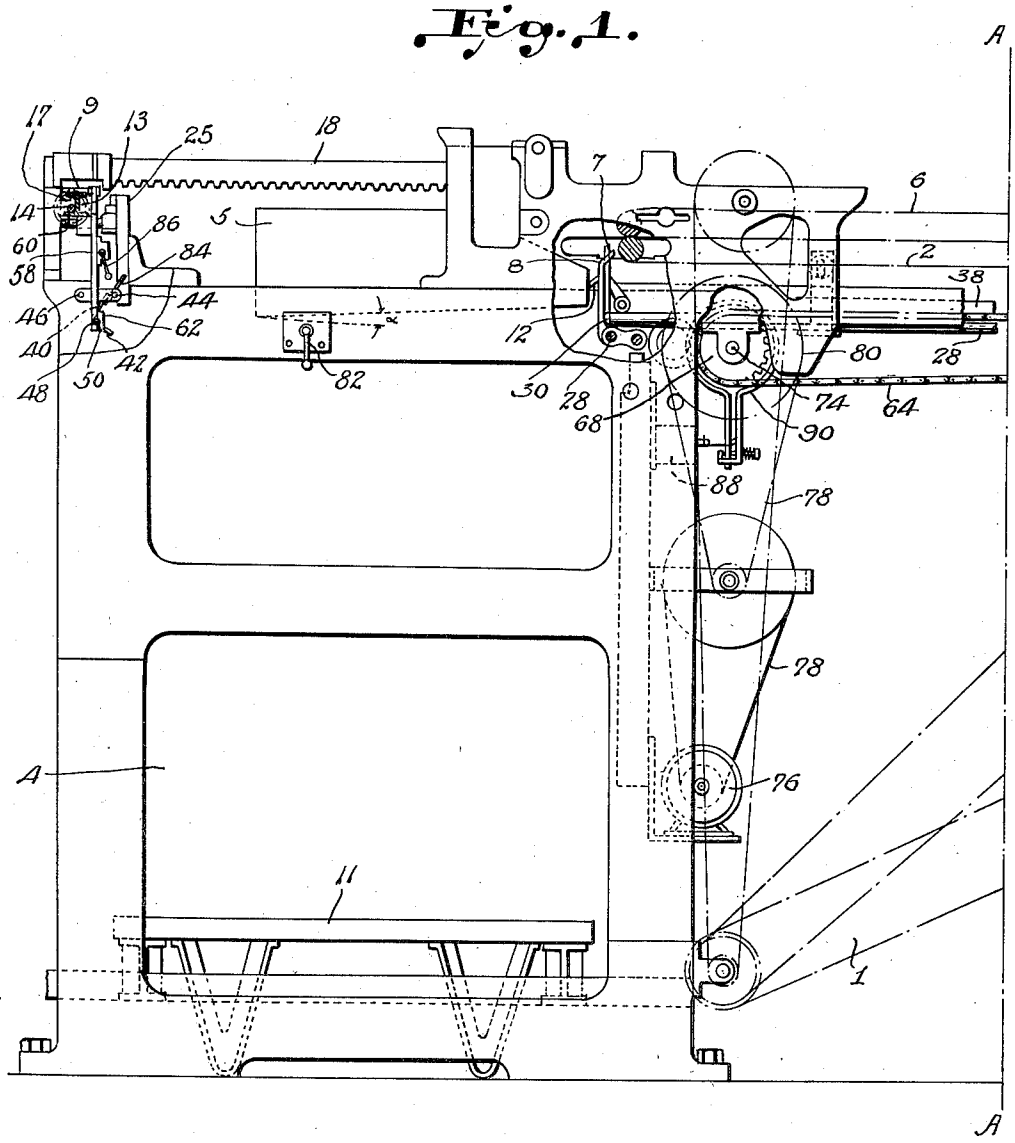
Dec. 28, 1954 M. L. MATTHEWS 2,698,176

FEEDING AND STACKING MACHINE

Filed March 17, 1952 11 Sheets-Sheet 1

Fig. 1.



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Dec. 28, 1954 M. L. MATTHEWS 2,698,176

FEEDING AND STACKING MACHINE

Filed March 17, 1952 11 Sheets-Sheet 2

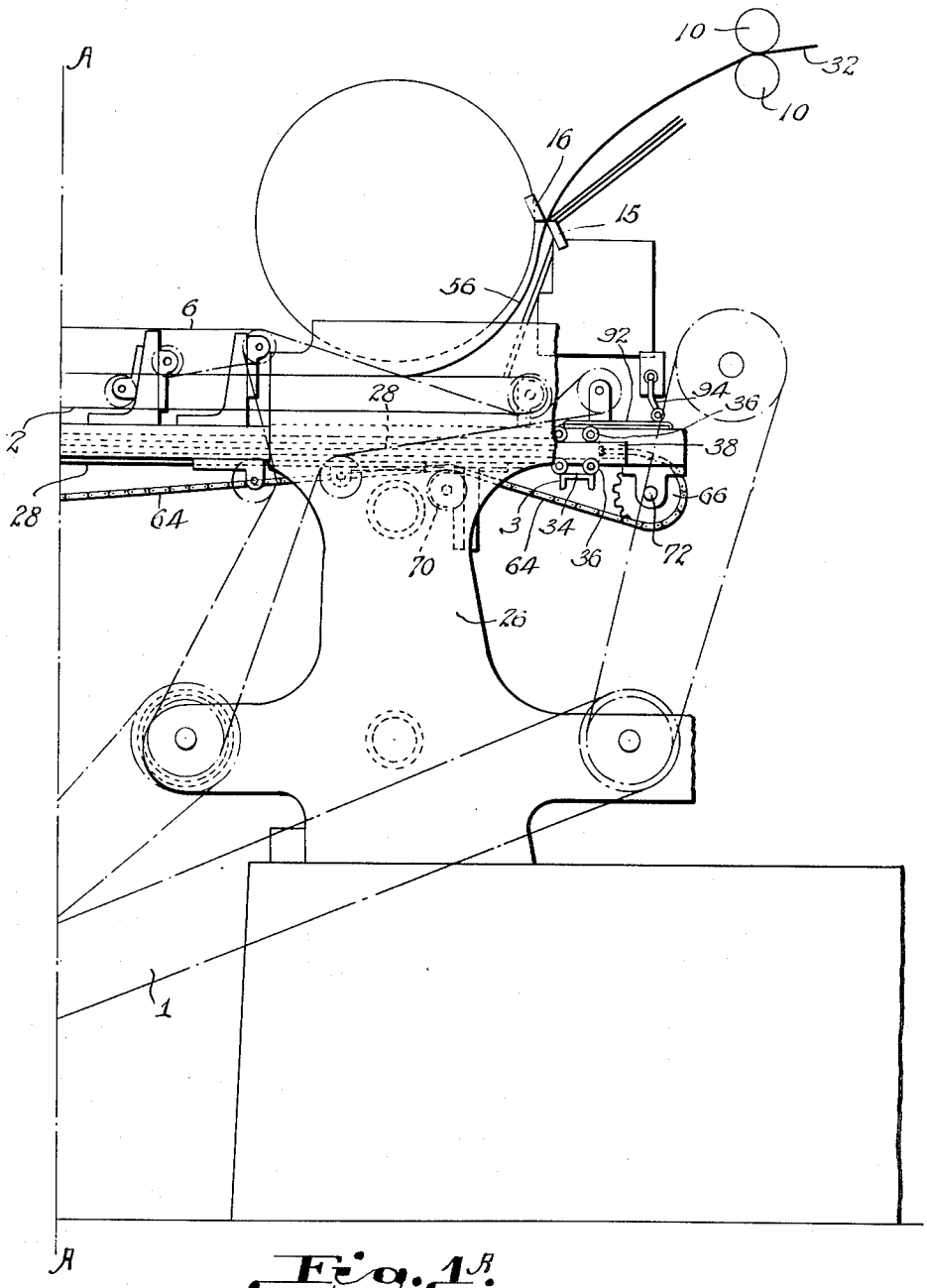


Fig. 1A.

