J. M. TRIER.

PRINTING PRESS.

APPLICATION FILED APR. 1, 1914.

1,146,672.

Patented July 13, 1915.

5 SHEETS—SHEET 1.

Fig. 1.

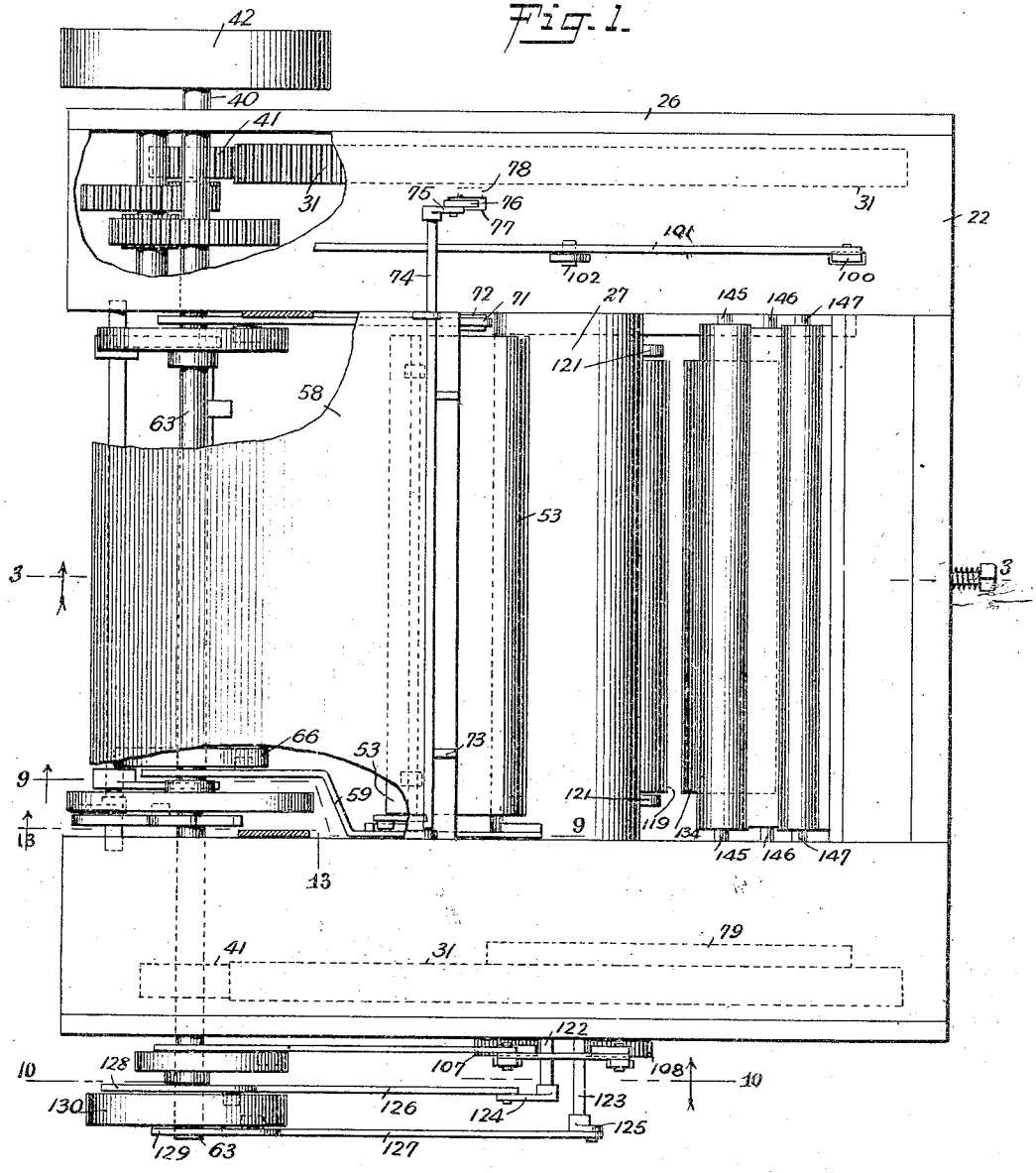
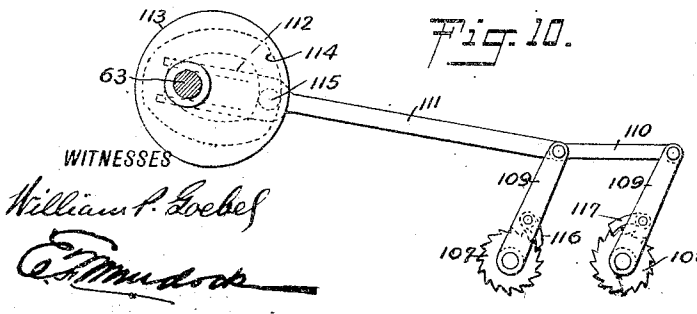


Fig. 10.



WITNESSES

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5 SHEETS—SHEET 2.

Fig. 2.

