

No. 786,072.

PATENTED MAR. 28, 1905.

F. WAITE.  
PLATEN PRINTING PRESS.  
APPLICATION FILED JULY 15, 1903.

FIG. 1

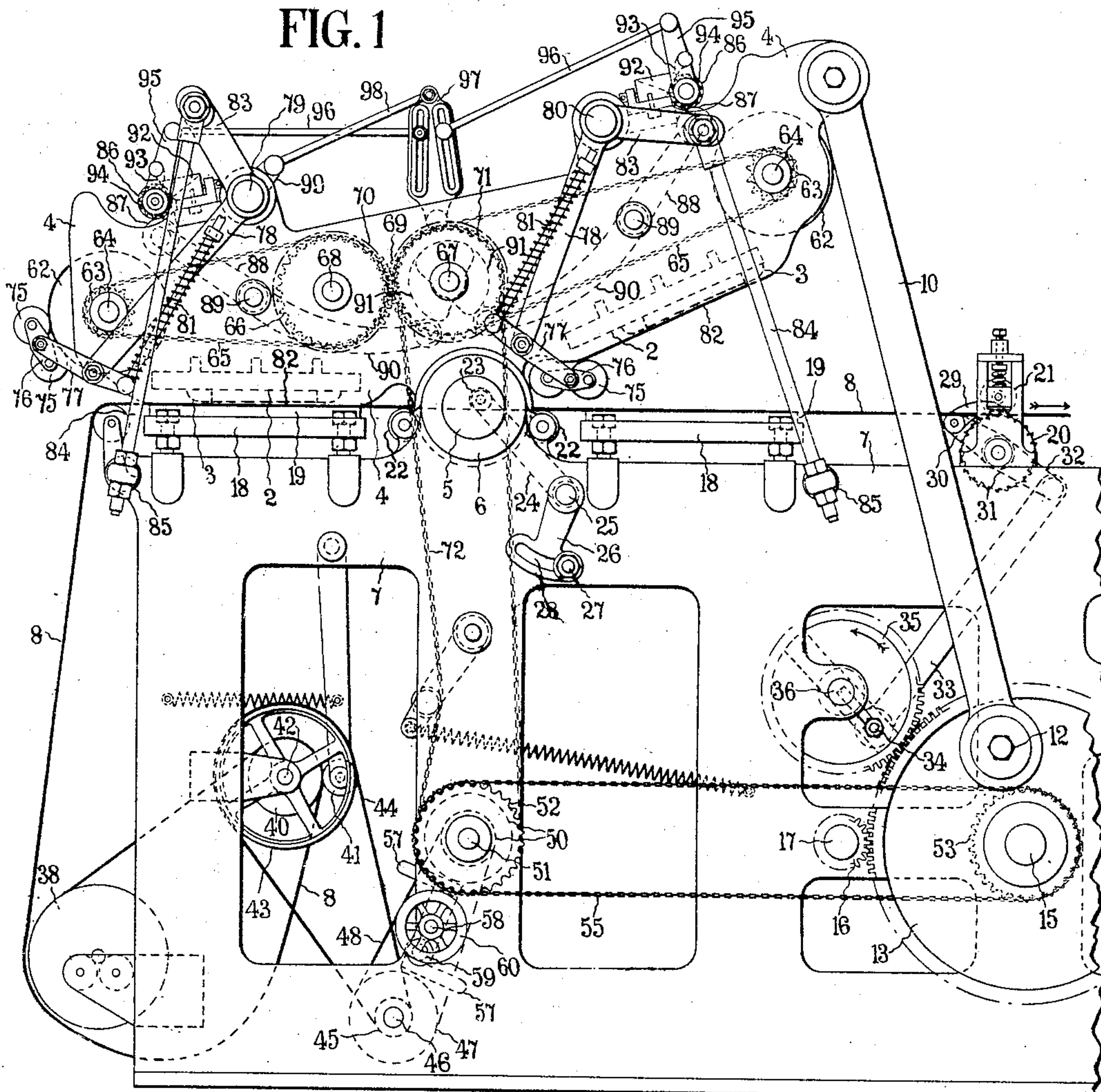
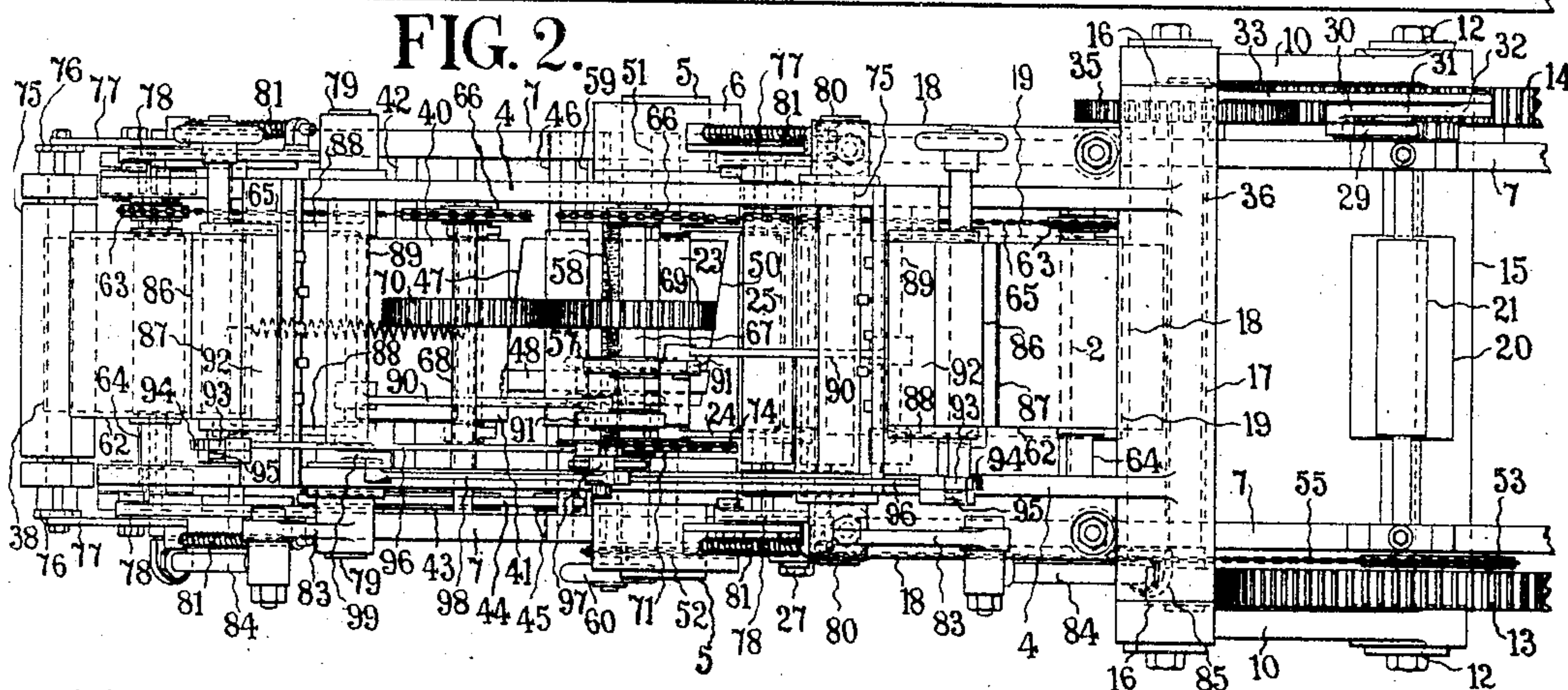


