No. 730,396. PATENTED JUNE 9, 1903.

F. W. POHL.

JOB PRINTING PRESS.

APPLICATION FILED JAN. 27, 1903.

NO MODEL. 2 SHEETS—SHEET 1.

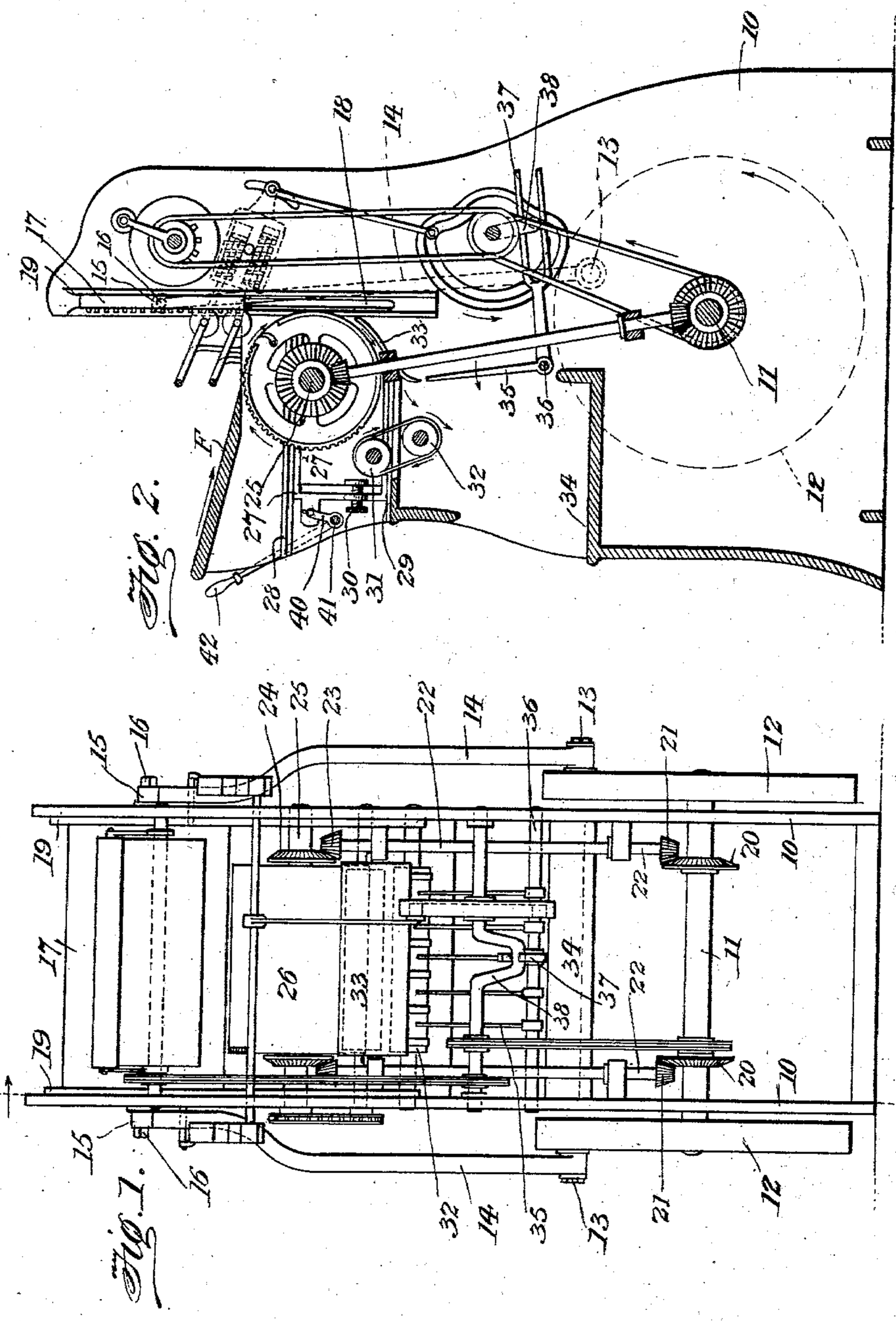

Fig. 2.