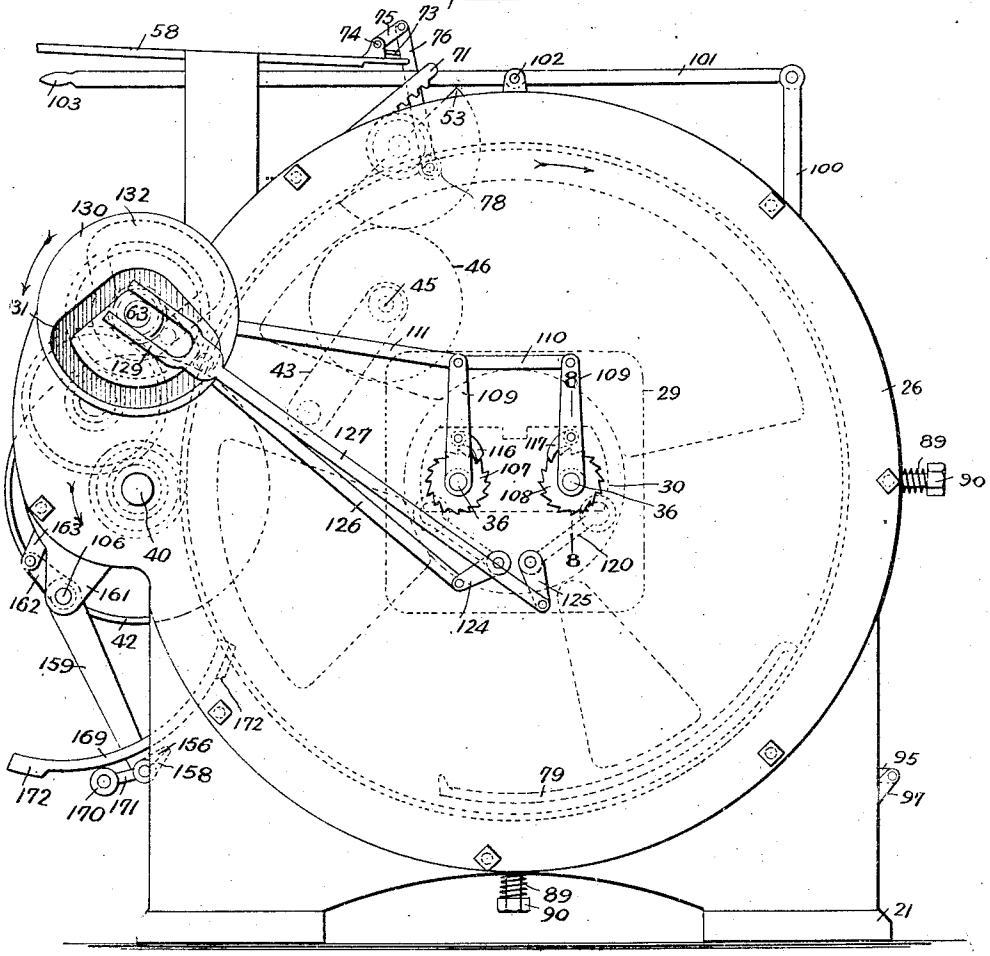


Fig. 12.

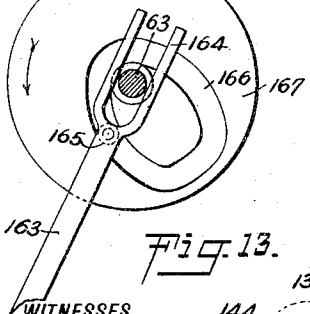
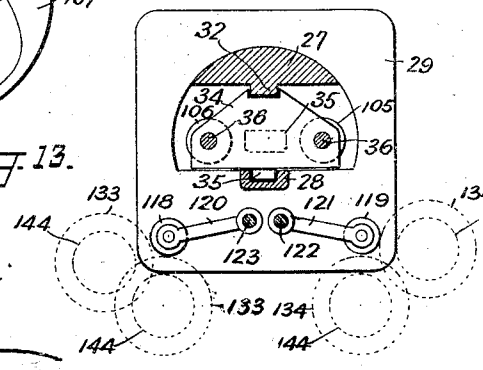


Fig. 13.



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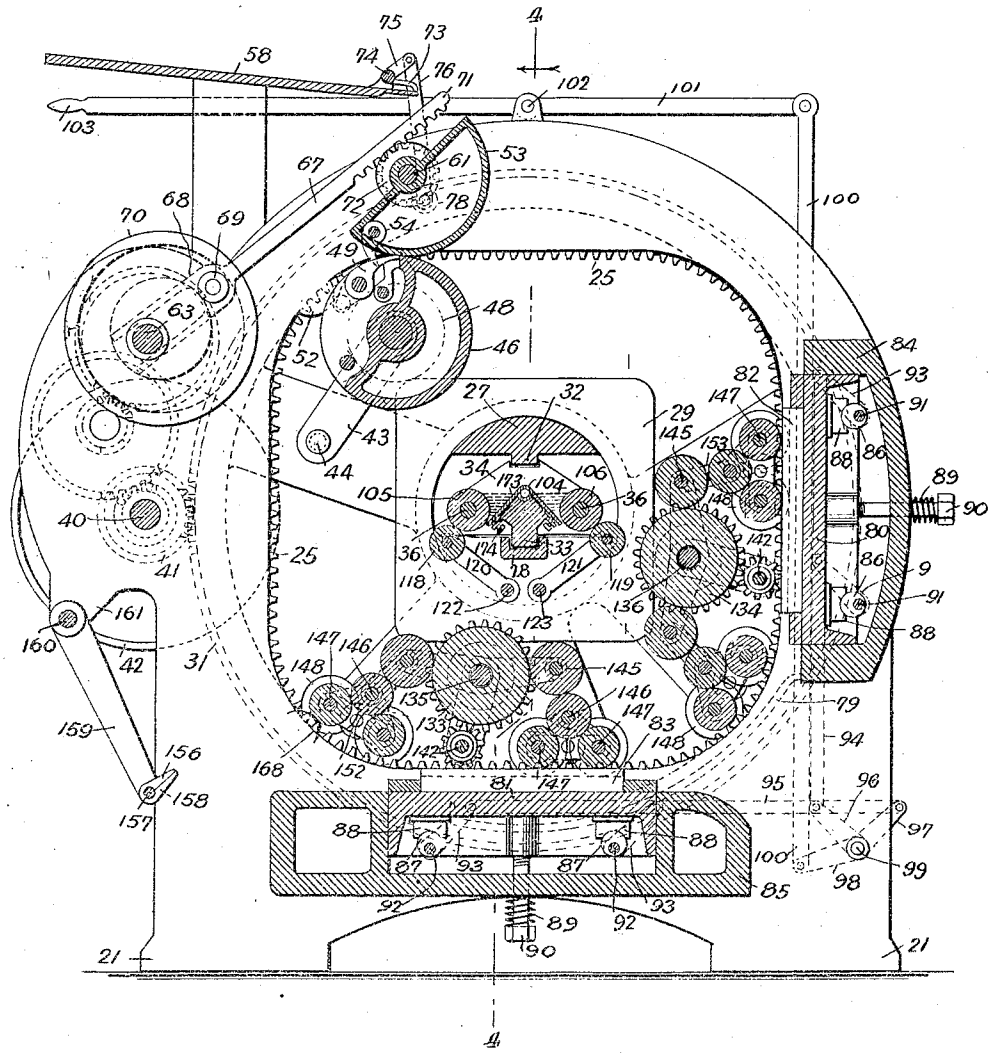
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5 SHEETS—SHEET 3.

