April 1, 1930. H. K. KING 1,752,744

SHEET FEEDING MACHINE

Original Filed Nov. 4, 1925 8 Sheets-Sheet 1

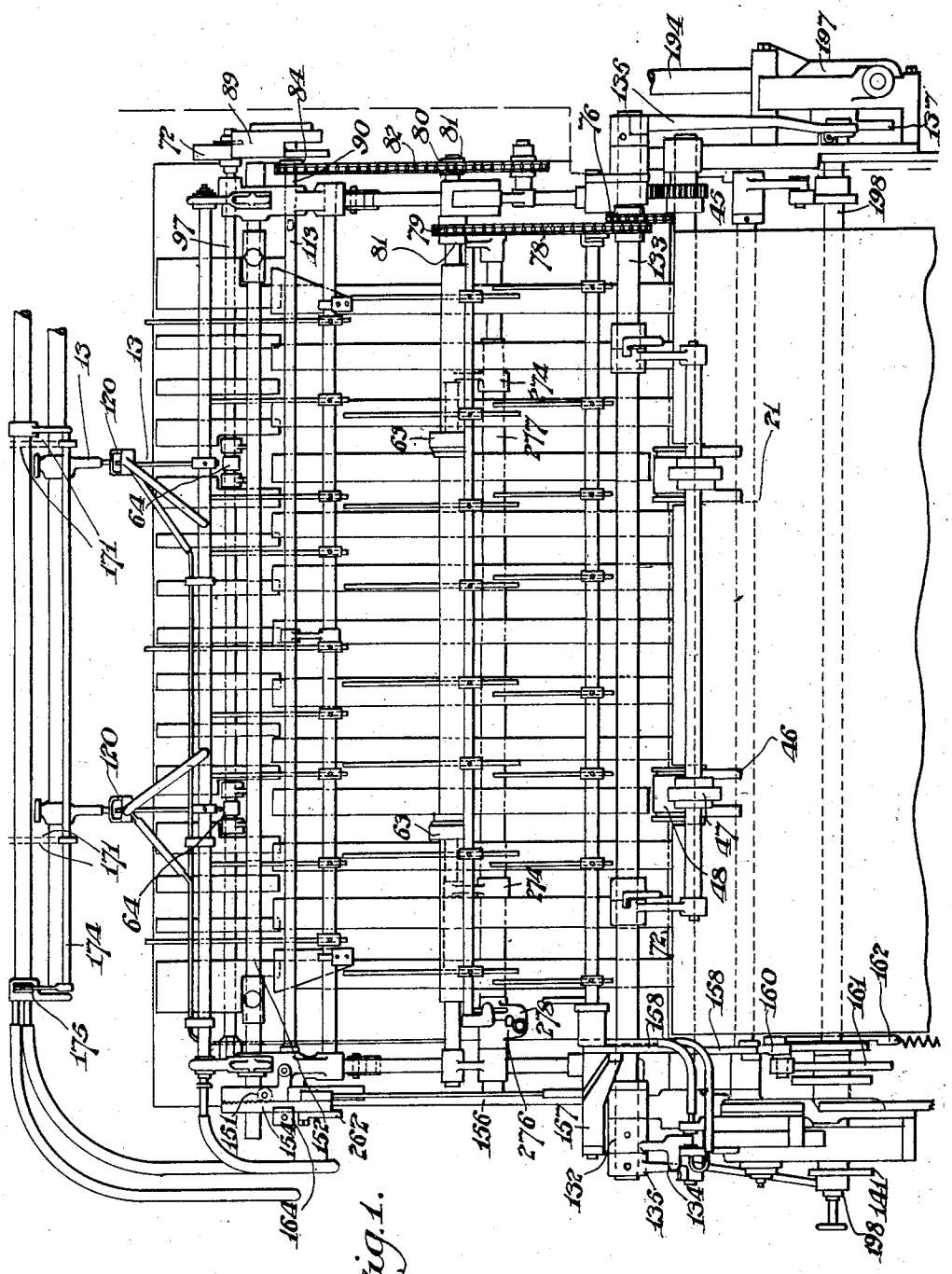


Fig. 1.

Inventor
Howard K. King,
By McConsdale
Attorney.

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SHEET FEEDING MACHINE

Original Filed Nov. 4, 1925 8 Sheets-Sheet 2

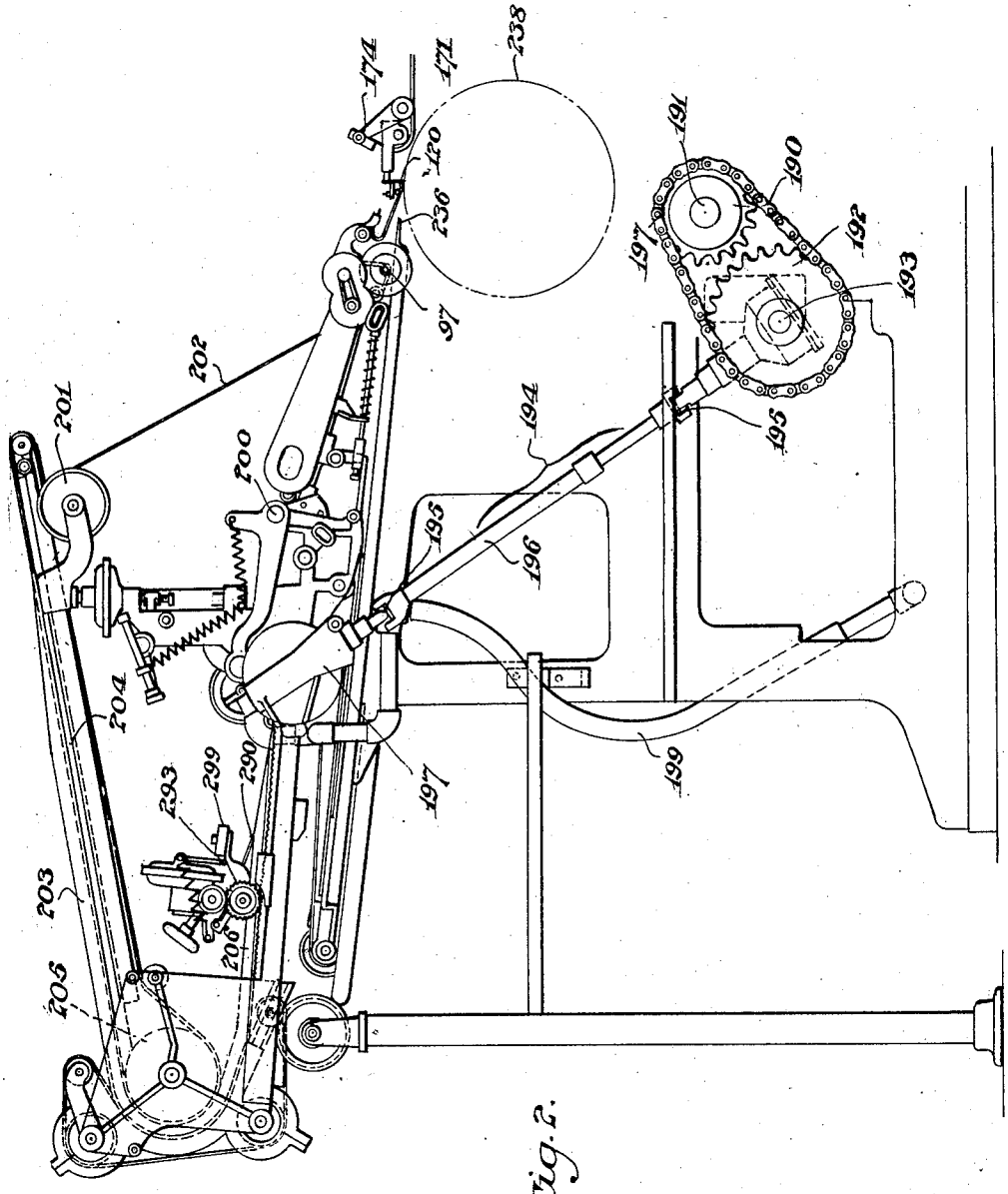



Fig. 2.