Fig. 1.

Witnesses
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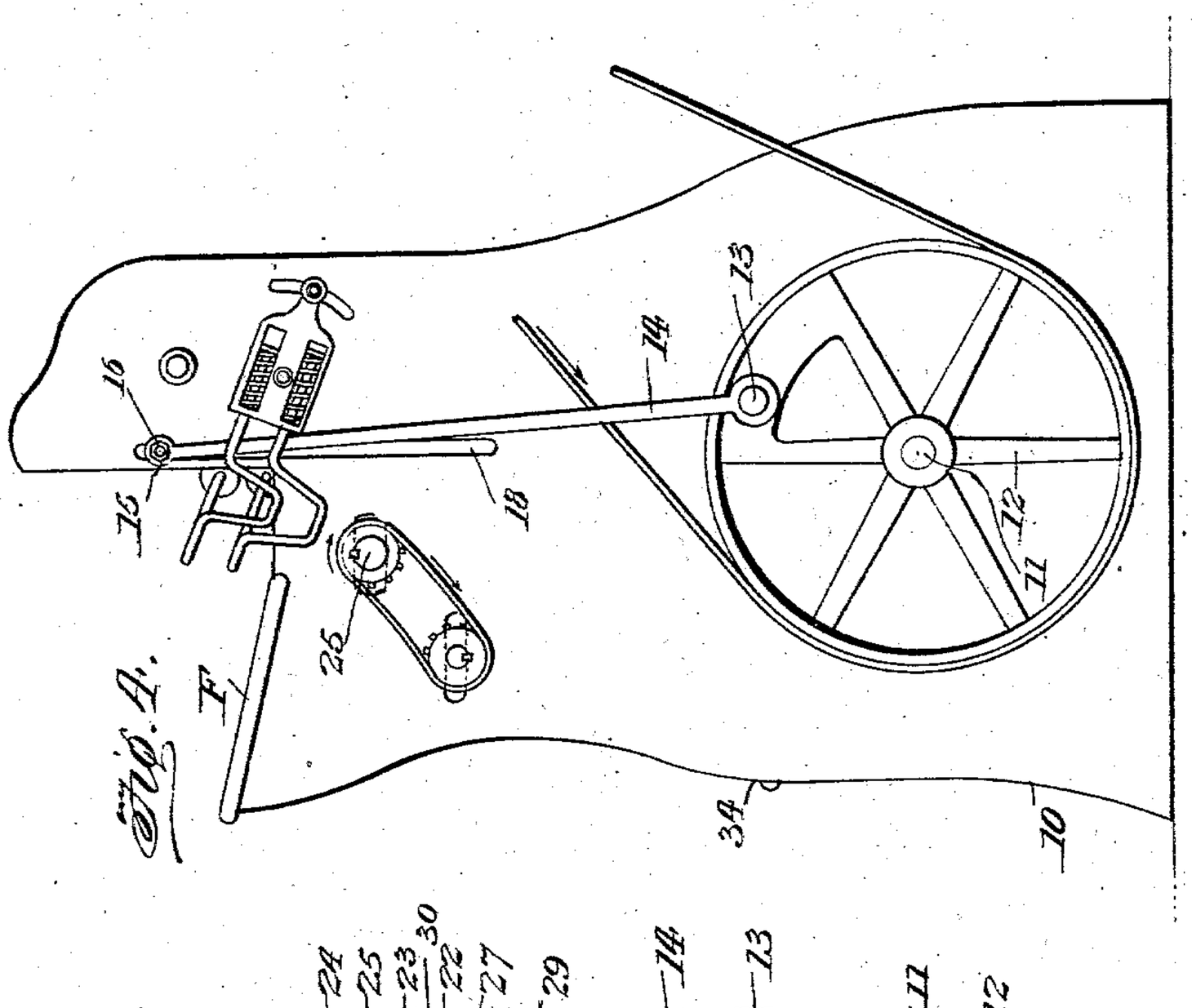

Fig. 2.

