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J. E. TUCKER.

PAPER FEEDING MECHANISM FOR PRINTING PRESSES.

APPLICATION FILED OCT. 14, 1903.

NO MODEL.

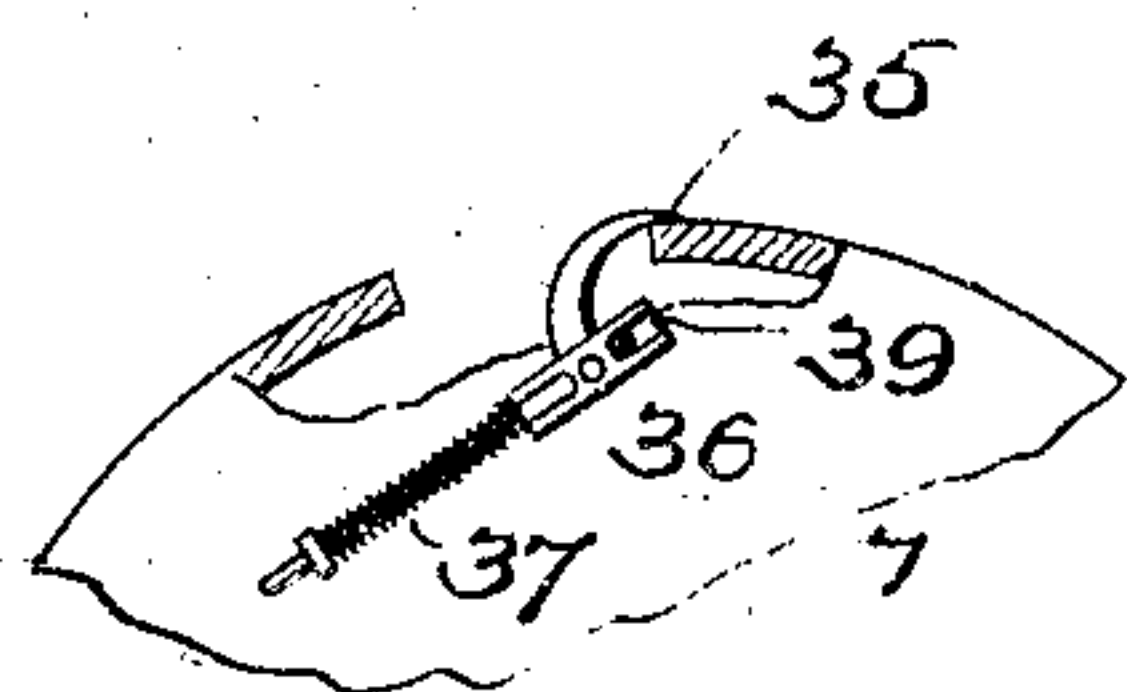
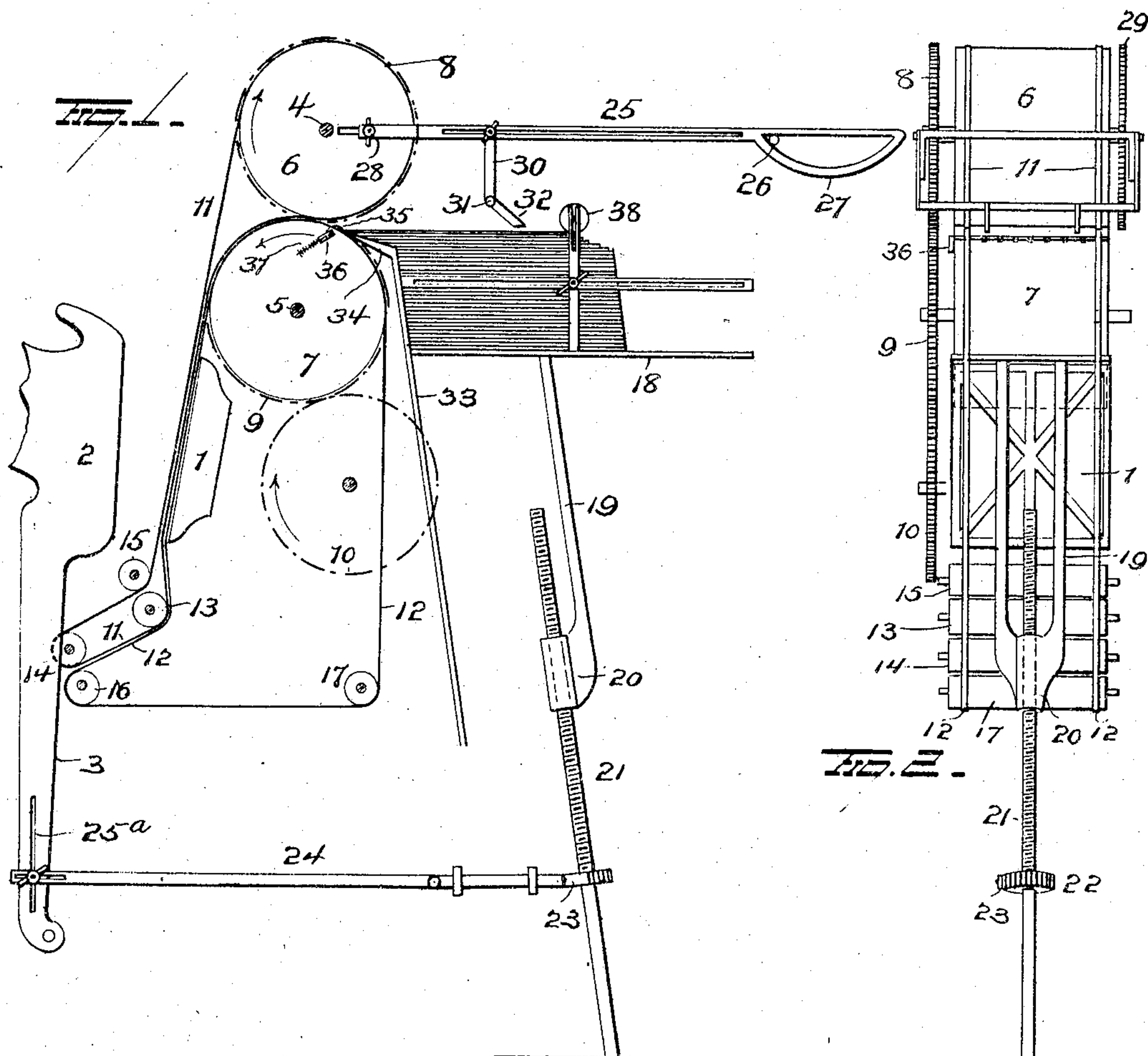
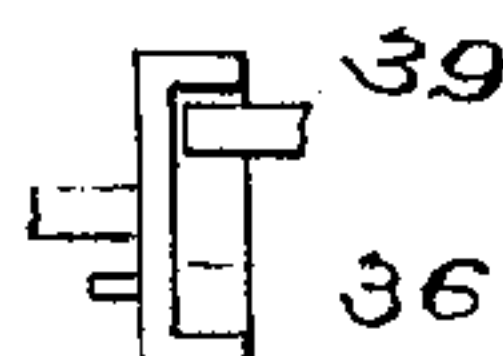


