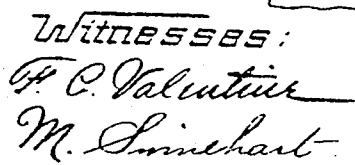


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4 SHEETS—SHEET 1.

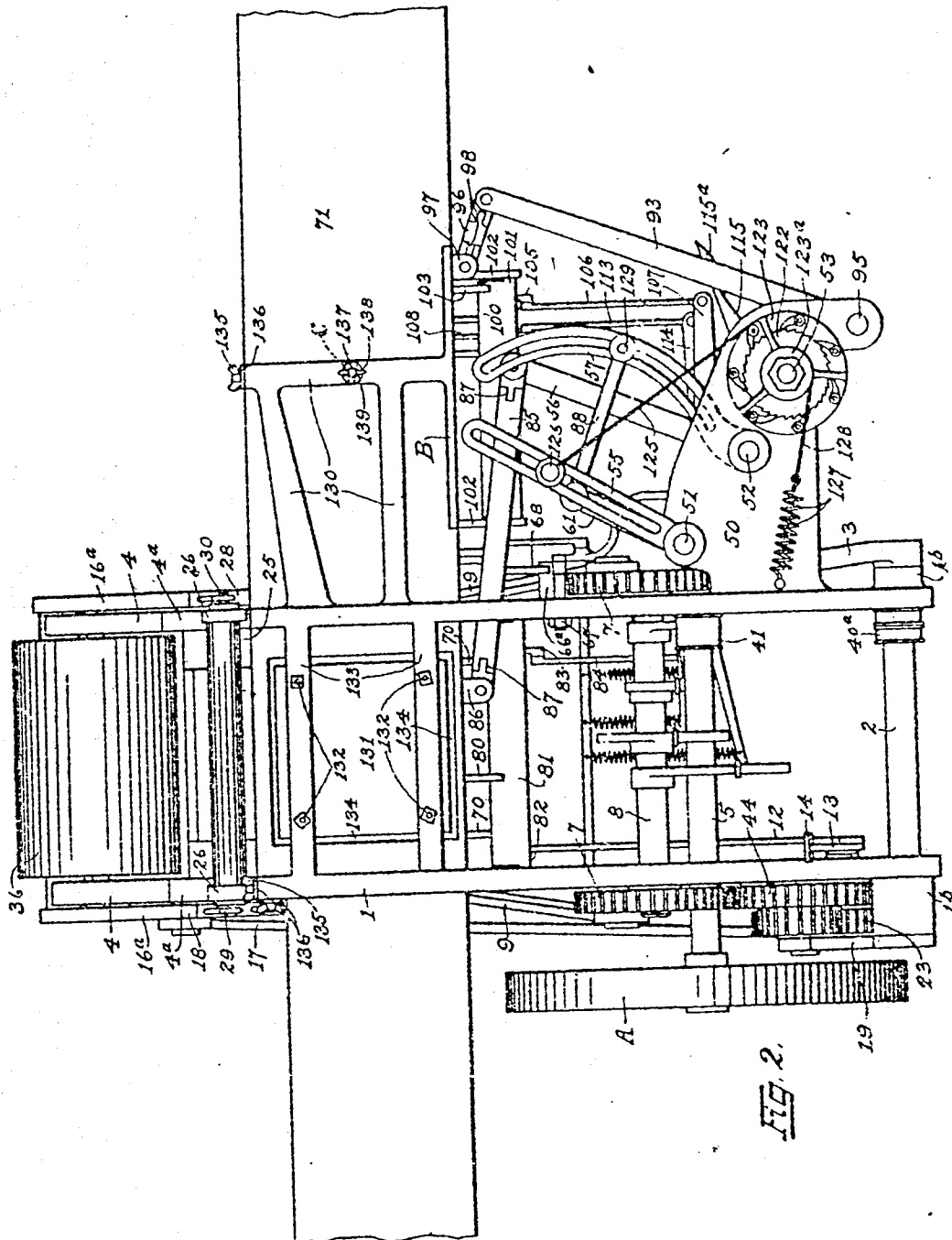


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F. H. VAN LOOZEN.
PRINTING PRESS.
APPLICATION FILED NOV. 13, 1908.

Patented Aug. 31, 1909.
4 SHEETS—SHEET 2.

933,006.



