

No. 735,818.

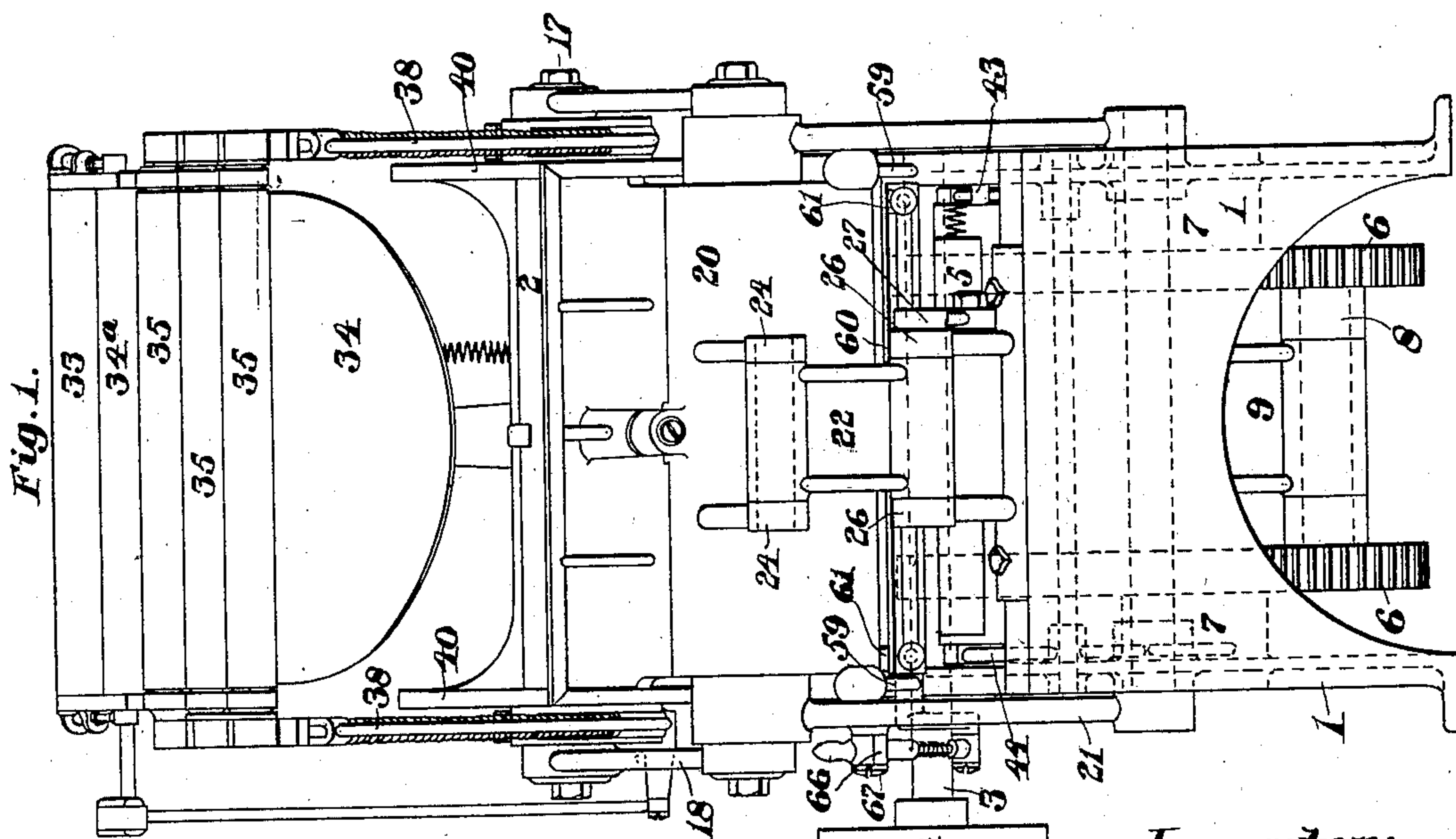
