, as the carrier 76 approaches the loading position, its forward end 83 strikes the inner surface 84 of the frame 70, and causes compression of the spring member 80 forwardly of the sprocket 78 and header 79. It is desirable that a certain amount of compression be present in spring 80 while the boat 76 is in the loading position, thus contributing to stability of positioning in the loading disposition. Thus, continuous motion in one plane, in a rectangular orbit or configuration, is possible with the wicket pin carrier mechanism 76 not being required to undergo any unusual change in direction in accordance with the motion of the continuous chain 75. The disposition in the loading is, of course, followed in the unloading position with maximum tension in the spring 80 existing at the top-dead-center positions of the chain 75 disposed in between the extended lateral runs or spans thereof.

Particular attention is now directed to FIGS. 1 and 9 of the drawings wherein the structure and the particular action of the vertically moving combing fingers is disclosed. In FIG. 9, a cam track or guide 90 is shown with cam following pins 91 arranged therein. A second cam following pin is shown at 92, pin 92 following the track 93 formed in bracket 95 which is in turn coupled to the frame member 46, and adapted for reciprocatory up-and-down motion with the stomper or shoe 40. Accordingly, as the downward motion of the stomper 40 and frame 46 commences, the relative disposition of the pins 91 and 92 will cause a forward rocking of the individual fingers 94, these fingers then coming horizontally into contact with the top surface of the back or rear edges of bags forming the bag stack 13. This contact is maintained while the fingers 94 move in a downward direction, and in so doing, tend to compress the edges of the bags and in compressed relation to each other and maintain them in proper oriented and flat disposition. The return motion, while following the same path has not been found to interfere with the proper stacking of the bag stack 13, particularly along the free edge surfaces adjacent the wicket pins 44. A resilient spring member 96 is shown which couples the shaft member 97 to the frame member 95, the ends of shaft 97 terminating in the pin 92. As pin 92 is bottomed in the track 93, downward motion of the frame 95 will cause corresponding downward motion of the frame 95 which will cause corresponding downward motion of the fingers 94 which are, as indicated, secured to the framing bracket 98. As the bracket 95 moves downwardly, corresponding downward travel is achieved with the framing bracket 98 and fingers 94. As the individual stacks of articles build up, any unusual height is compensated for in the spring member 96 which permits resilient elevation extension of the fingers 94.

With attention being continued to FIG. 1, a fan is shown at 100, the fan discharge being directed onto portions of the sheet articles or bags as they move from the draw roll area 14 through the pickup means, and ultimately to the article stacking means. It is the purpose of this fan to maintain proper floating orientation and disposition of the outer extremity of these individual bags as they move down the path defined and arranged by the apparatus. The purpose of the fan 100 is to blow a column of air adjacent the corner portion of the bag as at its outer edge, and maintain that corner of the bag in a generally nondrooping configuration or disposition. The blower 100 assists in preventing upward curling of the bag edges. If desired, means may be provided for introducing charged particles, such as positively charged particles, in order to dissipate any static charge which might be generated in the film during its operation.

It has been found desirable to cycle the apparatus in such a way that the downward motion of the article stacking means, including the shoe member 47, occur while the welding bar 15 and sealing roll 16 while these latter members are stationary. This section has been found to enhance the quality of the weld, and also enhance the stacking capability of the article stacking means.

In order to facilitate the proper disposition of the film members as they leave the nip area between the welding bar 15 and the sealing roll 16, the sealing roll 16 is run at a somewhat greater peripheral velocity than the main draw rolls 18 and 19.

With attention being directed to FIG. 15 of the drawings, it will be observed that the belt 26 is extended so as to engage the outer periphery of a portion of the sealing roll 16. In this arrangement, an individual journal is established for a carrier pulley for the belt 26 on sealing roll 16 in order to accommodate and permit relative motion, as required by the specific timing, between the main portion of the sealing roll 16 and that axial portion receiving the belt 26. Thus, a small portion of the seal length is made or formed on the surface of the belt 26, and this seal is made so as to achieve some degree of bonding between the seal area per se and the outer exposed surface of the belt 26. This amount of bonding will assist in retention of the individual bag member on the surface of the belt for its movement into the discharge zone. It will be appreciated that this arrangement provides for a maximum degree of flexibility of utilization of this stacking assembly. Since the drive is normally taken from the draw roll source, adaptation or utilization of this system is still readily possible in converting apparatus utilizing the draw roll which may be split into individual operating segments or portions.