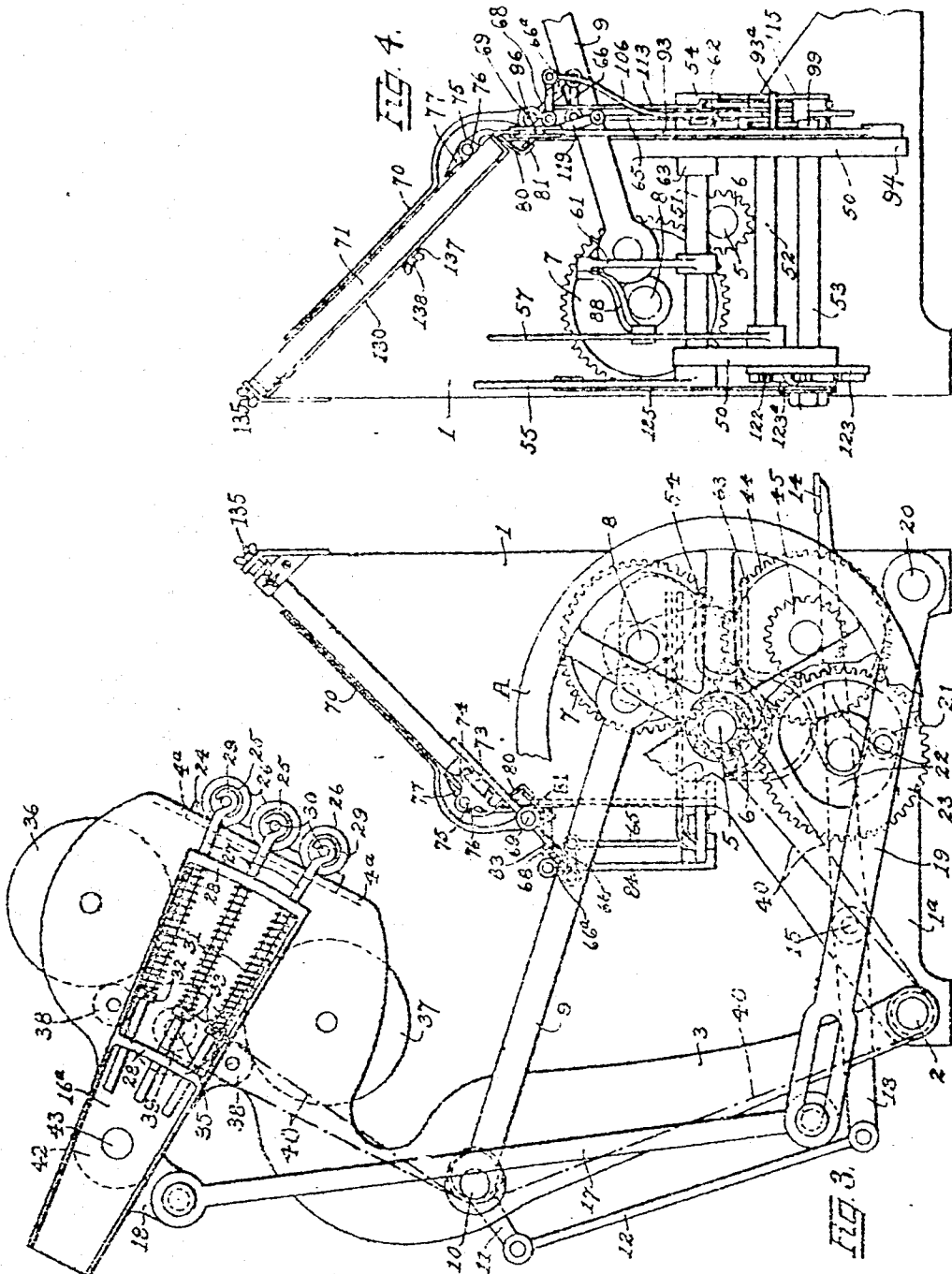
Witnesses:
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4 SHEETS-SHEET 3.



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4 SHEETS—SHEET 4.

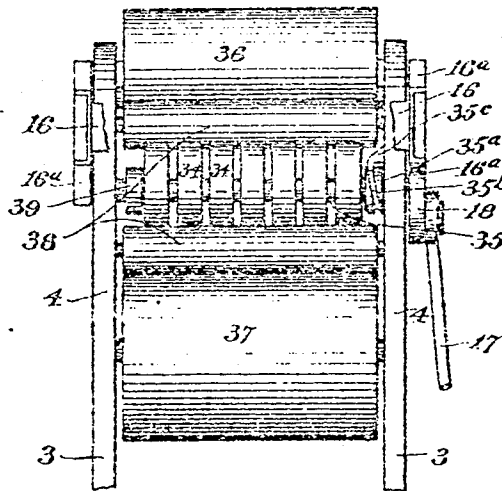
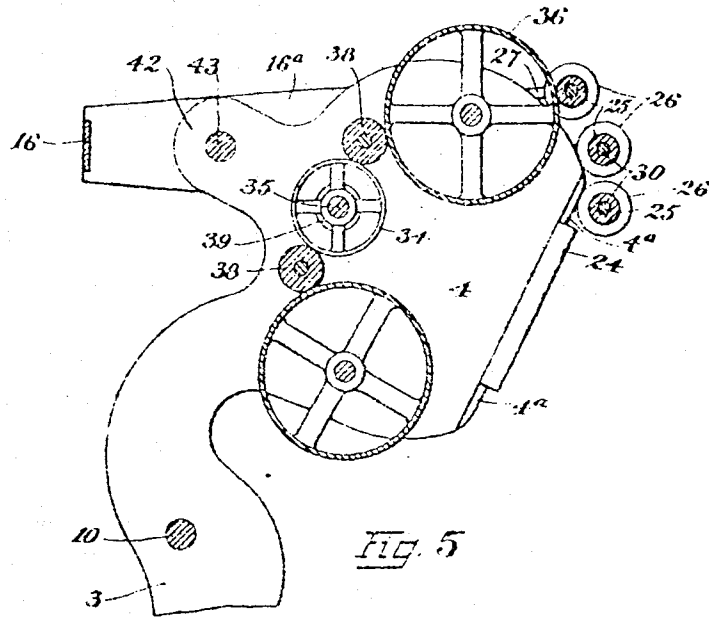


