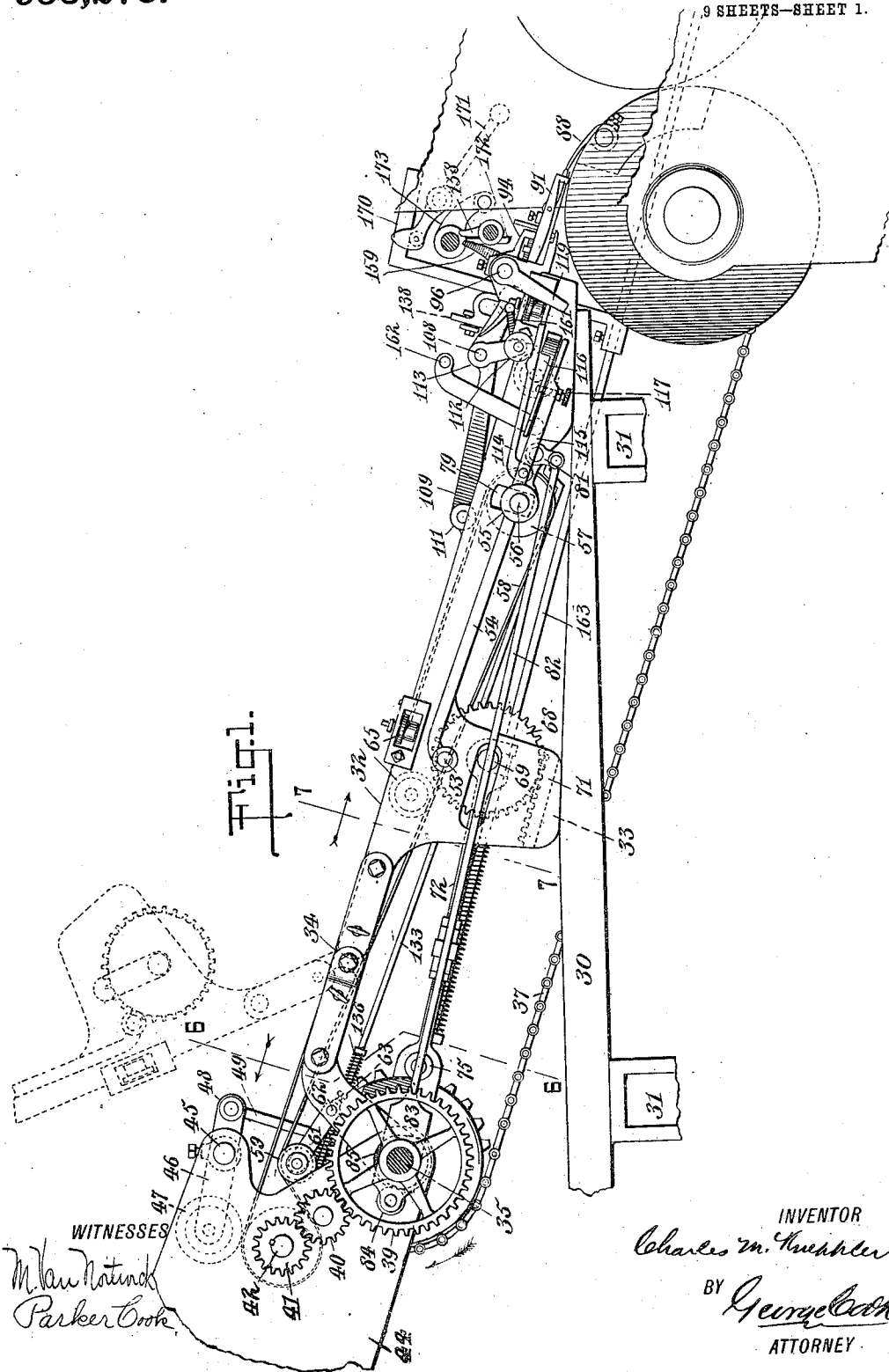


C. M. KNEPPLER.
FEEDING MECHANISM FOR PRINTING PRESSES.
APPLICATION FILED MAR. 1, 1901.

953,273.

Patented Mar. 29, 1910.

9 SHEETS—SHEET 1.



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9 SHEETS—SHEET 2.

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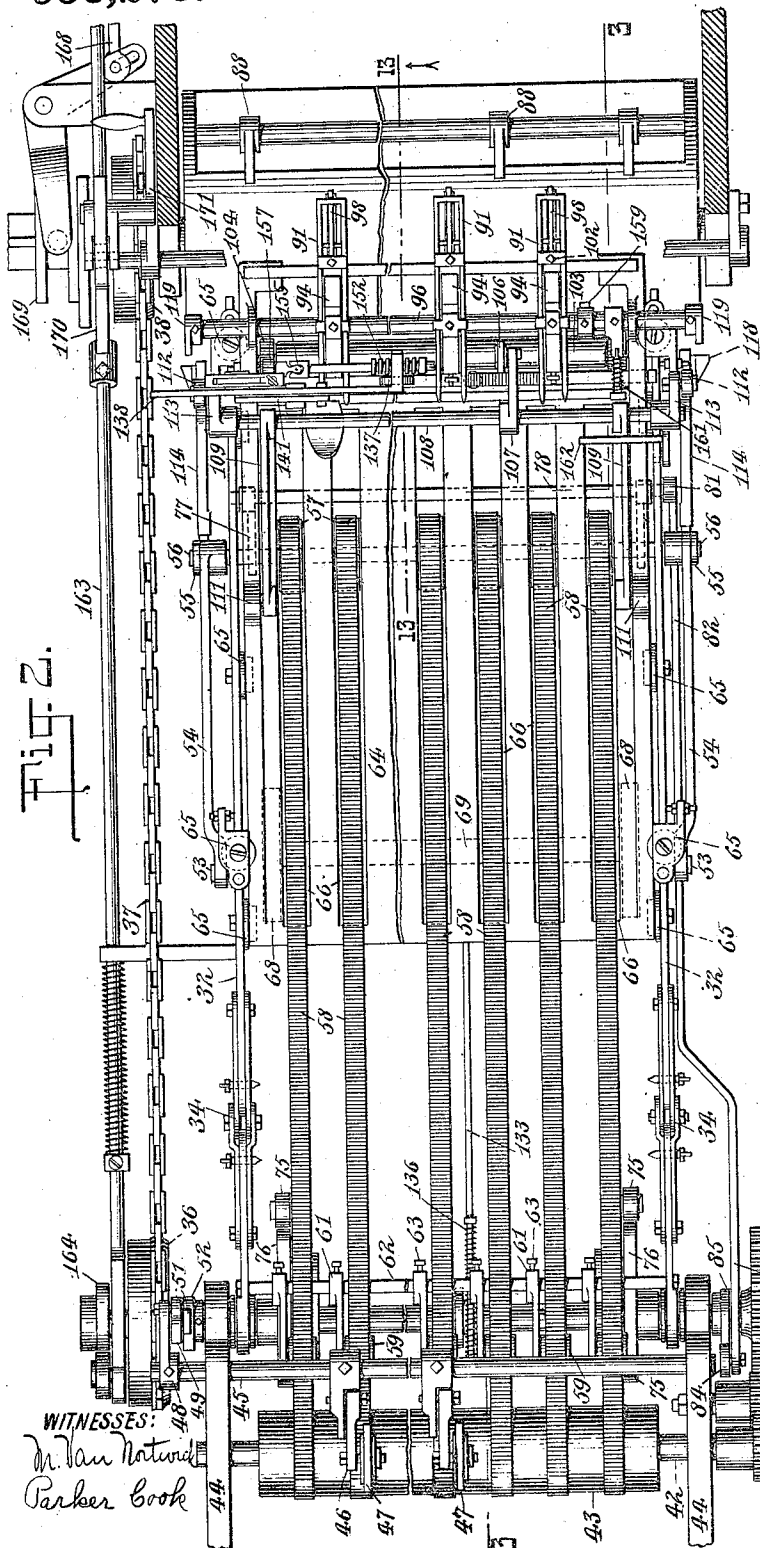


Fig. 2.

