

No. 621,682.

Patented Mar. 21, 1899.

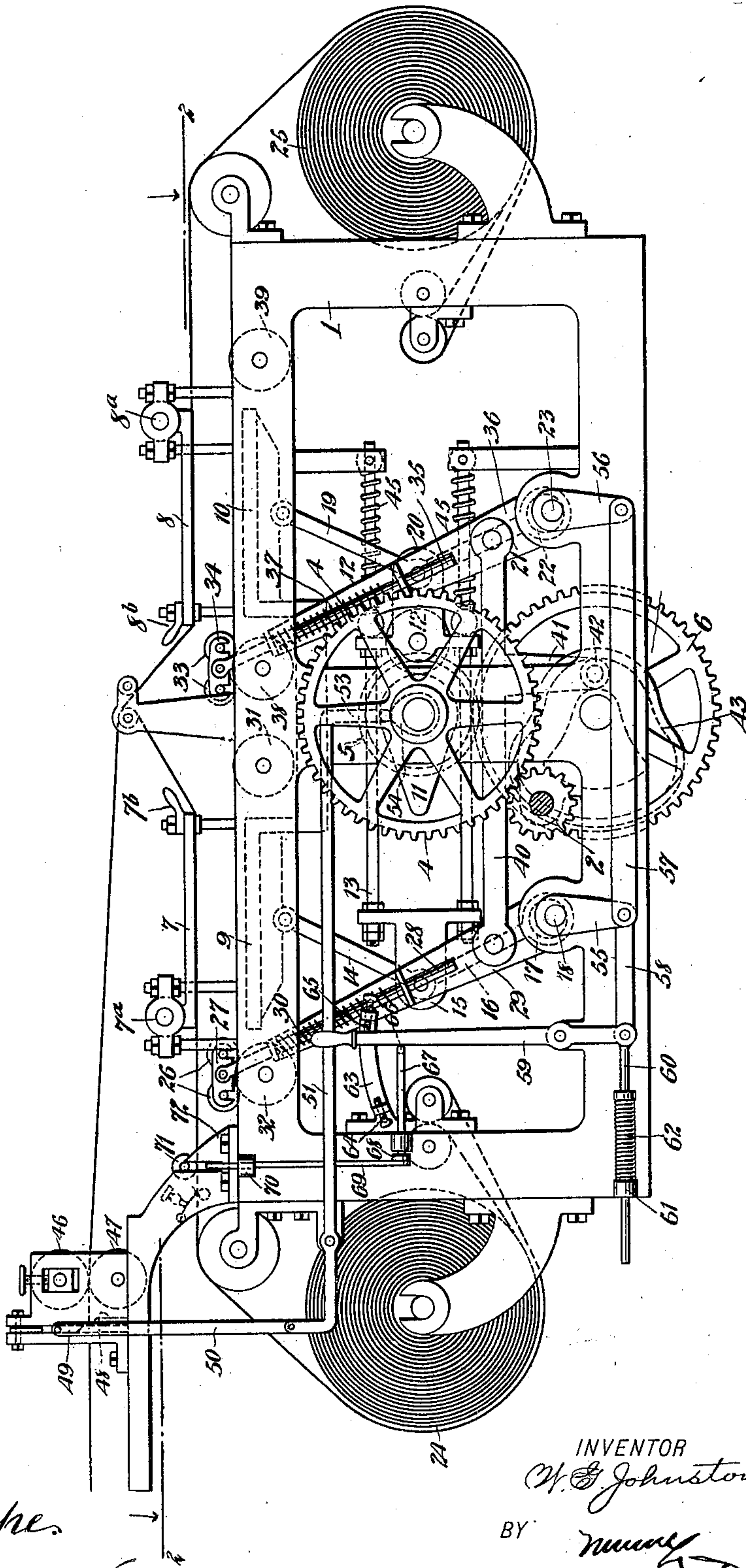
W. G. JOHNSTON.
PRINTING PRESS.

(Application filed July 6, 1898.)

3 Sheets—Sheet 1.

(No Model.)

Fig. 1.



WITNESSES:

Edward Thorpe.
C. R. Ferguson

INVENTOR

W. G. Johnston

BY

Murray

ATTORNEYS.

No. 621,682.

Patented Mar. 21, 1899.