Fig. 6

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bed or form is moved to and from the platen for giving the impressions by means of an oscillating frame.

The present invention relates more particularly to multi-color and automatic feeding-mechanism whereby a single sheet or length of paper is automatically carried and fed through the press in such a manner as to print a number of properly-spaced multi-color impressions upon a single blank or sheet of paper; said multi-color mechanism being shown and described in my application for Letters Patent for an improvement in printing presses, filed May 4, 1908, Serial No. 430,796, of which this application is a divisional part.

The primary object of the invention is to produce a generally-improved automatic feeding multi-color job-printing press which will be exceedingly simple in construction, cheap of manufacture, and efficient in use.

Another object of the invention is to provide improved ink-distributing rollers, and an improved mechanism for operating the traveling-inking rollers whereby the latter are adapted to ink the type form but once, before each impression, this being done in both the upward and downward movements of the same.

With these and other ends in view, the invention consists in the novel construction, arrangement, and combination of parts, hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims.

Referring to the drawings, forming a part of this specification, Figure 1, is a rear elevation of a press constructed in accordance with my invention. Fig. 2, a front elevation of the same. Fig. 3, a side elevation of the same. Fig. 4, a detailed view of the feed mechanism operating-shafts and connections as they appear from the feeding side of the press. Fig. 5, a vertical cross sectional view of the main multi-color ink-distributing-roll, the traveling inking-rollers, and the intermediate inker-rolls carried by the head of the oscillating type-bed carrying frame of the press. Fig. 6, a rear view of the same.

Similar characters of reference designate like parts throughout all the figures of the drawings.

The improved press comprises a pair of stationary platen-supporting plates 1, provided with a forwardly-extending base portion 1^a, connected by a rock shaft 2. The rock-shaft 2, is adapted to rock in the bearing heads 1^b, of the plate 1, and the ends thereof extend out laterally and are connected to the lower ends of the oscillating type-bed carrying frame 3, said frame comprising two arms terminating at their upper ends in bearing heads 4, between which are interposed the stationary axially-rotat-

933,006. PRINTING-PRESS. FRED H. VAN LOOZEN, Cleveland, Ohio, assignor to The Van Loozen Automatic Printing Press Company, Cleveland, Ohio, a Corporation of Ohio. Original application filed May 4, 1908, Serial No. 430,796. Divided and this application filed Nov. 13, 1908. Serial No. 462,431.

To all whom it may concern:

Be it known that I, FRED H. VAN LOOZEN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Printing-Presses, of which the following is a specification.

My invention relates to improvements in printing presses, and, more particularly, to that class or type of job-printing presses in which the platen is stationary and the type

ing multi-color ink-distributing rollers and near the front edges 4^a, of which is secured the projecting type-bed, all as hereinafter described.

The side plates 1, of the stationary platen-supporting frame carry a main driving-shaft 5, provided at each end with pinions 6, and at one end with a driving-pulley or fly-wheel A. The driving-shaft 5, may be connected to and driven by any suitable and convenient source of power, and said pinions 6, mesh with a pair of driving-gears 7, on the ends of a second or cam shaft 8.

The oscillating frame 3, is maintained in proper position and is given the proper oscillating motion relative to the platen by means of a pair of connecting or draw-arms 9, pivoted at one end to the projecting eccentric ends of a rock-shaft 10, and at the other to the gears 7. The oscillating frame 3, is provided with the usual throw-off mechanism comprising an arm 11, extending from the eccentric shaft 10, and connected to a connecting-bar or link 12, said link being pivotally-connected at its lower ends to an oscillating spring-resisted foot-lever 13, extending to the front of the machine and provided with a tread plate 14. The foot-lever 13, is pivotally-secured to one side of the forwardly-extending base portion 1^a, by means of a pivot-stud or bolt 15.