Fig. 3.



WITNESSES

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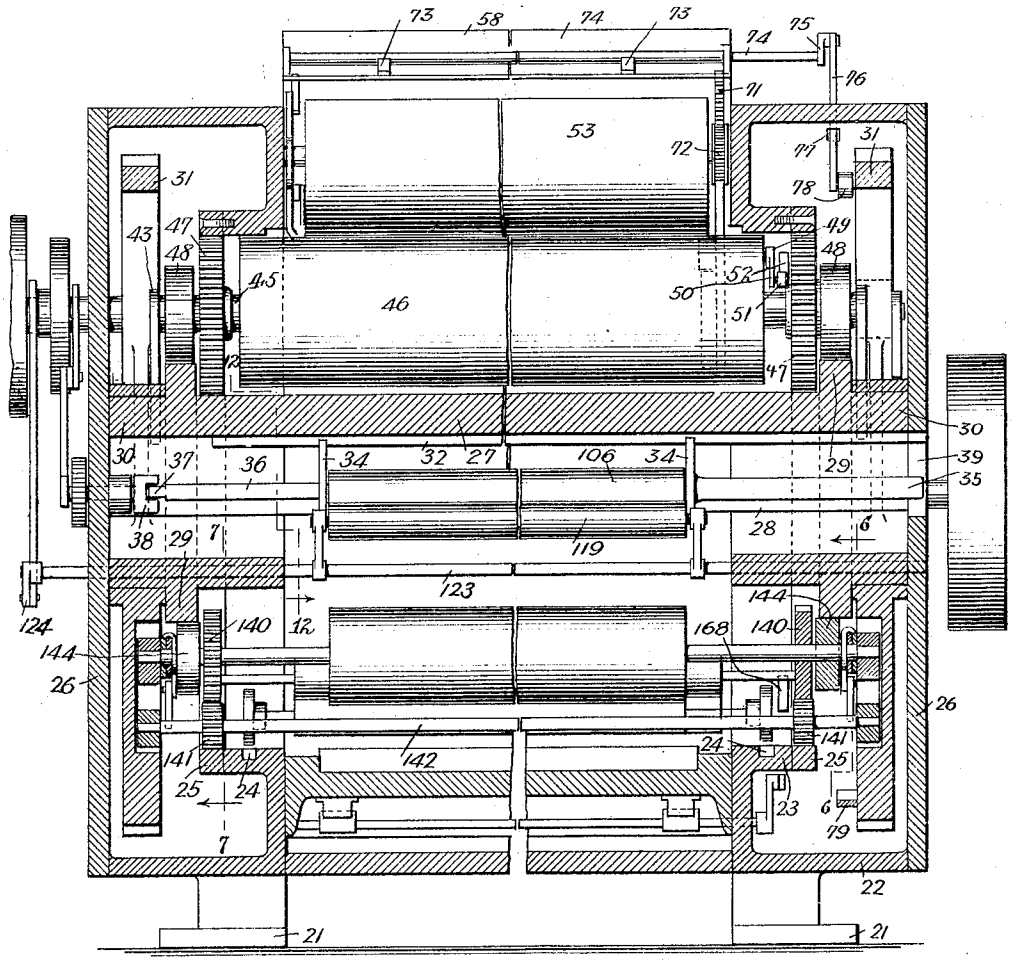
APPLICATION FILED APR. 1, 1914.

1,146,672.

Patented July 13, 1915.

5 SHEETS—SHEET 4.

Fig. 4.



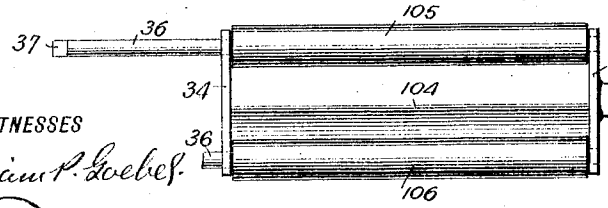


Fig. 11.

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5 SHEETS—SHEET 5.

Fig. 5.

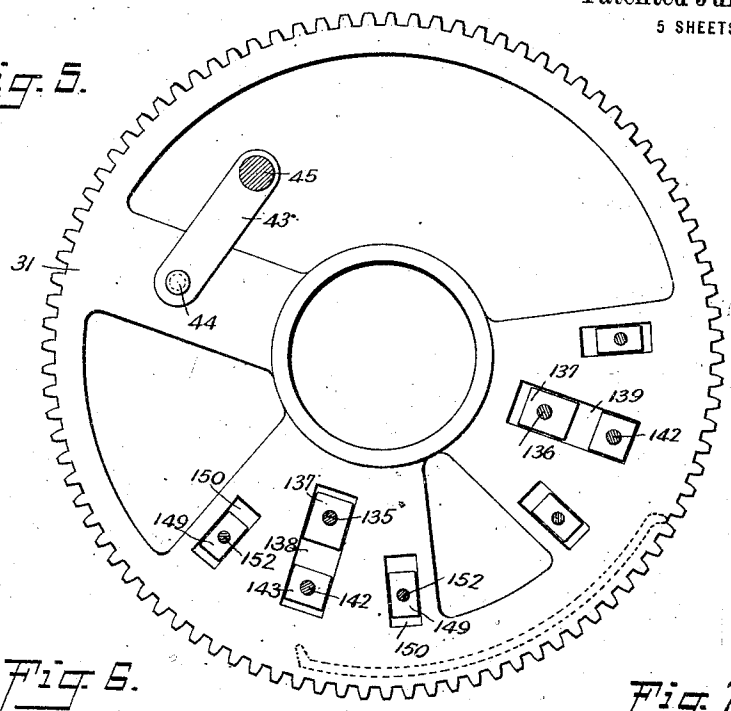


Fig. 6.

