No. 887,733. PATENTED MAY 12, 1908.

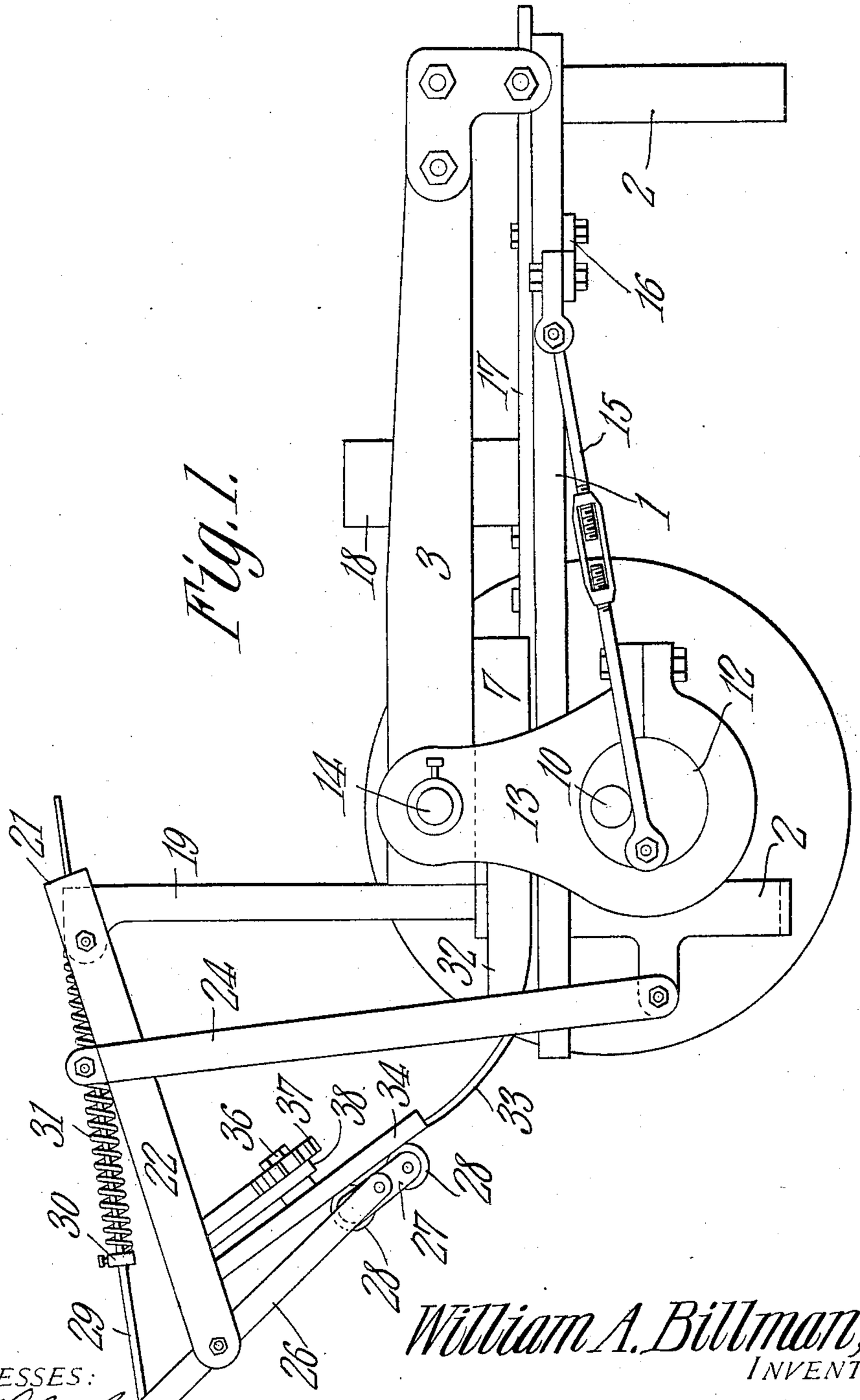
W. A. BILLMAN.

AUTOMATIC CARD PRINTING PRESS.

APPLICATION FILED JULY 5, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES:

E. F. Stewart

F. J. Chapman.

William A. Billman,
INVENTOR.

By Church & Co.
ATTORNEYS

No. 887,733. PATENTED MAY 12, 1908.

W. A. BILLMAN.

AUTOMATIC CARD PRINTING PRESS.

APPLICATION FILED JULY 5, 1907.

2 SHEETS—SHEET 2.

Fig. 5.

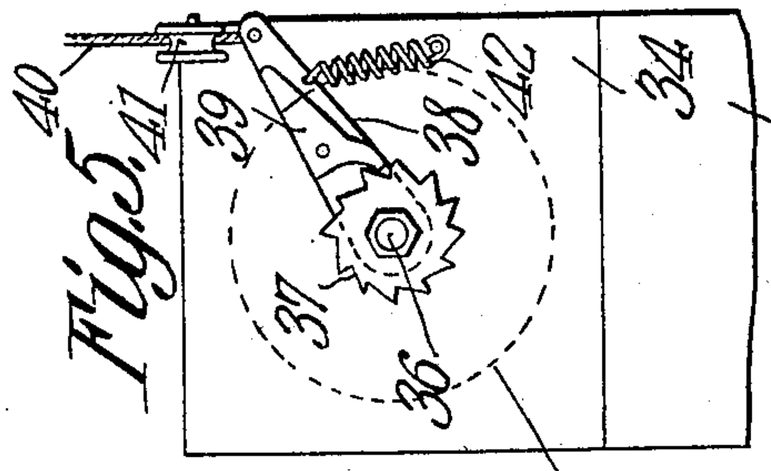


Fig. 4.