Attention is now directed to FIGS. 11-15 of the drawings wherein a somewhat modified form of carrier is provided for the wicket portion of the apparatus. In FIG. 11 the wickets are carried by the carrying members generally designated 110, these carriers being supported on an endless belt or chain 111. This chain 111 has upper and lower spans and in order to accommodate the pins in the lower span, a toothed pinion 112, as shown in FIG. 13, is utilized to pivotally rotate a wicket carrier bracket 114 from a horizontal position to a vertical upright position, the horizontal position being achieved during travel of the member 110 while in the lower span. The pinion 112 may be rotated by means of a suitable mating rack disposed at either end of the main upper and lower spans of the endless chain 111. With continued attention being directed to FIGS. 12 and 13, it will be observed that an alternate technique is provided for maintaining the inner lips of the bags in proper disposition, this arrangement being shown generally at 116. This device includes a cylinder 117 which is journaled for rotation in the frame as at 118, and driven by the endless chain 119 engaging a sprocket coupled to the support shaft 120 for the cylinder 117. If desired, cylinder 117 may be provided with a textured or roughened surface to assist in the arranging of the bag lips.

A typical operation, by way of example, for each of the apparatuses disclosed herein will now be given. For a typical two-layer film weld, each film being 1 mil polyethylene, a bar temperature of between 700° F. and 800°, with a weld dwell time of between about 0.04 and 0.05 seconds has been found desirable. This action is that which occurs in a bag making machine running at 150 cycles per minute, with the sealing occurring during a 40° stroke, for example, of the main cycling wheel. Thus, a dwell time of appropriate length with contact being maintained in the sealing mechanism prior to the time the shoe 47 strikes the bag being held therebeneath is achieved.

If an apparatus for conversion of film is provided with more than one treating station, such as is common in the converting apparatus described in U.S. Pat. No. 2,947,345, it may be desirable to operate more than one loading device at the end thereof. The pickup device will then operate off of the appropriate portion of the draw roll for proper synchronization.

If desired, various sensors may be provided to detect the presence of a loading pin or wicket, as well as for the presence of a loaded wicket. These sensors may be disposed along and adjacent to the conveyor belt which carries the individual slide blocks or boats, and their actuation may be utilized to set the various operating portions of the apparatus at idle.

In order to provide for versatility in stack height, it frequently may be desirable to provide a means for raising or lowering the elevation of the conveyor mechanism 41 relative to the other portions of the device. Thus, by controlling the height of that conveyor, various stack heights are possible.

As another technique for accomplishing the use of wicket pins of various shaft lengths, the bag receiving means may comprise or include a pair of hollow axially slotted pins which are arranged in generally upstanding relationship to the conveyor as shown in FIG. 10A, the hollowed portion being adapted to receive or otherwise retain a wicket pin arrangement. Thus, the upper extremity of the bag receiving means will always lie at a constant distance beneath the pickup means and will enable more consistent results to be achieved without requiring additional adjustment steps when varying size wicket pin or receiving arrangements are being considered. In this device, it will be appreciated that means are provided for achieving easy entry and withdrawal of the wicket pin arrangement from the generally upstanding hollow axially slotted wicket receiving pins.

While the stomper mechanism is normally provided with a fixed reciprocatory path length, it may, in certain instances, be desirable to arrange for extending or decreasing the length of this path in order to accommodate certain specific types of flexible sheet articles. Such an adjustment would provide for added versatility in the overall device.

It will be appreciated that the specific examples provided herein are for purposes of illustration only, and that those skilled in the art may depart from these specific examples without necessarily departing from the spirit and scope of the present invention.