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Dec. 28, 1954 M. L. MATTHEWS 2,698,176

FEEDING AND STACKING MACHINE

Filed March 17, 1952 11 Sheets-Sheet 3

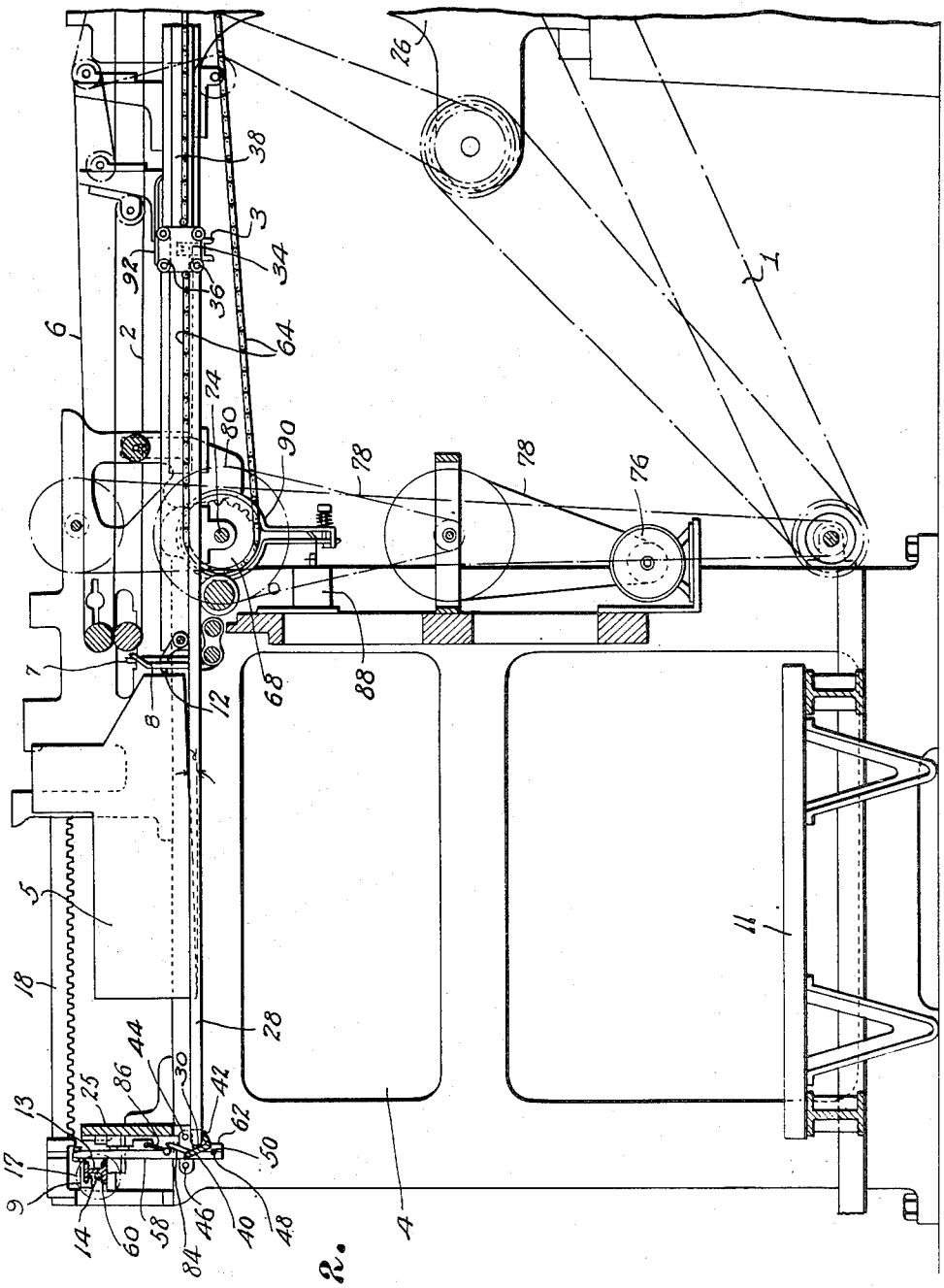


Fig. 2.

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FEEDING AND STACKING MACHINE

Filed March 17, 1952 11 Sheets-Sheet 4

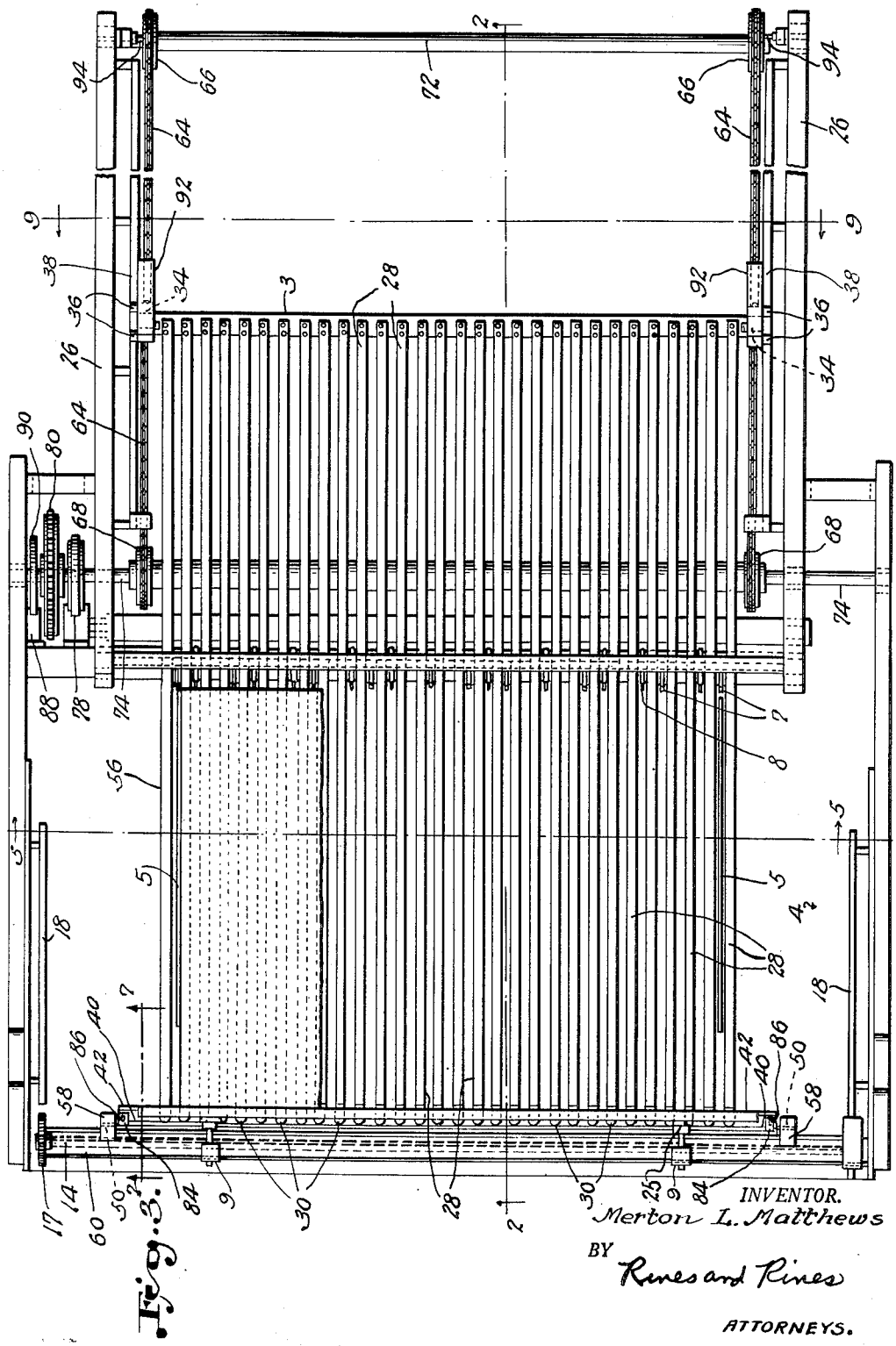


Fig. 3.