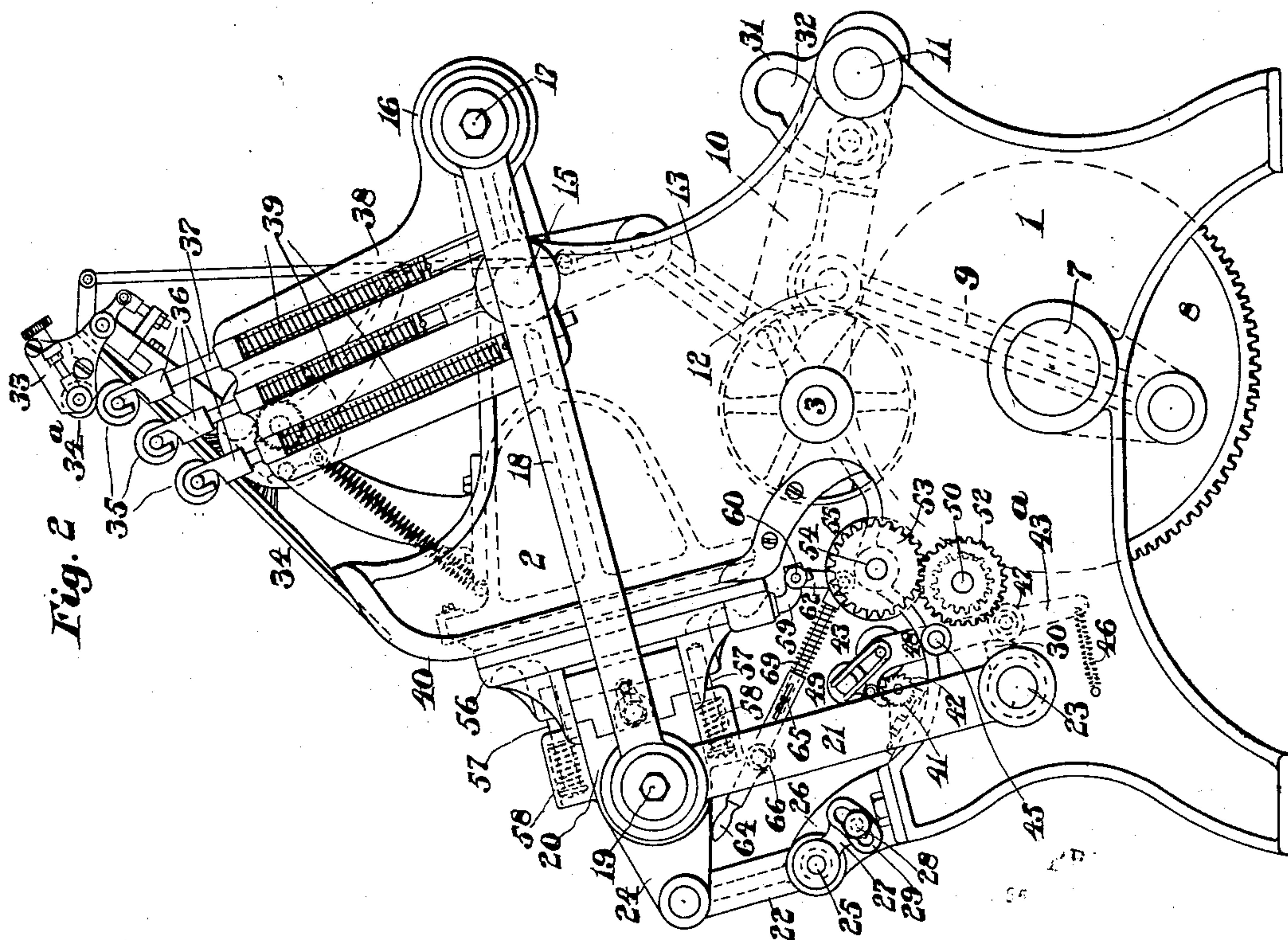
PATENTED AUG. 11, 1903.