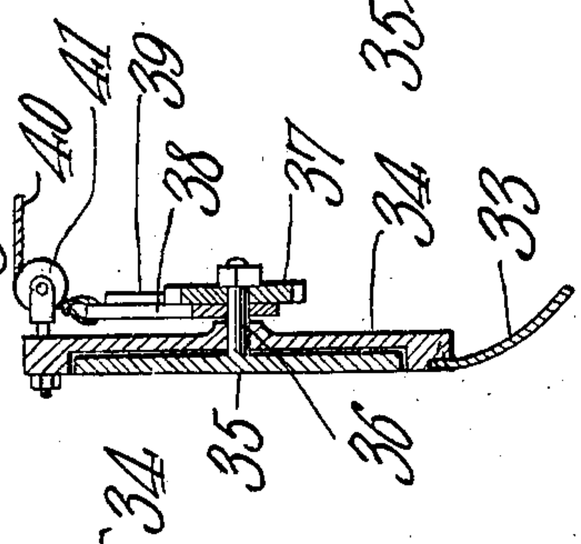


Fig. 3.

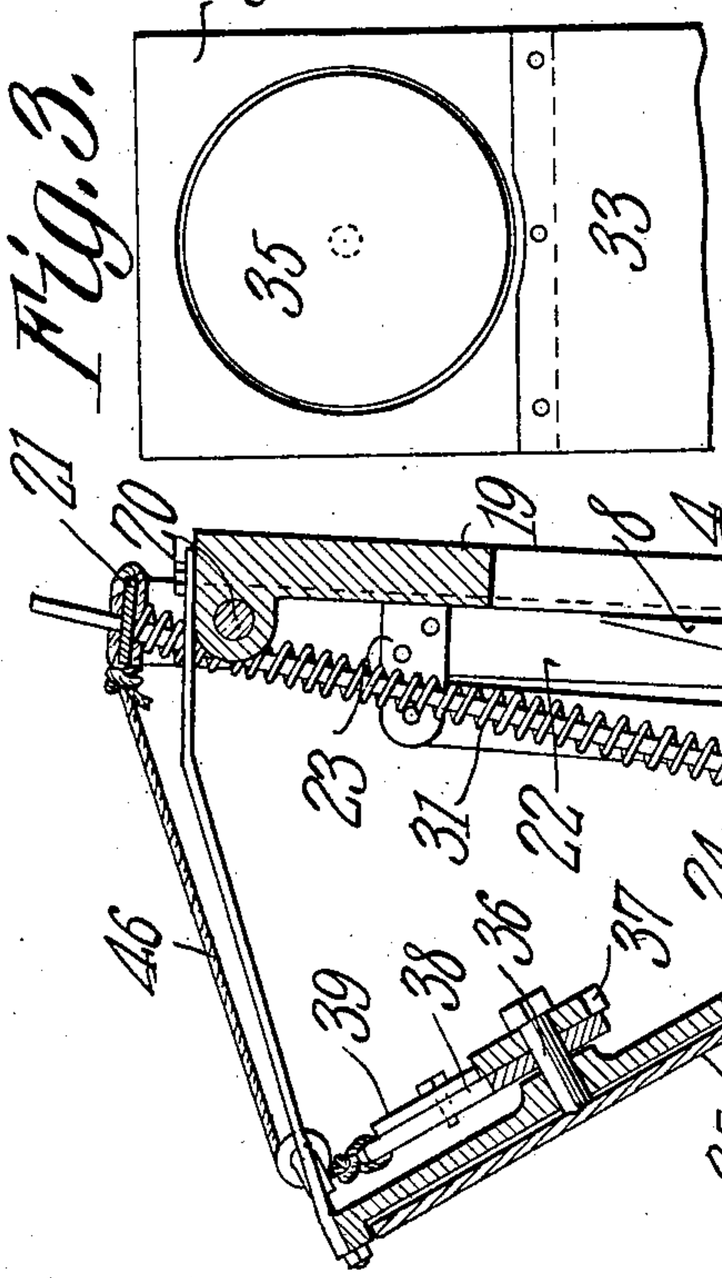
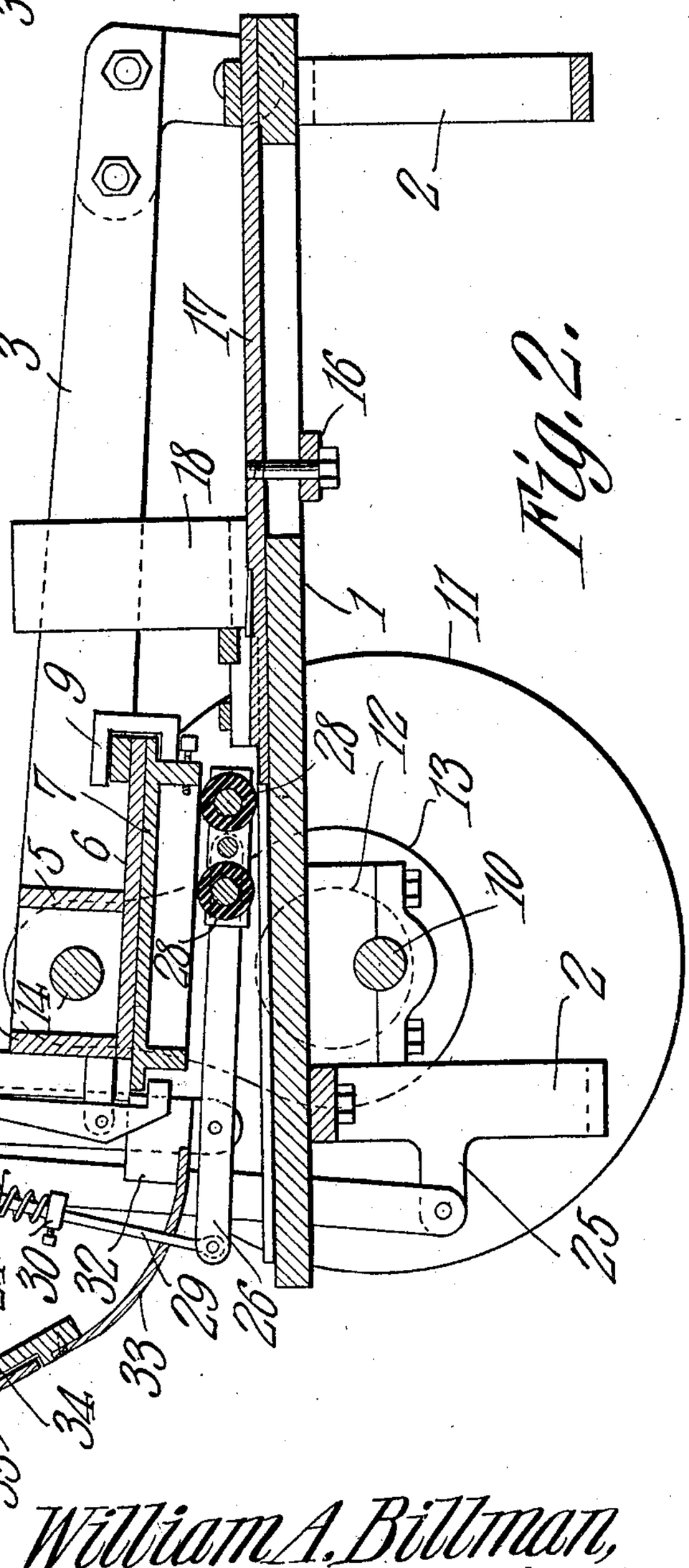