The traveling yoke-frame 16, hereinafter described, carrying the traveling inking-rollers, is given the proper reciprocating motion by means of a vertically-movable connecting-bar or link 17, the upper end of which is pivotally connected to a lug 18, near the rear or pivoted end of one of the side members 16^a, of the yoke frame. The lower end of the connecting bar or link 17, is pivotally-connected in a bearing-slot at one end of a reciprocating lever-bar 19, one end of said lever bar being pivotally-secured to the front portion of one of the supporting-plates 1, by means of a pivot-bolt 20. The lever bar 19, is provided at one side with an anti-friction roll 21, taking into a cam-slot or way 22, of a gear-wheel 23, mounted on the adjacent supporting-plate 1. The gear-wheel 23, is so geared to the other gears of the press, hereinafter described, and relative to the gear wheels 7, connected to the draw-arms 9, as to be adapted to move the traveling inking-rollers over the type-form when the latter is moved by the oscillating frame toward the platen and to remain in contact with the lower inker-roll, beneath the head 4, of the frame, when the type-form makes contact with the platen, and when the type-form is moved by the oscillating frame away from the platen, the traveling inking rollers travel back over the type-form toward the upper inker-roll and remain in contact therewith while the type-form is being car-

ried forward by the oscillating frame 3, for the second impression.

In order to prevent the front edges 4^a, of the type-carrying bearing-heads 4, from coming in contact with the strip or sheet of paper being printed when the type-form is making its impression, the chase and type-form 24, are so positioned that their faces project in front of the front edges 4^a, so that the latter cannot engage with the sheet to be printed to mar or otherwise deface the same, and the traveling inking-rollers 25, are provided at their ends with friction-bearing rollers or carrying-wheels 26, adapted to travel upon and bear against the front edges 4^a, of the bearing heads 4, of the frame. It will be observed that the distance between the periphery of the rollers 25, and the wheels or rollers 26, is substantially equal to the distance the face of the type-form is projected beyond the front edges 4^a, of the frame, so that the inking-rollers will always be held in uniform inking-contact with the face of the type-form.

The inking-rollers 25, are held in proper position and secured to the side members of the reciprocating yoke-frame 16, by means of a series of longitudinally-movable spring-resisted bearing-bars 27, said bars 27, being carried in suitable bearing-openings of the cross-bars or members 28, and provided at their outer ends with hooked bearing-heads 29, taking over pintles 30, at the ends of the inking-rollers. Coil springs 31, surround the bearing-bars 27, and are interposed between the front cross members 28, and adjustable sleeve-blocks 32, secured to the rear ends of the bearing bars by means of screws 33. By adjusting the sleeve-blocks 32, the resistance offered by the springs 31, may be increased or decreased as desired.

The printing-ink is adapted to be received upon and distributed by a multi-color ink-distributing-roll comprising a series of sections 34, adapted to be adjusted on the shaft 35, whereby the distance between the several sections may be varied as desired. The several sections 34, are adapted to carry different colored inks and to distribute the same in circumferentially-extending sections to the upper and lower inker-rolls 36, and 37, respectively, by means of a pair of intermediate friction-rollers 38, interposed in frictional engagement between the peripheries of the sections of the multi-color ink-distributing roll and the upper and lower inker-rolls 36, and 37. All of the ink-distributing-rolls are given continuous rotation by means of a pulley 39, on the shaft 35, said pulley being driven by a belting 40, (see dotted lines in Fig. 3) passed over idlers 40^a, on the shafts 10 and 2, in the frame 3, and thence over a driving-pulley 41, (see Fig. 1) on the main driving-shaft 5. The side mem-

bers 16^a, of the reciprocating yoke-members 16, are pivotally-secured at their rear to rearwardly extending bearing-lugs 42, by means of pivot-bearings 43, and, it will be understood, that the upper and lower inker-rolls 36, and 37, respectively, continue to rotate while the traveling inking-rollers are in contact therewith in their extreme upper and lower positions, while the impression is being made, thus revolving the traveling inking-rollers and thoroughly distributing the ink thereon.

One of the driving gears 7, meshes with a second gear-wheel 44, (see Fig. 3) said gear wheel being revolvably-secured to the side of one of the side-plates 1, and provided with a pinion 45, meshing with the cam gear-wheel 23, hereinbefore referred to.

The shaft 8, is provided with a series of cams 46, 47, 48 and 49, adapted to operate against the ends of a series of spring-resisted crank-arms comprised in the sheet feeding and carrying mechanism, as hereinafter fully described.