G. W. PROUTY.
INK DISTRIBUTING APPARATUS FOR PRINTING PRESSES.

APPLICATION FILED AUG. 25, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses:

Walter E. Lombard
Edwin J. Luce

Inventor:
George W. Prouty,

by N. P. Lombard Atti.

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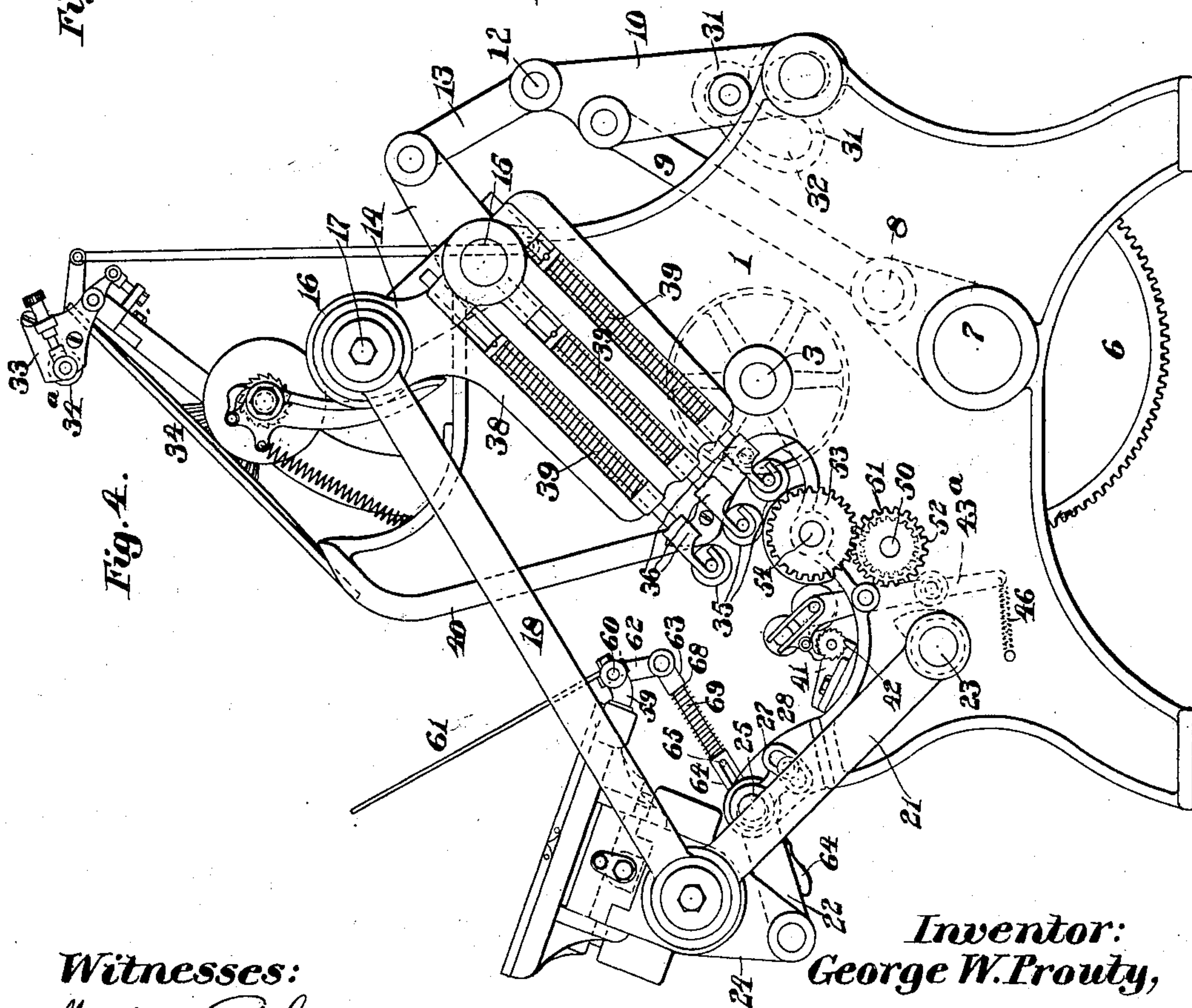
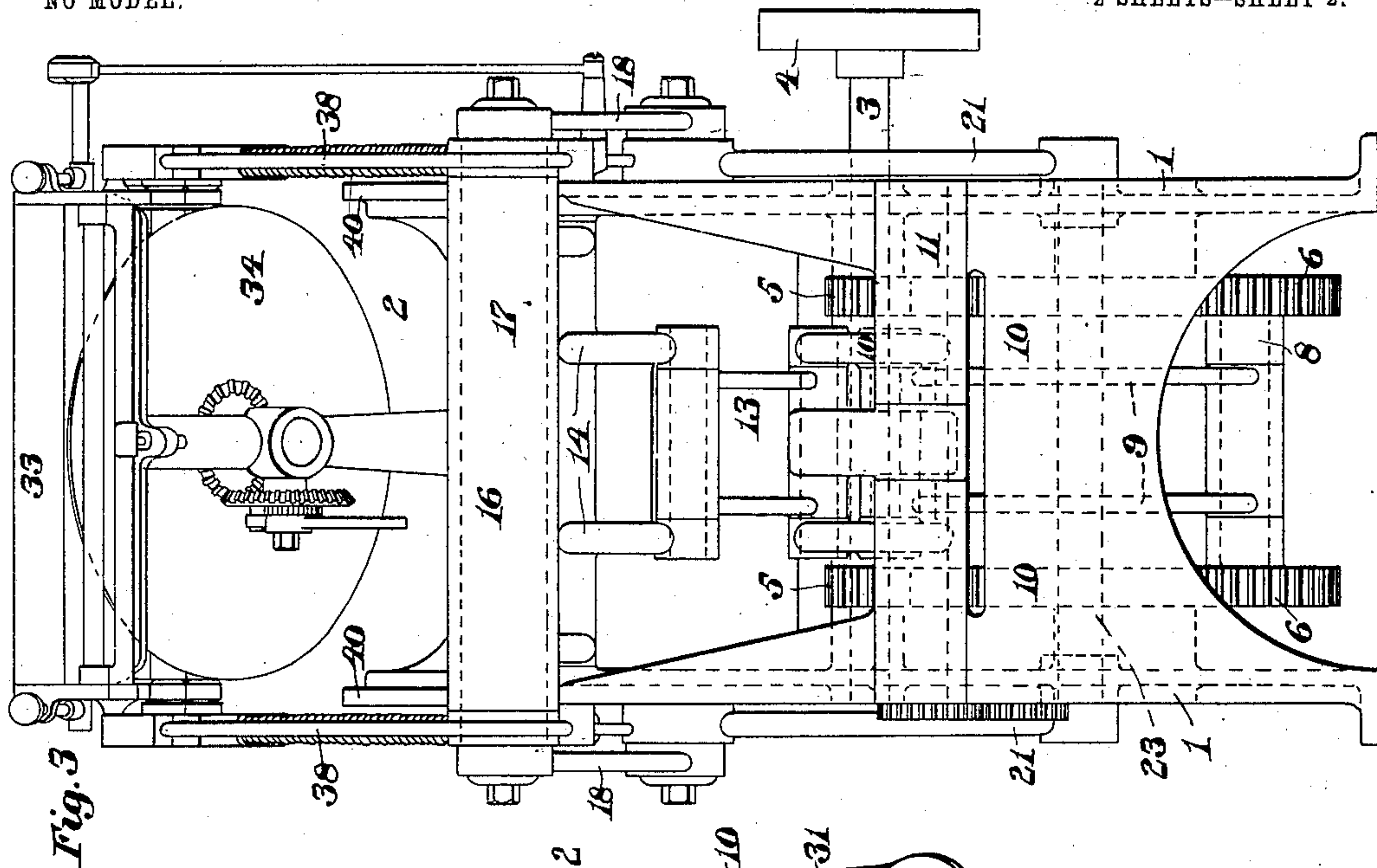
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2 SHEETS—SHEET 2.