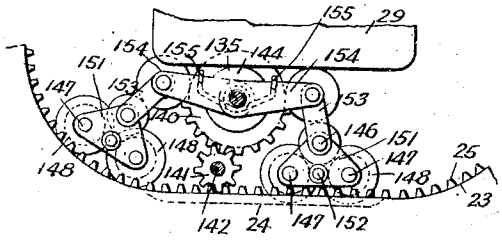


Fig. 7.

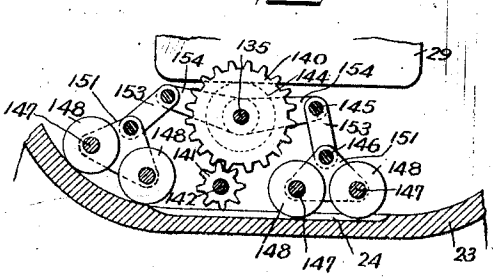


Fig. 8.

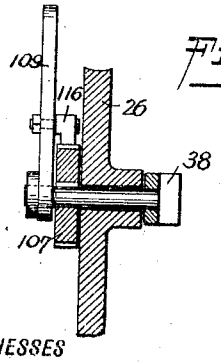
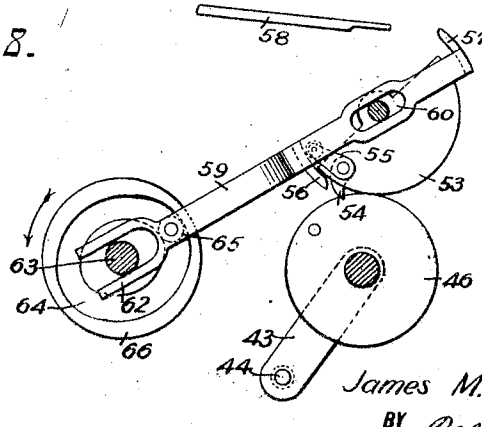


Fig. 9.



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UNITED STATES PATENT OFFICE.

JAMES M. TRIER, OF NEW YORK, N. Y.

PRINTING-PRESS.

1,146,672. Specification of Letters Patent. Patented July 13, 1915.

Application filed April 1, 1914. Serial No. 828,737.

To all whom it may concern:

Be it known that I, JAMES M. TRIER, a citizen of the United States, and a resident of the city of New York, borough of the Bronx, in the county of Bronx and State of New York, have invented a new and Improved Printing-Press, of which the following is a full, clear, and exact description.

Among the principal objects which the present invention has in view are: To provide a continuously-acting, multicolor printing press having a variety of printing beds, and means for automatically and accurately feeding ink to said beds; to increase the life of the press; to economize the space occupied by the press; to reduce the necessary power for driving the press; and to provide a simple and rapid means for supplying the press with ink.

In the drawings: Figure 1 is a plan view of a printing press constructed and arranged in accordance with the present invention, the feed table being partly cut away to show the structure therebeneath. Fig. 2 is an end elevation of the press; Fig. 3 is a vertical cross section taken on the line 3—3 in Fig. 1; Fig. 4 is a vertical longitudinal section taken on the line 4—4 in Fig. 3; Fig. 5 is a detail view showing, in separated relation, the main driving wheel of the rotary frame; Fig. 6 is a detail view in section, taken on the line 6—6 in Fig. 4; Fig. 7 is a detail view in section, taken on the line 7—7 in Fig. 4; Fig. 8 is a detail view in section, taken on the line 8—8 in Fig. 2; Fig. 9 is a detail view in section, taken on the line 9—9 in Fig. 1; Fig. 10 is a detail view in section, taken on the line 10—10 in Fig. 1; Fig. 11 is a top plan view of the ink fountain and feed rolls therefor used in the present invention; Fig. 12 is a detail view in section, taken on the line 12—12 in Fig. 4; Fig. 13 is a detail view in section, taken on the line 13—13 in Fig. 1.

As seen in the accompanying drawings, the elements of the present machine may be grouped to form a stationary frame and parts permanently disposed therein, and a rotary frame and parts operative during the rotation of said frame. The stationary member is mounted on feet 21. Hollow frames 22 are integrally formed with said feet, and are each shaped to provide an internal flange 23, which has suitably located therein, grooves 24 and gear toothed racks 25. The flanges 23 and racks 25 connected therewith are shaped to form rectangular end openings, the corners of said openings being curved, as best shown in Fig. 3 of the drawings.

The frames 22 are each provided with a face plate 26, said plates being shaped to accommodate the various elements mounted thereon. The plates 26 are structurally connected by cross bars 27 and 28. Said cross bars are integrally formed with guide plates 29 and a hub 30, about which heavy driving wheels 31 revolve.

The bar 27 is provided with a guide rail 32, and the bar 28 is grooved to receive a guide rail 33, with which the fountain for the present machine is provided. The ink fountain has ends 34, grooved at the top to engage the rail 32 to guide the fountain during its introduction into and withdrawal from the center of the machine. For this purpose, the fountain is provided with an elongated handle 35, as best seen in Fig. 11 of the drawings, and with elongated and projecting shafts 36, the ends 37 whereof are reduced and squared to fit slotted coupling heads 38. At one end of the machine, the plate 26 is provided with an opening 39, through which said fountain is introduced, the ends 34 being arranged to engage the rail 32, and the rail 33 of the fountain being seated in the bar 28.

The wheels 31 are directly connected with the main driving shaft 40 of the machine, through pinions 41. The shaft 40 is provided with a belt-driven pulley 42, or other suitable driving element. The pinions 41 being duplicates, the wheels 31 are driven synchronously. The wheels 31 are each provided with a link arm 43, which arms are secured by pivot bolts 44 to said wheels. The free ends of the arms 43 each provide a bearing for the shaft 45. The shaft 45 has rigidly mounted thereon a cylindrical platen 46 and gear wheels 47, as best seen in Fig. 4 of the drawings. The wheels 47 are held in engagement with the racks 25. To thus hold the wheels engaged with the rack 25, the shaft 45 is provided at each end thereof with freely-rotating carrying wheels 48. The wheels 48 track on the edge of the guide plates 29, the shape

whereof corresponds with the racks 25, being appropriately smaller than the end openings framed by said racks.