One of the side plates 1, of the stationary-supporting-frame, is provided with a pair of laterally-extending supporting-brackets 50, carrying a rock-shaft 51, a second rock-shaft 52, and a third or cam-shaft 53, said rock-shaft 51, being connected at one end with a crank-arm 54, and at the other end or operator's side of the press, with a longitudinally slotted arm 55. The rock-shaft 52, is provided at one end with an upwardly-extending arm 56, and at the other end or operator's side of the press, with a curved upwardly-extending slotted arm 57, and the cam-shaft 53, is provided with a series of cams 58, 59 and 60, designed to operate against pivotally-mounted oscillating levers, as hereinafter described. The crank arms 61, 62, and 63, are mounted on the rock-shaft 51, and are adapted to oscillate thereon, and all of these crank-arms together with the crank-arm 54, fastened upon the end of the shaft 51, are held against the cams 46, 47, 48 and 49, by means of a series of springs 64. One end of the crank-arm 62, is pivotally-secured to a curved connecting-arm or link 65, and the upper end of the link 65, is pivotally-secured to an oscillating crank-arm 66, pivotally-mounted on one side of the frame 1, of the press by means of a pivot-bolt 67. One member 66^a, of the oscillating crank arm 66, is adapted to bear upon and oscillate or rock the end of a depending finger-arm 68, extending downwardly from a horizontally-arranged rock-shaft or bar 69, carrying a series of fingers 70, adapted to hold the fed sheet of paper firmly to the feed table 71. The horizontally-arranged shaft or bar 69, is carried at its ends in bearing-brackets 72, (see Fig. 4) secured to or formed integral with the longitudinally-extending guide or

way 73, at the lower edge of the feed table 71. The guide or way 73, carries a slidably-mounted reciprocating paper feed-carrier 74, provided at its ends with bearing-brackets 75, carrying the ends of a rock-shaft or bar 76, said shaft or bar being provided with a series of grippers 77, said grippers 77, engaging the lower marginal edge of the fed sheet when the feed-carrier 74, is being moved from left to right or toward the tympan of the press; the grippers 77, being released from the paper when the carrier 74, is moved away from the tympan of the press for taking another feeding-hold upon the sheet of paper being fed, the fingers 70, in the meanwhile securely holding the paper in position for receiving the impressions. However, at the moment the impression is given, both the grippers 77, and the fingers 70, engage and hold the sheet firmly in position. The grippers 77, are held in their closed or feeding position by the resistance of a coiled-spring 78, one end being secured to the carrier 74, and the other to a block or head 79, on the shaft or bar 76. One end of the shaft or bar 76, is provided with an arm 80, adapted to take under one edge of a longitudinally-extending oscillating or tilting-plate 81. The plate 81, is provided at its ends, and at one side of the longitudinal center thereof, with pintles 82, mounted in the suitable bearings of the operating frame 1, and is provided with a short laterally-extending arm 83, to which is pivotally-secured a vertically-arranged connecting-arm or link 84, the lower end of said link being pivotally-secured to the oscillating arm 63.

The paper feed-carrier 74, is given the proper reciprocating or longitudinal feeding-movement on the guide or way 73, by means of the upwardly extending arm 56, on the shaft 52, the upper end of said arm 56, being pivotally-secured to a longitudinally-extending connecting-arm 85, one end of which arm 85, is pivotally-secured to a bearing-lug 86, at the side of the carrier 74. It will also be observed that the longitudinally-extending connecting-arm 85, is provided near each end with horizontal pivot connections 87, so as to permit of various adjustments of the feed table 71, relative thereto, as hereinafter referred to. The paper-feed-carrier 74, is given its reciprocating motion by reason of the rocking of the shaft 52, through the medium of the curved upwardly-extending slotted-arm 57, connected to a connecting-arm or link 88, pivotally-secured to one of the arms of the crank arms 61, which oscillates by reason of its contact with the cam 46. The sheet-feeding-carrier 89, is mounted upon the guide or way 73, at one side of the press, and is provided with grippers 90, carried upon a longitudinal spring-resisted shaft 91,

supported at its ends in bearing-brackets 92. The sheet-feeding-carrier 89, is given its proper intermittent reciprocating sheet-carrying and feeding motion by means of a vertically-arranged swinging bar or arm 93, the lower end of which is pivotally-secured to a downwardly-extending lug 94, on one of the supporting-brackets 50, by means of a pivot 95, and the upper or free end of the swinging bar or arm is pivotally-connected to a short connecting-arm or link 96, one of which is secured to a bearing-lug 97, of the sheet-feeding-carrier 89. The connecting-arm or link 96, is also provided with horizontal pivot-connections 98, for the same purpose as pointed out with reference to the connections 87, of the connecting-arm 85. The vertically-arranged swinging-bar or arm 93, is adapted to be moved to its sheet-receiving or initial position, as shown in the drawings, by means of a cam 58, which, (when the swinging-arm or bar 93, has been moved to its extreme travel in carrying the sheet to the press by the means hereinafter described) engages the laterally-extending anti-friction roller 99.