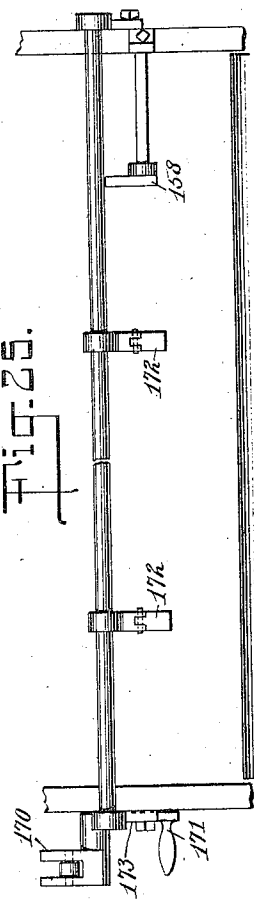


Fig. 25.

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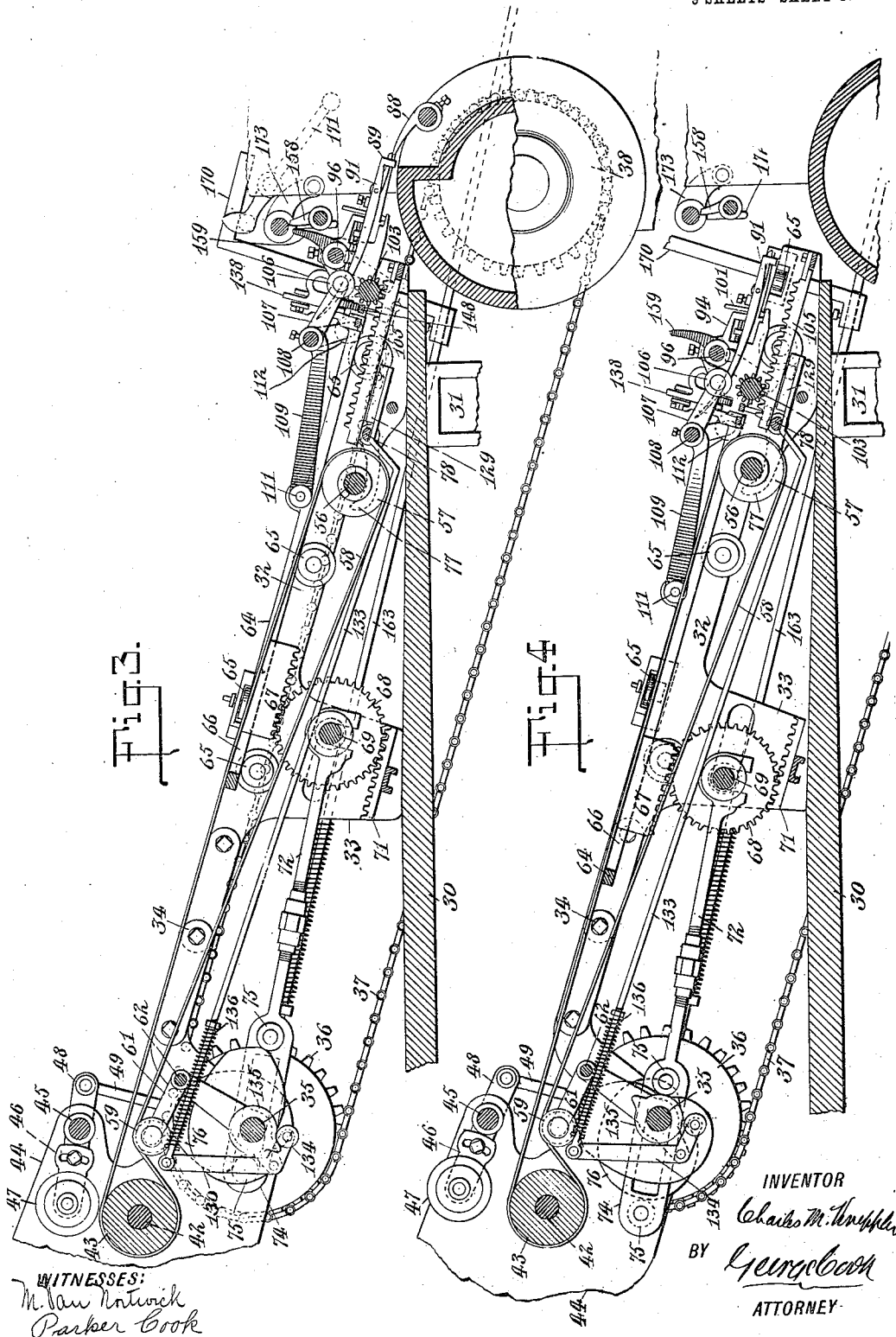
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C. M. KNEPPLER.
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APPLICATION FILED MAR. 1, 1909.

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9 SHEETS—SHEET 3.

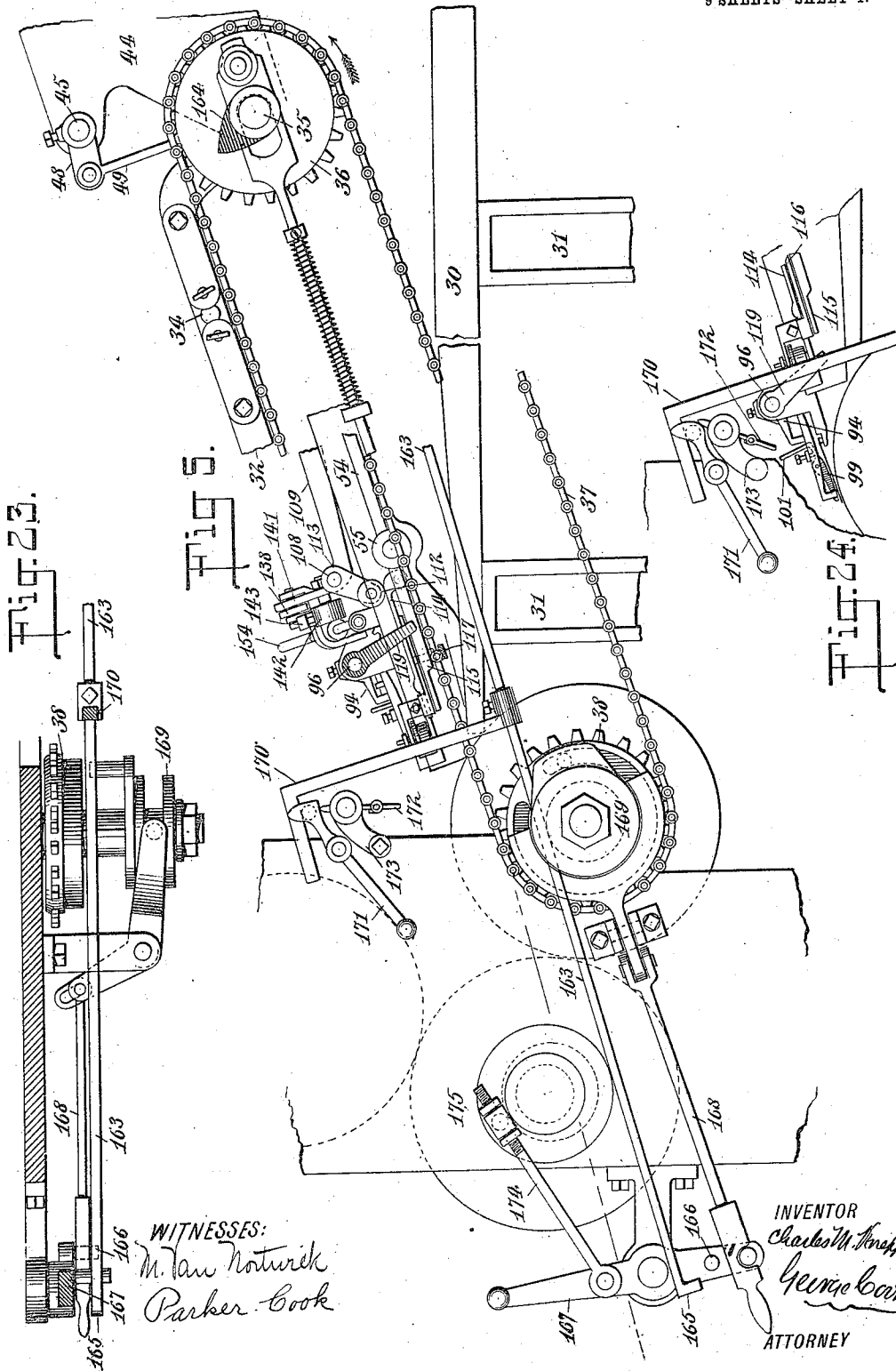
953,273.