Inventor:
Howard K. King,
By McEwen, Dale
Attorney.

April 1, 1930. H. K. KING 1,752,744

SHEET FEEDING MACHINE

Original Filed Nov. 4, 1925 8 Sheets-Sheet 3

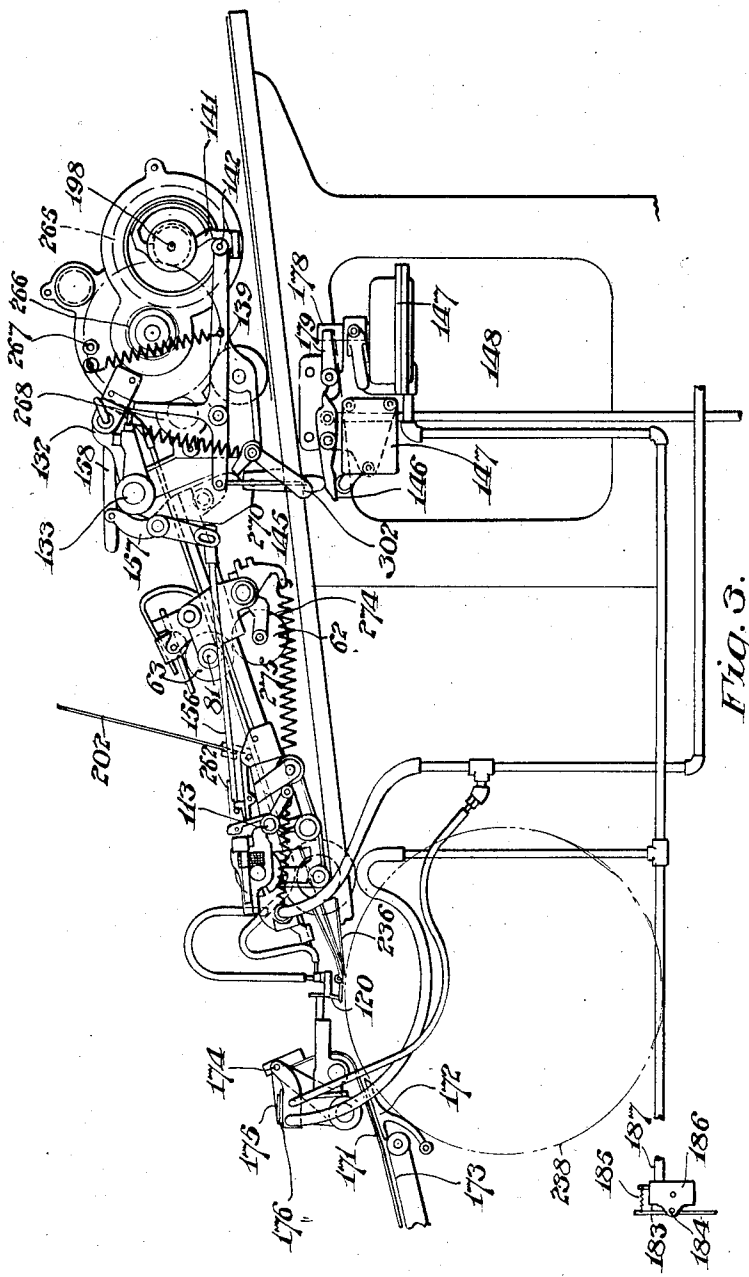



Fig. 3.