The platen 46 is provided with a gripper 49, a tail-piece 50 whereof is furnished with a roller 51, to pass over a small cam 52 set out from the inside of the flange 23, as shown best in Fig. 4 of the drawings, and at the upper right-hand corner thereof. The platen 46 is supplied with paper directly from the semi-cylindrical transfer member 53, which member is provided with a gripper 54 arranged to operate in unison with the gripper 49 when the forward edge of the paper sheet is engaged by one and released by the other.

The gripper 54 is provided with a tail-piece 55, the following end whereof passes below and is deflected by a curved plate 56 at the moment of transfer, the construction and arrangement being best shown in Fig. 9 of the drawings. The plate 56 and a corresponding plate 57 are arranged for alternate operation upon the tailpiece 55 of the gripper 54. The former, as above stated, opens the gripper 54 at the moment of transfer of the paper to the gripper 49 on the platen 46. The plate 57 engages the tail-piece 55 when the gripper 54 is moved to the feed table 58, and between the teeth thereof, in which position, a sheet of paper resting on said table is engaged, to be drawn therefrom as the member 53 is rocked back to meet the platen 46 in its orbit.

The plates 56 and 57 are supported on a reciprocating arm 59, which is provided with a guide slot 60 enfolding a rocking shaft 61, whereon the member 53 is fixedly mounted. The opposite end of the arm 59 is provided with a yoke 62, which straddles and is guided by a lay shaft 63. The arm 59 is reciprocated by a cam slot 64, wherein a roller 65 extends. The slot 64 is plotted to produce the time movement of the arm 59 necessary to present the plates 56 and 57 to operate upon the tailpiece 55 of the gripper 54. The slot 64 is formed in a wheel 66.

The member 53 and the shaft 61 on which said member is mounted, are rocked by a rack arm 67. The rack arm 67 is provided at one end with a yoke 68, which straddles the shaft 63, to guide said arm. The arm 67 is reciprocated by means of a roller 69, which extends into a concentric slot formed in a wheel 70. The opposite end of the arm 67 is provided with a rack section 71, the teeth whereof are meshed with the teeth of a pinion 72, which is directly mounted on the shaft 61 of the member 53.

By timing the cam slots in the wheels 66 and 70, the plates 56 and 57 are arranged so that the gripper 54 is opened and closed to deliver a sheet of paper carried thereby to the gripper 49 of the platen 46, and to engage the succeeding sheet for removal therefrom the table 58. The sheets are held at the edge of the table 58 by fingers 73. The fingers 73 are mounted on a shaft 74, which extends across the table 58, and is provided at one end with a crank arm 75, to which is pivotally connected a connecting rod 76. The rod 76 is extended through and guided by a perforation 77 in one of the frames 22, and is furnished at the lower end with a wheel 78 disposed in the path of a cam plate 79, which is extended from the side of one of the wheels 31. The arrangement of the plate 79 in relation to the wheel 78 is such that the rod 76 is lifted upward, and the shaft 74 is rocked to raise the fingers 73 when the member 53 has been rocked to present the gripper 54 to the paper on the table 58.

The platen 46 is carried by the wheels 31, and is guided by the racks 25 and the plate 29, the wheels 47 at each end of the shaft 45 engaging the teeth of the rack, while the wheels 48 travel over the edge of the plate 29. A natural rolling action is imparted to the platen 46, so that when the platen passes press beds 80 and 81 and forms 82 and 83 held thereon, the paper carried by said platen is rolled thereover, to receive a clear imprint therefrom. Any tendency to slide or produce an independent action of the platen 46 is corrected by the wheels 47.

It will be understood that while I have herein shown and described a press having the racks 25 disposed in substantially rectangular form, this may be varied to a form having an increased number of straight sides. Coincident with a certain number of straight sides may be arranged beds such as 80 and 81. In other words, while I have herein shown two press beds, I wish it to be understood that the press may be adapted for the employment of a greater number of beds. The beds are each guided in heavy frames 84 and 85, and are therein supported on eccentrics 86 and 87. The beds 80 and 81 are each provided with grooved saddles 88. The saddles 88 are held firmly upon the eccentrics 86 and 87 by springs 89, which, as shown best in Fig. 3 of the drawings, normally press outward on the heads of bolts 90, which are rigidly connected with the beds 80 and 81. The beds are normally retracted within the frames 84 and 85 by the operation of the springs 89, and are advanced therefrom into position to receive the pressure of the platen 46 when the shafts 91 and 92 are suitably rocked to interpose the greater diameter of the eccentrics between said shafts and the saddles 88. To this end, each shaft is provided with a crank arm 93. The crank arms 93 are connected in couples by means of connecting rods 94 and 95, with crank arms 96 and 97 respectively of a bell crank lever 98. The lever 98 is pivoted on a stud 99, suitably disposed on

the frame of the machine, and is connected, by means of a rod 100, to a hand lever 101. The hand lever 101 is pivoted at 102 on the frame of the machine, and is provided with a handle 103 disposed convenient to the operating position of the attendant.

The construction and arrangement as above set forth enables the attendant to quickly retract the beds 80 and 81, to discontinue the printing.

The forms 82 and 83 are secured to the beds in any suitable manner. In the usual operation of the press, either of the forms may be used for printing with colored inks. To this end, the fountain is centrally divided by a ridge 104, which arrangement permits the fountain to carry on one side of said ridge, a supply of ink distinct in character from that supplied to the opposite side of said ridge.