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APPLICATION FILED MAR. 1, 1909.

Patented Mar. 29, 1910.
9 SHEETS—SHEET 4.

953,273.

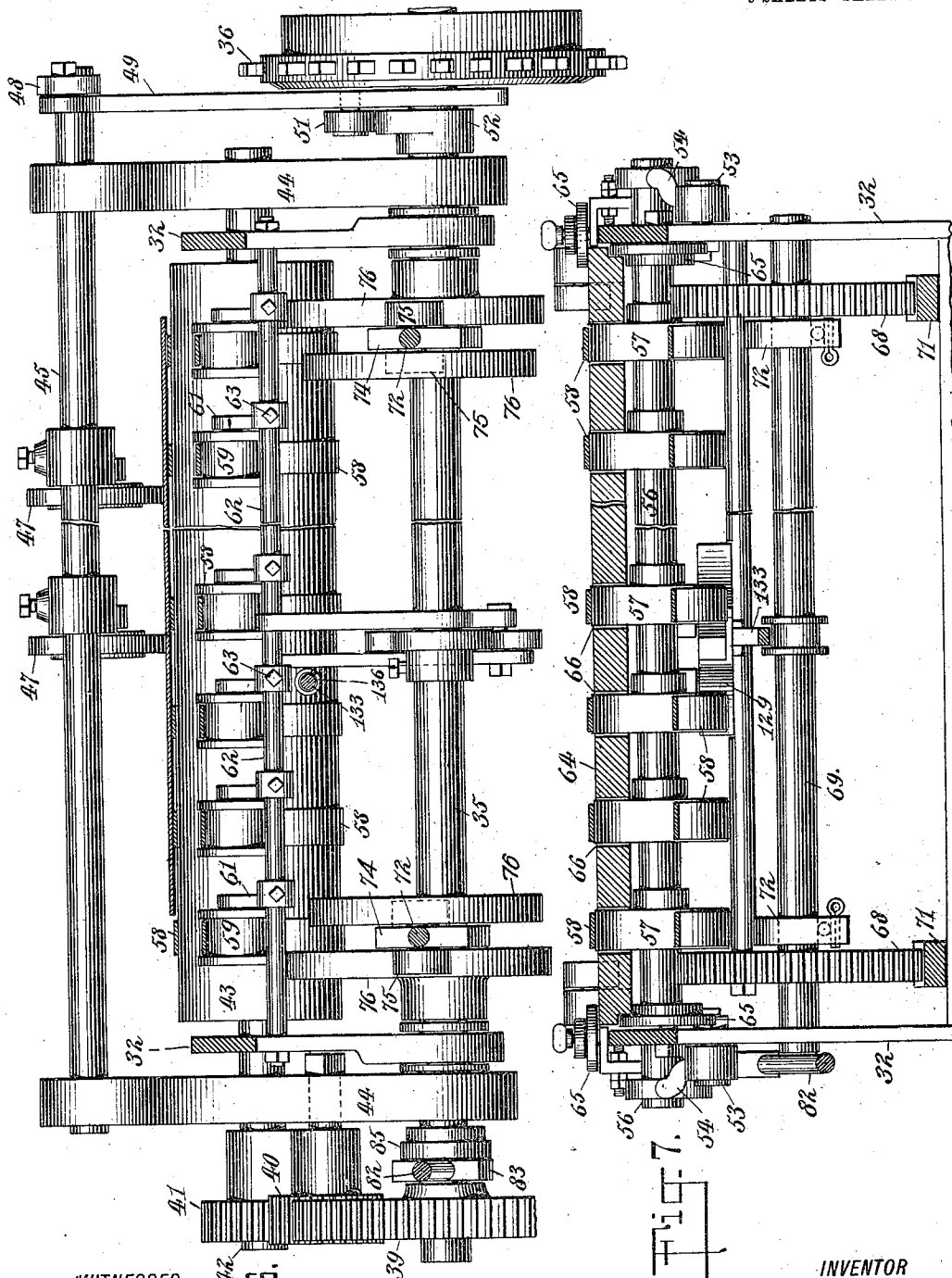


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953,273.

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9 SHEETS—SHEET 5.



WITNESSES
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FIG. 7.