Inventor:
Howard K. King,
By Thos. Brown, dec'd
Attorney

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SHEET FEEDING MACHINE

Original Filed Nov. 4, 1925 8 Sheets-Sheet 4

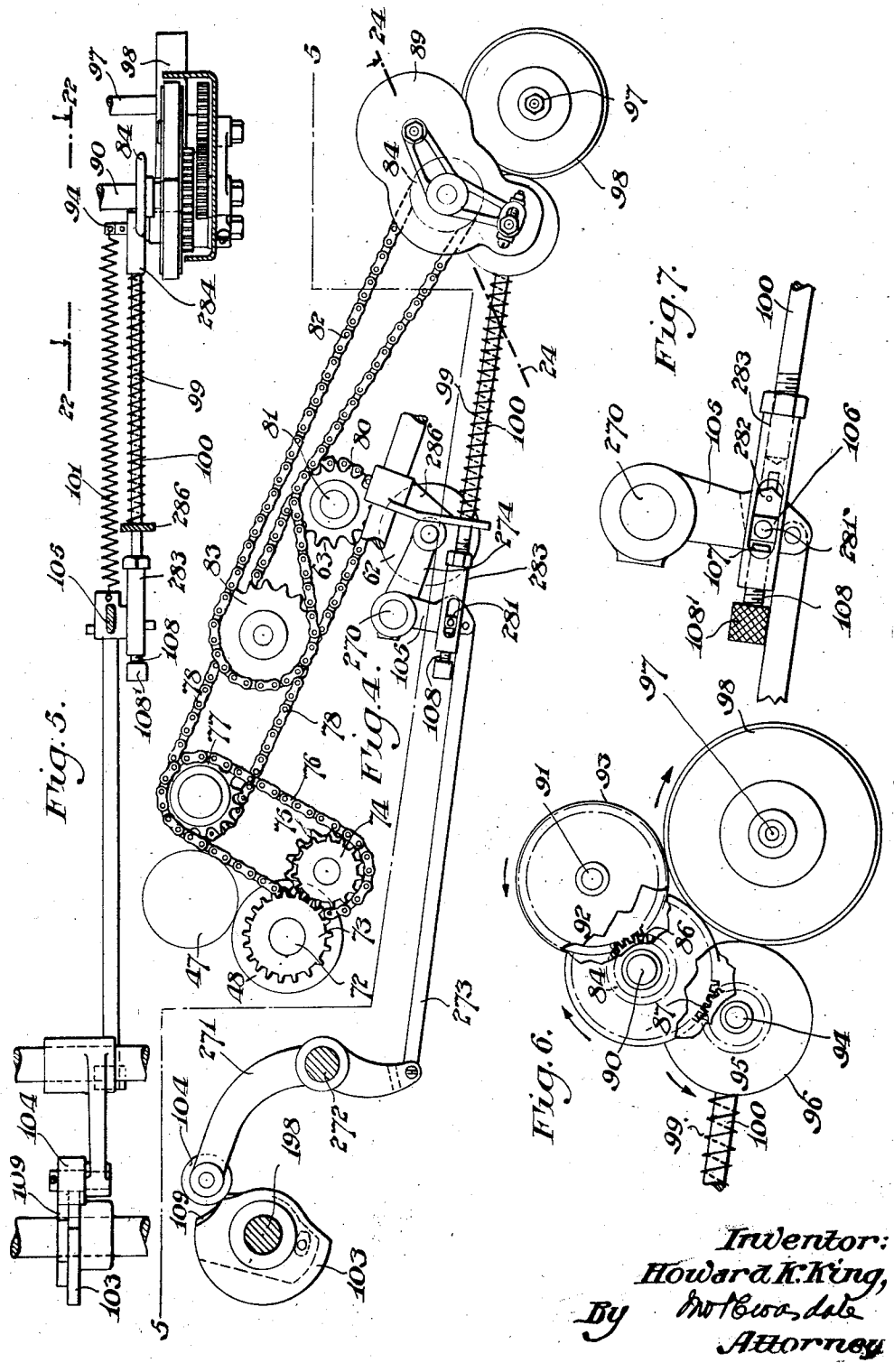


Fig. 5.

Fig. 4.

Fig. 7.

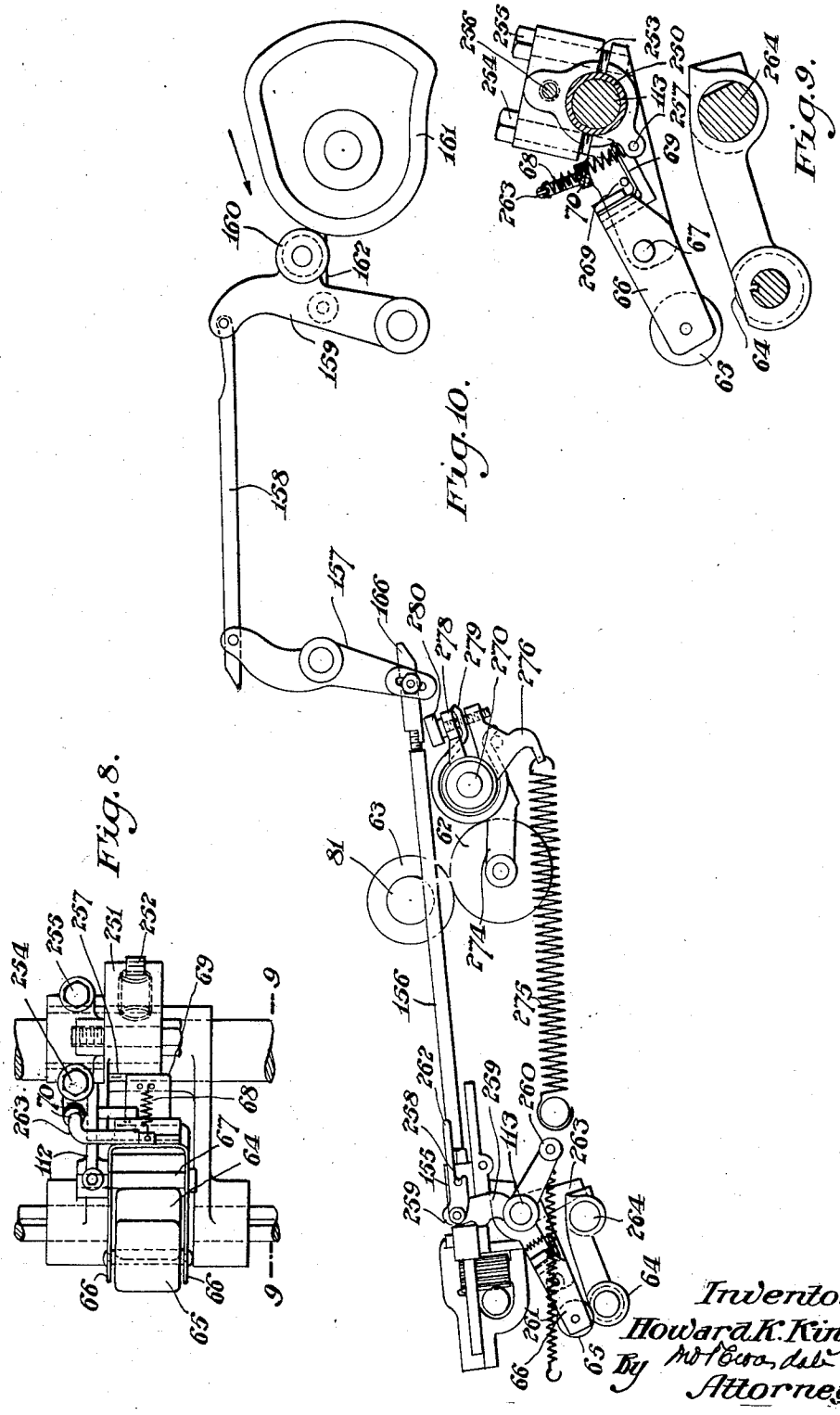
Fig. 6.