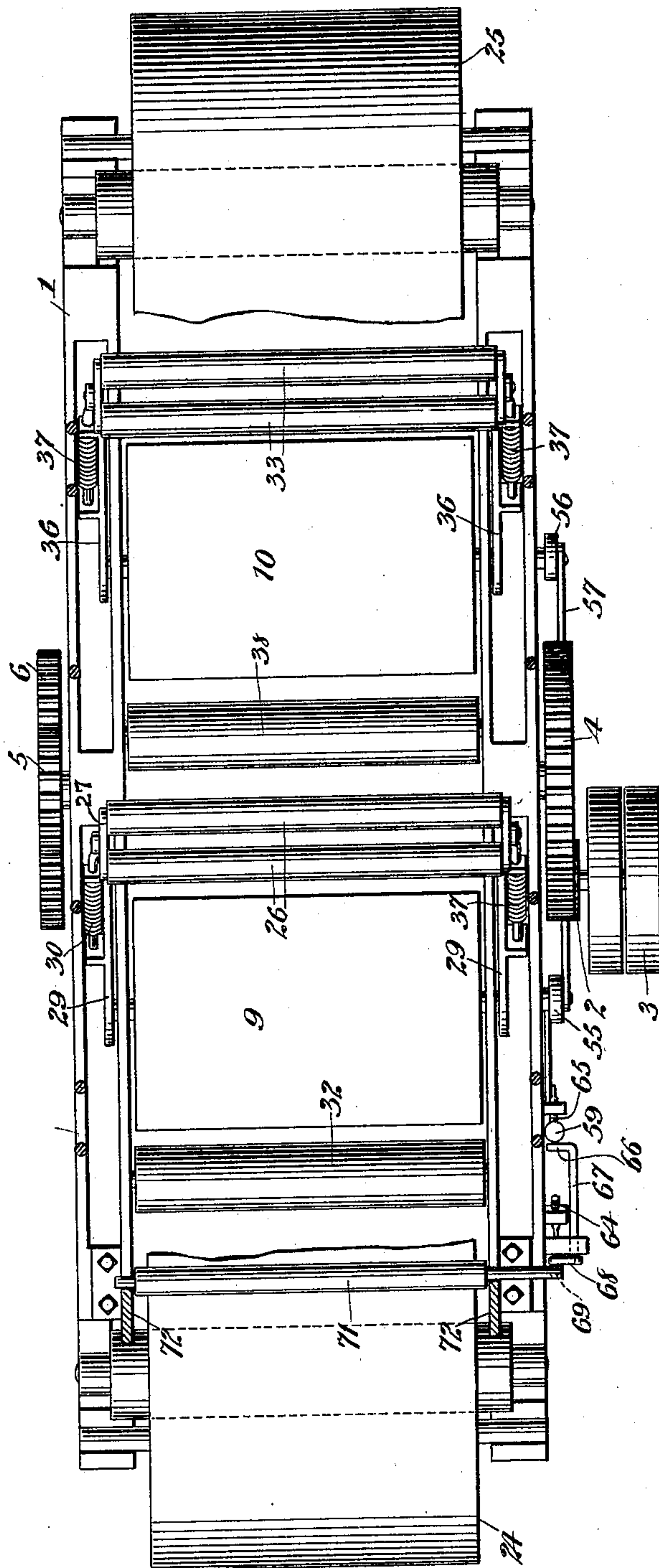
W. G. JOHNSTON.
PRINTING PRESS.

(Application filed July 6, 1898.)

(No Model.)

3 Sheets—Sheet 2.

Fig. 2.



WITNESSES:

Edward Thorpe.
C. R. Ferguson

INVENTOR
W. G. Johnston

BY *James*

ATTORNEYS.

No. 621,682.

Patented Mar. 21, 1899.