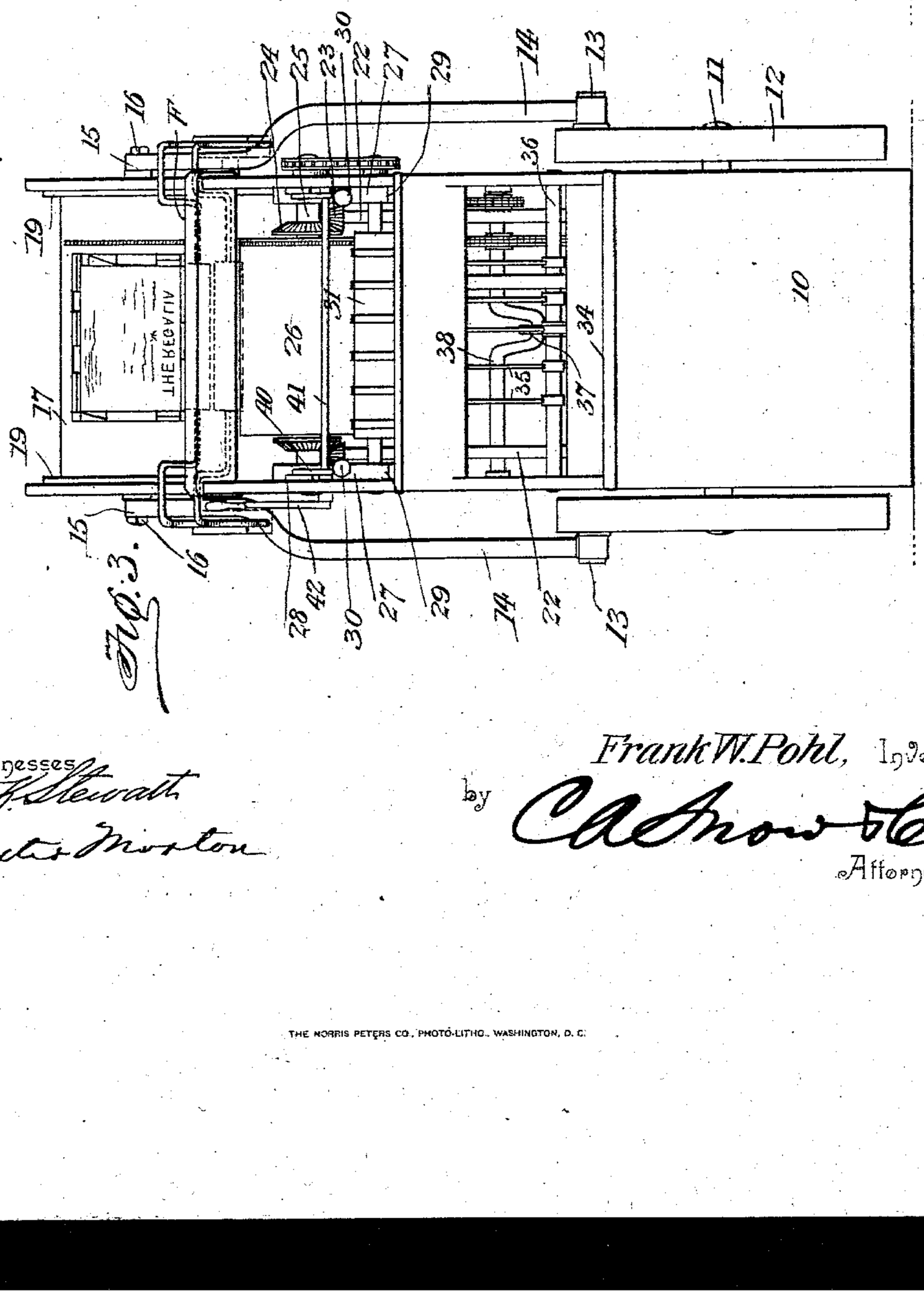

Fig. 3.