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Edwin T. Luce

Inventor:
George W. Prouty,

by N. C. Lombard
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UNITED STATES PATENT OFFICE.

GEORGE W. PROUTY, OF BOSTON, MASSACHUSETTS, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO IMPERIAL PRESS COMPANY, OF KITTERY, MAINE, AND BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

INK-DISTRIBUTING APPARATUS FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 735,818, dated August 11, 1903.

Application filed August 25, 1902. Serial No. 120,883. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. PROUTY, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Ink-Distributing Apparatus for Printing-Presses, of which the following, taken in connection with the accompanying drawings, is a specification.

My invention relates to ink-distributing apparatus for printing-presses; and it consists in certain novel features of construction, arrangement, and combination of parts, which will be readily understood by reference to the description of the accompanying drawings, and to the claims hereto appended, and in which my invention is clearly pointed out.

Figure 1 of the drawings is a front elevation of a press embodying my invention. Fig. 2 is a side elevation of the same with the several parts in the positions they occupy when the impression is on. Fig. 3 is a rear elevation of the same. Fig. 4 is an elevation of the same side as Fig. 2, but with the parts in the positions they occupy when the impression is off, the platen at a standstill at the extreme of its backward movement, and the inking-rolls are receiving ink from the ink-distributing mechanism below the type-bed.

In the drawings, 1 represents the main frame of the machine, cast in one piece and integral with the type-bed 2 and having mounted in suitable bearings therein the driving-shaft 3, on one end of which is secured the driving-pulley 4 and a suitable loose pulley and fly-wheel, (not shown,) and intermediate of its ends and within said frame are secured thereon two pinions 5 5, which engage and impart motion to the larger spur gear-wheels 6 6, the hubs of which are mounted in suitable bearings in said frame 1, as at 7, said gear-wheels 6 6 being rigidly connected together by a crank-pin 8, upon which is mounted one end of the pitman 9, the other end of which is pivoted to the lever 10, fulcrumed upon and movable about the fixed rod 11; said lever having pivoted thereto at 12 one end of the link 13, the other end of which is pivoted to one arm of the elbow-lever 14, which is

mounted upon the shaft 15, mounted in suitable bearings in the frame 1, as shown. 50

The upper arm of the elbow-lever 14 terminates in a long tubular hub 16, which extends transversely of the machine and has mounted therein the shaft 17, on each end of which is mounted one end of a draw-bar 18, the opposite end of which is mounted on the end of the shaft 19, upon which the platen-yoke 20 is mounted, so as to be revoluble thereon. 55

So far as hereinbefore described the construction shown is well known. 60

The platen-yoke is supported upon the radius-arms 21, 21, and 22, the upper ends of the two radius-arms 21 21 being mounted on the shaft 19 between the draw-bars 18 and the ends of the yoke 20, while their lower ends are firmly secured upon the shaft 23, mounted so as to be movable about its axis in suitable bearings in the frame 1 and has mounted thereon the cam 30. 65

The radius arm or link 22 has its upper end pivoted to the ears 24 24, projecting from the front side of the yoke 20, and its lower lower end is mounted on the eccentric-pin 25, mounted in bearings in the stand 26 26, secured in fixed positions upon the front wall of the frame 1, said eccentric-pin having secured upon one end thereof the slotted arm 27, by means of which and the clamping-screw 28, which passes through the slot 29 in said arm 27 and screws into the stand 26, said eccentric-pin may be adjusted about the axis of its bearings to raise or depress the front of the yoke 20 by moving it about the axis of the shaft 19. 75

The lever 10 is fulcrumed upon the rod 11 by means of a slotted hole through its lower or outer end, having a width equal to the diameter of said rod and a length in the direction of the length of said lever in excess of the diameter of said rod, so that the said lever is capable of being moved endwise to a limited extent during a certain portion of its vibration. 85

The rod 11 has firmly secured thereon in a fixed position the cam-plate 31, having formed therein a slot 32, the lower portion of 95

which is concentric with the axis of the rod 11, and the upper portion is curved outward to a greater distance from the axis of said rod 11 than said concentric portion, as shown in Figs. 2 and 3.