Inventor:
Howard K. King,
By Hotchkiss, Dale
Attorney

April 1, 1930. H. K. KING 1,752,744

SHEET FEEDING MACHINE

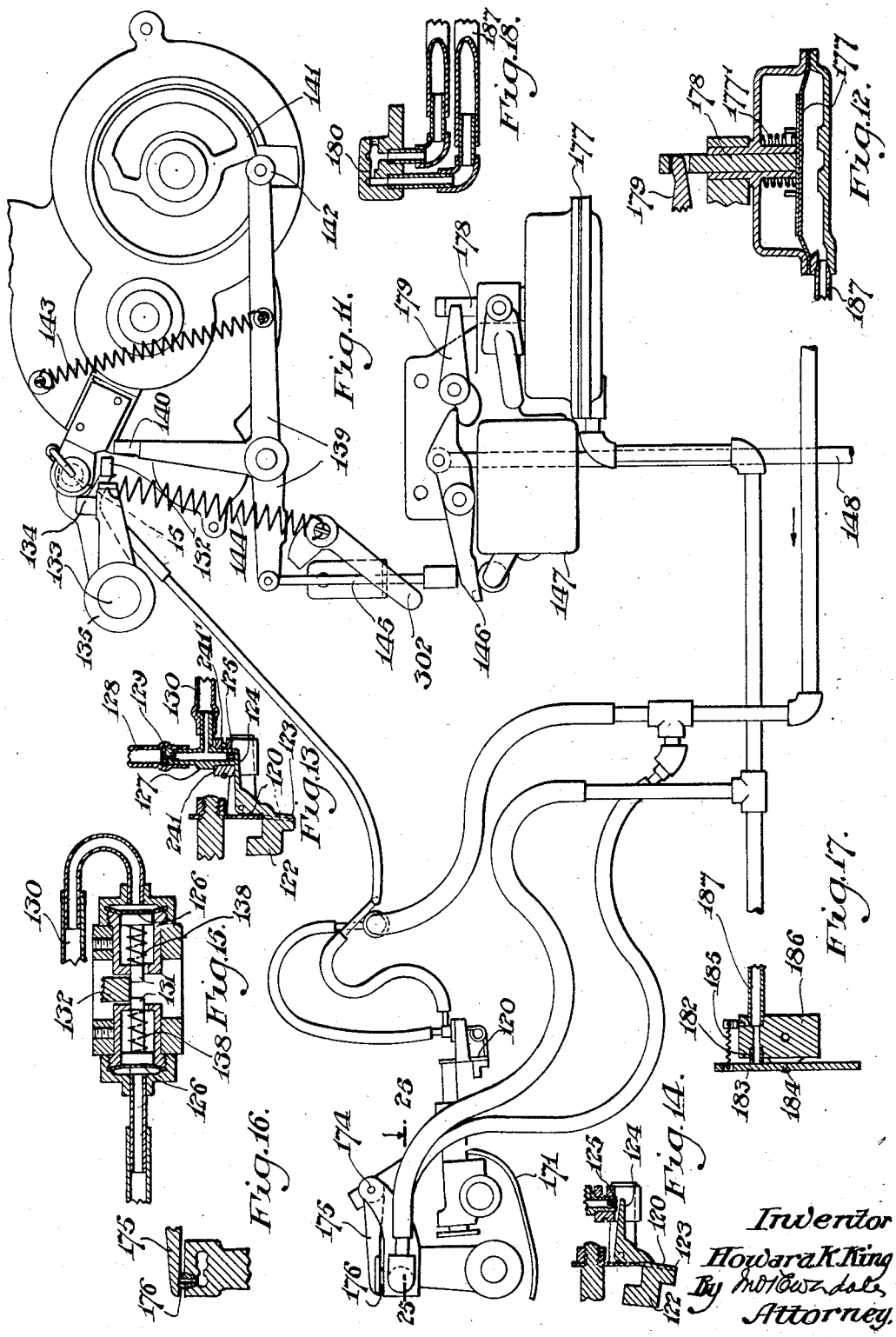
Original Filed Nov. 4, 1925 8 Sheets-Sheet 5



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SHEET FEEDING MACHINE

Original Filed Nov. 4, 1925 8 Sheets-Sheet 6



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SHEET FEEDING MACHINE

Original Filed Nov. 4, 1925 8 Sheets-Sheet 7

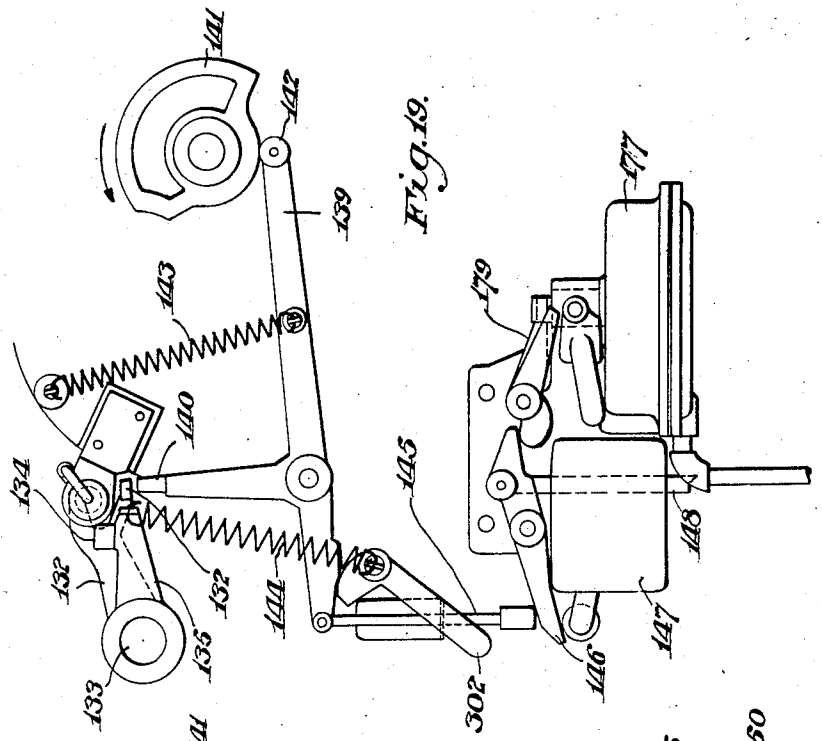



Fig. 19.

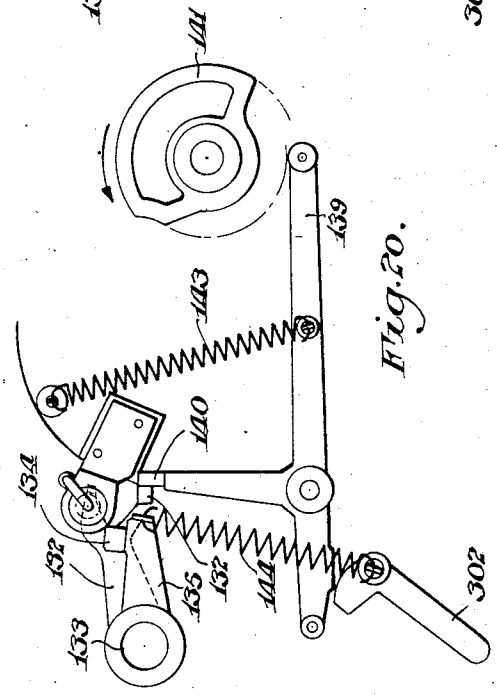



Fig. 20.

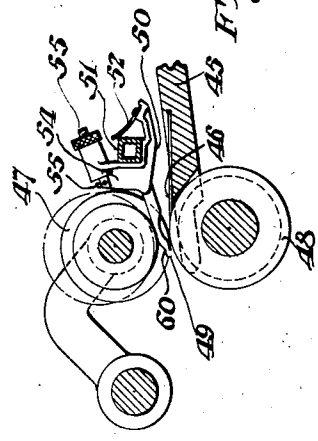



Fig. 21.

Inventor:
Howard K. King,
By Holcombe dale
Attorney.

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SHEET FEEDING MACHINE

Original Filed Nov. 4, 1925 8 Sheets-Sheet 8

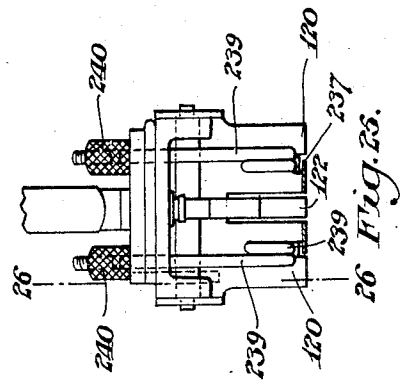



Fig. 25.

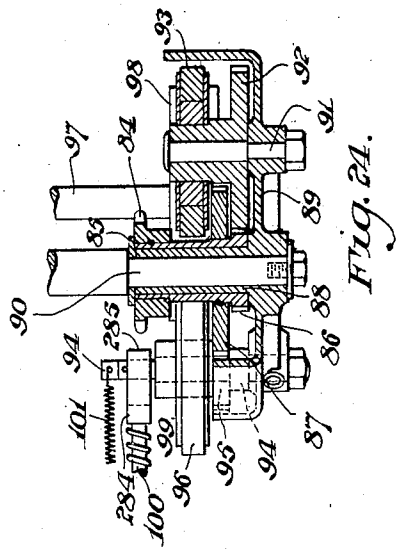



Fig. 24.