FIG. 2



WITNESSES

*H. M. Kuehne*  
*Helen Kuehne & Ollone*

INVENTOR

*Fred Waite*  
*Richardson*  
ATTORNEYS



## UNITED STATES PATENT OFFICE.

FRED WAITE, OF OTLEY, ENGLAND.

## PLATEN PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 786,072, dated March 28, 1905.

Application filed July 15, 1903. Serial No. 165,672.

*To all whom it may concern:*

Be it known that I, FRED WAITE, a subject of the King of England, residing at Burras Lane, Otley, England, have invented certain new and useful Improvements in Certain Platen Printing-Presses, of which the following is a specification.

This invention relates to improvements in that class of platen printing-presses in which the paper or other material to be printed is fed from a roll in a continuous web or sheet; and its object is to increase the quantity of work done by this class of machine. For this purpose I employ two type-beds and platens arranged to give alternate impressions, and I feed the paper such a distance at each movement that there is sufficient space between the impressions made by the first type-bed to receive the impressions from the second type-bed. Suitable provision may be made for allowing considerable adjustment of the forms upon the type-bed to adapt the machine to print different sizes of matter. I prefer to mount the two type-beds in such a way that one balances the other. A convenient way of doing this is to rigidly connect the two type-beds together and mount them on a central rocking shaft or trunnion-pivots on a flat platen-bed, so that they can be alternately brought down onto the bed at opposite sides of the rocking shaft. The center of vibration is preferably in the same plane as the platens, and when a rocking shaft is employed it may have a slit or passage through it or be cut away at one side to allow the paper to pass.

To fully describe my invention, reference is made to the accompanying sheet of drawings, forming a part of this specification, in which similar reference-numerals indicate corresponding parts in each of the views.

Figure 1 is a side elevation of my improved press. Fig. 2 is a plan view of the same with the type-bed and platen on the left-hand side omitted.

The two type-beds 2, carrying the adjustable form-chases 3, are made integral with the rocking frame 4 or are rigidly secured to it. In the drawings the frame 4 is shown mounted by trunnions 5 in the bearings 6,

formed in the side frames 7; but instead of trunnions a rocking shaft may be used and sufficient of the central portion cut away to allow the web of paper 8 to pass without deviation. The rocking frame 4 is actuated by a rod 10 on each side connecting it to the crank-pins 12 in the wheels 13 and 14 on the shaft 15 and which are driven by the pinion-wheels 16 on the driving-shaft 17.

The two platens 18 are fixed to the tops of the side frames 7 and are preferably provided with detachable make-ready plates 19. In Fig. 1 the left-hand type-bed is shown in position for the type carried by its chase to print an impression on the paper 8, lying on the platen beneath, and when the frame 4 is rocked such type is raised and the right-hand type-bed is brought down to give an impression. In the intervals between the impressions the web of paper is drawn by the rollers 20 and 21 in the direction of the arrow, Fig. 1, a sufficient distance to bring a fresh portion of the web of paper 8 onto the left-hand platen. This portion, however, is not printed upon on that platen, but is carried forward, and it is the next portion brought onto the platen by the movement of the web of paper that is printed upon. This leaves blank spaces between the impressions made on the left-hand platen, and the two chases are so adjusted on their respective type-beds that these spaces are printed upon on the right-hand platen when they reach it. In case of two-color work the paper-web 8 is only moved half the distance at each movement, and one color is printed on one platen and the other color on the other platen. A roller 23, carried by arms 24 on the shaft 25, is provided between the platens above the web of paper 8, so that in case the adjustment of the chases on the type-beds is not sufficient to bring the blank spaces accurately into "register" on the right-hand platen the roller 23 can be lowered so as to more or less depress the paper at that part and correspondingly increase the distance it has to travel from one platen to the other. A guide-roller 22 for the web 8 is provided on each side of the roller 23, level with the upper faces of the make-ready plates 19. The shaft 25 is fixed to hold the roller



23 in position by its arm 26, clamped to the side frame by the stud 27 passing through the slot 28 in the arm. The rollers 20 and 21 are geared together, and the roller 20 is intermittently operated by the pawl 29, carried by the arm 30 of the lever 31, and the other arm, 32, is connected by the rod 33 to the adjustable crank-stud 34 in the wheel 35 on the shaft 36. As the wheel 35 is driven in the direction of its arrow at twice the speed of the wheel 14, there is an ample interval between each movement of the web to allow the impression to be made.