The lever 10 has its fulcrum end forked and has set therein in a fixed position a pin which extends through both arms of said fork and through the cam-slot 32, in the plate 31 and has mounted thereon a truck which when in the concentric portion of said slot 32 will maintain the lever 10 in position with the inner end of the slot in its fulcrum end in contact with the rod 11, as shown in Fig. 2, which condition is maintained during the upward movement of said lever until said truck reaches the commencement of the outward curve of said slot 32 when the platen and its yoke have assumed the positions they occupy in Fig. 4, in which positions they remain until the lever 10 has completed its upward stroke, the truck has reached the upper end of said slot 32, and said lever 10 has commenced its downward stroke, and said truck has again reached the upper end of the concentric portion of the slot 32, thereby giving a dwell to the platen equal to one-quarter of a revolution of the crank.

The devices described in the last five paragraphs form portions of the subject-matter of another application of mine of even date herewith, but are also necessary elements in the proper carrying out of my invention forming the subject of this application.

The ink-distribution on job-printing presses as heretofore constructed is not as perfect as it is desirable that it should be, owing to the fact that the inking-rolls are supplied with ink only above or below the form and in passing over the form naturally deposit more ink upon the upper portion of the type than upon the lower portion, and while the inking-rolls pass a second time over the type-form before the impression is given this does not entirely correct the imperfect application of the ink to the type, for the reason that the ink on the rolls at the commencement of their movement over the type-form has been nearly all deposited on the type when they have finished their first passage over the form, so that there is little or no ink on said rolls to be deposited on the type on their return stroke. To obviate this objection and make it possible to deposit the ink more evenly upon the type-form than heretofore has been practical is the object of my present invention, and to this end I employ two ink-fountains and two ink-distributing devices, one above and the other below the type-form, so that the inking-rolls are supplied with ink below the type-form as well as above, and consequently will on their upward stroke deliver more ink upon the lower portion of the form than upon the upper portion thereof, thereby correcting the imperfection of the inking of the type by the

In carrying out my invention in this re-

spect I employ an ink-fountain 33 and ink-distributing disk 34 above the type-bed 2, with a suitable ink-supply roll 34^a to deliver the ink from the fountain, suitable inking-rollers 35, mounted in saddles 36, carried by rods 37, mounted in bearings in the roller-carrying plates 38, mounted upon the shafts 15 and 17 and movable about the axis of the shaft 15, said rods 37 being provided with springs 39, constructed and arranged to press the roller-guiding trucks into contact with the roller-bearers 40, all constructed and operating in a well-known manner.

In addition to the fountain and ink-distributing devices above referred to I employ a second fountain 41, provided with a suitable ink-delivering roll 42, all supported upon the frame 1 below the platen.

A pair of forked levers 43 and 44 are mounted upon a shaft 45, mounted in bearings in the frame 1, so as to be movable about its axis to vibrate said levers, said lever 43 being provided with a pendent arm 43^a, to the lower end of which is attached one end of a spring 46, the other end of which is connected to a pin set in the frame 1, and said pendent arm 43^a carries a truck 47, mounted on a stud set therein, said truck 47 being acted upon intermittently by the cam 30 to move said levers 43 and 44 about the axis of the shaft 45 in one direction, while the spring 46 will move said levers in the opposite direction. The forked upper ends of the levers 43 and 44 carry the roll 48 and the vibrator 49 of well-known construction.

A shaft 50 is mounted in suitable bearings in the frame 1 and has secured thereon within said frame a pinion 51, which is engaged by one of the gear-wheels 6 to rotate said shaft 50, which also has secured on its end outside of said frame the spur gear-wheel 52, which engages with and imparts motion to the gear-wheel 53, mounted on the end of the shaft 54, which has mounted thereon within the frame 1 the distributing-cylinder 55, with which the roll 48 comes in contact as it is moved away from the ink-delivering roll 42 to deposit ink thereon and distribute the same.