The fountain is also furnished with separate feed rolls 105 and 106, which are partly immersed in the ink carried by the fountain. The rolls, as formerly stated, are mounted on the shafts 36, which are arranged to be removably connected with the coupling heads 38, which are rigidly mounted on short shafts extending through one of the face plates 26, to have fixedly mounted thereon ratchet wheels 107 and 108. The wheels 107 and 108 are rotated intermittently by means of rocking arms 109, which are coupled by a link 110, as best seen in Figs. 2 and 10 of the drawings. The link 110 is pivotally connected with a reciprocating rod 111, the opposite end of which is provided with a yoke 112, which straddles, to be guided by, the lay shaft 63. On the shaft 63 is mounted an eccentric 113, having a groove 114, into which the roller 115 extends. The roller 115 is mounted on the rod 111, to move the same in a reciprocating manner when the cam 113 is revolved. As the arms 109 are rocked, pawls 116 and 117 alternately engage the wheels 107 and 108, to rock the shafts 36 connected with the rolls 105 and 106 in a corresponding manner. The ink thus extracted from the fountain is spread upon ductor rolls 118 and 119. The ductor rolls mentioned are pivotally mounted in the ends of swinging arms 120 and 121. The arms 120 and 121 are fixedly mounted on rocking shafts 122 and 123, which shafts are pivotally mounted in both of the end frames, and are provided with crank arms 124 and 125, respectively. The arms 124 and 125 are pivotally connected with reciprocating rods 126 and 127, respectively, as best seen in Figs. 1 and 2 of the drawings. The rods 126 and 127 are provided with yokes 128 and 129, respectively, said yokes straddling, to be guided by, the lay shaft 63. Disposed between said yokes and the rods 126 and 127 is a cam wheel 130, which is provided with cam slots 131 and 132, plotted to operate alternately and in timed relation to spreader rolls 133 and 134. The rolls 133 and 134 are provided with shafts 135 and 136, respectively, which shafts are mounted in bearing blocks 137, 137 slidably mounted in openings 138 and 139, formed in the wheels 31, and spaced apart in correspondence with the rectilinear sides of the racks 25. Mounted on the shafts 135 and 136 are gear wheels 140, which are held in mesh with pinions 141, the teeth of which are meshed with the racks 25. The ratio between the wheels 140 and the pinion 141 establishes the relative rate of rotation of the rolls 133 and 134. The pinions 141 are mounted on shafts 142. The shafts 142 are mounted in bearing boxes 143, likewise disposed in the openings 138 and 139 of the wheels 31, as best seen in Fig. 5 of the drawings. The shafts 135 and 136 and 142 are moved in the openings 138 and 139 by the plates 29 and the racks 25. To this end, the shafts 135 and 136 are each provided with a traction wheel 144, which rolls over the edge of the plate 29, as seen best in Figs. 6 and 7 of the drawings.

By reason of the above-described construction, it will be seen that the rolls 133 and 134 have imparted thereto an independent rotary action adapted to rotate the ductor rolls 118 and 119 when the same are moved into engagement therewith. This engagement is obtained by the rods 126 and 127 rocking the arms 124 and 125 at the proper moment to insure the contact of the ductor roll 118 with the roll 134. In this manner, the rolls 133 and 134 are fed inks of different colors, and in timed relation to the beds 81 and 80, upon which the ink is delivered. The spreader rolls 133 and 134 are each provided with a train of distributing rolls mounted on shafts 145, 146 and 147. The rolls on the last named shafts deliver the ink to the type in the forms 82 and 83, when moved toward the beds by the supporting wheels 148 dropping into the finder grooves 24 with which the flanges 23 of the end frames are furnished. The finder grooves 24 and the wheels 148 are so disposed that said wheels connected with each of the rolls 133 and 134 are lowered at their respective stations, and at such stations only. In this manner is insured the delivery of ink to the form on one of the beds 80 or 81 designed therefor, and delivered from the fountain by the ductor roll 118 or 119, respectively.

When the wheels 148 travel on the surface of the flanges 23, the rollers on the shafts 147 pass above and out of contact with the forms 82 and 83. Also, it will be remembered that when the beds 80 and 81 are retracted, the rollers carried by the shafts 147 do not touch the forms 82 and 83,

though the wheels 148 should drop into the grooves 24.

The shafts 146 and 147 are mounted in bearings in coupling plates 151. Each of the coupling plates 151 is provided with a stud shaft 152, bearings for which are provided in the boxes 149 which are slidably mounted in the openings 150. This is best shown in Figs. 5 to 7 inclusive of the drawings. By this construction, the proper arrangement of the shafts 147 and the shafts 135 and 136 is maintained. The shafts 145 and 146 are coupled by links 153, and the shafts 145 are coupled with the shafts 135 and 136 by swinging arms 154. The arms 154 are pivotally mounted on the shafts 135 and 136, and are controlled by springs coiled on the shafts 135 and 136, the hook ends 155 of said springs extending over the arms 154 to normally move the free ends thereof and the plates 151 connected therewith toward the racks 25.

It has been explained how the paper is transferred from the table 58 to the platen 46, also how, while carried by the platen, the paper is imprinted by the forms 82 and 83 on the beds 80 and 81. After being so imprinted, the paper is taken from said platen by one of more gripper jaws 156, which are pivotally mounted on a shaft 157 to operate in conjunction with stationary jaws 158 carried by the same shaft. Said shaft is mounted at the free ends of swinging arms 159. The arms 159 are fixedly mounted upon a rocking shaft 160, having bearings in lugs 161 at opposite sides of the machine. The shaft 160 has fixedly mounted thereon a short lever 162. The lever 162 is rocked by an arm 163, which, as shown best in Fig. 13 of the drawings, is provided with a yoke 164 to straddle the lay shaft 63, to be guided thereby.

A roller 165 mounted on the side of the arm 163 extends within, to be engaged by, a cam slot 166, with which a wheel 167 is provided. The wheel 167 is fixedly mounted on the shaft 63, and the slot 166 is plotted to move the arm 163, shaft 160, arms 159, shaft 157 and jaws 156 in timed relation with the movement of the platen 46, so that the jaws 156 and 158 are presented to the edge of the paper carried by said platen, in position to grip the same at the moment when the roller 51 of the tailpiece 50 of the gripper 49 passes over a cam 168, which is extended into the path of said roller 51.

The jaws 156 are operated primarily by a curved guide plate 169. The plate 169 is provided as a track for a roller 170 at the end of a tailpiece 171 connected with the jaws 156. At the ends of the plate 169 are risers 172, which, by deflecting the roller 170, operate to open the jaws 156, to receive and to deliver the paper in consonance with the movement of the parts of the machine.