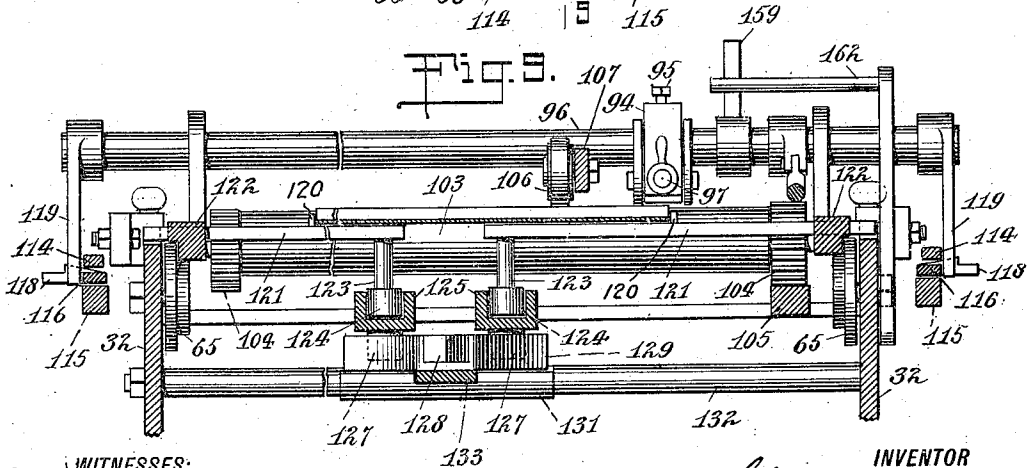
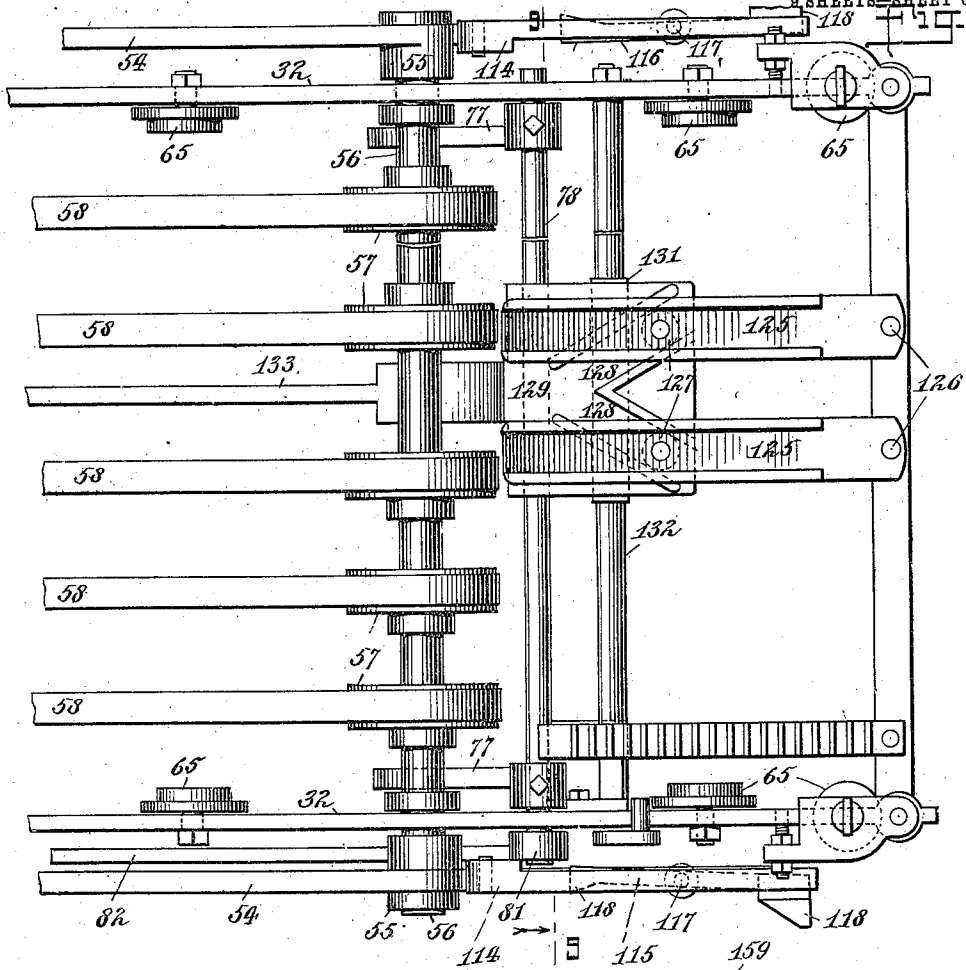
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APPLICATION FILED MAR. 1, 1909.

953,273.

Patented Mar. 29, 1910.

9 SHEETS-SHEET 6.



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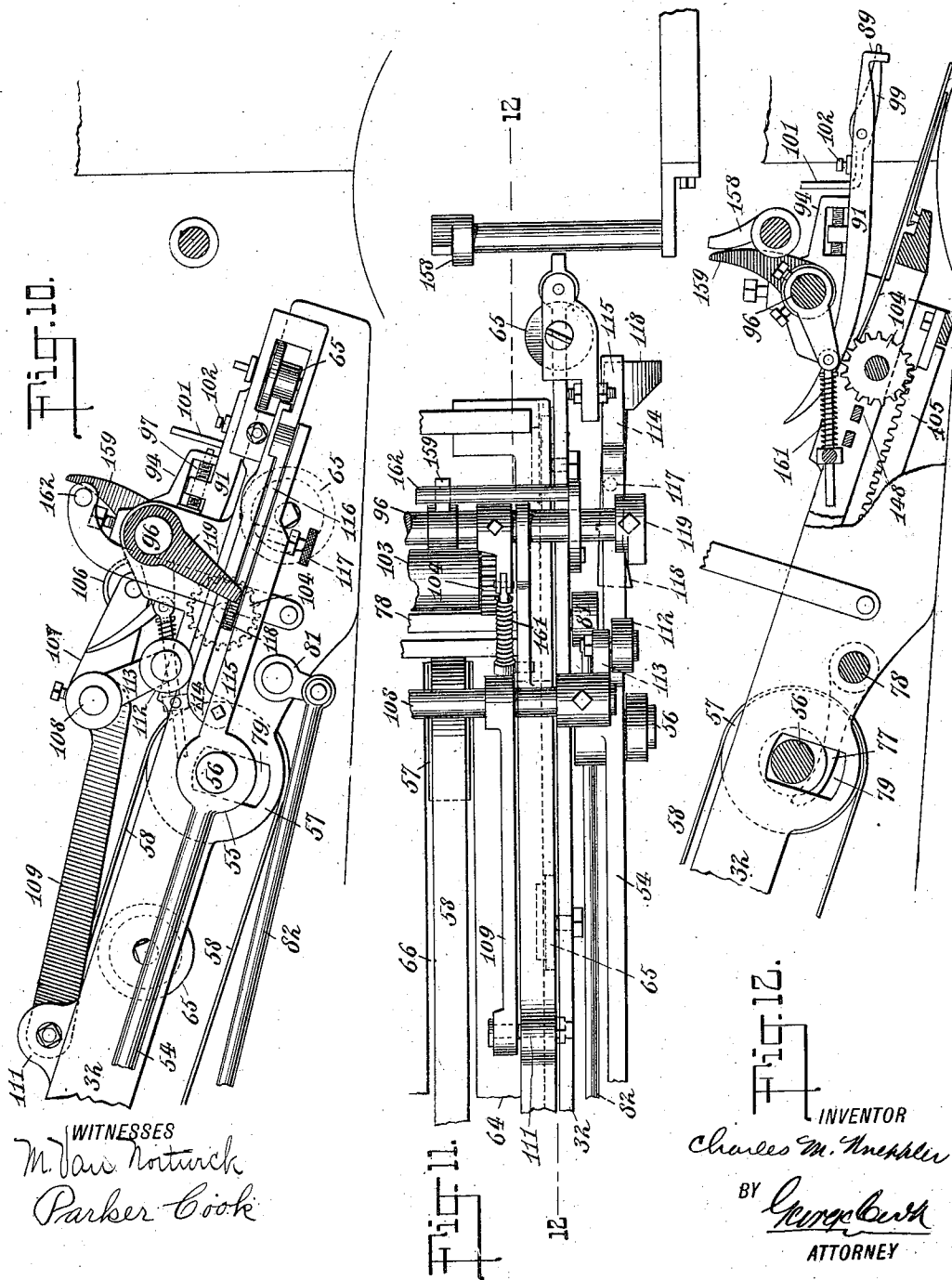
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FEEDING MECHANISM FOR PRINTING PRESSES.
APPLICATION FILED MAR. 1, 1909.

953,273.

Patented Mar. 29, 1910.

9 SHEETS—SHEET 7.



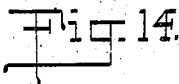
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APPLICATION FILED MAR. 1, 1909.

Patented Mar. 29, 1910.

9 SHEETS—SHEET 8.



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FEEDING MECHANISM FOR PRINTING PRESSES.
APPLICATION FILED MAR. 1, 1909.

953,273.

Patented Mar. 29, 1910.

