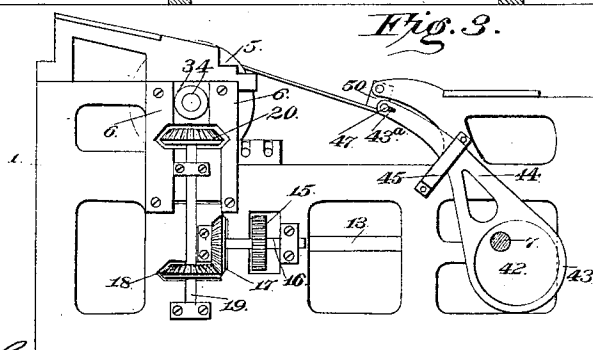
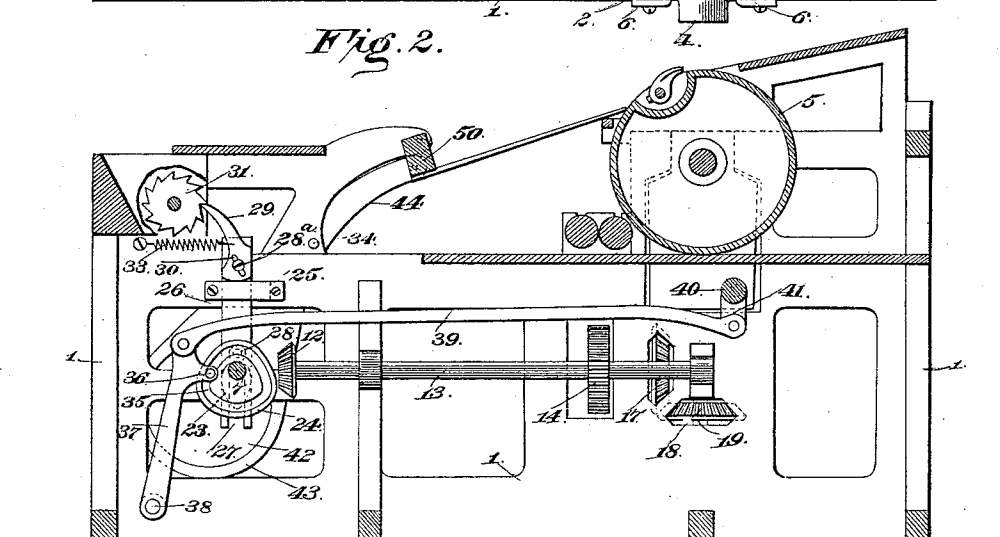
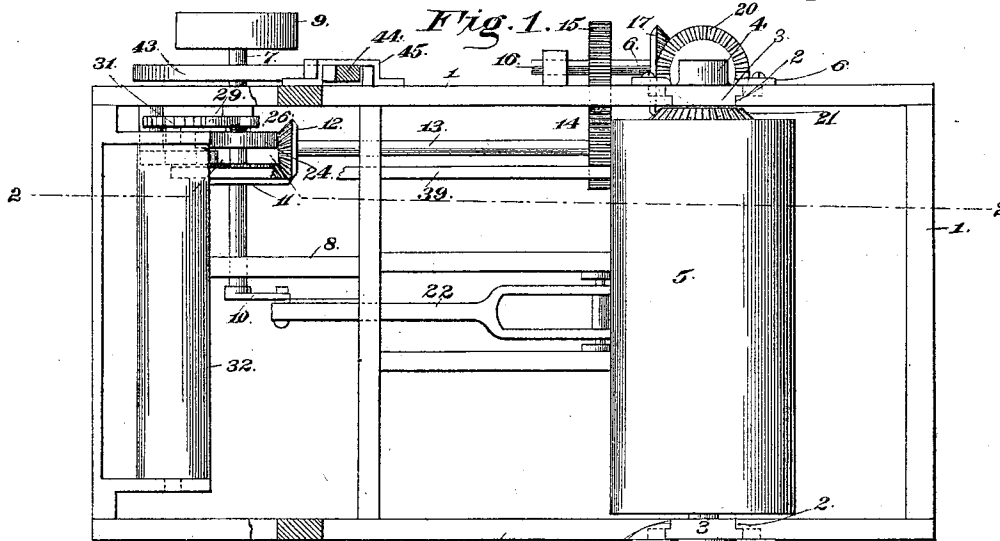


(No Model.)