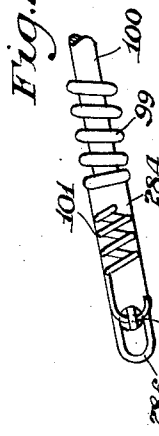



Fig. 22.

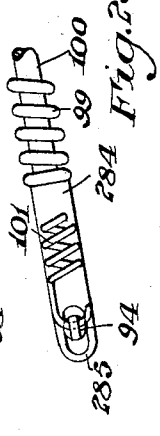



Fig. 23.

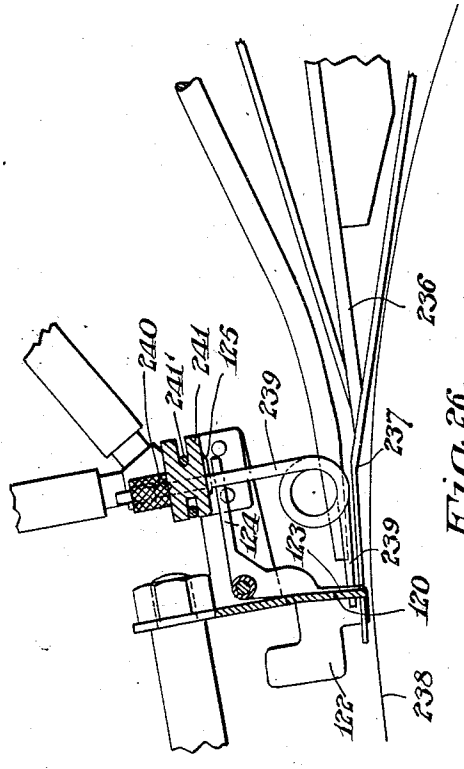



Fig. 26.

Inventor
Howard K. King,
By Wolcott & Hoadley
Attorney.

Patented Apr. 1, 1930 1,752,744

# UNITED STATES PATENT OFFICE

HOWARD K. KING, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO CHAMBERS BROTHERS COMPANY, A CORPORATION OF PENNSYLVANIA

## SHEET-FEEDING MACHINE

Original application filed November 4, 1925, Serial No. 66,763. Divided and this application filed July 15, 1927. Serial No. 205,872.

The invention relates to improvements in sheet feeding machines. The object is to provide improved means for separating and delivering single sheets from a pile of sheets. The improvements relate to that type of sheet feeding machine commonly known as the continuous feed type.

The improvements are especially applicable to machines for feeding sheets to a printing press, although certain of the improvements are equally applicable to feeding sheets to folders or similar devices.

The machine as a whole is similar, in most respects, to that described in my Patent No. 1,154,406, dated Sept. 21, 1915, which was shown as especially applicable to feeding sheets to a folding machine or similar device.

It is therefore believed to be unnecessary to describe in detail the entire machine which is fully illustrated and described in said patent. Only such parts are described in the present application as are necessary to show the relation of the improvements herein described and claimed.

The present invention comprises means for adjustment of the control of the feeding operation, the arrangement of the front or press guides and means for assuring a square or true presentation of the front edge of the sheet, means for automatically stopping the press upon certain conditions, means arbitrarily actuated for stopping the press, improved means for adjusting the several parts, and improvements in details of construction.

This application is a division of my application Serial No. 66,763 filed November 4, 1925, which has resulted in Patent No. 1,652,172 dated December 13, 1927.

Referring to the drawings which illustrate merely by way of example, suitable means for the embodiment of my invention:—

Fig. 1 is a plan view showing the delivery and a portion of the feeder.

Fig. 2 is a right hand side elevation of the feeder and delivery and a portion of the press.

Fig. 3 is a left hand side elevation of the delivery with the forward part of the feeder and the rear of the press shown.

Fig. 4 is a right hand elevation showing the drive and actuation mechanism of the slow-downs.

Fig. 5 is a section on line 5, 5 of Fig. 4.

Fig. 6 is an elevation of the slow-down driving rollers shown in Fig. 4, on an enlarged scale.

Fig. 7 is an enlarged detail of arm and connecting rods shown in Fig. 4.

Fig. 8 is a plan view of one of the slow-down rollers.

Fig. 9 is a section on line 9, 9 of Fig. 8, with the drop roller in elevated position.

Fig. 10 is a side elevation of mechanism for actuating the side guide and for opening and closing the slow-down rollers; this view also shows second feed roller in closed position.

Fig. 11 is a diagrammatic side elevation of control and tripping mechanism.

Fig. 12 is a section of the air diaphragm shown in Fig. 11.

Fig. 13 is a section of the feeding guide on line 13, 13 of Fig. 1, on an enlarged scale.

Fig. 14 is a similar view showing parts in different positions.

Fig. 15 is a section on an enlarged scale on line 15 of Fig. 11.

Fig. 16 is a section of a portion of Fig. 11, showing the air passage and control.

Fig. 17 is a section of a portion connected with the mechanism shown in Fig. 11.

Fig. 18 is a section on line 18, 18 of Fig. 11.

Fig. 19 is an elevation of some of the parts shown in Fig. 11 in different positions.

Fig. 20 is a view similar to Fig. 19, with some of the parts in different positions.

Fig. 21 is a section on line 21, 21 of Fig. 1.

Fig. 22 is an elevation on an enlarged scale of the end of connecting rod as seen on section 22, 22 of Fig. 5.

Fig. 23 is a view similar to Fig. 22 with parts in slightly different position.

Fig. 24 is a section on line 24, 24 of Fig. 4, on an enlarged scale.

Fig. 25 is a front elevation of the press feeding guide on an enlarged scale.

Fig. 26 is a section on line 26, 26 of Fig. 25.

Similar numerals refer to similar parts throughout the several views.

It will be understood that the bank of sheets

is delivered around the drum and operated upon by the combing wheel in the manner described in said Patent No. 1,154,406. The front edge of the foremost sheet moves along the feed board 45 and over the steel blades 46, and passes between the first delivery drop rollers 47 and the feed rollers 48. See Figs. 1 and 21. The said drop and feed rollers, in this case, become part of the feeder, whereas in the device disclosed in said Patent No. 1,154,406, the feeder does not have any drop and feed roller, but uses the folder drop and feed rollers, becoming a complete feeder only when attached to a folding machine.

The trip finger 49 or "cut-out", shown in Fig. 21, operates to control a pneumatic valve by rocking the supporting shaft 51 in substantially the same way as that described in connection with Figs. 11, 12 and 14 of said Patent No. 1,154,406, except that the method of mounting and adjustment is different, and is the subject of a separate application and need not be described in detail here.

The sheet is started and carried by the first delivery drop and feed rollers until it is well under control of the second delivery drop and feed roller. The second delivery drop roller 62 (see Fig. 3) is under the sheet, with its feed roller 63 over the sheet. These delivery rollers have the same surface speed as the first delivery feed rollers. They are closed tightly together to receive the sheet, and act as carriers for the sheet, delivering it to the slow-down rollers 64 and 65, Figs. 8 to 10, and are located approximately half-way between the first drop and feed rollers and the "slow-downs".