The longitudinally-extending oscillating or tilting-plate 100, similar to the tilting-plate 81, is provided at its ends with pintles 101, taking into laterally-extending bearing-brackets 102, extending from a supporting plate B, of the feed-board supporting-bracket, hereinafter described. One edge of the tilting-plate 100, takes over the end of a crank-arm 103, extending from the shaft 91, carrying the grippers 90, said arm 103, being operated by the tilting-plate 100, against the resistance of a coiled-spring 104, surrounding the shaft 91, thus opening the grippers 90, for the reception of the lower marginal edge of the fed sheet of paper preparatory to being carried by the sheet-feeding carrier 89, to the press. The tilting-plate 100, is provided with a small crank-arm 105, pivotally-connected to a connecting-arm or link 106, the lower end of said link being pivotally-connected to the outer or free end of a horizontally-arranged oscillating lever 107, pivotally-attached at its rear end to the bracket 50, and provided with a depending bearing-portion 107^a, adapted to frictionally-engage with a cam 60, whereby motion is transmitted to the oscillating lever 107, and the tilting-plate 100, connected thereto, as described. A paper guide arm 108, is secured at its base end to a short-shaft 109, having its ends taken into bearing-brackets 110, extending from the lower edge of the feed table and said paper guide arm 108, is adapted to be lowered against the resistance of a coiled spring 111, by means of a short lever 112. The short lever 112, is pivotally-connected to a connecting arm or link 113, the lower end of said link being

pivotally connected to the outer or free end of a horizontally-arranged oscillating lever 114, arranged similar to the lever 107, and provided with a depending bearing-portion 114^a, adapted to frictionally engage with a cam 59, whereby motion is given to the paper guide arm 108.

Upon referring to Fig. 1, it will be seen that the relation of the parts is such that the depending-portions of the horizontally-arranged levers, 107, and 114, having reached the extreme edges of the cams 60, and 59, the levers are about to drop or be depressed by the resistance of the coiled-springs 104, and 111, thus closing the grippers 90, and elevating the paper guide arm 108, while the hooked draw-arm 115, pivotally-connected to the arm 54, and normally carried by and swinging from the connecting-link 116, on the arm 114, is lowered at its free or hooked end 115^a, so as to engage the pin or stud 93^a, of the arm 93, and at the same time the cam-arm on the lever 54, as it is elevated by the resistance of the coiled spring, will cause the engaged arm 115, to draw the upper end of the swinging bar or arm 93, with the attached sheet-feeding carrier toward the press. When the sheet-feeding carrier 89, has reached its extreme sheet-delivery position, the grippers 90, are adapted to be opened by having the crank arm 103, engaged and depressed by an extended portion 117, on the outer or free end of a pivotally-mounted lever 118, said lever being pivotally-connected to a connecting-arm or link 119, connected to the connecting link 65, of the crank arm 62. The rear end of the lever 118, is pivotally-secured in pivot-lugs 120, of the oscillating or tilting plate 100, and the extended portion 117, extends through longitudinal slot 121, of the tilting plate 100. It will thus be understood that the lever 118, being connected to and operated by the connecting link 65, which latter link also operates the fingers 70, on the horizontal bar 69, through the medium of the oscillating crank arm 66, and depending finger arm 68, the grippers 90, and fingers 70, will be simultaneously elevated, and at the moment after the paper-feed carrier 74, has traveled to its extreme sheet-receiving position and its grippers having taken over the lower marginal edges of the sheet, which, as before stated, is now free from the sheet feeding-carrier 89, and its grippers 90. Soon after the paper feeding carrier 74, with its grippers 77, has engaged the sheet the cam 59, will raise the lever 114, thereby elevating the hooked draw-arm 115, through the medium of the connecting link 116, and the cam 58, will engage the anti-friction roller 99, and swing the vertically-arranged arm 93, with the attached sheet-feeding carrier 89, back to its initial position, as shown in the draw-

ings. In the meantime the paper-feed carrier is carrying the sheet through the press, the number of motions of the paper-feed carrier, or impressions to be given to the sheet to each sheet-carrying delivery-motion of the sheet-feeding carrier 89, being regulated as now described.

One end of the cam-shaft 53, is provided with a ratchet-wheel 122, and the cam shaft 53, with the attached ratchet wheel 122, are given an intermittent motion by means of a pawl-carrying wheel 123, provided with a series of pawls to engage with the ratchet wheel. The pawl-carrying wheel 123, is given an intermittent motion by means of the longitudinally-slotted arm 55, said arm 53, being connected to the pawl-carrying wheel by means of a strip or cord 125, extending about and attached to the periphery of the pawl-carrying wheel 123, and at the other end adjustably secured in the slot of the arm 55, by means of an adjusting-bolt connection 126. The distance through which the cam shaft 53, with its attached ratchet wheel 123, will be carried at each motion or impulse of the slotted arm 55, is regulated by moving the adjusting-bolt connection 126 in the slot of the arm 55, and the pawl-carrying wheel 123, being moved against the resistance of a spring 127, attached to a strap or cord 128, secured about the periphery of the hub portion 123^a, of the pawl-carrying wheel, and said pawl-carrying wheel will be returned by said spring 127, for the next impulse or motion. The connecting-arm or link 88, is pivotally-secured in the slot of the curved forwardly-extending arm 57, by means of an adjusting-bolt connection 129, so that, by moving this adjusting-bolt connection in the slot, the length of the feeding-motion or thrust given to the paper-feed carrier 74, may be regulated to correspond with the number of impressions which it is desired to make on each sheet.