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Dec. 28, 1954 M. L. MATTHEWS 2,698,176

FEEDING AND STACKING MACHINE

Filed March 17, 1952 11 Sheets-Sheet 5

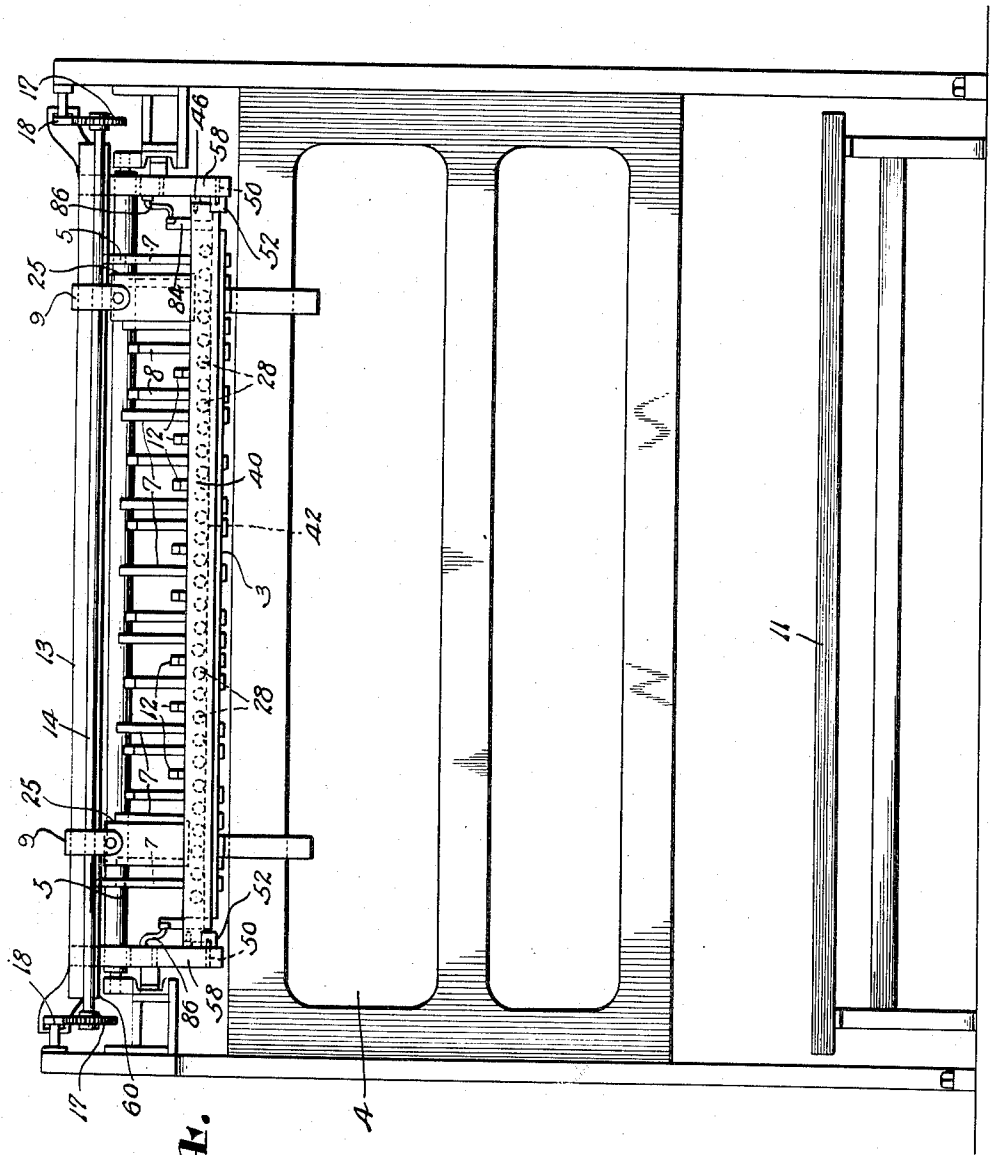


Fig. 4.

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Dec. 28, 1954 M. L. MATTHEWS 2,698,176

FEEDING AND STACKING MACHINE

Filed March 17, 1952 11 Sheets-Sheet 6

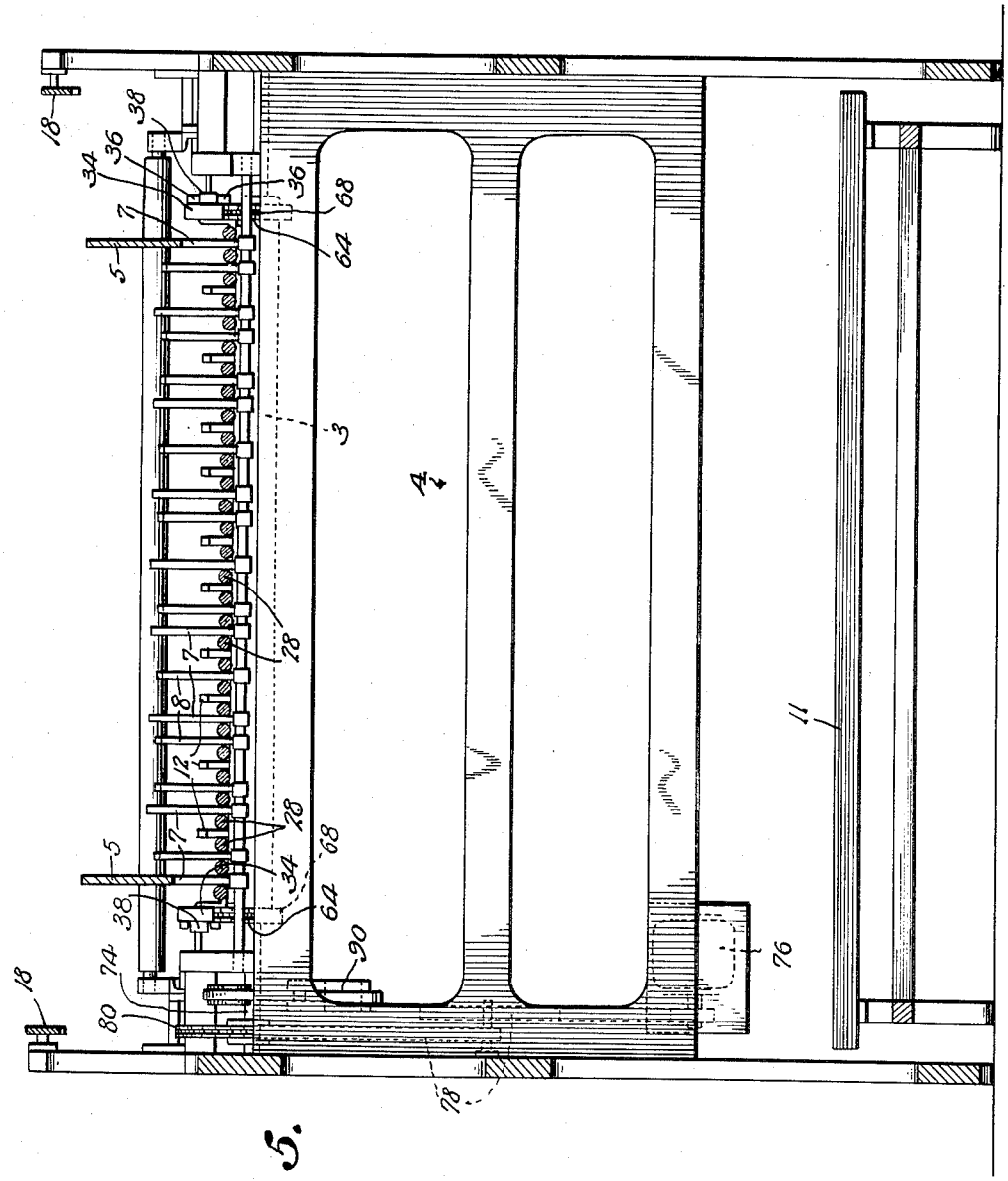


Fig. 5.

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Dec. 28, 1954 M. L. MATTHEWS 2,698,176