The lower ink-distributing mechanism is so arranged relative to the bed and the frame and roller-guides are so shaped that the inking-rolls in the last part of their downward movement pass between the lower edge of the type-bed and said lower ink-distributing mechanism, or, in other words, said inking-rollers when in said lowest positions are between said distributing mechanism and the axis of motion of said roller-frames. This is a great advantage in that the ink-fountain and ink-distributing mechanism are thereby rendered much more accessible for cleaning, adjustment, and repairs than when said ink-distributing mechanism is placed farther to the rear, so that the inking-rolls when in their lowest positions would be in front of said distributing mechanism.

The platen 56 is yieldingly secured to the platen-yoke 20 by the bolts 57 and springs 58 and may be adjusted to regulate the impression in a well-known manner.

5 The platen 56 has formed upon or secured to its lower edge the arms 59 59 in bearings in which the gripper-bar 60 is mounted and has adjustably secured thereon the gripper-fingers 61 and also has secured to one end thereof the lever 62, to the movable end of which is pivoted one end of the rod 63, the other end of which is fitted to and is movable endwise in the tubular inner end of the handle 64, the tubular end of which is slotted transversely, through which slot the pin 65 is inserted through said rod 63, said slot and pin acting as a stop to limit the movement of said rod in said tubular handle in either direction.

20 The handle 64 is provided with a notch 66, (shown in dotted lines in Fig. 2,) which engages a pin 67, set in the left-hand radius-arm 21, as shown in Fig. 1.

The rod 63 is provided with a shoulder 68 near its pivotal connection to the lever 62, between which and the inner end of the handle 64 said rod is surrounded by a coiled spring 69, which serves to press the gripper-fingers 61 upon the tympan-sheet on the inner face of the platen.

The operation of my invention will be readily understood from the foregoing without further explanation here.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. In a printing-press, the combination with a fixed bed and a vibrating platen of an elbow-lever; draw-bars connecting said elbow-lever and platen; a crank; mechanism interposed between said crank and elbow-lever constructed and arranged to move said elbow-lever and platen during about three-fourths of a revolution of said crank, and hold them in a state of rest during the other quarter of the revolution of said crank; an ink-fountain and an ink-distributing mechanism located below said bed; a second ink-distributing mechanism located above said bed; and inking-rolls constructed and arranged to be alternately moved into contact with each of said ink-distributing mechanisms, and to pass over and apply ink to the type-form between said opposite contacts; means for intermittently vibrating the roller-carrying frame, as and for the purposes described.

50 ink-distributing mechanisms, and to pass over and apply ink to the type-form between said opposite contacts; means for intermittently vibrating the roller-carrying frame, as and for the purposes described. 55

2. In a printing-press, the combination with a fixed type-bed and a vibrating platen supported on radius-arms, of two different lengths, an elbow-lever, draw-bars connecting the movable ends of the two longest radius-arms with said elbow-lever, a crank, and mechanism interposed between said crank and elbow-lever, constructed and arranged to move said elbow-lever and platen during about three-fourths of the revolution of said crank, and hold them in a state of rest during the other quarter of a revolution of said crank, of an ink-fountain and an ink-distributing mechanism located below said bed; a second ink-distributing mechanism located above the type-bed; and inking-rolls constructed and arranged to be alternately moved into contact with each of said ink-distributing mechanisms, and to pass over and apply ink to the form between said opposite contacts; and means for intermittently vibrating the roller-carrying frames as and for the purpose described. 60 65 70 75

3. In a platen printing-press, the combination of a fixed type-bed; a vibratory and oscillating platen; a plurality of inking-rolls; means for causing said rolls to traverse said type-bed in opposite directions; and an ink-distributing mechanism located below said bed, and in such relation thereto that said inking-rolls when in their lowest positions and in contact with the ink-distributing surface, shall be between the bed and said ink-distributing surface. 80 85

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, on this 23d day of August, A. D. 1902. 90

GEORGE W. PROUTY.

Witnesses:

N. C. LOMBARD,
J. H. STEVENSON.