9 SHEETS—SHEET 9.

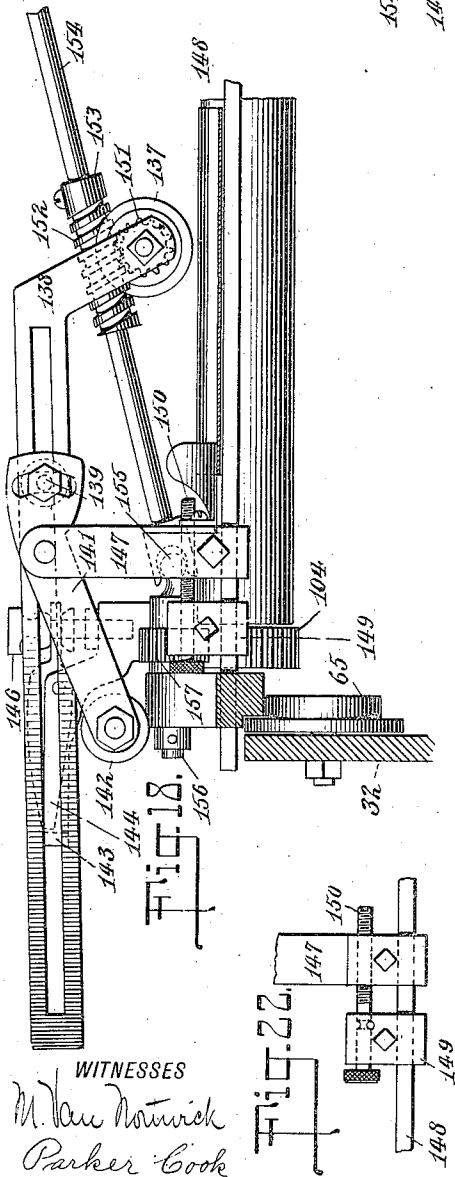


Fig. 18.

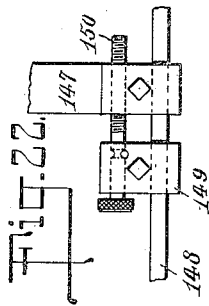


Fig. 22.

Fig. 20.

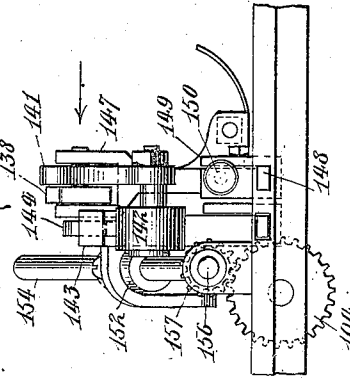


Fig. 21.

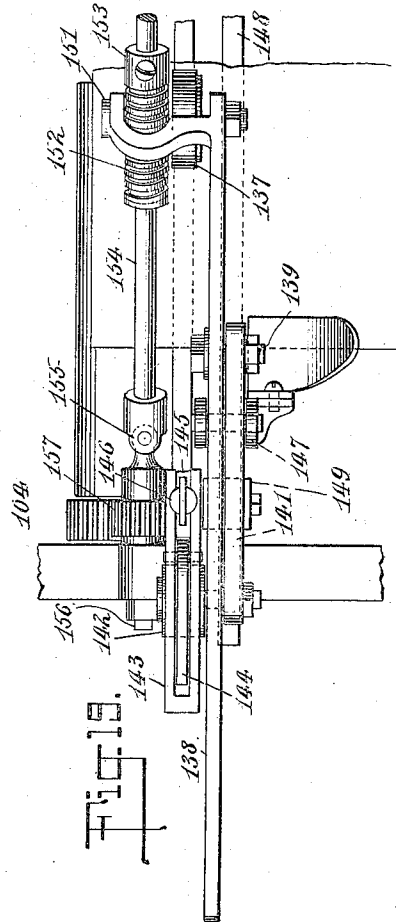
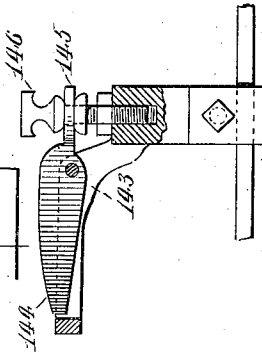


Fig. 19.

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UNITED STATES PATENT OFFICE.

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FEEDING MECHANISM FOR PRINTING-PRESSES.

953,273.

Specification of Letters Patent. Patented Mar. 29, 1910.

Application filed March 1, 1909. Serial No. 480,775.

To all whom it may concern:

Be it known that I, CHARLES M. KNEPPLER, a citizen of the United States, and a resident of New York, borough of Brooklyn, in the county of Kings and State of New York, have made and invented certain new and useful Improvements in Feeding Mechanism for Printing-Presses, of which the following is a specification.

My invention relates to a feeding mechanism for printing presses and is especially adapted for use in connection with fast running, rotary presses.

One of the objects of the invention is to provide means whereby a sheet of paper shall be flattened out and automatically adjusted while being carried forward preparatory to being delivered to the grippers of the cylinder in order that same may be properly registered and accurately and rapidly fed to the press.

A further object of the invention is to provide means adaptable to the different conditions and different qualities and weights of paper.

Another object is to provide a mechanism which shall be simple in construction and in operation and which may be easily and quickly assembled and which shall not require any complicated parts or castings in its manufacture.

Various other objects sought and realized will be more fully set forth in the description of the invention which consists in the new and novel features of construction and combination of parts hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a side elevation of the machine showing the carriage in its forward position. Fig. 2 is a plan view showing the parts in the position as indicated in Fig. 1. Fig. 3 is a sectional view taken on the line 3—3 of Fig. 2. Fig. 4 is a similar view showing the carriage after moving rearwardly. Fig. 5 is a view in side elevation showing the side of the machine opposite that as indicated in Fig. 1. Fig. 6 is a sectional view taken on the line 6—6 of Fig. 1, looking in the direction as indicated by the arrow. Fig. 7 is a sectional view taken on the line 7—7 of Fig. 1 looking in the direction as indicated by the arrow. Fig. 8 is a plan view of the device

with the carriage removed. Fig. 9 is a sectional view taken on the line 9—9 of Fig. 8 and having the carriage applied thereto. Fig. 10 is an enlarged view in side elevation of a portion of the machine, the carriage being in its rear position. Fig. 11 is a plan view of the mechanism shown in Fig. 10. Fig. 12 is a sectional view taken on the line 12—12 of Fig. 11, the carriage being shown in its extreme forward position. Fig. 13 is a sectional view taken on the line 13—13 of Fig. 2, the carriage being shown in its extreme rear position. Fig. 14 is a similar view showing the carriage in its extreme forward position. Fig. 15 is a plan view of the detached guides. Fig. 16 is an end view of the guide illustrated in Fig. 15. Fig. 17 is a sectional view taken on the line 17—17 of Fig. 15. Fig. 18 is a detached view partly in elevation and partly in section of the lateral guiding mechanism. Fig. 19 is a plan view of the same. Fig. 20 is an end view of the same. Fig. 21 is a detached view partly in section and partly in elevation of mechanism for adjusting the feed roller. Fig. 22 is a detached view of the mechanism for adjusting the lateral guiding mechanism of this supporting bar. Fig. 23 is a plan view showing the automatic cut-out. Fig. 24 is a view of the mechanism for operating the cut-out. Fig. 25 is a detached view of a part of the automatic cut-out.

By reference to the drawings, it will be seen that the device is mounted upon a frame 30 supported upon standards 31 on which in turn is supported an inclined frame 32, the latter being provided with the downwardly projecting supports 33 resting upon the frame 30. The front end of the frame 32 is hinged as at 34 to permit of its being swung upward as shown in dotted lines in Fig. 1 to permit ready access to the parts when the press is not in use. A main driving shaft 35 is journaled in said rear portion of the frame 32, one end of which has secured thereon the sprocket wheel 36 around which passes the driving chain 37, said chain also passing around the sprocket wheel 38 driven from some portion or part of the press or by any other suitable means. A gear wheel 39 is secured to the opposite end of the main driving shaft which meshes with the inter-

mediate gear 40, which latter meshes with the gear 41 secured to the end of the shaft 42 carrying the tape rollers 43. Said shaft 42 is preferably journaled in the sides or frame 44 of the feeding box (shown broken away) located in front of my improved feeding mechanism, but may be mounted in the frame. A shaft 45 is also mounted in the sides of the feeding box which is provided with one or more adjustable arms 46 having rollers 47 at one end thereof adapted to engage with the paper or other material passing over the tape roller. Said shaft is automatically rocked and the rollers forced into contact with the paper by means of an arm 48 secured to the shaft and connected with a link 49 provided with a roller 51 actuated by a cam 52 upon the main shaft. To the supports 33 of the frame 32 are pivoted one end 53 of the bars 54 provided with bearings 55 in which are journaled the ends of the shaft 56 to which are secured rollers 57. Around said rollers and the roller or cylinder 43 pass the bands or tapes 58 employed for carrying the sheets of paper from the rear end of the feeding device, said tapes being driven or caused to travel by reason of the rotation of the cylinder or rollers 43 driven through the gears 39, 40 and 41. A plurality of idlers or adjustment rollers 59 are secured by arms 61 to a supplemental shaft 62 rigidly secured to the frame and engage with the bottoms of the tapes to hold same under proper tension. Said idlers may be adjusted by any suitable means as the set screws 63.