FEEDING AND STACKING MACHINE

Filed March 17, 1952 11 Sheets-Sheet 7

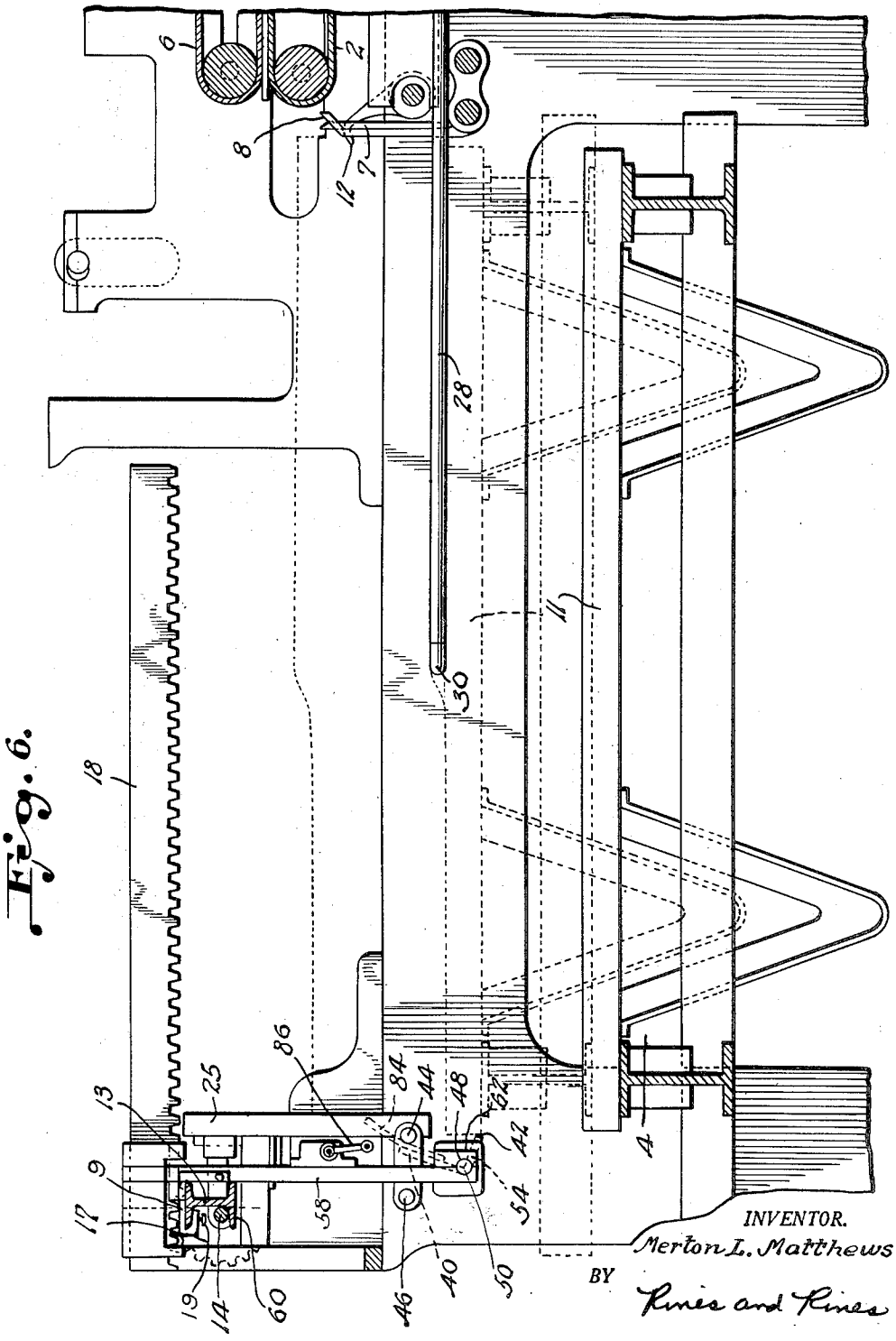


Fig. 6.

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Dec. 28, 1954 M. L. MATTHEWS 2,698,176

FEEDING AND STACKING MACHINE

Filed March 17, 1952 11 Sheets-Sheet 8

Fig. 7.

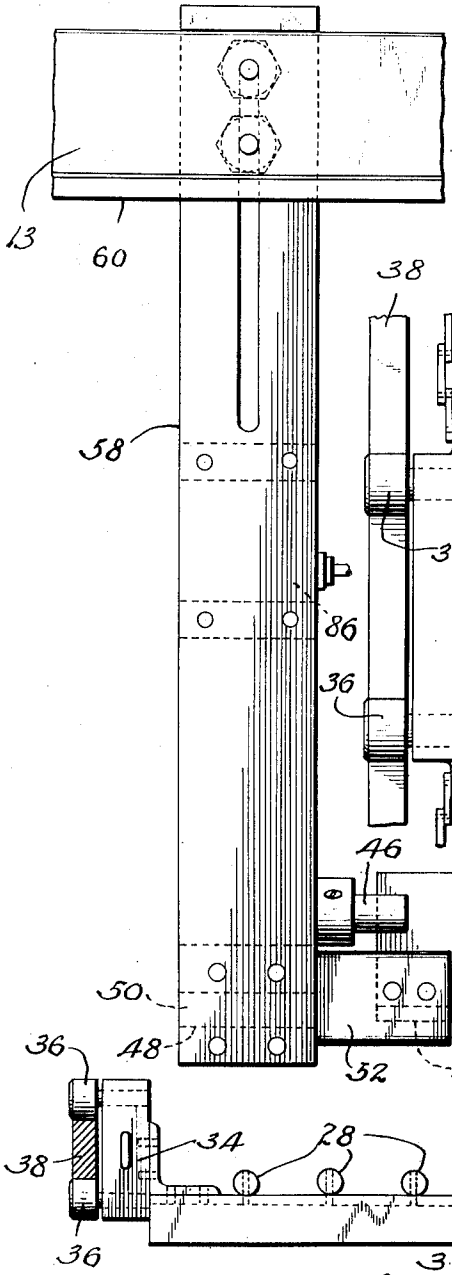


Fig. 8.

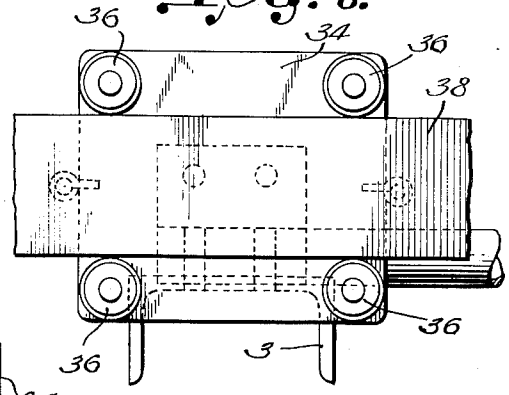


Fig. 10.

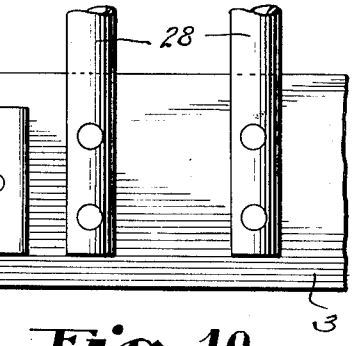


Fig. 9.

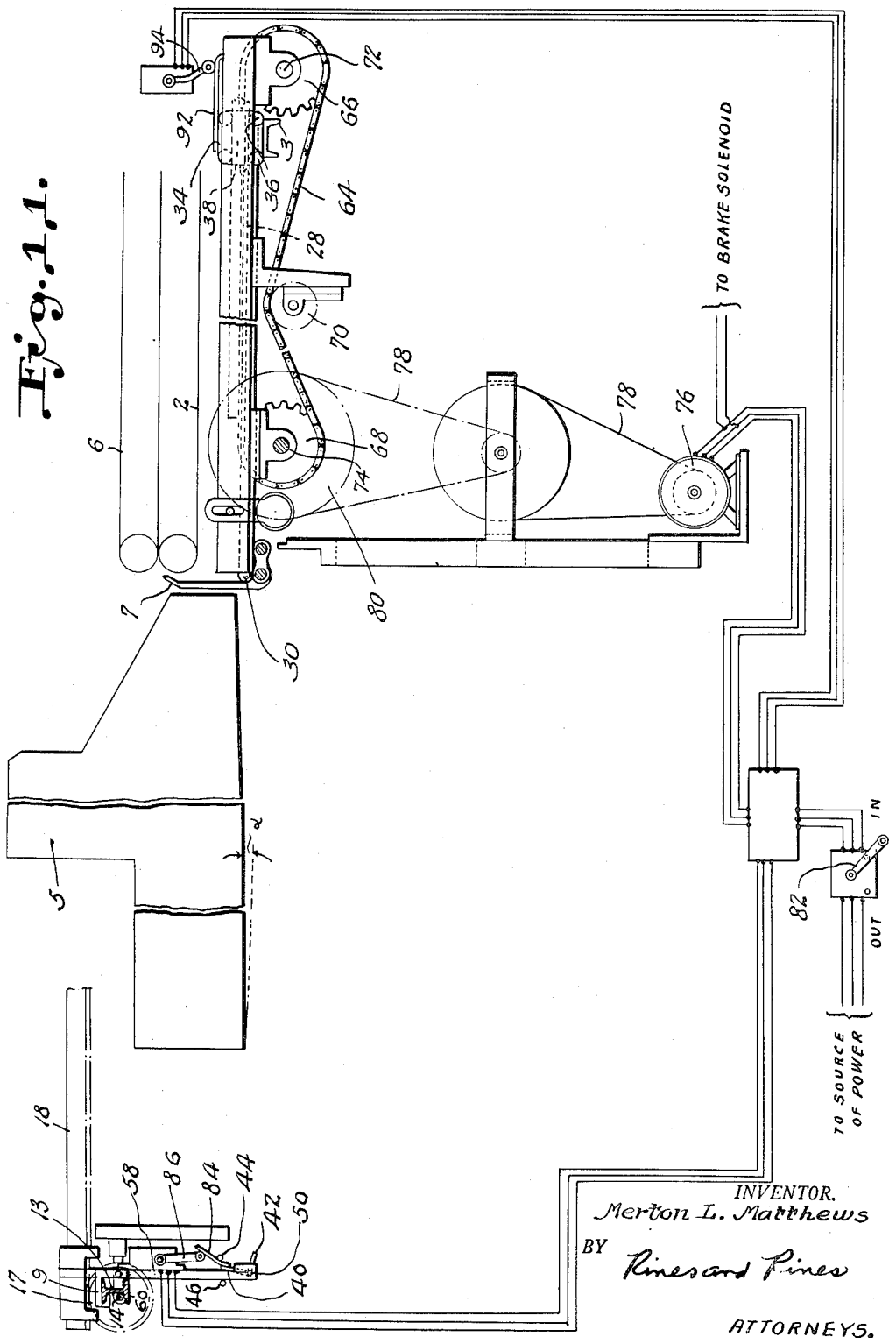
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Dec. 28, 1954 M. L. MATTHEWS 2,698,176

FEEDING AND STACKING MACHINE

Filed March 17, 1952 11 Sheets-Sheet 9

Fig. 11.