The ink fountain heretofore described and the supporting structure therefor permit the introduction and withdrawal of the fountain from the service position thereof. The quantity of ink delivered to the feed rolls 105 and 106 is regulated in large measure by swinging bottoms 173, with which said fountains are provided. The free ends of the bottoms 173 rest upon set screws 174, which, when properly manipulated, determine the size of the aperture through which the ink passes from the fountain.

Claims.

1. A press as characterized, comprising a rotary frame embodying circular gear-toothed members; a stationary frame forming bearings for said rotary frame; a driving shaft mounted in said stationary frame; pinions fixedly mounted on said shaft and engaging said gear-toothed members; a rotary platen guidably mounted in said rotary frame; a plurality of bed-plates disposed tangential to the path of said platen; ink-spreading rolls slidably mounted in said rotary frame; means for selectively varying the travel of said spreading rolls to supply one of said bed-plates; an ink-fountain; means for supplying said spreading rolls from said fountain; means independently rotating said spreading rolls; a paper-supply for said platen; a delivery mechanism for said platen; and an operating mechanism for said paper-supply and said delivery mechanism, embodying timing devices.

2. A press as characterized, comprising a stationary supporting frame having a hollow center; a rotary frame mounted upon, and concentric with said hollow center; a driving mechanism for said rotary frame; a rotary platen in said rotary frame; guide members for said platen, having flattened surfaces; a rotary mechanism for said platen, embodying stationary plates having internally gear-toothed openings and pinions rigidly mounted on said platen, engaging said teeth; a plurality of grouped ink-spreader rolls spaced apart and controlled by said guide members, said rolls being operatively connected with, to be rotated by, the gear teeth of said guide members; an ink-fountain removably mounted and supported in said stationary frame; a plurality of ductor rolls operatively mounted relative said fountain; and means operatively connected with said rotary frame to operate in timed relation thereto, for the delivery of ink to said spreader rolls.

3. A press as characterized, having a revolving double-headed supporting frame having circular gear-toothed members fixedly mounted thereon; a stationary carrying frame for said supporting frame; a driving shaft mounted on said supporting frame and engaged with said circular mem-

bers; a cylindrical platen rotatively mounted on said frame at a point removed from the rotary center of said frame and adapted to move to and from the center of said frame; a plurality of bed-plates for holding type forms, said bed-plates being disposed concentric with said supporting frame and adjacent the path of said platen; ink-transferring rolls rotatively mounted in sliding bearing boxes, movable in said frames to impinge upon certain and engage others of said bed-plates and type forms carried thereon; an ink-delivering fountain for supplying ink to said rolls; an ink-table disposed to deliver ink to said rolls; a ductor roll for transferring ink to, and for spreading the same upon, said table; a paper-feeding mechanism to supply said platen; an operating mechanism for operating said feeding mechanism connected with said driving shaft to operate in timed relation with said supporting frame; a paper-delivery mechanism to extract paper from said platen when at a point in the orbit of said platen; and a timing mechanism for operating said fountain, feeding mechanism and delivery mechanism synchronously.

4. A press as characterized, having a revolving double-headed supporting frame having circular gear-toothed members fixedly mounted thereon; a stationary carrying frame for said supporting frame; a driving shaft mounted on said supporting frame and engaged with said circular members; a cylindrical platen rotatively mounted on said frame at a point removed from the rotary center of said frame and adapted to move to and from the center of said frame; means for revolving said platen to roll over type forms in synchronized relation with said forms; a plurality of bed-plates for holding type forms, said bed-plates being equally distant from the rotary center of said platen and disposed concentric with said supporting frame and adjacent to and at the outer side of the path of said platen; ink transferring rolls mounted on said supporting frame; an ink-delivering fountain for supplying ink to said rolls; a paper-feeding mechanism to supply said platen; a delivery mechanism to extract paper from said platen when at a point in the orbit of said platen; and a timing mechanism for operating said fountain, feeding mechanism and delivery mechanism synchronously.

5. A press as characterized, having a revolving double-headed supporting frame having circular gear-toothed members fixedly mounted thereon; a stationary carrying frame for said supporting frame; a driving shaft mounted on said supporting frame and engaged with said circular members; a cylindrical platen rotatively mounted on said frame at a point removed from the rotary center of said frame and adapted to move to and from the center of said frame; a plurality of bed-plates for holding type forms, said bed-plates being disposed concentric with said supporting frame and adjacent to the path of said platen; ink-transferring rolls rotatively mounted in sliding bearing boxes radially movable in said frame, to engage certain and avoid others of said bed plates and type forms carried thereon; an ink-transferring fountain for supplying ink to said rollers; an ink-device disposed to deliver ink to said rollers; a ductor roll for transferring ink to, and for spreading the same upon, said device; a paper-feeding mechanism to supply said platen; an operating mechanism for operating said feeding mechanism, operatively connected with said driving shaft, to operate in timed relation with said supporting frame; a delivery mechanism to extract paper from said platen when at a point in the orbit of said platen; an operating mechanism for said delivery mechanism, operatively connected with said driving shaft to act in timed relation with said supporting frame; and a timing mechanism for operating said fountain, feeding mechanism and delivery mechanism synchronously.

6. A press as characterized, having a double-headed supporting frame having circular gear-toothed members fixedly mounted thereon; a stationary carrying frame for said supporting frame; a driving shaft mounted on said supporting frame and engaged with said circular members; a cylindrical platen rotatively mounted on said frame at a point removed from the rotary center of said frame and adapted to move to and from the center of said frame; a plurality of bed-plates for holding type forms, said bed-plates being disposed concentric with said supporting frame and adjacent to the path of said platen; ink-transferring rolls rotatively mounted in sliding bearing boxes, movable in said frames to engage certain and avoid others of said bed-plates and type forms carried thereon; an ink-delivering fountain for supplying ink to said rolls; a paper-feeding mechanism to supply said platen; a delivery mechanism to extract paper from said platen when at a point in the orbit of said platen; and a timing mechanism for operating said fountain, feeding mechanism and delivery mechanism synchronously.