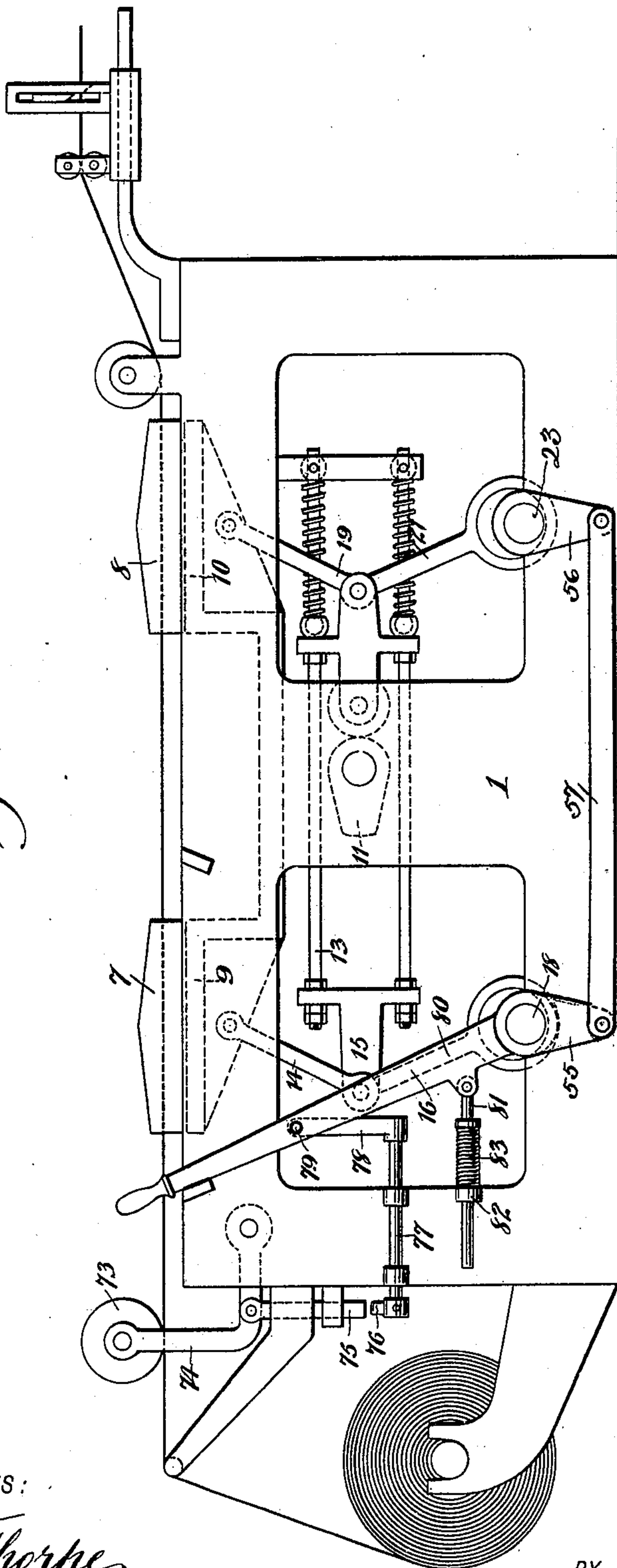
W. G. JOHNSTON.
PRINTING PRESS.

(Application filed July 6, 1898.)

(No Model.)

3 Sheets—Sheet 3.

Fig. 3.



WITNESSES:

Edward Thorpe.
C. R. Ferguson

INVENTOR
W. G. Johnston.

BY *Mummy*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM GRANT JOHNSTON, OF WOODBURY, NEW JERSEY, ASSIGNOR TO
HIMSELF AND ROBERT S. CLYMER, OF SAME PLACE.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 621,682, dated March 21, 1899.

Application filed July 6, 1898. Serial No. 685,240. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GRANT JOHNSTON, of Woodbury, in the county of Gloucester and State of New Jersey, have invented a
5 new and Improved Printing-Press, of which the following is a full, clear, and exact description.

This invention relates to improvements in printing-presses; and the object is to provide
10 a simple means for stopping or limiting the movement of the type-bed should the paper be broken while running through the press, and, further, to provide a novel and improved means for operating the type-bed and for ink-
15 ing the type thereon.

I will describe a printing-press embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying
20 drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a printing-press embodying my improvement. Fig. 2 is
25 a partly-sectional plan view substantially on the line 2 2 in Fig. 1, and Fig. 3 is a side elevation showing a modification.