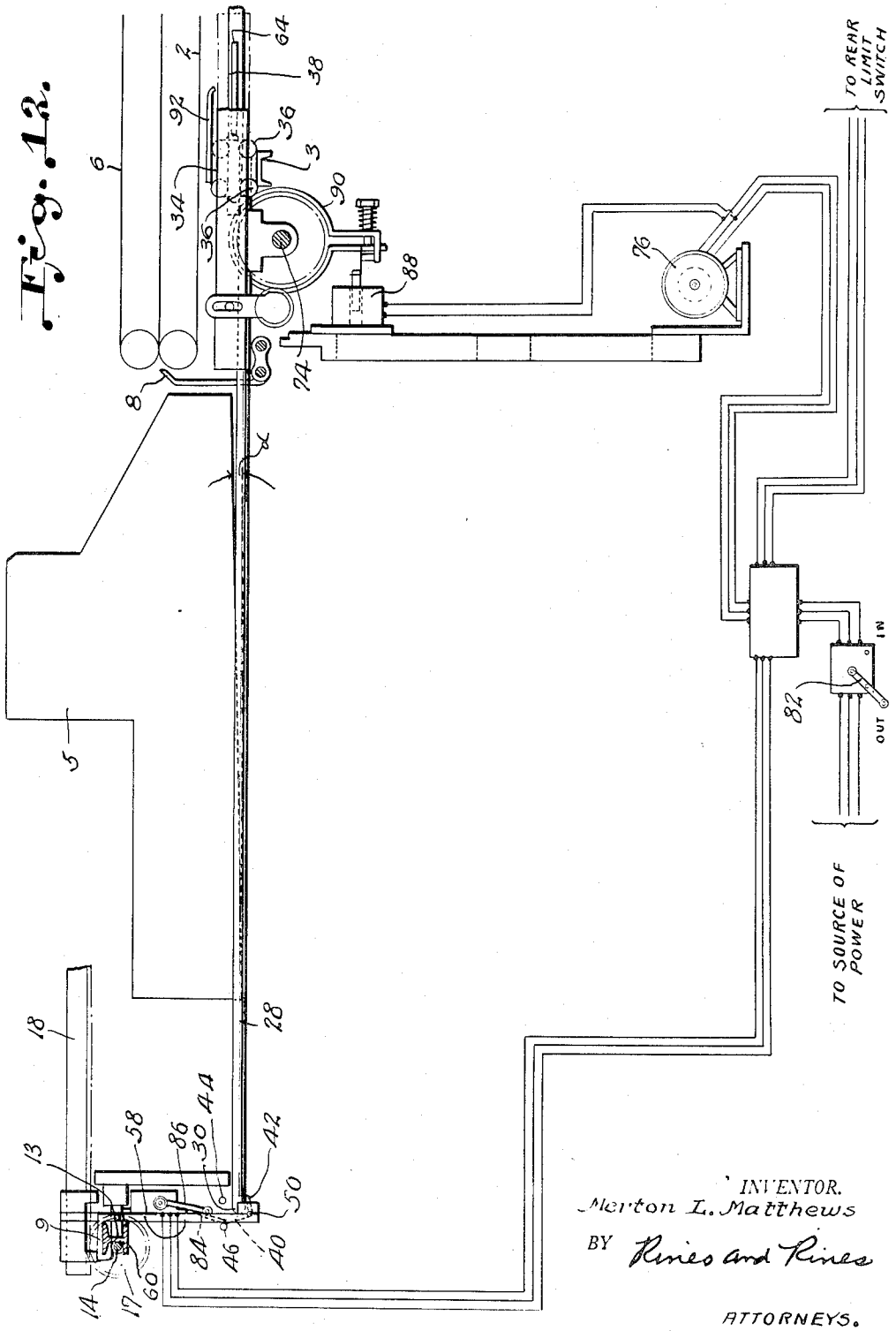
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FEEDING AND STACKING MACHINE

Filed March 17, 1952 11 Sheets-Sheet 10

Fig. 12.



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Dec. 28, 1954 M. L. MATTHEWS 2,698,176

FEEDING AND STACKING MACHINE

Filed March 17, 1952 11 Sheets-Sheet 11

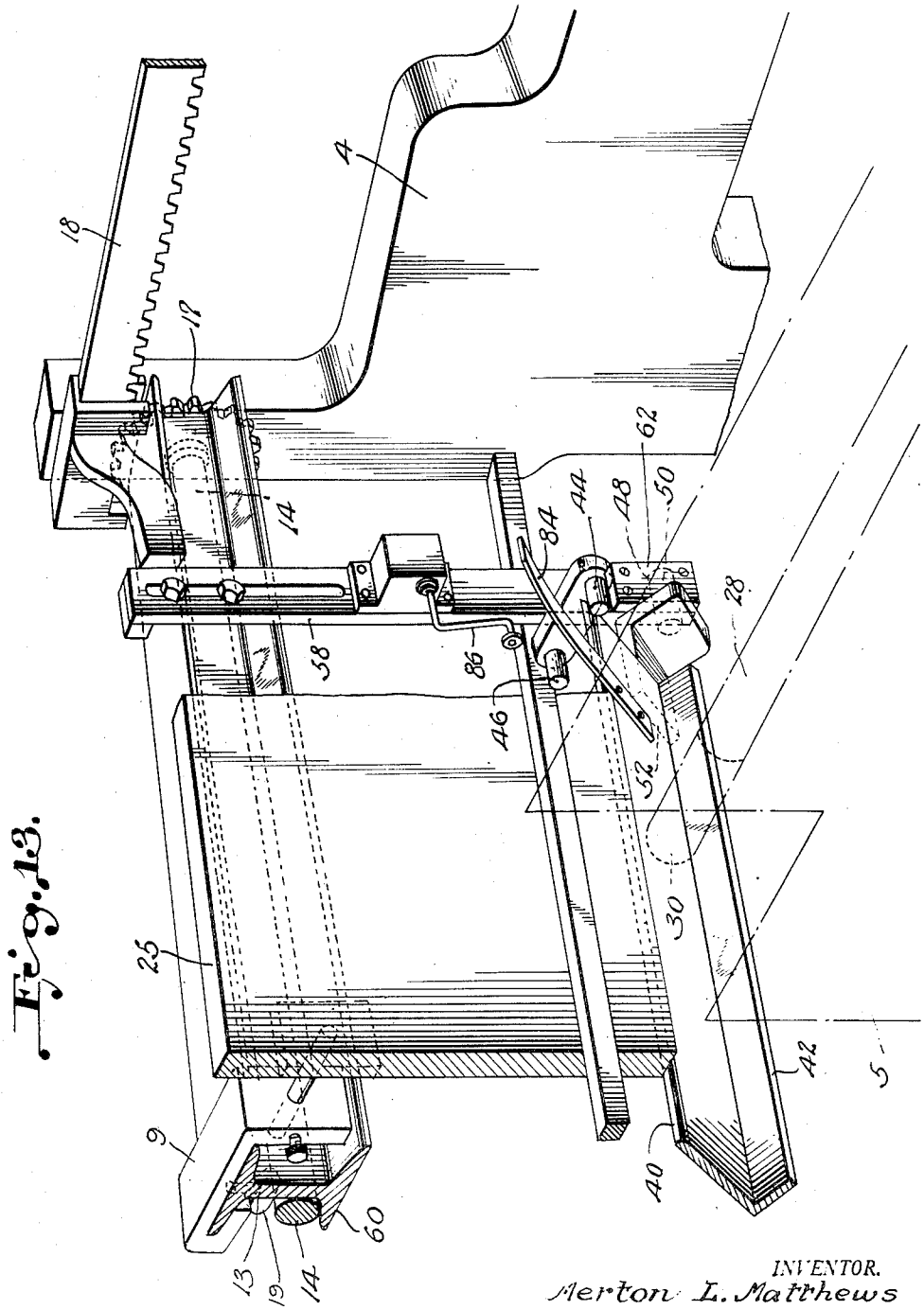


Fig. 13.