The first drop-rollers drop to close the rollers at exactly the right time to start the sheet; the second drop-rollers drop to open at exactly the right time to deliver the sheet to the slow-downs which are running at a slower surface speed; therefore the delivery must be just right; if too slow in opening, the sheet would be buckled, if too quick in opening, the sheet would be left for an interval without positive control.

The first and second set of drop and feed rollers and the slow-down rollers are shown in pairs. A description of one pair will suffice.

The action of the slow-downs is somewhat similar to the second drop roller, except the drop or moving roller 65 is on the top. The drop roller 65 is mounted on the end of arm 66, pivotally mounted at 67, and controlled by the helical spring 68 and by the flat angle spring 69. These rollers have three positions, the flat angle spring 69 giving the heavy pressure. The light helical spring 68, which by means of the knurled thumb nut 70, is adjustable and can be made very delicate, as the weight of the roller is very light and is also counterbalanced. Fig. 9 shows the rollers separated; they are in this position while the sheet is being side guided, and remain open until the sheet is carried away by the press.

The details of the control of the slow-down drop and feed rollers is made the subject-matter of said original application Serial No. 66,763, and need not be described in detail in this application.

The driving of the feeder by the press can best be described by referring to Figs. 2, 3 and 4; the smaller sprocket 190, see Fig. 2, is on the press driving shaft 191, the larger sprocket 192 is an a short shaft 193. Shaft 191 therefore drives shaft 193 through said sprockets and the sprocket chain 197. Shaft 193 is suitably geared with the angle shaft 194. In this angle shaft are included two universal joints 195 and a telescopic sleeve 196. The angle shaft 194 is suitably geared within the housing 197 with the cam shaft 198 of the feeder.

Cam shaft 198 (see Fig. 3) is provided with the gear 265, which drives gear 266, which rotates with gear 267. Gear 267 drives gear 268 which is on shaft 72 of the feed roller 48, see Fig. 4. Shaft 72 is provided with the gear 73, driving pinion 74 connected to sprocket 75 carrying chain 76 which drives the double sprocket 77, which is connected by chain 78, to the sprocket 79, see Fig. 1, which is on shaft 81 of the second feed roller 63. Shaft 81 also carries sprocket 80 which is connected by chain 82 running over idler 83 and driving sprocket 84. Sprocket 84 is mounted in sleeve 85, see Fig. 24, which carries the pinion 86 and also the gear wheel 87. This sleeve 85 is mounted on the sleeve 88 which forms a part of the housing 89 and is supprted by and adapted to rock on the stud 90, secured to the framework of the machine. The housing 89 carries the stud 91 on which is mounted the gear wheel 92 meshing with pinion 86. On the hub of gear wheel 92 is mounted the friction wheel 93. The housing 89 also carries the stud 94 on which is mounted the pinion 95 which meshes with gear wheel 87. On the hub of pinion 95 is mounted the friction wheel 96. It will thus be seen that sprocket 84 drives through the gears 87 and 95 the high speed friction wheel 96, and, through the gears 86 and 92, the low speed friction wheel 93 (see Fig. 6). Shaft 97 carries the slow-down feed rollers 64. On this shaft 97 is mounted the friction wheel 98. This friction wheel 98 is adapted to cooperate with the high speed friction wheel 96, or with the low speed friction wheel 93, depending upon the position of housing 89, to give the slow-down feed rollers either a high speed or a low speed. Fig. 6 shows the elements in position for high speed drive.

The housing 89 is given a slight rocking movement to secure this high speed or low speed by the following mechanism.

Referring to Fig. 4, cam 103 mounted on shaft 198 operates cam roller 104 on arm 271,

pivoted at 272, and connected at its lower end by connecting rod 273 with arm 105 secured to drop roller shaft 270. On shaft 270 is the arm 276, see Fig. 10, at the lower end of which is attached the spring 275. On shaft 270 is also mounted the sleeve 277, see Fig. 1, which carries the drop roller arms 274. On this sleeve 277 is also mounted the arm 278. A spring 279 having one end engaging 278, and the other end engaging arm 276, tends to separate said arms, and adjusting screw 280, having a shoulder engaging arm 278 and its end threaded into arm 276, counteracts the said spring tension. By this means the adjustment between arm 105 on shaft 270, and the drop roller arm 274 on sleeve 277, is secured.

On arm 105 is provided the pin 281, Fig. 7, carrying the block 106, which is seated in the slot 282 of connecting rod end 283, secured to the connecting rod 100. The other end of this rod is secured to the rod-end 284, provided with the slot 285, see Figs. 22 and 23, for the end of the stud 94. On connecting rod 100 is provided the heavy compression spring 99, one end of which engages the stationary abutment 286. The other end engages the end piece 284. A lighter tension spring 101 is connected at one end with the stud 94 and at the other end to the arm 105, Fig. 5.

When roller 104 is on the small diameter of cam 103, bringing drop roller 62 in contact with feed roller 63, the block 106 moves to the right in slot 282 which permits the spring 99 to force the connecting rod 100 to the right, in Fig. 4, (or to the left as shown in Fig. 22) thereby acting on stud 94 to rock the housing 89 to bring high speed friction wheel 96 into engagement with friction wheel 98. When cam wheel 104 is slightly raised from the small diameter of cam 103, arm 105 is moved slightly to the left and block 106 is moved to the left to engage the end 107 of screw 108, which moves connecting rod 100 to the left in Figs. 4 and 7. This results in compressing spring 99 and withdrawing the rod 100 away from stud 94, as shown in Fig. 23, whereupon the spring 101 becomes effective to rock housing 89 to bring the low speed friction wheel 93 into engagement with friction wheel 98.

It will thus be seen that, just as the sheet enters the slow-downs, the second drop roller releases its grip, and the sheet takes a reduced speed, (which is the high speed of the slow-downs), after which, as the sheet nears the press guides 120, the slow-downs operate at slow speed. There are two adjustments to time this change of speed at exactly the right instant. The loose adjustable piece 109, shown on the cam 103, is adjusted practically correctly. Then, with the press and feeder operating, the screw 108 is adjusted to get the desired delivery to the press guides. Just after the change in speed takes place, and before the sheet reaches the press guides, the firm grip of the slow-downs is changed to a light, delicate grip, with just sufficient force to insure the sheet reaching and, for an instant, being held against the press guides.