I claim:

1. In combination with conveying means arranged to sequentially deliver articles fabricated from thin flexible plastic sheet material along a certain generally horizontal directional axis of travel, the finished articles having a welded zone disposed along and adjacent one lateral side surface thereof; handling and stacking means for said thin plastic sheet articles comprising:

a. means arranged to deliver said articles to a welding station having a welding bar adapted to rest at dwell on the surface of said plastic sheet article to weld the article and retain the article in generally captive relationship, pickup means immediately adjacent said welding station and including a pair of superimposed continuous belts having reciprocatory pressure applying means having a belt contacting surface with bias means arranged to urge said belt contacting surface toward said belt for forcing said belts together to form a nip zone therebetween, said bias means being further arranged to intermittently move said belt contacting surface away from said belt, the arrangement providing for intermittent releaseable retention of at least one edge surface of said thin plastic sheet material forming said article and for the continued transporting of said retained article generally along said directional axis of travel from said welding station to a stacking station disposed along a generally predetermined path, the path being arranged along and defining a plane of travel;

b. sheet article stacking means comprising a shoe adapted for reciprocatory up-and-down motion and being arranged in a normal up disposition in superimposed relationship over said plane of travel, and including driving means for moving said shoe downwardly in said reciprocatory motion through said plane of travel, release means functioning in time with said shoe driving means

for actuating said bias means to move said belt contacting surface away from said belt for intermittently relieving the pressure applied by said pressure applying means and for accommodating a separation of said continuous belts for releasing said retained article from the nip of said continuous belts in time with the downward travel of said shoe, with the pressure relieving occurring upon downward motion of said shoe, sheet article receiving means comprising a sheet article receiving zone disposed generally beneath the normal up disposition of said shoe and said plane of travel, said shoe having a sheet article contacting surface and being adapted to remove said sheet article from said pickup means; and

c. means actuated intermittently for moving a plurality of superimposed stacked sheet articles away from said receiving zone.

2. The apparatus as defined in claim 1 being particularly characterized in that said shoe includes means for continuously compressing the plane of said sheet articles received in loaded disposition along said stacking station.

3. In combination with conveying means arranged to sequentially deliver articles fabricated from thin plastic sheet material, the articles having a treated zone disposed adjacent each of the lateral side surfaces thereof; handling and stacking means for said thin plastic sheet articles comprising:

a. draw roll means arranged to deliver said articles to a discharge station and having means for retaining said plastic sheet article in generally captive relationship, pickup means adjacent said discharge station comprising a pair of superimposed endless belts having reciprocating pressure applying means having a belt contacting surface with bias means arranged to urge said belt contacting surface toward said belt for forcing said belts together to form a bite zone therebetween, said bias means being further arranged to intermittently move said belt contacting surface away from said belt, the arrangement providing and defining traveling guide means for the intermittent release of a portion of said thin plastic sheet material retained in said bite zone, said traveling guide means thereby transporting said article from said discharge station to a stacking station disposed along a generally predetermined path defining a plane of travel;

b. sheet article stacking means comprising a sheet article striking shoe adapted for reciprocatory up-and-down motion and being arranged in a normal up disposition in superimposed relationship over said plane of travel, and including driving means for moving said shoe downwardly in said reciprocatory motion through the plane of travel, release means functioning in time with said shoe driving means for actuating said bias means to move said belt contacting surface away from said belt for intermittently relieving the pressure applied by said pressure applying means and for accommodating a separation of said continuous belts for releasing said retained portion of plastic sheet material from said pickup means, the pressure relieving occurring upon downward motion of said shoe in time with the downward travel of said shoe, sheet article receiving means comprising at least one generally upstanding sheet article receiving pin disposed in a normal loading position generally beneath the normal up disposition of said shoe and said plane of travel, said shoe having a sheet article contacting surface and being adapted to transfer said sheet article generally vertically from said pickup means to said article receiving pin; and

c. means actuated intermittently for moving a plurality of superimposed stacked sheet articles while on said receiving means to a point remote from said receiving zone.

4. The combination as defined in claim 1 being particularly characterized in that said sheet article receiving means comprises a pair of generally upstanding sheet article receiving pins.