FIG. 3.



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JUNIOUS E. TUCKER, OF MEMPHIS, TENNESSEE, ASSIGNOR OF ONE-HALF
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PAPER-FEEDING MECHANISM FOR PRINTING-PRESSES.

SPECIFICATION forming part of Letters Patent No. 768,247, dated August 23, 1904.

Application filed October 14, 1903. Serial No. 177,061. (No model.)

To all whom it may concern:

Be it known that I, JUNIOUS E. TUCKER, a resident of Memphis, in the county of Shelby and State of Tennessee, have invented certain new and useful Improvements in Paper-Feeding Mechanism for Printing-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improved paper-feeding mechanism for printing-presses, the object of the invention being to provide improved mechanism of this character which will automatically feed sheets of paper to the platen to be there printed upon and afterward conveyed out of the way of the following sheet; and with this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation illustrating my improvements. Fig. 2 is an end elevation with parts removed, and Fig. 3 is a detail view showing the cylinder-grippers.

1 represents a stationary approximately vertical platen, and 2 a movable bed-plate carrying the necessary type and having a depending arm 3 movable therewith.

My improved feeding mechanism is supported on any approved framework which provides bearings for two shafts 4 and 5, on which cylinders 6 and 7, respectively, are secured and located with their peripheries in close proximity to each other and above and slightly to the rear of platen 1. On one end of shaft 4 a large gear 8 is secured, meshing with a gear 9 on shaft 5, and the latter gear receives its motion from a driving-pinion 10.

For conveying the paper sheets from between cylinders 6 and 7 I provide four endless tapes 11 and 12. The tapes 11 pass around cylinder 6, between the same and cylinder 7, thence down across platen 1, and around rollers 13, 14, and 15, back over cylinder 6. The other pair of tapes, 12, pass from cylinder 7

across platen 1 and thence around rollers 13, 16, and 17, back over said cylinder 7.

In rear of cylinder 7 a platform 18 for a pile of paper sheets is mounted to move vertically in suitable guides (not shown) and is moved vertically by a frame 19, engaging the lower face thereof. This frame 19 provides a screw-threaded sleeve 20, in which a threaded rod 21 is mounted, and has a ratchet-wheel 22 secured on its lower end. This ratchet-wheel is operated intermittently by a dog 23, carried by a horizontal longitudinally-sliding rod 24, having a pin thereon adjustably secured in a slot 25 in the depending arm 3 of bed-plate 2, so that when the latter moves back and forth in printing the rod 21 will be turned to elevate frame 19 and platform 18 and feed the pile of paper vertically.

Above the pile of paper horizontal rods 25 are mounted to slide longitudinally and are supported at their rear ends on pins or a rod 26 and are made at such rear ends in the form of loops or bails 27 to prevent displacement of the rods. The opposite or forward ends of one of the rods 25 is adjustably secured in a slot in gear 8 by a bolt 28 and the other rod 25 is similarly secured in a slot in a disk 29, secured on the opposite end of shaft 4. This slotted connection with the gear 8 and disk 29 enables the stroke of the rods 25 to be adjusted at will. The rods 25 are each provided with depending arms 30, having adjustment longitudinally of rods 25, and are connected at their lower ends by a cross-rod 31, on which are adjustably secured ivory or bone feed-scrapers 32, which can be adjusted on rod 31 in accordance with the width of the paper sheets being used.

The paper is guided between cylinders 6 and 7 by means of an inclined plate 33, having an extreme inclination or chute 34 at its upper end, and cylinder 7 is provided with suitable grippers 35 to grasp the paper and carry it between the cylinders 6 and 7 and between feeding-tapes 11 and 12. The grippers are raised by pin 39 on the frame engaging a suitable tumbler 36 at one end to receive the paper and are depressed and held in such de-

pressed or gripping position by a spring or springs 37 to yieldingly hold the paper when fed thereto and permit of its disconnection when another pin on the frame engages the tumbler.

A weighted roller 38, mounted in adjustable slotted uprights 39 on the frame, bears on the pile of paper to keep it in proper feeding position.