It will be understood that the sheet must be against both press guides 120 for the press to continue in operation. A failure to reach one or both guides will result in a make or break contact in a switch, thus causing the motor to stop, also the press cylinder will be tripped and the brake applied. The press guides 120 can be seen in Figs. 1–3, 11, 13 and in 25 and 26. Figs. 25 and 26, being on a larger scale, show clearly the "pendulum" 122 projecting in the path of the sheet. When the face 123 of the pendulum 122 projects beyond the guide 120 as shown in Figs. 13 and 26, the arm 124 of the pendulum will close the nozzle 125. This will result in maintaining pressure on a diaphragm head 126. When however, this face 123 is flush with the guide 120, the escape nozzle 125 will be open, as shown in Fig. 14, thus allowing the air to escape from one of the small diaphragms 126 shown in Fig. 15, Sheet 7. The air feed to the T 127 is from the pipe 128 through a restricted passage 129 with the escape nozzle 125 at the bottom. The passage 130 leads to one of the diaphragms 126 shown in Fig. 15. The area of the escape nozzle 125 is at least double that of the inlet passage 129; the result being, when the nozzle 125 is closed by the pendulum arm 124 as shown in Fig. 13 the air pressure will force the diaphragm piston in the position shown in Fig. 15, the piston rod 131 acting as a latch under the trip arm 132 loosely mounted on the drop roller shaft 133. This arm can be seen in Figs. 1, 3, 11, 15, 19 and 20. In Fig. 1, this arm shows the projecting lug 134 which rests on the top of the spring arm 135; the spring arm 135 is secured to the drop-roller shaft 133 in a fixed position. The drop-roller is operated through means of a cam arm 136 and cam 137 shown on the upper right hand corner of Sheet 1. This cam arm 136 is rigidly secured to the drop-roller shaft and is provided with an anti-friction roller, which will follow the action of the cam 137 at all times. When the drop-roller 47 is up, the trip arm 132 is held slightly clear of the piston rods 131 shown in Fig. 15. In this position of the trip arm, the pistons 126 are free to act, therefore when not under air pressure they will be withdrawn by the helical springs 138 pushing on the reverse side of the piston. It is obvious that both of these piston rods 131 must be withdrawn before the trip arm 132 can follow the drop-roller down, and when so held up the three-way throw-out arm or element 139, see Fig. 11, will be permitted to work; the upper or latch-end 140 passing freely under the latch end

of the trip arm 132. When the sheet is against both feeding guides, both of these pistons will be withdrawn, in this case the descending drop roller 47 will permit this trip arm 132 to fall in front of the latch portion 140 of the throw-out arm, thus preventing it from following its cam 141 further than the position shown in Figs. 11 and 20. It is given this amount of idle motion before being intercepted in order to get a quick action when required.

Note the position of the cam 141 and the antifriction roller 142 on the portion of the arm 139 projecting to the right. It is obvious the cam action has passed the necessarily slow part of the movement and is fully under way for quick action, when not intercepted by the trip arm. Fig. 20 shows it intercepted, and also shows how the cam will gently engage it at the end of the period and depress it ready for another start. Referring to Figs. 11, 19 and 20, the helical spring 143 pulls this portion of the arm 139 upwardly and in contact with the cam as shown in Fig. 19, except when prevented by the trip arm 132 as shown in Fig. 20. The spring 144, to the left, in the above mentioned figures, is one of the springs pulling the drop roller 47 down; there being two springs in addition to gravity for this purpose. The vertical plunger 145 pivoted on the left branch of the throw-out arm 139 is shown in Fig. 11, in contact with the pivoted arm 146, but has not depressed it far enough for action. However in Fig. 19 the plunger 145 is shown fully depressed. When so depressed the "door" switch contained in the casing 147, is operated to make or break contact, depending on the method of wiring. This in turn cuts the current from the press motor. The rod 148 which is connected to the arm 146, unlatches well known spring controlled mechanism common to this type of press feeder, not shown. One side of this applies the press brake, the other "trips" the press, so that the type will not come in contact with the cylinder; there being no sheet to receive the ink from the type. This mechanism may be called the trip box. There are two foot pedals provided for resetting it. The operation is similar to setting a heavy spring controlled trap, and the above described plunger 145 simply unlatches the double trap. The trip box levers are connected to the same brake and "trip" that are used when the press is fed from its regular feed board by hand; both brake and trip being provided with a foot pedal. This arrangement, being common to all makes of flat bed printing presses, is not shown.

The object of having the press stopped in case a sheet fails to get squarely against both press guides is to prevent sheets out of register getting through without being detected. With everything properly adjusted, the press may run for hours without stopping.

In starting the press and feeder the operator cuts out the control at the press-guides by means of lever 302, just long enough to present the first sheet to said guides.

After the sheet has been placed squarely against the feeding guides, the sheet is side-guided. There is a side guide on both sides of the delivery for this purpose; only one guide being used at a time. One is selected for printing the first side of the sheet, and the other side guide is used when printing the reverse side; although the reverse side is frequently printed on a different press. In color work the sheet may be printed on one side from three to five times. The edge of the sheet selected for register must be used in all operations. The side guide used in this connection is fully described in my Patent No. 1,466,660, Sept. 4, 1923. This guide is shown in place in Fig. 1, but is not shown in detail in these drawings.

After side guiding, the sheet is taken by the grippers in the usual manner; the first turn of the cylinder, printing the sheet as the bed travels with the cylinder, the second turn delivering the sheet as the bed returns, the cylinder then being slightly elevated to permit the type clearing it. As the sheet is delivered, it must be stripped from the cylinder. This is all done in the usual way, and is a part of the press operation, and not a feeder operation. However, at this point, it sometimes happens that a sheet will fail to deliver properly, and will crumple up. This is usually called a "choke up," the sheet remaining jammed between the upper and lower guides. When the press is fed by hand, this will be noticed by the operator, who will stop the press and trip the cylinder, and take the sheet out. With a press feeder, it is necessary that the press be stopped automatically in case of a "choke" at this point, as more sheets coming would increase the jam.

Referring to Figs. 1, 2, 3 and 11, two or more light fingers 171 are provided; the number depending on the size of the press. This much is common to other press feeders. As shown best in Fig. 3, they are immediately over the sheet and are parallel with the supporting bars 172 and tapes 173; and are made long enough to fully cover the place where a "choke" is most likely to occur. These fingers 171 are light and are secured to a shaft 174 journalled at each end. They are prevented from dropping beyond the position shown, by an arm 175 secured to the left hand end of this shaft 174. This arm 175 rests upon and closes an air nozzle 176. When this nozzle is kept closed the air pressure keeps the diaphragm piston 177 in an elevated position, against the spring 177', see Figs. 11 and 12, 16 and 18. The movement of diaphragm piston 177 is communicated

through piston rod 178 and lever 179 to lever or pivoted arm 146. It follows that the descent of this diaphragm piston and rod operating on lever 146, causes the stopping and tripping of the press cylinder, through the same means as does the action of plunger 145 above referred to. The air supply is fed to the diaphragm 177 through a restricted passage 180, shown in Figs. 16 and 18. This is the same principle as described for the press guides; however the escape passage is considerably larger relative to the restricted passage. The reason for the escape nozzle being larger relatively, is to get a very quick action on the escape; a quite as slow movement is permissible in filling the diaphragm again. In the case of the small pistons, shown in Fig. 15, it is desired to have about the same speed in both directions. The feeder is provided with a constant air supply at a pressure of about 1½ lbs. per square inch. This air pressure is still available while the press is stopped. The blower with its motor are not shown on these drawings, as any air supply may be used; the feeder itself being pneumatically operated as usual from the same supply.