A table 64 is mounted upon the frame and reciprocates upon the rollers 65 provided thereon. Said table is provided with a number of elongated slots or openings 66 for the tapes 58 and is provided on its under side with racks 67 meshing with the driving gears 68 mounted upon a shaft 69, the said gears also meshing with stationary racks 71 provided on extensions 33 of the frame. The shaft 69 extends outward a suitable distance from the gears 68 forming axles or trunnions which are engaged by one end of the adjustable crank rod 72 which is provided at its opposite or rear end with a slotted plate 74 mounted on the main driving shaft. Said plate is provided at or near its end with rollers 75 adapted to engage alternately with reverse acting cams 76 which impart a to and fro or reciprocating motion to the table. The tapes 58 are alternately raised and lowered above the top of the reciprocating table 64 by any suitable means as the arms 77 which are secured to a shaft 78 mounted in the frame and which are formed with suitable bearings adapted to engage with the shaft 56 and raise or lower the same in the slots 79 provided in the frame. Said shaft 78 has a downwardly projecting arm 81 secured thereto which is

connected by a rod 82 with a slotted plate 83 having a roller 84 secured to one arm thereof in engagement with a cam 85 upon the main crank shaft.

The guides which receive the piece of paper and deliver the same to the grippers 88 of the printing press comprise the end or lip piece 89 and parallel side pieces 91. Said side pieces are spaced apart by a bar 92 and are movable in guide ways 93 secured to an adjusting block 94 rigidly fastened by any suitable means as the set screws 95 to a shaft 96 rotatably mounted on the reciprocating table. An adjusting screw 97 is mounted in each of said blocks and engages with the bar 92 whereby the position of the guides may be adjusted. A safety device 98 is pivoted near the forward end of each guide between the side pieces and comprises a curved body portion 99 adapted to rest upon the paper and an upwardly extending arm or lever 101 to engage with the stop mechanism hereinafter described. The screw 102 provides means for regulating the position of said safety device.

The paper is fed to the guides when the table is in its rearmost position as shown in Fig. 4 and immediately thereafter the tapes are lowered below the surface of the table permitting the paper to lie flat on the table and to be automatically adjusted during the forward movement thereof. The direct or forward adjustment is accomplished by means of a feed roller 103 rotatably mounted in the carrier and having gears 104 at both ends thereof which are constantly in mesh with the stationary racks 105 secured to the frame whereby said roller is rotated whenever the table is reciprocated. An auxiliary roller 106 is provided to cooperate with the feeding roller and force the paper into contact therewith. Said auxiliary roller is mounted upon an arm 107 upon a floating shaft 108 which is mounted in bearings provided by arms 109 pivoted as at 111 to the sides of the table. Said shaft is supported and actuated by a roller 112 mounted upon an arm 113 secured to the shaft. The roller 112 rides upon a cam plate 114 pivoted at one end to an extension 115 formed integral with the bar 54. At its other end the plate 114 rests upon and is actuated by a wedge lever 116 pivoted to the extension 115 by any suitable means as the adjusting screw 117 and provided with laterally extending cam surfaces 118. A downwardly depending arm 119 is fixed to the shaft 96 and is adapted to engage alternately said cam surfaces 118 and force the wedge shaped end of the lever 116 alternately into and out of engagement with the free end of the cam plate 114.

In order to adjust the paper sidewise, that is, transversely to the line of feed two or more bars 121 are mounted in the table so as

to move in opposite directions to each other and are provided with projections 120 which engage the opposite edges of the sheet to register same. The outer ends of the bars slide in bearings 122 provided in the sides of the table and the inner ends are connected with studs 123 provided with rollers 124 engaging in guide ways 125 pivoted to the frame at one end as at 126. Said guides have rollers 127 mounted thereon which engage in transversely arranged slots 128 formed in a plate 129 resting upon and movable on a roller sleeve 131 provided upon a shaft 132 secured to the frame. The plate 129 is reciprocated by a rod 133 secured to one end of a bell crank lever 130 which is provided with a roller 134 at its other end in engagement with a cam 135 upon the main shaft. Said roller is yieldingly held in engagement with the cam by a spring 136. It will be obvious that the reciprocating movement of the plate 129 will produce a sliding movement of the guides 125 and consequently a sidewise movement of the bars at right angles to the line of travel of the paper.

In order to flatten out the paper on the bars an auxiliary friction roller 137 is adapted to cooperate therewith, the said roller being mounted upon a frame 138 that is supported by an adjusting screw 139 adjustably secured near one end of a lever 141. At its other end said lever is provided with a roller 142 normally in engagement with a cam arm 143. Said cam arm is adjustably secured to one of the adjusting bars and comprises a cam plate 144 pivoted to the arm and having a finger 145 operatively connected with a set screw 146 so that the position of said cam plate may be adjusted. The lever 141 is pivoted to and supported upon an upright 147 secured to a stationary bar 148 mounted in the sides of the table. A block 149 is also secured to the bar 148 adjacent to the upright 147 and the two are connected by a set screw 150. Both the upright and the block are adjustable on the bar 148 and after being set approximately in position the exact adjustment can be obtained by said set screw. The roller 137 is provided with gears 151 adapted to mesh with a worm 152 formed on a sleeve 153 adjustably secured to a floating shaft 154, the said worm and gear being normally held in mesh by gravity. The shaft 154 is connected by any suitable flexible joint 155 to a stub shaft 156 mounted in the sides of the table and is provided with a gear 157 in mesh with one of the gears of the feed roller.

The guides are automatically raised and lowered by means of a wiper-cam 158 actuated from the press cylinder and adapted to engage an arm 159 mounted on the shaft 96 which carries the guides. A spring 161 holds the guides in their raised position un-

til the table has been carried rearward so as to bring the arm 159 in engagement with a fixed stop 162 secured to the frame which forces the guides into their operative or receiving position.

In order to automatically stop the movement of the table in case the supply of paper is accidentally stopped or exhausted an automatic cut-out is provided which comprises the rod 163 that is reciprocated by means of a cam 164 upon the main shaft and having a hook 165 at its forward end adapted to engage with a pin 166 on a lever 167 which is connected by a rod 168 with the clutch 169 which controls the operation of the feeding mechanism. The rod 163 is normally held out of engagement with the pin 166 by means of a trip mechanism comprising a bent arm 170 which rests upon one end of a weighted lever 171. Said lever is normally held in its raised position by means of a finger 172 pivoted to an arm 173 secured to the press. Said finger is arranged so that it will be in the path of the upwardly extending arm 101 on the safety device 98 in case no paper is fed to the guides. When tripped the rod 163 drops into engagement with the pin 166 and the cam pulls said lever forward and disengages the clutch. A rod 174 is also secured by one end to said lever 167 and by its other end to one of the press cylinders 175 whereby the latter is also pulled out of engagement with the other printing cylinders when the rod 163 is actuated.