The web 8 of paper is drawn off the roll 38 by the drawing-off rollers 40 and 41. The roller 40 is mounted on the shaft 42, driven by the pulley 43, which is connected by the belt 44 to the pulley 45 on the shaft 46. The shaft 46 is driven by the cone 47, connected by the belt 48 to the cone 50. The cone 50 is fixed on the shaft 51, which is driven by its sprocket-wheel 52 from the sprocket-wheel 53 on the shaft 15 by the chain 55. The cones 47 and 50 are introduced to enable the speed of the rollers 40 and 41 to be adjusted to draw off the paper from the roll 38 at the same speed as it is consumed or slightly faster. The adjustment is effected by the double belt-fork 57 engaging the belt 48 and carried by the adjustment-screw 58 and cross guide-rod 59. A hand-wheel 60 is provided on the adjustment-screw, which latter is confined longitudinally in bearings in the side frames 7 and fits a female thread in the guide 59.

The inking-cylinders 62 are driven by the sprocket-wheels 63 on their shafts 64 by the chains 65 on the sprocket-wheels 66, fixed on the shafts 67 and 68, geared together by the spur-wheels 69 and 70. The shaft 67 is driven by the sprocket-wheel 71, connected by the chain 72 to the sprocket-wheel 74 on the shaft 51.

The inking-rollers 75 are mounted in carriers 76, pivoted to the levers 77, which are pivoted to the lower ends of the arms 78, fixed to the rocking shafts 79 and 80. Spring-rods 81 are connected to the levers 77 and are adapted to keep the rollers pressed against the cylinders 62 and the bearers 82. The shafts 79 and 80 are rocked to actuate the inking-rollers by the arms 83 fixed to them. The arms 83 are connected by the links 84 to the rocking studs 85, mounted in bearings in the side frame 7. As the frame 4 is rocked the links 84 and connecting parts cause the inking-rollers 75 to move from contact with the inking-cylinder and over the form and back again. The rollers 75 on the left-hand side are shown in contact with the cylinder 62, receiving ink while the impression is made. The rollers 75 on the right-hand side have completely passed over the form and are on the point of return-

ing to the cylinder 62. The ink is conveyed from the ductor-roller 86 to the cylinders 62 by the rollers 87, which are carried by the arms 88, fixed on the rocking shafts 89. The shafts 89 are rocked by their arms 90 engaging the cams 91 on the shaft 67. Distributing-rollers are preferably used; but to avoid confusion they are not shown. The rollers 86 are revolved in the ink-ducts 92 by the pawls 93 engaging the ratchet-wheels 94 on the roller-shafts. The pawls 93 are carried by the levers 95, vibrated by the rods 96, coupled to the lever 97, pivoted to the rocking frame 4. The lever 97 is vibrated by the rod 98, coupled to the arm 99 on the rocking shaft 79.

Instead of arranging the two platens in the same plane they may be arranged at an angle to each other—as, for instance, at right angles to each other. In this case instead of the roller 23 one or more adjustable rollers may be provided between the platens for the back of the paper to pass over.

The machine may be fitted with perforating, cutting, slitting, paging, ruling, folding, and other attachments.

As the speed at which a platen printing-machine can be driven is mainly limited by the speed at which the form can be inked, it will be seen that by the employment of two platens giving alternate impressions with a feed for each I am enabled to greatly increase the output, for ample time is afforded to ink each form between the impressions it imparts. Furthermore, by this arrangement the paper is fed in a convenient manner for such operations as paging, perforating, cutting, and the like.

I claim—

1. A platen printing-machine intermittently fed for each impression from a roll, two platens arranged in the same horizontal plane, and having two type-beds arranged to give alternate impressions, substantially as herein shown and described.

2. A platen printing-machine intermittently fed for each impression from a roll, two platens arranged in the same horizontal plane, and having two type-beds arranged to balance each other and give alternate impressions substantially as herein shown and described.

3. A platen printing-machine intermittently fed for each impression from a roll, two platens arranged in the same horizontal plane, and having two type-beds arranged to vibrate on the same center and give alternate impressions, substantially as herein shown and described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

FRED WAITE.

Witnesses:

JASON LAVILLE,

FREDERIC THOMAS HUNTER.