Fig. 17 shows a nozzle 182, similar to the one shown in Fig. 16; this is normally closed by a flat bar or plate 183 pivoted at 184 near its center. This bar is controlled by the spring 185. The lower end of this bar 183 serves as a handle. The body portion 186 forms a support for the different elements, and is connected by pipe 187 to the diaphragm 177 shown in Figs. 11 and 12, this pipe being a branch of the pipe connecting the other nozzle shown in Fig. 16. It is obvious if the nozzle shown in Fig. 17 is opened it will produce the same results as does opening the nozzle shown in Fig. 16. The part shown in Fig. 17 is located at a convenient place at the front of the press, where the operator or pressman can reach it when examining sheets as they are delivered in the pile. A slight pressure of the finger on plate or bar 183, opens nozzle 182 and causes a quick stop of the press and feeder.

The air hose 199, shown in this figure is the supply for the feeder, and not the trips; however the trips on the other side of the feeder are piped from the same supply.

The tail clamp, in the present machine, is similar in construction, adjustment and control, to that shown in Figs. 1, 9 and 10 of my Patent No. 1,412,872, of Apr. 18, 1922. The drag however, in accordance with the present invention, is incorporated with the tail clamp structure, as shown in Fig. 2. This construction is made the subject of a separate application and need not be described in detail in this application.

Figs. 25 and 26 show the press feeding guide 120 as used with this feeder, drawn full size. In addition to the trip pendulum 122 incorporated in it, there is an improvement in the guides over the sheet. This is desirable in connection with a press feeder, as the two very small rods 239 over the sheet can be adjusted to bring them very close to the plate 237 below the sheet and made parallel with it. This plate or spring 237, shown in elevation in Fig. 26, is just above the periphery of the press cylinder 238. It also is shown in section in Fig. 25. It is a regular part of the press. This plate is sprung in position, up against the heavy plate 236 forming the lower part of the regular press feed board. When the press guides 120 come down on these spring plates 237 they depress them slightly thus forming a close contact. The small round rods 239 having substantially horizontal and vertical extensions with a coil between said extensions are also sprung in place, the front end is under the press guide 120 and firm against it, there being a notch cut in the guide. The depth of this notch is slightly more than the flattened end of the rod 239; this fixes the space for the sheet at this end. The other end can be elevated or depressed through means of the small nut 240 at the top of the rod and bearing against the yoke or supporting frame 241 through which the rods 239 project. When properly adjusted these rods 239 insure the sheet being kept flat and straight at this vital point.

The nozzle formation 127 shown in Fig. 13 is in the form of a T having three nozzles. One arm of the T is detachably secured in the yoke or frame 241 by means of the spring 241′ engaging in a notch provided in said arm.

What I claim is:—

1. In a sheet feeding machine, a pneumatically operated controlling system, including air escape nozzles, and automatic controls for same and an additional nozzle for arbitrary control, having a normally spring controlled element for manual operation.

2. In combination with a sheet feeding machine, a press feeding guide having a vertically extending portion with a notch in its lower edge, and a horizontal rod positioned above the path of travel of the sheet, having its end engaging the upper margin of said notch.

3. In combination with a sheet feeding machine, a press feeding guide having a vertically extending portion with a notch in its lower edge, and a horizontal rod adjustably positioned above the path of travel of the sheet, having its end engaging the upper margin of said notch.

4. In combination with a sheet feeding machine, a press feeding guide, comprising a vertically extending portion with a notch in its lower edge and a spring element having a vertical and a horizontal extension with

an intermediate coil, the free end of the horizontal extension engaging said notch and the vertical extension having vertical adjustment.

5. In combination with a sheet feeding machine, a press feeding guide comprising a supporting frame and a vertically extending portion provided with a slot and flanking notches in its lower end, an air escape nozzle associated with the frame, a pivotally mounted nozzle controlling element having a portion movable in the slot, and horizontally extending resiliently supported rods flanking said pivotal element with their free ends engaging in said notches.

6. In combination with a sheet feeding machine, a press feeding guide comprising a supporting frame and a vertically extending portion provided with a slot and flanking notches in its lower end, an air escape nozzle associated with the frame, a pivotally mounted nozzle controlling element and having a portion movable in the slot, horizontally extending resiliently supported rods flanking said pivotal element with their free ends engaging in said notches, and means for securing vertical adjustment of said rods.

7. In combination with a sheet feeding machine, a press feeding guide comprising a supporting frame and a vertically extending portion provided with a slot and flanking notches in its lower end, an air escape nozzle associated with the frame, a pivotally mounted nozzle controlling element having a portion movable in the slot, and spring rods having horizontal and vertical extensions, the ends of the horizontal extensions engaging said notches and the ends of the vertical extensions adjustably secured.

8. In combination with a sheet feeding machine, a press feeding guide, comprising a supporting frame and a vertically extending portion provided with a slot and flanking notches in its lower end, an air escape nozzle associated with the frame, a pivotally mounted nozzle controlling element having a portion movable in the slot, a guide plate in spring engagement with the lower edge of said vertically extending portion, and horizontally extending resiliently supported rods flanking said pivoted element and spaced above said guide plate with their free ends engaging said notches.

9. In a sheet feeding machine, pneumatic controlling means, including a three nozzle formation, a supporting element therefor and resilient means for disengageably securing said nozzle formation to the supporting element.

10. In a sheet feeding machine, pneumatic controlling means including a supporting element, a nozzle formation in the form of a T having three nozzles, one arm of the T adapted to be disengageably secured in the supporting element, and provided with a notch, and a spring for cooperating with said notch for locking the said arm in place.

11. In a sheet feeding machine having a pneumatic control system, a self-containing structure comprising a press guide, a nozzle formation, a pivotally mounted pendulum having a nozzle controlling portion and a sheet engaging portion normally at rest in advance of the sheet engaging face of the press guide, and extensions located above and parallel with the plane of travel of the sheet and flanking the sheet engaging portion of the pendulum.

12. In a sheet feeding machine having a pneumatic control system, a self-containing structure comprising a press guide, a nozzle formation, a pivotally mounted pendulum having a nozzle controlling portion and a sheet engaging portion normally at rest in advance of the sheet engaging face of the press guide, and resilient extensions located above and parallel with the plane of travel of the sheet and flanking the sheet engaging portion of the pendulum.

13. In a sheet feeding machine having a pneumatic control system, a self-containing structure comprising a press guide, a nozzle formation, a pivotally mounted pendulum having a nozzle controlling portion and a sheet engaging portion normally at rest in advance of the sheet engaging face of the press guide, and vertically adjustable extensions located above and parallel with the plane of travel of the sheet and flanking the sheet engaging portion of the pendulum.

14. In a sheet feeding machine having a pneumatic control system, a self-containing structure comprising a press guide, a nozzle formation, a pivotally mounted pendulum having a nozzle controlling portion and a sheet engaging portion normally at rest in advance of the sheet engaging face of the press guide, and extensions located above and parallel with the plane of travel of the sheet and flanking the sheet engaging portion of the pendulum, the free ends of said extensions projecting into notches formed in the lower edge of the press guide.

15. In combination with a sheet feeding machine, means for automatically stopping the machine in case of a "choke", comprising pneumatically operated controlling means having an air escape nozzle connected therewith, a rock shaft provided with an arm normally resting by gravity upon and closing the air escape nozzle, a plurality of fingers mounted upon said rock shaft, supported above the delivered sheet by the nozzle closing arm and adapted to actuate the nozzle closing arm upon abnormal conditions.

HOWARD K. KING.