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United States Patent Office 2,698,176
Patented Dec. 28, 1954

2,698,176

FEEDING AND STACKING MACHINE

Merton L. Matthews, Westerly, R. I., assignor to Maxson Automatic Machinery Company, Westerly, R. I., a corporation of Rhode Island

Application March 17, 1952, Serial No. 276,993

3 Claims. (Cl. 271—89)

The present invention relates to feeding and stacking machines, and more particularly to machines for feeding and stacking sheet material, like paper and paper board.

A machine is described in United States Letters Patent 2,521,075, issued September 5, 1950, to Louis L. Matthews, comprising a plurality of tapes for feeding the sheets into a lay-boy, where they become stacked upon a main support that is automatically lowered by degrees to maintain the top of the stack of sheets at substantially constant height. In order continuously to operate the machine without shut-down when the main support has become lowered to the floor, completely loaded with stacked sheets, an auxiliary support is provided in the form of a plurality of fingers. These fingers are caused to be extended above the main support in order to receive the sheets temporarily until the loaded main support has become removed and a new main support has been inserted underneath the auxiliary support. This machine has been found to be very satisfactory, in practice.

Upon occasion, however, paper, paper board and the like may have a tendency to slip laterally along the extended fingers of the auxiliary support.

An object of the present invention, thus, is to provide a new and improved feeding and stacking machine of this character adapted for the employment of the extended finger type of auxiliary support and provided with means for preventing sheets from slipping laterally along the auxiliary support while the sheets are jogged to align them.

A further object is to provide a new and improved jogger that assists in accomplishing this desired result.

In summary, this result is achieved, in accordance with the present invention, with the aid of preferably planar side-jogging blades each of which is supported with its bottom edge sloping downward and forward and with the forward end of the bottom edge disposed below the upper surfaces of adjacent fingers of the auxiliary support, and the rear end of the bottom edge disposed above the fingers.

Other and further objects will be explained hereinafter and will be more particularly pointed out in the appended claims.

The invention will now be more fully described in connection with the accompanying drawings, in which Figs. 1 and 1A together constitute a diagrammatic view in side elevation, with parts broken away, for clearness, of a paper-cutting-and-feeding machine embodying the present invention, with Figs. 1 and 1A being joined along the lines A—A, and the fingers constituting the auxiliary support being shown retracted; Fig. 2 is a section taken upon the line 2—2 of Fig. 3, looking in the direction of the arrows; Fig. 3 is a plan of the left-hand portion of the machine shown in Figs. 1 and 1A, the auxiliary supporting fingers being shown extended, with a portion of a sheet resting thereon; Fig. 4 is an end elevation, looking from the left of Figs. 1, 1A, 2 and 3, Fig. 5 is a section taken upon the line 5—5 of Fig. 3, looking in the direction of the arrows; Fig. 6 is a section similar to Fig. 2 upon a larger scale, showing the auxiliary supporting fingers partly extended; Fig. 7 is a fragmentary front elevation, upon a larger scale, of the I-beam and angle construction shown in side elevation at the upper left of Fig. 1; Fig. 8 is an elevation of a detail showing the rear support for the supporting fingers, looking from the left, as viewed in Figs. 4 and 5, but upon a larger scale; Fig. 9 is a section taken upon the line 9—9 of Fig. 3, looking in the direction of the arrows, upon a larger scale; Fig. 10 is a view looking from above, in Fig. 8; Fig. 11 is a fragmentary side elevation of a portion of the machine in a diagrammatic view of circuits for controlling the operation of extending and retracting the auxiliary supporting fingers, the supporting fingers being shown retracted; Fig. 12 is a view similar to Fig. 11, showing the supporting fingers extended; and Fig. 13 is a fragmentary perspective, upon a larger scale.

The drawings illustrate the before-mentioned paper-sheet-cutting-and-feeding machine of well-known type, such as is commonly employed in paper and paperboard mills, to cut webs from a roll or rolls into sheets, and feeding the sheets by means of more or less horizontal conveyor tapes, into a lay-boy.

A web 32 is led from a paper roll (not shown) of paper to feed rolls 10, by which the paper is advanced to a stationary bed-knife cutter 15. The term "web," "paper," "sheet" or its equivalent, will be employed herein to denote either a single layer or a plurality of superposed layers of the paper or other material. A rotary cutter 16 cooperates with the bed cutter 15 to cut the traveling web into sheets 56 of the desired length. The invention is equally applicable to machines for feeding previously cut sheets.

Owing to the feeding action of the rolls 10, aided by gravity, the sheets 56 travel, at a downward incline, toward a series of cooperating conveyor tapes or belts 2 and 6. The plurality of conveyor tapes or belts 2 and 6 and the rotary cutter 16 are actuated by any desired mechanism 1. The conveyor tapes or belts 6 are disposed approximately horizontal, at a level below the level at which the web 32 is fed between the rolls 10, but they may be inclined slightly upward, to slope toward the lay-boy 4. Together with the bed-knife cutter 15 and other parts of the machine, the tapes or belts 2 and 6 are mounted on a frame 26 to the rear of the lay-boy 4.

The tapes 2 and 6 feed the sheets 56 forward in order to deliver them singly into the lay-boy 4 upon a main skid support or platform 11, for stacking and piling. The tapes 2 and 6 are naturally above the level of the main support 11 in the lay-boy 4. When the rotary cutter 16 and the tapes 2 and 6 start operating, the level of the main skid support or platform 11 has been raised to its highest position just below the tapes 2 and 6 and sheets 56 commence to be stacked thereon. As sheets 56 become stacked on the skid support or platform 11, the platform becomes progressively lowered by degrees, eventually reaching the floor, as shown in Fig. 1.

In the lay-boy 4, the sheets 56 engage front stops 25, Figs. 1 to 4, 6 and 13, to limit their further forward movement. The sheets are jogged by laterally oscillating side jogger blades 5, in the usual manner. The side jogger blades 5 will be oscillated with their forward downwardly inclined portions, hereinafter described, between or outside the hereinafter described fingers 28. The side jogger blades 5 and rear joggers 7, in combination with stationary fingers 8, assure that the sheets 56 shall be stacked or piled evenly. Constructions for effecting this result are described, for example, in Letters Patents 2,261,972, issued November 11, 1941, and 2,367,416, issued January 16, 1945, to Louis L. Matthews.

The front stops 25 are illustrated as backboards. As the length of the sheets 56 that may be stacked or piled in the lay-boy 4 is determined by the position of these front-stop backboards 25, they should be adjustable. They are therefore shown carried upon bracket arms 58 that are provided with hooks 9 hooked over the upper arm of a supporting-arm carriage 13, shown as a transversely disposed I-shaped beam. The hooks 9 may be adjustably bolted in place upon the carriage 13 by bolts 19. A similarly transversely disposed shaft 14, the ends of which carry gears 17, is rotatably mounted in this carriage 13, adjacent to the vertically disposed arm of the I beam. Figs. 6 and 13 show the shaft 14, upon larger scales, resting on the horizontal leg 60 of the I-shaped beam of this carriage 13. The gears 17 mesh with fixed longitudinally disposed racks 18. Rotation of the shaft 14, through the intermeshing arrangement of the gears 17 and the racks 18, will result in adjustment of

the carriage **13**, **60** lengthwise of the machine, thus effecting corresponding adjustment of the stops **25**.