Referring to the drawings, 1 designates the frame of the printing-press, upon one side of
30 which is a pinion 2, designed to be driven by a belt engaging with a pulley 3. This pinion 2 engages with a gear-wheel 4, upon the shaft of which is a pinion 5, meshing with a gear-wheel 6, designed to operate inking-rollers, as
35 will hereinafter appear. Mounted on the frame are platens 7 8, and movable vertically below these platens are type-beds 9 and 10. Motion is imparted to the type-beds from the shaft upon which the gear-wheel 4 is mounted.
40 The platens 7 8 have hinge connections 7^a 8^a and locking devices 7^b 8^b, here shown in the form of swinging levers. By loosening the locking devices the platens may be swung upward while the pressman is making up the
45 form.

The means for operating the type-beds 9 and 10 comprises a cam 11, mounted on the shaft of the gear 4 and designed to engage with a roller 12, supported in a frame 13, which has
50 both a horizontal and a vertical movement. From the type-bed 9 a link 14 extends to a

connection with an arm 15 on the frame 13, and from this link 14 a link 16 extends to a connection with an eccentric 17 on a shaft 18. The type-bed 10 has a link connection 19 with
55 an arm 20, extended from the frame 13, and from this link 19 a link 21 extends to and connects with an eccentric 22 on a shaft 23. Obviously as the frame 13 is moved by the cam 11 the several links will be moved to a sub-
60 stantially vertical position, thus moving the type-beds 9 and 10 upward to carry the type against the strips of paper taken from the rolls 24 and 25.

Movable over the type on the type-bed 9 is
65 a pair of inking-rollers 26, having their journal-bearings in blocks 27, and these blocks 27 have pivotal connection with rods 28, movable vertically in levers 29, mounted to rock on the shaft 18. To allow for a yielding motion
70 of the inking-rollers relatively to the levers 29 as said inking-rollers move over the type, I employ springs 30, which at one end engage the pins extended from the rods 28 and at the other end against bearings at the upper ends
75 of the levers. The inking-rollers 26 are supplied with ink from rollers 31 32.

Movable over the type on the type-bed 10 is a pair of inking-rollers 33, which have their journal-bearings in blocks 34, having pivotal
80 connection with rods 35, movable through bearings on levers 36, mounted to rock on the shaft 23. Springs 37 hold the rollers 33 against the type, but allow for the swinging motion of the levers. The rollers 33 are mov-
85 able over ink-supply rollers 38 and 39. The levers 29 and 36 at one side of the press are connected by a link 40, the said link having pivotal connection with the levers. Extended downward from the link 40 is an arm 41, on
90 the lower end of which is mounted a roller 42, engaged in the channel of a cam 43 on the shaft of the gear-wheel 6.

As the frame 13 is operated to move the type-beds 9 and 10 upward the cam 43, oper-
95 ating against the roller 42, will move the levers 29 and 36 to a position indicated in Fig. 1. As the frame moves in the opposite direction under the influence of springs 45 the type-beds will be lowered and the levers 29
100 and 36 will be operated to move the inking-rollers over the type. The paper after being

printed upon passes between drawing or feeding rollers 46 and 47 and then between a fixed cutter-blade 48 and a vertically-movable cutter-blade 49. The vertically-movable cutter-blade has pivotal connection with the vertical swinging portion 50 of a lever 51, pivoted on the printing-press frame. At its free end the lever 51 is extended downward, as at 53, and engages with a cam 54 on the shaft of the gear-wheel 4. Obviously by rocking the lever 51 by means of the cam 54 the movable cutter will be operated to cut the strips of paper at the proper time.

I will now describe a means for preventing the type-beds from moving up sufficiently to print upon the paper should the strips of paper be broken while passing through the press. It will be noted that the shafts 18 and 23 are normally stationary. Extended from one end of the shaft 18 is a crank 55, and extended from the shaft 23 is a crank 56. These cranks 55 and 56 are connected by a link 57, and the crank 55 has a link connection 58 with the lower end of a lever 59, fulcrumed on the frame of the press. Extended from the lever 59, below its fulcrum-point, is a stem 60, which passes through a bearing 61, and between this bearing 61 and a cam on the stem is a spring 62. The upper portion of the lever 59 engages against a segment 63, which has at its ends screws 64 65 for regulating the degree of movement of the lever. The lever 59 is held in its normal position by means of a lug 66 on a rock-shaft 67. Extended from this rock-shaft is an arm 68, to the end of which is connected a rod 69, which extends upward through a bearing 70 in the press-frame and is designed to be engaged by a trunnion of a tripping-roller 71, normally engaging upon the upper side of the strip of paper from the roll 24. The trunnions of the roller 70 are movable vertically in slots formed in bearings 72 on the frame.