J. HACKETT.
PRINTING PRESS.

No. 480,191.

Patented Aug. 2, 1892.



Witnesses

Inventor

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UNITED STATES PATENT OFFICE.

JAMES HACKETT, OF TAUNTON, MASSACHUSETTS.

PRINTING-PRESS.

SPECIFICATION forming part of Letters Patent No. 480,191, dated August 2, 1892.

Application filed September 16, 1891. Serial No. 405,892. (No model.)

To all whom it may concern:

Be it known that I, JAMES HACKETT, a citizen of the United States, residing at Taunton, in the county of Bristol and State of Massachusetts, have invented new and useful Improvements in Printing-Presses, of which the following is a specification.

This invention relates to improvements in cylinder printing-presses; and it has for its object to provide an attachment which, although adapted for use upon ordinary cylinder-presses, is particularly designed to be used in connection with the cylinder printing-machine for which I obtained Letters Patent No. 422,206 February 25, 1890, and to provide an attachment which is designed to automatically operate the ordinary fountain inking-roller and the fly attachment for delivering the printed sheets; and with these and other objects in view, which will readily appear as the nature of the device is better understood, the invention consists in the novel construction hereinafter more fully described, illustrated in the accompanying drawings, and specifically pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a top plan view, partly in section, of a cylinder printing-press provided with my improved gearing, omitting the fly and upper frame and bed of the machine to expose the interior mechanism. Fig. 2 is a longitudinal section of the press on the line 2 2 of Fig. 1. Fig. 3 is a side elevation of the same.

Referring to the accompanying drawings, 1 1 designate the side and end frame-pieces supporting the various parts of an ordinary cylinder printing-machine. Each of the side parallel frame-pieces is provided near its rear end at a point where the ordinary impression-cylinders are usually mounted with the ways or grooves 2, within which are placed the sliding journal-blocks 3, provided with the ordinary bearings or boxes 4, which are adapted to receive the spindle ends of an ordinary impression-cylinder 5. Said sliding journal-blocks are securely held within each opposite groove or way by means of the overlapping cleats 6, secured to the sides of the frame and projecting over the edges of said blocks. The said impression-cylinder by being journaled in the sliding journal blocks or plates is ca-

pable of intermittent vertical movement by the means to be presently described.

The main drive-shaft 7 is journaled in one of the side frame-pieces at the end farthest from the cylinder and in the intermediate framework 8, constructed in substantially the manner as described in my patent referred to. The said shaft is operated by suitable power connecting with the drive-pulley 9, secured upon its outer end, and is further provided at its inner end within the frame of the machine with the crank 10 and the bevel gear-wheel 11, rigidly mounted thereon and rotated thereby. The bevel-gear 11 meshes with the smaller gear-wheel 12, mounted upon the outer end of the horizontal shaft 13, journaled longitudinally in said frame beneath the bed of the press, and carries at its innermost end the cog-wheel 14. Said cog-wheel 14 meshes with the larger gear-wheel 15, mounted upon the short shaft 16, journaled upon the outside of one of the side frame-pieces, and carries the supplemental bevel-gear 17, which in turn engages with the bevel-wheel 18, carried upon the lower end of the vertical shaft 19, also journaled upon the outside of the machine. Said shaft carries at its upper end the horizontal bevel-wheel 20, which meshes with the vertical bevel-gear 21, carried upon one end of the impression-cylinder 5, and provides means whereby the said cylinder may be readily operated from the main drive-shaft through the various gears just described. The crank 10 at the inner end of the main drive-shaft is connected with the yoked pitman 22, which is connected with and communicates motion to the bed-operating mechanism in a similar manner with that described in my former patent. The drive-shaft 7 is further provided with the double cams 23 and 24, respectively, which are mounted upon the shaft within the frame of the machine and are designed to operate the fountain inking-roller and to raise and lower the cylinder of the machine in the manner now to be described. Within a suitable bracket 25, secured upon the inner face of one of the side frame-pieces, is mounted a sliding pawl-plate 26, provided with a lower bifurcated end 27, taking over the main drive-shaft, and with a friction-roller 28, that is designed to be engaged by the periphery of the