The operation of the feeding mechanism is as follows:—The paper is delivered from the feed box on to the tapes 58 and is caused to engage therewith by the roller 47 actuated by the cam 52 upon the shaft. This operation is timed to correspond with the end of the rearward stroke of the reciprocating table 64. As soon as the paper has been fed forward and just prior to the commencement of the forward stroke of the table the tapes are dropped below the surface of the table by the action of the cam 85 acting upon the arms 77 through the rods 82. This permits the paper to be supported solely by the reciprocating table and the forward stroke of the table immediately begins by the action of the cams 76 upon the gear wheels 68 through the rods 72.

With the commencement of the movement of the table the feed roller 103 is rotated since it is in engagement with the stationary rack 105 upon the frame and simultaneously or immediately thereafter the auxiliary roller 106 engages with the sheet forcing same into frictional contact with the feed roller and further forcing the sheet forward into firm contact with the ends of the guide which remain in their lower or operative position. At the same time and almost simultaneously with or immediately after the forward movement of the table begins

the laterally adjusting bars 121 are forced outward by means of the guide ways 125 actuated from the transversely arranged slots 128. Thereupon the friction roller 137 is lowered into position and further serves to straighten and adjust the paper laterally. These operations take place during the forward movement of the table and while the guides remain in their operative or holding position. When the table reaches the end of its forward stroke or travel the cam 158 engages with the arm 159 upon the guide operating shaft 96, which raises the guides and releases the paper permitting same to be seized by the grippers of the press cylinder. Thereupon the return or rearward stroke of the table begins through the action of the cam 76 upon the gears 68 through the rod 72. During this rearward movement the parts are caused to return to their original or starting movement, the auxiliary roller being raised out of contact with the feed roller by the action of the cam plate 114 and the wedge lever 116 through the floating shaft 108 and the laterally moving bars being forced toward each other and the friction roller 137 being raised. When the table arrives at or near the end of its rearward stroke the guides are forced downward into their operative position ready to receive another sheet by the arm 159 coming into contact with the fixed stop 162.

Having now set forth and described one form of mechanism embodying my invention, it will be noted that various changes may be made in the details of construction thereof which are within the skill of the mechanic, and without departing from the spirit of the invention, provided the means set forth in the following claims be employed.

I claim as my invention:

1. In a feeding mechanism, the combination of a frame; a table mounted to reciprocate on said frame; means to deliver paper to said table, and separate means movable independently of the table for adjusting the paper forwardly and laterally on said table.

2. In a feeding mechanism, the combination of a frame, a table mounted to reciprocate on said frame, means to deliver paper to said table, means comprising an auxiliary roller for adjusting the paper forwardly, and means comprising an auxiliary roller for adjusting the paper laterally upon the said table.

3. In a feeding mechanism the combination of a frame, a table mounted to reciprocate on said frame, means to deliver paper to said table, and means mounted on and movable independently of the table for adjusting the paper forwardly and laterally on said table.

4. In a feeding mechanism the combination of a frame, a table mounted to reciprocate on said frame, means to deliver paper to said table, means comprising a feed roller and an auxiliary roller for adjusting the paper forwardly, and means comprising sliding bars and an auxiliary roller for adjusting the paper laterally on said table.

5. In a feeding mechanism, the combination of a frame having a hinged portion and a stationary portion, a feeding table movably mounted on the hinged portion, a driving shaft mounted in said stationary portion and operatively connected with said table, tapes for delivering paper to the table and actuated by the shaft, and means operated by the shaft for raising and lowering one end of the tapes.

6. In a feeding mechanism, the combination of a frame, having a hinged portion and a stationary portion, a feeding table movably mounted on the hinged portion, a driving shaft mounted in said stationary portion and operatively connected with said table, tapes for delivering paper to the table actuated by the shaft, an auxiliary roller actuated by the shaft to engage with the paper on the tapes, and means for raising and lowering one end of the tapes.

7. In a feeding mechanism, the combination with a frame comprising a stationary portion and a hinged portion, a table movably mounted on the hinged portion of the frame, a driving shaft mounted in the stationary portion of the frame and means to reciprocate said table comprising a gear wheel engaging with the table and frame, a rod operatively connected to said gear wheel, a forward and a reverse acting cam on said shaft, means on said rod operatively engaging said cams alternately, and means for regulating the length of said rod.

8. In a feeding mechanism, the combination of a frame, a driving shaft in said frame, a tape roller mounted in said frame and driven from said shaft, a table having a forward and a rearward movement in said frame, arms pivoted in the frame, a tape roller supported by said arms, a tape on said tape rollers, and means for actuating said arms to raise and lower the tape with relation to the surface of the table.

9. In a feeding mechanism, the combination of a frame, a driving shaft in said frame, a feed box, a tape roller journaled in said box and driven from said shaft, an auxiliary roller to cooperate with said tape roller mounted in said feed box and actuated by the shaft, a table having a forward and rearward movement in said frame, arms pivoted in the frame, a tape roller supported by said arms, a tape on the tape rollers, and means for actuating the arms to raise and lower the tape above and below the surface of the table.

10. In a sheet feeding mechanism, the combination with a frame, tape rollers

mounted in said frame, a table having a forward and rearward movement in said frame, arms pivoted to the frame, a shaft mounted in bearings provided on said arms, rollers on said shaft, tapes on said rollers, means to raise said tapes to receive the sheet thereon, and means to lower said tapes below the surface of the table to deliver the sheet to said table.

11. In a feeding mechanism, the combination with a frame, a driving shaft mounted in said frame, a shaft mounted in said frame, and tape rollers on said shaft, a reciprocating table mounted on the frame and having slots provided in its surface, means on said shaft operatively connected with said table for reciprocating same, tape rollers arranged below said table, tapes between said tape rollers, and lifting means actuated by the shaft for raising the said last mentioned rollers and elevating the tapes above the surface of the table.

12. In a feeding mechanism, the combination with a reciprocating table, of a feed roller mounted on said table, an auxiliary roller mounted on said table, means to reciprocate said table and means to alternately raise and lower the auxiliary roller from and into contact with the feed roller.

13. In a feeding mechanism, the combination with a frame provided with a stationary rack, of a table movable on said frame, a feed-roller mounted in said table and engaging said rack, an auxiliary roller mounted on said table, and means secured to the frame operatively connected with said auxiliary roller to raise and lower the same when the table is reciprocated.

14. In a feeding mechanism, the combination of a feeding roller and an auxiliary roller, of a cam plate pivoted to the frame at one end and operatively connected with said auxiliary roller, a wedge lever engaging the cam plate at its other end, means for raising and lowering the pivoted end of said cam plate and means for actuating said wedge lever to move the free end of said cam plate.

15. In a feeding mechanism, the combination of a frame, a table mounted on said frame, a feed roller mounted in the table, arms pivoted to the table, a shaft mounted in said arms, an auxiliary roller secured to said shaft and adapted to engage with said feed roller, an operating arm on said shaft, and means on the frame engaging said operating arm to move the shaft and the auxiliary roller.

16. In a feeding mechanism, the combination of a frame, a table on said frame, a feeding roller mounted in said table, an auxiliary roller to engage with said feeding roller and means to operate said auxiliary roller comprising a floating shaft operatively connected therewith, an arm secured

to said shaft, a cam plate pivoted to the frame and normally in engagement with said arm, a wedge plate to engage the free end of said cam plate, and means on the table engaging said wedge plate to operate same.

17. In a feeding mechanism, the combination with a forwardly and backwardly reciprocating table of adjusting bars movably mounted in said table, and means for moving said bars toward the sides of the table during the forward or feeding movement of the table, and toward the center during the backward or return movement of the table.

18. In a feeding mechanism, the combination with a frame and a forwardly and backwardly reciprocating table movable on the frame, of adjusting bars movably mounted on the table, and means on the frame operatively connected with said bars for moving same toward the sides of the table during the forward or feeding movement thereof, and toward the center of the table during the backward or return movement thereof.