The parts of the machine, as shown in the drawings, are adjusted so as to give ten impressions to each sheet. The slotted arms 55, and 57, are preferably provided with a graduated scale so as to indicate just where the adjusting bolt connections 126, and 127, should be placed in order to give the number of impressions desired on each sheet.

The platen-supporting frame 1, is provided with a laterally-extending feed-table supporting-bracket 130, and a platen 131, is supported by means of adjustable impression-bolts 132, mounted in the cross members 133, of the platen-supporting frame.

One end of the feed table is provided with a large opening C, adapted to take over the platen 131, and of larger size than the platen so as to form a marginal recess or opening 134, permitting of a movement or adjustment of the feed-table in any direction by

means of the adjusting-thumb-nuts 135, in the brackets 136, at the upper edges of the feed-table, thus permitting of an adjusting of the feed-table so that the sheet will be properly positioned and fed to the type-form to be printed. The feed-table is also secured to the outer end of the supporting-bracket by means of a bolt 137, passing through an opening in the bracket of much larger diameter than the bolt, the bolt being secured by means of a thumb nut 138, said thumb-nut bearing against a large washer 139, covering the large opening in the bracket through which the bolt passes. The large opening in the bracket will thus permit the bolt, with the attached table, to be shifted about for the adjustment hereinbefore referred to. The horizontal pivot-connections 87 and 98, of the connecting-arms 85 and 96, connected to the paper feed carrier 74, and sheet feeding carrier 89, respectively, also provide for the adjustments of the feed table just spoken of.

It will be understood that the length of the crank-arms 54, 61, 62, and 63, and the relative sizes of the cams 46, 47, 48, and 49, are such that the necessary movements of the parts in their paper feeding and gripping motions relative to each other take place at the right time.

It will be observed that the ends of the crank-arms 54 and 61, are curved downwardly forming the downwardly-extending loops 54^a, and 61^a, so as to clear the driving shaft 5.

When it is desired to print a number of colors at a single impression, as for example, red, blue and black, the sections 34, comprising the multi-color ink-distributing roll, are separated from each other and secured upon the shaft 35, as shown in the drawings, and in order to give the multi-color ink-distributing roll a lateral motion, whereby to more thoroughly and evenly distribute ink on the contiguous rolls, the shaft 35, is provided at one side with a head 35^a, having a circumferential cam groove or recess 35^b. As the shaft 35, is revolved the requisite to and fro motion of the shaft will be imparted by reason of its engagement with a fixed finger-bracket 35^c, which takes into the cam-groove 35^b.

The sections 34, of the multi-color ink-distributing-roll carry the various inks desired to be used and are adapted to distribute the same on the inker-rolls and traveling inking-rollers in the form of vertically aligning sections of colors, the color of each section corresponding with the color of the ink on the section of the ink-distributing-roll from which it is received. In view of this arrangement the traveling inking-rollers, carry circumferentially-extending sections of the various colors, in passing over the

lines of type in the type-form in parallel strips of various colors. Consequently, in setting up the form for multi-color work, the line or lines of type wanted to appear in a certain color are set so that they are in alinement with the section of color wanted appearing on the multi-color ink-distributing-roll.

If the type-form is small, and a number of colors are desired, as for example—card printing, a number of fragmentary type-forms may be set up at proper intervals with the various lines of type wanted in a certain color arranged in alinement with the corresponding section of color appearing on the ink-distributing-roll, the sections of which may be shifted on the shaft as desired.

It should also be understood that the length of the feeding motion or thrust given to the paper-feed carrier 74, is regulated by the means hereinbefore described, and that the length or distance of thrust should correspond with the width of the type form so that the paper is correspondingly advanced, or, in other words, is fed a distance equal to the entire width of said type form for each printing operation.

From the foregoing description, taken in connection with the accompanying drawings, the operation and advantages of my invention will be readily understood.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:—

1. In a multi-color printing press, an oscillating frame carrying a projecting type-form and a multi-color ink-distributing-roll divided into sections, inker-rolls receiving ink from said sections, means for giving said ink-distributing-roll a lateral motion while being revolved, and traveling-inking-rollers provided at their ends with carrying-wheels adapted to travel on the front edges of said oscillating frame.

2. In a multi-color printing-press, the combination with a frame carrying a platen and a laterally-extending feed-table, a reciprocating paper-feed carrier, and an intermittently-reciprocating sheet-feeding carrier; of an oscillating frame carrying a projecting type-form and an ink-distributing-roll divided into sections, inker-rolls receiving ink from said sections, and traveling inking-rollers in contact with and revolved by said inker-rolls while the impression is being given.

3. In a multi-color printing-press, an oscillating frame provided with bearing-heads carrying a projecting type-form and an ink-distributing-roll divided into sections, upper and lower inker-rolls, friction-rollers interposed between said inker-rolls and said sections, and a reciprocating yoke-frame carry-

ing a plurality of traveling inking-rollers adapted to contact with and be revolved by said inker-rolls while in the extreme upper and lower positions.