inner and smaller cam 23, which by the revolutions of the drive-shaft causes said pawl-plate to be elevated and suddenly dropped for the purposes set forth. The said bracket is of a sufficient width to allow the pawl-plate to work loosely therein and have the requisite lateral play. Rigidly secured to the upper end of said pawl by the set-screw 28^a is the actuating-pawl 29, provided with a diagonal slot 30, that is adapted to work over the said screw 28^a, which provides for a lateral and vertical adjustment of said pawl, the engaging end of which is adapted to engage the teeth of the ratchet-wheel 31, mounted upon one end of the shaft carrying the ordinary fountain inking-roller 32, located at the rear end of the machine and designed to feed the ink to the ink-distributing rollers in a manner similar to that ordinarily employed. A spring 33 is connected with the upper end of said pawl and one end of the frame, serving to keep the pawl always engaged with said ratchet-wheel; but, if desired, said spring may be released from its connection with one end of the frame and secured to an ordinary pin 34 or other suitable securing means for holding said pawl out of engagement with the ratchet-wheel operating the fountain-roller, in which emergency said roller may be operated by means of an ordinary crank-handle inserted in a hole in either end thereof, which are designed for its reception. The width of the bracket 25 allows the pawl to be moved to and from the ratchet-wheel, as already noted, and the said pawl must therefore necessarily be held in such positions by the spring 33.

The larger cam 24 is provided upon its face adjacent to the bevel-gear 11 with a cam-groove 35, in which travels the pin 36, projecting inwardly from the upright standard 37, pivotally secured at 38 to the bed of the machine. To the upper end of said standard is pivoted the horizontally-extending connecting-rod 39, extending beneath the impression-bed and inking devices to beneath the cylinder mounted upon the sliding journal-blocks at one end of the machine. By means of the short crank-arm 41, pivoted to said rod 39, the same is connected with the oscillating eccentric-shaft 40, extending transversely across and journaled in the frame of the machine, and fitted within each of the opposite sliding journal-blocks, which provides for an alternate raising and lowering of the cylinder by means of the revolving cam, as can be readily seen.

Adjacent to the driving-pulley 9 eccentric 42 is mounted upon said drive-shaft without the frame of the machine and is adapted to be engaged by an ordinary eccentric-sleeve 43 at the lower end of the forwardly-extending pitman or arm 44, which is held in place upon the side of the machine by an ordinary retaining yoke or bracket 45. The outer end

of said pitman or arm is provided with a longitudinally-disposed slot 43^a, which engages the laterally-extending pin 47, secured in one end of the pivoted block or shaft 50, carrying the ordinary fly-arms and eccentric to the journal of said shaft. The said fly-arms are designed to take the printed sheets from the cylinder in the ordinary manner, and by the connection with said eccentric arm or pitman the same will travel in an arc of nearly ninety degrees, thereby more effectively performing its function than ordinary fly attachments.

The construction and operation of my improved attachment for cylinder printing-presses is thought to be apparent without further description.

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

1. In a printing-press, the combination, with the fountain-roller having a ratchet-wheel at one end, of the main driving-shaft, a cam mounted upon said shaft, the spring-regulated pawl-plate loosely mounted adjacent to said cam and operated thereby, and a pawl adjustably secured to the upper end of said plate and adapted to engage said ratchet-wheel, substantially as set forth.

2. In a printing-press, the combination, with the fountain-roller having a ratchet-wheel at one end, of the main driving-shaft, the cam mounted upon said shaft, a vertical pawl-plate having a lower bifurcated end taking over said shaft, and a friction-roller engaged by the periphery of said cam, and a pawl having a diagonal slot adjustably secured to the upper end of said pawl-plate and adapted to engage said ratchet-wheel, substantially as set forth.

3. In a printing-press, the combination, with the fly thereof, of the main drive-shaft, an eccentric carried by said shaft, an eccentric arm or pitman operated by said eccentric, and means for loosely connecting one end of said eccentric arm or pitman eccentrically with said fly, substantially as set forth.

4. In a printing-press, the combination, with the fly thereof, of the pin extending laterally from one end of the fly block or shaft and eccentrically to the journals thereof, the main drive-shaft, an eccentric mounted on said shaft, and an eccentric arm or pitman having a sleeve working over said eccentric, and a longitudinally-disposed slot at its outer end engaging said fly pin or arm, substantially as set forth.

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

JAMES HACKETT.

Witnesses:

ALBERT T. FALVEY,
JOHN C. REYNOLDS.