7. A press as characterized, comprising a revolving double-headed supporting frame having circular gear-toothed members fixedly mounted thereon; a stationary carrying frame for said supporting frame; a driving shaft mounted on said supporting frame and engaged with said circular members; a cylindrical platen rotatively mounted in said frame at a point removed from the rotary center of said frame and adapted to move to

and from the center of said frame; a plurality of bed-plates for holding type forms, said bed-plates being disposed concentric with said supporting frame and adjacent to the path of said platen; ink transferring rolls rotatively mounted in sliding bearing boxes radially movable in said frames to engage certain and avoid others of said bed-plates and type forms carried thereon; an ink-delivering fountain for supplying ink to said rolls; an ink table disposed to deliver ink to said rolls; a ductor roll for transferring ink to, and for spreading the same upon, said table; a paper feeding mechanism to supply said platen; a delivery mechanism to extract paper from said platen when at a point in the orbit of said platen; and a timing mechanism for operating said fountain, feeding mechanism and delivery mechanism synchronously.

8. A printing press, comprising a stationary supporting frame having a central, straight-sided opening, said opening being provided with gear teeth; a rotary platen arranged to grip and carry the paper to be printed; a gear wheel mounted on said platen, adapted to engage the teeth on said supporting frame; means for rotating said platen and gear wheel connected therewith about the center of said opening; a plurality of straight-surfaced type beds arranged about said opening and juxtaposed to the straight sides thereof at the outer edge of said opening, to be impinged upon by said platen as the same is rotated about the center of said opening; means for inking said type beds; and guides for controlling the inking of said beds.

9. A printing press, comprising a stationary supporting frame having a central straight-sided opening, said opening being provided with gear teeth; a rotary platen arranged to grip and carry the paper to be printed; a gear wheel mounted on said platen, adapted to engage the teeth on said supporting frame; means for rotating said platen and gear wheel connected therewith about the center of said opening; a plurality of straight-surfaced type beds arranged about said opening and juxtaposed to the straight sides thereof at the outer edge of said opening, to be impinged upon by said platen as the same is rotated about the center of said opening; a plurality of ink-spreading rolls disposed within said opening; and a guide member for said platen and said inking rolls to hold the same out from the center of said opening to impinge upon said type beds.

10. A press as characterized, having a plurality of concentric, internally-faced printing beds; a plurality of ink-spreader traveling rolls guided to roll over said beds; an ink fountain having a plurality of ink-containing chambers; a plurality of ink-extracting members mounted on said fountain; a plurality of ductor rolls mounted relative to said fountain; and means operatively connected with said spreader rolls for operating said ductor rolls in timed relation with said spreader rolls.

11. A press as characterized, having a plurality of concentric, internally-faced printing beds; a plurality of ink-spreader traveling rolls guided to roll over said beds; an ink fountain having a plurality of ink-containing chambers; a plurality of ink-extracting members mounted on said fountain; a plurality of ductor rolls mounted relative to said fountain; means operatively connected with said spreader rolls for operating said ductor rolls in timed relation with said spreader rolls; and means for varying the path of each of said spreader rolls to supply one of said beds.

12. A press as characterized, having a plurality of concentric, internally-faced printing beds; a plurality of ink-spreader traveling rolls guided to roll over said beds; an ink fountain having a plurality of ink-containing chambers; a plurality of ink-extracting members mounted on said fountain; a plurality of ductor rolls mounted relative to said fountain; means operatively connected with said spreader rolls for operating said ductor rolls in timed relation with said spreader rolls; means for varying the path of each of said spreader rolls to supply one of said beds; and a driving mechanism for said spreader rolls and for said ink-extracting members, to time the relative operations thereof.

13. A press as characterized, having a plurality of bed-plates cylindrically arranged, facing a common center, a rotary frame carrying a platen and ink-spreader rolls to move the same past the operative position of said bed-plates, and a centrally-disposed ink fountain, comprising an elongated trough, divided lengthwise to form receptacles for variously-characterized ink-supplies; a plurality of feed rolls, each mounted to rotate in contact with one of said supplies; and a driving mechanism for rotating said feed rolls in timed relation to said spreader rolls.

14. A press as characterized, having a plurality of bed-plates cylindrically arranged, facing a common center, a rotary frame carrying a platen and ink-spreader rolls to move the same past the operative position of said bed-plates, and a centrally-disposed ink fountain, comprising an elongated trough, divided lengthwise to form receptacles for variously-characterized ink-supplies; a plurality of feed rolls, each mounted to rotate in contact with one of said supplies; a driving mechanism for rotating said feed rolls in timed relation to said spreader rolls; and a plurality of mem-

bers pivotally mounted in said receptacles to move to and from said feed rolls, to vary the supply of ink carried thereby.

15. A press as characterized, having a plurality of bed-plates cylindrically arranged, facing a common center, a rotary frame carrying a platen and ink-spreader rolls to move the same past the operative position of said bed-plates, and a centrally-disposed ink fountain, comprising an elongated trough, divided lengthwise to form receptacles for variously-characterized ink-supplies; a plurality of feed rolls, each mounted to rotate in contact with one of said supplies; a driving mechanism for rotating said feed rolls in timed relation to said spreader rolls; a plurality of members pivotally mounted in said receptacles to move to and from said feed rolls, to vary the supply of ink carried thereby; and a plurality of adjustable screws to move and hold said members in operative relation to said feed rolls.

16. A press as characterized, having a plurality of bed-plates, cylindrically arranged, facing a common center, a rotary frame carrying a platen and ink-spreader rolls to move the same past the operative position of said bed-plates, and a centrally-disposed removable ink-fountain, comprising an elongated trough divided lengthwise to form receptacles for variously-characterized ink-supplies; a plurality of feed rolls, each mounted to rotate in contact with one of said supplies; a driving mechanism for rotating said feed rolls in timed relation to said spreader rolls; and a plurality of ductor rolls permanently mounted in said press, one to operate in conjunction with each of said feed rolls, to transfer the ink therefrom selectively to one of said spreader rolls.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES M. TRIER.

Witnesses:
E. F. MURDOCK,
G. H. EMSLIE.