As before stated, the main skid support or platform **11** is initially raised to a level just below that of the delivery tapes **2** and **6**, and as the sheets continue to be fed into the lay-boy **4**, and become stacked or piled on the main support **11**, the main support **11** becomes automatically lowered, by degrees, in order to maintain the level of the stack or pile of sheets **56** approximately uniform. This may be effected in any desired manner, as under the control of oscillatory hooked members **12**, as described, for example, in Letters Patent 1,545,912 issued July 14, 1925, to Charles B. Maxson. In time, the support will become lowered to the floor, as shown in Fig. 1. An auxiliary support for temporarily receiving the sheets **56** during the removal of the completed stack and the replacement of a new main support **11** then is rendered effective on which the sheets **56** may continue to be stacked or piled temporarily, for subsequent transfer to a substituted main support **11**. The auxiliary support is constituted of a plurality of horizontally disposed supporting fingers **28** arranged in the form of a grid disposed normally just below the tapes **2** and **6** from side to side of the machine. The fingers **28** are of relatively small cross-dimension vertically. A very satisfactory form that the fingers may assume is ¾ inch-diameter tubing. A space of ¾ inch is available above the top of the completed stack and below the level of the path of feed of the sheets **56** at the time that the sheets **56** are delivered by the tapes **2** and **6** thereabove into the lay-boy **4**. The fingers may be about 2½ inches apart. The forward free ends of the tubing fingers **28** are plugged, as shown at **30**. The rear ends of the tubing fingers **28** are secured to the transversely disposed bar of a carriage **3**, Figs. 1A to 5 and 8 to 12.

The transversely disposed bar of this carriage **3** is provided at its ends with guide plates **34** each having a pair of upper and a pair of lower guide rollers **36**. The guide plates **34** are mounted to slide along longitudinally disposed tracks **38**, one at each side of the machine, the upper and lower pairs of rollers **36** respectively engaging the upper and lower surfaces of the tracks **38** for anti-friction purposes. The carriage **3** is thus slidable back and forth longitudinally of the machine.

The fingers **28** are normally retracted toward the frame **26** along the slide **38** so as to be disposed in back of the rear joggers **7**, as shown in Figs. 1, 1A and 11. At the completion of a stack, however, the carriage **3** to which these rear ends are secured is actuated horizontally forward along the tracks **38** toward the lay-boy **4**, in order to carry the fingers **28** beyond the stationary fingers **8** and the rear joggers **7**, into the lay-boy **4**, so as to dispose them just above the top sheet of the completed stack, and below the tapes **2** and **6**, as illustrated in Figs. 2, 3 and 12. The fingers **28** are shown occupying an intermediately disposed position in Fig. 6.

Upon the completion of the stack and just prior to the main support or platform **11** reaching the floor, the supporting fingers **28** are extended forward into the lay-boy **4** to the position of Figs. 2, 3 and 12. The support **11** is lowered the remaining short distance to the floor later, electrically or manually. The fingers **28** are extended forward rapidly, so that the next following sheets **56** fed from between the tapes **2** and **6** will be received temporarily upon the upper substantially co-planar surfaces of the extending fingers **28**, instead of on the stack below, and without shutting down the equipment. The tapes **2** and **6** continue to feed the sheets **56** on to the extending fingers **28**, during the removal of the main support **11**, with the stack thereon, and the substitution therefor of a new main skid support **11**, not shown. The new main skid support **11** is thereupon raised, by means of a well-known lay-boy elevating table, not shown, to its uppermost position, just below and in contact with the extending fingers **28**. The extending fingers **28** are thereupon retracted to their original position, shown in Fig. 1. The sheets thus temporarily stacked on the extended fingers **28** become thereupon automatically lowered on to the new main support **11**, through the small vertical space corresponding to the thickness of the fingers **28**.

It has heretofore been the practice, as disclosed in the said Matthews Letters Patent 2,521,075, to dispose the jogger blades with their bottom edges substantially parallel to the fingers **28** of the auxiliary support and positioned so that when the fingers **28** are in their extended position,

ready to receive the sheets, there is a space between the bottom edges of the jogger blades **5** and the upper surfaces of the fingers **28**. Through this space, paper sheets and the like may slip laterally along the fingers **28** outside the region defined by the jogger blades. This may occur until a sufficient number of sheets has been fed onto the fingers **28** to fill the said space, whereupon further sheets are properly stacked and jogged between the joggers. When, therefore, the fingers **28** of the auxiliary support are withdrawn or retracted, and the stack of sheets accumulated thereon is dropped upon a new skid support or platform **11**, the bottom sheets may be out of alignment with the stack.

This misalignment is prevented, in accordance with the present invention, by supporting the jogger blades in the conventional manner described in the said Matthews Letters Patent 2,261,972 and 2,367,416, but with the bottom edge of each jogger blade sloping downward and forward at a preferably acute angle α, Figs. 1, 2, 11 and 12, with respect to the fingers **28**, instead of extending substantially parallel to the fingers **28**. The angle α may have a value, for example, of from about ten to thirty degrees, more or less, depending upon the length of the jogger blades. The forward end of the bottom edge of each jogger blade, moreover, is disposed below the upper surfaces of the fingers, and, in the case of sheets of width less than the complete width of the auxiliary support, being inserted between adjacent fingers **28**, as more clearly shown in Fig. 12. The rear end of the bottom edge of each jogger blade **5**, however, is disposed above the fingers **28**. When the sheets are initially fed upon the extended fingers **28**, therefore, they can no longer slip laterally along the fingers **28** under the bottom edges of the jogger blades, since the portion of the bottom edges that is disposed below the plane of the upper surfaces of the fingers **28**, and perhaps between the fingers **28**, as before explained, prevents the lateral escape of the sheets. The portion of the bottom edge disposed between the fingers may be about one-half or two-thirds of the length of the bottom edge, more or less, depending upon the size of the sheets.

It is to be understood, furthermore, that instead of supporting the present-day jogger blades along a slope or incline, different jogger blades may be used preformed with a sloping or inclined bottom edge. Such blades may then be supported in the normal fashion, and their bottom edges will then assume the desired position above-described. In all cases, the danger of a rapidly extending finger **28** mechanically interfering with one of the pair of side jogger blades that may happen to be disposed in its path is obviated through the use of the sloping bottom edge. Such a finger **28** would travel beneath the rear of the blade disposed above the plane of the upper surfaces of the fingers and would easily guide-off the forward end of the blade because of its downward sloping shape and the resiliency of the finger and the blade.

Fingers **28** of so small-diameter tubing, being naturally very flexible, would be unable, however, to carry the load of the sheets **56** temporarily stacked thereon, were it not for the following supporting features. As illustrated in Figs. 1, 3, 4, 6, 7 and 12, a two-armed pivoted member, of right-angular cross-section, extending from side to side of the machine, is normally so disposed that its angle is normally oriented toward on-coming fingers **28**, with its upper or more or less upright arm **40** at the level of the horizontally disposed fingers **28**, and tilting toward the right, as viewed in Fig. 1, toward the fingers **28**. As the free plugged ends **30** of the fingers enter this angle, therefore, toward the limit of their forward movement into the lay-boy **4**, they engage this upper arm **40** in order to effect pivotal movement of the angle member, tilting it backward, from the position of Fig. 11 into the position of Figs. 2 and 12. The other or more or less horizontally disposed arm **42**, which normally inclines somewhat downward, is thus caused to pivot upward, thus to effect engagement of the undersides of the forward free ends **30** of the fingers **28**, as shown in Figs. 2 and 12, thus turning them up and providing a support for the forward ends of the fingers. The pivotal movement of the angle-iron **40**, **42** is limited by forward and rear stops **44** and **46**.

The pivoting of the angle member **40**, **42**, may be effected in any desired way, as by means of pivot pins **50** projecting from plates **52** provided with angular grooves **54** in which the ends of the angle iron are fitted

as will be understood more particularly from Figs. 3, 7 and 13.

The pivot pins **50** extend into pivot openings **48**, Figs. 2, 7 and 13, disposed at the lower ends of the supporting arms **58**. For purposes of assembly, each pivot opening is provided half in the arm **58** and the mating half in a block **62** bolted to the supporting arm **58**, Figs. 2 and 6.

As the auxiliary support constituted of the supporting fingers **28** is thus supported at two points, spaced a considerable distance apart, by the carriage **3** and the angle iron **40, 42**, there is no possibility for any sagging or flexing of the fingers **28**, and they may therefore carry a considerable load. Though the angle iron **40, 42**, moreover, normally occupies the position illustrated in Fig. 1, in which it is ineffective to support the front free ends **30** of the supporting fingers **28**, it is the fingers **28** themselves, when they reach their forward limit of movement, that render the angle iron effective, by tilting it automatically into the position shown in Fig. 2.

It has been stated above that the machine may be adjusted to the handling of different-length sheets by adjusting the position of the stops **25**. It is necessary, of course, to adjust the position of the angle iron **40, 42** to correspond. All that is necessary, to this end, is to mount the angle iron **40, 42** upon the same carriage upon which is mounted the transversely disposed I-shaped arm **13, 60** that carries the front stops **25**. The plates **52** for supporting the ends of the angle iron **40, 42** are therefore disposed at the lower ends of the arms **58**, shown adjustably bolted to the ends of the supporting arm **13** in Figs. 16 and 13. When the operator adjusts the machine so as to set the front stops **25** for the particular-size sheets **56** fed and stacked in the machine, therefore, he at the same time automatically adjusts properly the position of the angle iron **40, 42** also. The vertical position of the angle iron **40, 42** may also be adjusted by bolting the supporting arm **58** at different vertical positions to the transversely disposed supporting arm **13, 60**, as by means of the bolt-and-slot connections shown in Figs. 7 and 13.