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No. 730,396. Patented June 9, 1903.

UNITED STATES PATENT OFFICE.

FRANK W. POHL, OF ST. CLOUD, MINNESOTA.

JOB-PRINTING PRESS.

SPECIFICATION forming part of Letters Patent No. 730,396, dated June 9, 1903.

Application filed January 27, 1903. Serial No. 140,776. (No model.)

To all whom it may concern:

Be it known that I, FRANK W. POHL, a citizen of the United States, residing at St. Cloud, in the county of Stearns and State of Minnesota, have invented a new and useful Job-Printing Press, of which the following is a specification.

This invention relates to job-printing presses, and its object is to produce a job-press that shall be reliable and rapid in operation, simple in construction, and which may be driven with comparatively small expenditure of power.

My invention consists in the construction and combination of parts hereinafter described, and particularly pointed out in the claims and shown in the accompanying drawings, forming a part of this specification.

Referring to the drawings, Figure 1 is a rear elevation of a job-printing press constructed in accordance with my invention. Fig. 2 is an elevational sectional view along the line 2 2 of Fig. 1. Fig. 3 is a front elevation, and Fig. 4 is a side elevation.

In the various views corresponding parts are indicated by the same reference characters throughout.

The frame of the press consists chiefly of standards 10 10 of the form shown in Figs. 2 and 4, each of said standards forming a side of the supporting-frame for the operating parts of the press. 11 is a main driving-shaft supported in journals in the lower part of the standards 10 10 and having fly-wheels 12 12. Each of the fly-wheels 12 carries a projecting pin 13, upon which is journaled one end of a connecting-rod 14, which is pivotally connected at 15 to a pin 16, projecting from the side of a reciprocating bed 17. The standards 10 10 are slotted at 18 18 to permit the reciprocation of the pins 16 16, and ways 19 19 are provided on the inner surfaces of the standards 10 10 to guide the movements of the reciprocating bed 17 and maintain it always in a perfectly vertical position.

Mounted on the main driving-shaft 11, near one end thereof, but between the standards 10 10, is a bevel-gear 20, which coöperates with a bevel-gear 21 at the end of the rotating shaft 22. At the upper ends of the shafts 22, of which there is one on either side of the machine, are beveled gears 23 of the same size as the gears 21 at the lower ends, which engage with a gear 24, similar in size to the gear 20, carried by the main driving-shaft. The gears 24 are mounted upon the shaft 25, which carries rigidly mounted thereon the impression-roller 26.

The shaft 25, upon which the impression-cylinder is mounted, is journaled in plates 27′, which are adjustably mounted in frames 27, set-screws 30 being provided on the frames 27 for the adjustment of plates 27′ therein. The frames 27 are slidably mounted in ways 28 and 29, provided on the inner surfaces of the standards 10 10, which form sides of the press, and movement of the frames 27 in the ways 28 and 29 is brought about by means of a rock-shaft 41, having arms 40 rigidly secured thereby and having at their free ends pins which engage with vertical slots in lugs projecting rearward from the frames 27, as best shown in Fig. 2. The rock-shaft has attached thereto at one end, as shown in Figs. 2 and 3, an operating-lever 42, by means of which the shaft may be conveniently oscillated, as will be readily understood from an inspection of the drawings. Journaled also in the plates 27′ is the upper one of a pair of tape-carrying rolls 31 32, the lower one of which is supported in bearings afforded by the standards 10 10.