19. In a sheet feeding mechanism, the combination with a reciprocating table, of an adjusting bar mounted in said table and engaging with the sheet, means for reciprocating said bar transversely of the table, and an auxiliary roller adapted to cooperate with said bar and be alternately engaged and disengaged therefrom.

20. In a sheet feeding mechanism, the combination with a reciprocating table, of an adjusting bar mounted in said table and engaging with the sheet, means for reciprocating said bar, an auxiliary roller alternately engaging and disengaging with the sheet, and means for continuously rotating said roller.

21. In a feeding mechanism, the combination with a frame, and a reciprocating table mounted on said frame, of an adjusting bar having a roller secured thereto mounted in and movable independently of the table, a guide way secured to the frame in engagement with said roller, and means to move said guide way to actuate the bar.

22. In a feeding mechanism, the combination with a frame, a driving shaft in the frame, and a forwardly and backwardly reciprocating table mounted on said frame, of an adjusting bar mounted in the table and movable independently thereof, a guide way operatively connected with said bar, and means engaging with said guide ways and operatively connected with the driving shaft to actuate said bar independently of the table.

23. In a feeding mechanism, the combination with a frame, and a table movable on said frame, of two sliding bars mounted in the table, guide ways pivoted to the frame and operatively connected with said sliding

bars, and a slotted plate mounted on the frame and operatively connected with said guide ways.

24. In a feeding mechanism, the combination with a reciprocating table, of sliding bars mounted in said table to move transversely to the line of travel thereof, guide ways pivoted at one end to the frame, a roller in each guide way operatively connected with the sliding bars, a slotted plate mounted on the frame, pins engaging in the slots in said plate and operatively connected with the guide ways, a driving shaft, and a connecting rod secured to said plate and actuated by said driving shaft to reciprocate said plate and actuate said sliding bars.

25. In a feeding mechanism, the combination of a sliding bar, an auxiliary roller to cooperate therewith, means to operate said auxiliary roller comprising an arm, a lever operatively connected to said arm, an operating roller on said lever and a cam secured to said sliding bar engaging with said operating roller to actuate the lever and the arm.

26. In a feeding mechanism, the combination of a reciprocating table, a sliding bar mounted in said table, a stationary bar mounted in said table, a standard secured to said stationary bar having a lever pivoted thereto, a slotted arm pivoted to one end of said lever and provided with an auxiliary roller cooperating with said sliding bar, an operating roller mounted on the opposite end of said lever and a cam secured to said sliding bar and engaging the roller to actuate said lever and said arm.

27. In a feeding mechanism, the combination of a sliding bar, an auxiliary roller having gear teeth thereon, means for raising and lowering said roller out of and into contact with said bar, means for rotating the roller comprising a shaft and a worm gear engaging the gear on the roller, and means for rotating said shaft.

28. In a feeding mechanism, the combination of a sliding bar, an auxiliary roller having gear teeth thereon, means for raising and lowering said roller out of and into contact with the bar, means for rotating the roller comprising a shaft and a sleeve on the shaft, provided with a worm gear engaging the gear teeth on the roller, and means for rotating said shaft comprising a stub shaft and a flexible coupling between said shafts.

29. In a feeding mechanism, the combination of a sliding bar, a cam arm on said bar, an auxiliary roller cooperating with said sliding bar, a cam plate pivoted to said arm and operatively connected with said auxiliary roller and means for adjusting the position of the cam plate with relation to the arm.

30. In a feeding mechanism, the combination of a sliding bar, an auxiliary roller cooperating with said bar and adapted to be

alternately raised out of and lowered into contact therewith, and means for adjusting the position of said roller comprising a stationary bar, a standard supporting the roller and movably mounted on said stationary bar, a block movably mounted on said bar adjacent to the standard, and an adjusting screw between said block and standard.

31. In a feeding mechanism, the combination of a sliding bar, a stationary bar having a standard adjustably secured thereto, a lever pivoted to said standard, a cam secured to said sliding bar and operatively engaging one end of said lever, an arm adjustably secured to the other end of said lever, an auxiliary roller on said arm cooperating with the sliding bar, and means for rotating said roller.

32. In a feeding mechanism, the combination of a reciprocating table, a feed roller mounted on said table, a sliding bar movable in said table, an auxiliary roller cooperating with said sliding bar, and means actuated by said feed roller for rotating said auxiliary roller.

33. In a feeding mechanism, the combination with a tripping mechanism of a reciprocating table, guides mounted on said table, a safety device pivoted to said guides adapted to actuate said tripping mechanism and means for adjusting the position of said safety device.

34. In a feeding mechanism, the combination with a tripping mechanism of a reciprocating table, a shaft mounted in said table, guides mounted on said shaft and a safety device adapted to engage with said tripping mechanism mounted on said guides and adapted to be held in its non-operative position by paper in said guides.

35. In a feeding mechanism, the combination of a table, a shaft mounted in said table, and guides on said shaft, said guides comprising parallel side plates, a block between said plates secured directly to the shaft and means for adjusting the position of the said plates with relation to the block.

36. In a feeding mechanism, the combination with a reciprocating table, a shaft in said table and guides carried by said shaft, said guides comprising parallel side pieces, a block between said side pieces secured directly to the shaft and provided with a slot, a bar secured to the side pieces passing through said slot, and an adjusting screw mounted in the block and engaging said bar to adjust the position of the side pieces with relation to the block and shaft.

37. In a feeding mechanism, the combination with a press cylinder, of a reciprocating table, guides carried by said table, a cam on said press cylinder for actuating the guides, a safety device on said guides controlled by the presence or absence of the paper on the guides, a tripping mechanism on

the press cylinder adapted to be tripped by the safety device, and means operatively connected with said tripping mechanism for stopping the operation of the feeding mechanism.

38. In a feeding mechanism, the combination with a press frame, a driving shaft and a source of power, a reciprocating table, guides on said table and a safety device pivoted on said guides, of a tripping mechanism mounted on the press frame comprising a weighted lever and a finger normally supporting said lever, arranged to be engaged by said safety device, a reciprocating arm normally supported by said tripping mechanism, and means actuated by said arm for disconnecting the shaft from the source of power when said tripping mechanism is actuated.

39. In a feeding mechanism, the combination of a frame, a driving shaft mounted on said frame, a source of power, a clutch between the driving shaft and said source of power, a lever operatively connected with said clutch, an arm reciprocated by said shaft and adapted to engage with said lever to disconnect the clutch automatically and a tripping mechanism normally holding said arm out of engagement with said lever.

40. In a feeding mechanism, the combination with a press cylinder, a frame, a driving shaft in said frame, a source of power and a clutch between the driving shaft and

said source of power, of a lever operatively connected with said clutch and press cylinder, a reciprocating arm actuated by said shaft and adapted to engage with said lever for automatically disengaging the clutch and moving said press cylinder simultaneously and tripping mechanism mounted on the frame normally holding said arm out of engagement with said lever.

41. In a feeding mechanism, the combination with a press cylinder, a frame, a driving shaft in said frame, a source of power and a clutch between the driving shaft and said source of power, of a lever operatively connected with said clutch and press cylinder, an arm adapted to operatively engage said lever, a cam on the shaft engaging said arm to reciprocate same, means comprising a tripping mechanism for normally holding the arm out of engagement with the lever and a safety device movably mounted on the frame adapted to release said tripping mechanism and permit the arm to engage with the lever to disengage the clutch and move said press cylinder.

Signed at New York, borough of Manhattan, in the county of New York and State of New York, this 8th day of February, A. D. 1909.

CHARLES M. KNEPPLER.

Witnesses:

AMBROSE L. O'SHEA,
A. M. AUSTIN.