The operation of my improvements is as follows: As the printing bed-plate 2 moves back and forth in printing its depending arm 3, through the medium of rod 24, dog 23, and ratchet-wheel 22, turns threaded rod 21 and elevates frame 19 and platform 18 to feed the pile of paper upward, and the top sheet will be engaged by feed-scrappers 32, controlled by the gear 8 and disk 29, to push said top sheet over to a position to be engaged by the grippers 35 and carried between the cylinders 6 and 7 and between the tapes 11 and 12, which latter will convey the paper sheet to the platen 1, where the paper will be momentarily held (by any suitable mechanism) and printed upon, the tapes then conveying it around roll 13 and between rolls 14 and 16, when it will be released and directed onto a pile or otherwise disposed of.

A great many changes might be made in the general form and arrangement of the parts described without departing from my invention, and hence I do not restrict myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. The combination with a platen and means for printing thereon, of parallel cylinders, means for feeding sheets of paper between them, endless tapes passed over one of said cylinders and other endless tapes passing over the other cylinder and coöperating with the first-mentioned tapes to feed the paper across the platen.

2. The combination with a platen and means for printing thereon, of parallel cylinders, means for feeding sheets of paper between them, two sets of endless tapes passed over the respective cylinders and adapted to receive paper between them and feed the paper across the platen, and means for moving the paper-supply pile intermittently as the printing mechanism operates.

3. The combination with a platen and means for printing thereon, of parallel cylinders, tapes passed over said cylinders and across the platen to feed paper sheets from between the cylinders to the platen and convey the same therefrom, a paper-sheet-supporting platform, means connected with and operated

by the printing means for elevating said platform as the printing mechanism operates, and feed-scrappers adapted to engage a paper sheet and force it to the cylinders.

4. The combination with a platen and means for printing thereon, of parallel shafts, cylinders thereon, tapes passed around said cylinders and across the platen, a vertically-movable paper-supporting platform, a screw-threaded rod to move the platform when the rod is turned, a ratchet-wheel on the rod, an oscillating rod adjustably connected to and operated by the printing means, a dog carried by the rod to engage and turn the ratchet-wheel and threaded rod, and means for feeding the paper from the platform between the cylinders and tapes.

5. The combination with a platen and means for printing thereon, of a vertically-movable platform for supporting a pile of paper sheets, means operated by the printing mechanism for elevating the platform as the pile diminishes, cylinders, tapes passed over said cylinders and across the platen, and pushers operated by the turning of one of said cylinders, to push the top paper sheet from the pile into contact with one of said cylinders, and grippers on said cylinder to carry the paper between the cylinders and tapes.

6. The combination with a platen and means for printing thereon, of a vertically-movable platform for supporting a pile of paper sheets, means operated by the printing mechanism for elevating the platform as the pile diminishes, cylinders, tapes passed over said cylinders and across the platen, pushers operated by the turning of one of said cylinders to push the top paper sheet from the pile into contact with one of the cylinders, grippers on said cylinder to carry the paper sheet between the cylinders and tapes, and an inclined guide-plate for directing the paper sheets from the pile to the cylinder when moved by the pushers.

7. The combination with a platen and means for printing thereon, of a vertically-movable platform for supporting a pile of paper sheets, means operated by the printing mechanism for elevating the platform as the pile diminishes, cylinders, tapes passed over said cylinders and across the platen, pushers operated by the turning of one of said cylinders to push the top paper sheet from the pile into contact with one of the cylinders, grippers on said cylinder to carry the paper sheet between the cylinders and tapes, an inclined guide-plate for directing the paper sheets from the pile to the cylinder when moved by the pushers, and a vertically-movable weighted roller resting on the pile of paper to hold it in proper feeding position.

8. The combination with a support for a pile of paper, a platen, and means for print-

ing thereon, of feeding-cylinders means for
conveying the paper from said cylinders and
across the platen, reciprocating rods operated
by one of said cylinders, depending arms ad-
justably secured to said rods, a horizontal
5 cross-rod carried by said arms, pushers ad-
justably secured on said cross-rod.

In testimony whereof I have signed this
specification in the presence of two subscrib-
ing witnesses.

JUNIUS E. TUCKER.

Witnesses:

J. H. SCAIXE,
D. S. RICE.