Supported under and partly behind the impression-cylinder 26 is a curved guide-plate 33, which corresponds in curvature to the impression-cylinder. At some distance below the impression-cylinder is a table 34, upon which the printed sheets are to be piled by means of flies 35 35 35, mounted upon a rock-shaft 36, to which oscillatory movement is imparted from a crank-shaft 38 by means of a rocker-arm 37, carried by the rock-shaft and slotted at one end to engage with the crank-shaft 38.

Inking devices of preferred form for the type carried by the reciprocating bed 17 are shown in the various figures, the bent supporting-rods for the inking-rolls being adapted to secure proper contact with the supply-roll and permitting the inking-rolls to be drawn up over the supply-roll and held while adding or distributing ink.

It will be observed from an inspection of the figures of the drawings that at each end

of the impression-cylinder a portion of the periphery of the cylinder is provided with cogs adapted to engage with racks provided along the vertical margins of the reciprocating bed; but as this construction forms no part of my invention I lay no claim thereto.

The operation of my improved job-printing press will be readily understood from the foregoing description and the accompanying drawings. The operator stands in front of the machine—that is to say, at the left of Figs. 2 and 4—and feeds the sheets by hand against gage-pins or the like. A sheet having been placed in position and motion imparted to the driving-shaft 11, the impression-cylinder 26 is caused to rotate and the sheet will be seized by grippers mounted thereon and carried around by the cylinder until it has made approximately a half-revolution, when it will be released by the gripper and delivered to the receiving-table 34 by means of the tapes and flies above mentioned. As the sheet passes around with the impression-cylinder it is brought in contact with the type carried by the reciprocating bed 17 and receives an imprint therefrom, the reciprocations of the bed 17 and the impression-cylinder 26 being so timed that the downward movement of the bed 17 takes place synchronously with the downward travel of the grippers on the impression-cylinder. Proper contact between the sheet carried by the impression-cylinder and the type of the reciprocating bed is insured by the cogs at the periphery of the cylinder and the vertical margins of the reciprocating bed.

The frames 27, in which the shaft 25 of the impression-cylinder is adjustably mounted, are normally held in position to bring the impression-roller in contact with the type on the form-bed; but if for any reason it is desirable to prevent contact of the cylinder and the type, as when no sheet of paper is on the cylinder, the lever 42 may be thrown downward and the frames 27 retracted about one-eighth of an inch, which is sufficient to prevent the contact of the impression-cylinder and type.

It is to be understood that I do not desire to be limited to the exact form and construction of the parts described and shown, but reserve the right to make such modifications and changes of proportions therein as may be done without departing from the spirit of the invention.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a job-printing press, the combination of a vertically-reciprocating bed, a rotating impression-cylinder, driving devices for said bed and cylinder, a curved sheet-guide below said cylinder, a rock-shaft carrying flies, a crank-shaft, and an arm on said rock-shaft operatively engaged by said crank-shaft, all substantially as described.

2. In a job-printing press, the combination of a vertically-reciprocating bed, a rotating impression-cylinder, driving devices for said bed and cylinder, a curved sheet-guide beneath said cylinder, continuously-traveling tapes in front of said sheet-guide, means for driving said tapes, and oscillating flies, substantially as described.

3. In a job-printing press, the combination of a frame having side standards, a reciprocating bed, vertical guideways for said reciprocating bed provided in said standards, a continuously-rotating impression-cylinder, frames in which said cylinder is journaled, horizontal guides for said frames provided on said standards, and means for shifting the position of said cylinder-carrying frames in said guides, said means comprising a rock-shaft, arms mounted thereon and connected with said frames, and a lever for imparting movement to said rock-shaft, substantially as described.

4. The combination in a printing-press of the class described of an impression-cylinder, a pair of supporting-standards, ways provided on the inner surfaces of said supporting-standards, frames mounted in said ways, means for shifting the position of said frames, plates carried by said frames and adjustable therein, and journals provided in said plates for said impression-cylinder.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

FRANK W. POHL.

Witnesses:
C. F. MACDONALD,
FRED. SCHIEPLIN..