The same front stops **25** and the same side joggers **5** and rear joggers **7**, therefore, that operate normally to even up the stack as the sheets **56** are fed on to the main skid support **11**, therefore, operate also to even up the sheets **56** while they are being temporarily stacked in the auxiliary support constituted of the extending fingers **28**. When the supporting fingers **28** are retracted, therefore, they will comb out from under the sheets **56** temporarily stacked thereon, and will travel back through the stationary fingers **8** and the rear joggers **7**. The temporarily stacked sheets **56** will therefore become deposited on the substituted skid support **11** in an even uniform pile.

The rear joggers **7**, the stationary fingers **8** and the hooked members **12** are disposed in the spaces between adjacently disposed fingers **28**. The level of the fingers **28** is just above the bottoms of the stops **25**, in order that the same stops **25** may serve during the stacking of both the main and the temporary stacks or piles of sheets **56**. The main support **11**, when first introduced into the lay-boy, is raised into contact with the bottoms of the stops **25**. The retracted temporary pile, therefore, drops only a very small distance on to the new main support **11** when the fingers **28** are retracted.

The carriage **3** to which the rear ends of the extending supporting fingers **28** are secured is actuated back and forth, to move the extending fingers **28** into and out of the lay-boy **4**, by means of two sprocket chains **64** the ends of which are secured to the opposite ends of the respective guide plates **34**. The sprocket chains **64** each passes over sprocket wheels **66** and **68** and a sprocket-chain tightener **70**. The sprocket wheels **66** are mounted at the opposite ends of a transversely disposed shaft **72** and the sprocket wheels **68** at the opposite ends of a similarly disposed shaft **74**. The shaft **74** is driven from a motor **76** through connections **78** and a sprocket wheel **80** mounted upon the shaft **74**. The supporting fingers **28** may therefore be actuated into and out of the lay-boy **4** merely by reversing the operation of the motor **76**.

Assuming that the fingers **28** occupy the retracted position diagrammatically shown in Fig. 11, and that a stack has been completed on the main skid support **11**, a switch **82** may be manipulated from the "in" position of Fig. 11 to the "out" position, as shown in Fig. 12.

This sets the motor **76** into operation in one direction, in order to actuate the fingers **28** into the lay-boy **4**, as diagrammatically shown in Fig. 12, to a position just above the top of the stack supported by the main support **11**. The fingers **28** become thus positioned in the path of the feed of the sheets **56**, in replacement for the top of the just-completed stack. The feeding of the sheets **56** may therefore continue, without interruption, the fingers **28**, as before explained, constituting an auxiliary support for the sheets **56**. A new stack of sheets, but much smaller than the regular stack before described, becomes thus temporarily deposited on this auxiliary support.

Upon the forward ends **30** of the fingers **28** tilting the angle iron **40, 42**, from the position of Fig. 11 into the position of Fig. 12, a lever **84** will be actuated, in response to this tilting movement of the angle iron **40, 42**, from the position of Fig. 11 into that of Fig. 12, thus causing the position of a front limit switch **86** to open the circuit for the motor **76** and deenergize a solenoid **88**, Fig. 12, for actuating a brake **90** that is normally released when the motor **76** is in operation, thus to stop the motor **76** short. This will overcome any tendency for the extending fingers **28** to over-travel. The front limit switch **86** thus determines the position of the fingers **28** above the main skid support **11** with the sheets stacked thereon, though the brake **90** aids in this determination. The front limit switch **86** and the lever **84**, of course, are adjustable as a unit with the angle iron **40, 42**, and the front stops **25**, being mounted on the arm **58**.

When, after a new skid support **11** has been placed in position, it is desired to retract the fingers **28**, so as to deposit the sheets **56** temporarily stacked thereon on to the new skid support **11**, the switch **82** will be actuated from the "out" position, as shown in Fig. 12, to the "in" position, illustrated in Fig. 11. The motor **76** is thereupon actuated in the reverse direction.

As the free ends **30** of the fingers **28** become thus withdrawn from the angle iron **40, 42**, they can not help but re-tip the angle iron **40, 42**, into the normal position, illustrated in Fig. 11. This is because of the weight that the free ends **30** of the fingers **28** impose on the arms **42** of the angle iron. This return tilting movement of the angle iron causes the lever **84** to return the limit switch **86**, from the position illustrated in Fig. 12, to the original position illustrated in Fig. 11.

When the carriage **3** supporting the rear ends of the fingers **28** reaches its original position, an arm **92** projecting rearwardly thereof engages a rear limit switch **94**, Fig. 11, to open the circuit of the motor **76**.

The angle iron **40, 42**, serves a further function as a safety device to prevent injury to the operator or other person who may happen to be in the vicinity of the machine during the forward movement of the supporting fingers **28** into the lay-boy **4**. These fingers **28** enter the lay-boy **4** at considerable speed. In the absence of the angle iron **40, 42**, therefore, and if the brake **90** should happen not to operate perfectly, they may travel out forward beyond the front stops **25**, to strike a person who may happen to be standing in front of the lay-boy **4**. The angle-iron **40, 42**, insures that no such injury shell take place.

The present invention is adapted for the feeding and stacking of sheets of any practical length, of any weight stock. It may be employed, for example, to feed and stack sheets 80 inches long and $\frac{3}{32}$ of an inch thick. It is particularly adapted, however, as before explained, to stack sheets of comparatively light weight.

A description of many portions of the machine an understanding of which is not essential to an understanding of the present invention has purposely been omitted and many parts of the machine have purposely not been illustrated in order not to detract attention from the features of essential novelty. Fuller explanations of such portions of the machine will be found in the Letters Patent above referred to. It will be understood that the features of novelty may be embodied in other machines and in machines of other types and that modifications may be made by persons skilled in the art without departing from the spirit and scope of the invention as defined in the appended claims.

What is claimed is:

1. In a sheet-feeding-and-stacking machine provided with a main support for a stack of sheets, means for feeding sheets forward to the main support for stacking

thereon, a plurality of fingers the upper surfaces of which lie substantially in a common plane constituting an auxiliary support for a stack of sheets, and means for disposing the auxiliary support above the main support in the path of feed of the sheets in order that the feeding means may feed the sheets forward to and upon the said upper substantially co-planar surfaces of the fingers of the auxiliary support for stacking on the auxiliary support; the combination of side-jogging blades and means for supporting each side-jogging blade with its bottom edge sloping downward and forward and with the forward end of the bottom edge disposed below the said plane of the upper surfaces of the fingers of the auxiliary support and the rear end thereof disposed above the fingers of the auxiliary support, thereby to prevent sheets stacked upon the auxiliary support from laterally sliding therealong.

2. In a sheet-feeding-and-stacking machine provided with a frame, a lay-boy in which a main support may be disposed, a plurality of tapes for feeding sheets forward into the lay-boy for stacking therein on the main support, a carriage, a plurality of fingers the upper surfaces of which lie substantially in a common plane constituting an auxiliary support and the rear ends of which are mounted on the carriage so that the fingers are normally disposed under the tapes, means for actuating the carriage forward toward the lay-boy to dispose the fingers above the main support below the tapes in order that the tapes may feed the sheets to and upon the said upper substantially co-planar surfaces of the fingers for stacking on the fingers, and means for supporting the forward ends of the fingers when the fingers are disposed above the main support; the

combination of side-jogging blades, and means for supporting each side-jogging blade with its bottom edge sloping downward and forward and with the forward end of the bottom edge disposed below the said plane of the upper surfaces of the fingers and the rear end thereof disposed above the fingers, thereby to prevent sheets stacked upon the auxiliary support from laterally sliding therealong.

3. In a sheet-feeding-and-stacking machine having a plurality of fingers the upper surfaces of which lie substantially in a common plane constituting a support disposed in the path of feed of the sheets in order to receive the sheets and stack the same on the fingers, side-jogging blades, and means for supporting each side-jogging blade with its bottom edge sloping downward and forward and with the forward end of the bottom edge disposed below the said plane of the upper surfaces of the fingers and the rear end thereof disposed above the fingers, thereby to prevent sheets stacked upon the support from laterally sliding therealong.

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