In operation should the paper break at any point between the roll 24 and the feed-rollers 46 and 47, or should both webs of paper break at any point of their engagement forward of the feed-rollers, the tripping-roller 71 will fall, and its weight upon the rod 69 will force said rod downward and rock the rock-shaft 67 to move the lug 66 out of engagement with the lever 59. Then the spring 62 will rock the lever and consequently rock the shafts 18 and 23 to change the position of the eccentrics thereon. This changing of the position of the eccentrics will lower the link connections with the type-beds to such an extent as to prevent the type-beds from being moved up sufficiently to press the type against the platen or against the paper that may be underneath the same. Should the strip 24 only be broken, as above described, the strip 25 will continue to feed until the press is stopped to make repairs; but during this short movement it is desired that there shall be no printing done on the strip 25, because the two type-beds may contain different matter which

it is necessary to deliver from the press the printed matter of one sheet directly over the printed matter of the other sheet in proper alternation.

In Fig. 3 I have shown a tripping-roller 73 as having journal-bearings in angle-arms 74, from one of which a rod 75 extends downward and is adapted to engage with the arm 76, extended from a rock-shaft 77, on the opposite end of which is an arm 78, having a pin 79 normally engaging in a hole in the lever 80, which in this example is rigidly connected to the shaft 18. In this example a rod 81 extends from the lever 80 above its connection with the shaft and through a bearing 82 on the press-frame, and between this bearing 82 and a cam on the rod 81 is a spring 83. The operation of this device is the same as before described.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A printing-press, comprising a frame, a platen on the frame, a vertically-movable type-bed, a fixed shaft, a horizontally-movable frame, a link extended from the fixed shaft to the movable frame, a link extended from the movable frame to the type-bed, a cam-shaft, a cam on said shaft for moving the frame in one direction, a spring for moving the frame in the opposite direction, an inking-roller movable over the type-bed, arms carrying the roller, a shaft operated from the first-named shaft, and a cam on the last-named shaft for operating the inking-roller arm, substantially as specified.

2. A printing-press, comprising a main frame, a platen on said frame, a vertically-movable type-bed, a normally-fixed shaft, an eccentric on said shaft, a horizontally-movable frame, a link extending from said eccentric to the movable frame, a link extended from the type-bed to the movable frame, a cam on a rotary shaft for moving the frame in one direction, a spring for rocking the eccentric-carrying shaft, a lever for holding said spring, and means controlled by the paper passing through the press, for holding said lever, substantially as specified.

3. In a printing-press, a vertically-movable type-bed, a rock-shaft, an eccentric on the rock-shaft, link connections between said eccentric and the type-bed, a crank-arm on the rock-shaft, a spring-pressed lever having connection with the crank-arm, a rock-shaft for holding said lever in its normal position, and a tripping-roller normally engaging with paper passing through the press and adapted to rock the rock-shaft to disengage it from the lever should the paper break, substantially as specified.

4. A printing-press, comprising a frame, two platens mounted thereon, a type-bed movable vertically under each platen, a frame movable horizontally in the printing-press frame, a shaft having a cam for moving said horizontally-movable frame, link connections

between said frame and the type-beds, link connections between said frame and eccentrics on rock-shafts, crank-arms on said rock-shafts, a link connection between said crank-arms, a spring-pressed lever having link connection with one of said crank-arms, a rock-shaft for holding said lever in its normal position, and a tripping-roller normally engaging with paper passing through the press and adapted to rock the rock-shaft to disengage it from the lever should the paper break, substantially as specified.

5. A printing-press, comprising a frame, two platens mounted thereon, a printing-bed movable vertically under each platen, a frame movable in the printing-press frame, means for moving said frame, link connec-

tions between said frame and the type-beds, normally-fixed rock-shafts, eccentrics on said rock-shafts, link connections between said eccentrics and the movable frame, inking-rollers movable over the type-beds, levers with which said rollers have yielding connection, said levers being mounted to rock on the rock-shafts, a link connection between opposite levers, an arm extended downward from said link, a roller on said arm, and a cam engaging with said roller, substantially as specified.

WILLIAM GRANT JOHNSTON.

Witnesses:

MARY F. CARMAN,
HARRY F. WHITE.