4. In a multi-color printing-press, an oscillating frame carrying a projecting type-form and an ink-distributing-roll divided into adjustable sections, inker-rolls adapted to receive ink in circumferentially-extending sections from said adjustable sections, a plurality of traveling inking rollers adapted to travel over said type-form and contact with and be revolved by said inker-rolls while the impression is being given, a stationary frame carrying a platen, a reciprocating paper-feed carrier, and means for regulating the reciprocating motion of said paper-feed carrier.

5. In a multi-color printing-press, comprising a frame carrying a platen and a feed table, an oscillating frame carrying a type-form and a sectioned ink-distributing-roll, inker-rolls in contact with said ink-distributing-roll, a plurality of traveling inking-rollers, adapted to contact with said inker-rolls while the impression is being given, a reciprocating paper-feed carrier, an intermittently-reciprocating sheet-feeding carrier, and means for regulating the reciprocating motion of said paper-feed carrier.

6. A multi-color printing-press, comprising a stationary frame carrying a platen and feed-table, an oscillating frame carrying a type-form and a multi-color ink-distributing-roll made up of sections, inker-rolls receiving ink from the sections of said multi-color ink-distributing-roll, a plurality of traveling inking-rollers adapted to travel over said type-form and to contact with and be revolved by said inker-rolls while the impression is being given, a reciprocating paper-feed carrier, and means for regulating the to and fro movements of said paper-feed carrier.

7. In a multi-color printing-press, the combination with a frame carrying a platen and a feed-table, a reciprocating paper-feed carrier, an intermittently-reciprocating sheet-feeding carrier, and means for regulating the reciprocating motion of said paper-feed carrier; of an oscillating frame carrying a projecting type-form and an ink-distributing-roll made up of sections adapted to carry different colored inks, upper and lower inker-rolls receiving the ink from said sections, and traveling inking-rollers adapted to alternately contact with and be revolved by said upper and lower inker-rolls while the impressions are being given.

8. A multi-color printing-press, comprising a stationary platen, an oscillating frame carrying a type-form and a multi-color ink-distributing-roll divided into a series of adjustably-mounted sections, inker-rolls adapt-

ed to receive the ink from said ink-distributing-roll, a reciprocating yoke-frame carrying a plurality of traveling inking-rollers adapted to contact with said inker-rolls, a paper feed-carrier, a reciprocating sheet-feeding carrier, means for moving said sheet-feeding carrier to said paper-feed carrier when the latter has been given a pre-determined number of to and fro movements, and means for regulating the to and fro movements of said paper-feed carrier.

9. A multi-color printing-press, comprising a stationary frame carrying a platen, an oscillating frame carrying a type-form and an ink-distributing-roll composed of sections adapted to carry different colored inks, inker-rolls adapted to receive the ink from said sections and carry the same in circumferentially-extending sections, a plurality of traveling inking-rollers adapted to travel over said type-form and to contact with and receive ink in circumferentially-extending sections from said inker-rolls, a reciprocating paper-feed carrier provided with a plurality of grippers, and means for regulating the to and fro movements of said paper-feed carrier.

10. In a multi-color printing-press, an oscillating frame carrying a projecting type-form and an ink-distributing-roll divided into sections, an inker-roll receiving ink from said sections, means for giving said ink-distributing-roll an axial movement while being revolved, and a reciprocating yoke-frame carrying a plurality of traveling inking-rollers adapted to contact with and be revolved by said inker-roll while said yoke-frame is in its initial position.

11. In a multi-color printing-press, an oscillating frame carrying a type-form and an ink-distributing-roll divided into sections, an inker-roll, a friction-roll interposed between said ink-distributing-roll and said inker-roll, means for continuously revolving all of said rolls, and a reciprocating yoke-frame carrying a plurality of traveling inking-rollers adapted to contact with and be revolved by said inker-roll while said yoke-frame is in its initial position.

12. In a multi-color printing-press, an oscillating frame carrying an ink-distributing roll divided into sections, an inker-roll, an intermediate friction roll, means for continuously revolving all of said rolls, means for axially moving said ink-distributing-roll while being revolved, and a reciprocating yoke-frame carrying traveling inking-roller adapted to contact with and receive ink from said inker-roll.

13. In a multi-color printing-press, an oscillating frame carrying an ink-distributing roll divided into sections, means for moving and adjusting said sections relative to each other, an inker-roll, an intermediate friction

roll, and means for revolving all of said rolls while said oscillating frame is being oscillated.

14. In a multi-color printing-press, an oscillating frame carrying an ink-distributing-roll divided into sections, means for continuously revolving said ink-distributing-roll, means for imparting an axial movement to said roll while being revolved, an inker-roll, an intermediate friction roll, and an oscillating frame carrying traveling inking rollers adapted to contact with said inker-roll.

In testimony whereof I have affixed my signature, in presence of two witnesses.

FRED H. VAN LOOZEN.

Witnesses:

O. C. BILLMAN,
SAM BELLMAN.