Fig. 2.



WITNESSES:

E. J. Stewart

F. T. Chapman

William A. Billman,
INVENTOR.

By Cachow & Co.
ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM ALBERT BILLMAN, OF COLORADO SPRINGS, COLORADO.

AUTOMATIC CARD-PRINTING PRESS.

No. 887,733. Specification of Letters Patent. Patented May 12, 1908.

Original application filed April 26, 1907, Serial No. 370,428. Divided and this application filed July 5, 1907. Serial No. 382,319.

To all whom it may concern:

Be it known that I, WILLIAM A. BILLMAN, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented a new and useful Automatic Card-Printing Press, of which the following is a specification.

This invention has reference to improvements in automatic card printing presses, and its object is to provide a means whereby the ink may be applied to the type preparatory to making the impression upon the cards, the whole structure being of the automatic type whereby the cards are fed one by one into operative relation to the printing surface and the latter is inked and brought into contact with the cards to imprint the same, all as a continuous process, the several operations being entirely mechanical.

The present invention relates more particularly to the means for applying the ink to the printing surfaces, while the card-feeding mechanism and the means for carrying the printing surface into contact with the cards forms the subject-matter of my application No. 370,428, filed April 26, 1907, for automatic card printing presses, of which this case is a division.

The present invention comprises means for carrying the inking rollers whereby the latter are moved across an ink-carrying surface and are then caused to move over the type in a type-carrying frame when the said type are moved away from the card to be printed, the construction being such that a rotative movement is imparted to the ink-carrying member by the movement of the roller-carrying structure.

The invention will be fully understood from the following detailed description, taken in connection with the accompanying drawings forming part of this specification, in which,—

Figure 1 is a side elevation of the improved card printing press, showing the inking mechanism in position with the inking rollers upon the ink-carrying surface; Fig. 2 is a longitudinal section of the same with the inking rollers in a different phase of operation; and Figs. 3, 4 and 5 are detail views of the ink-carrying member and parts immediately coacting therewith.

In order to more fully understand the purposes and operation of the present invention, I will first briefly describe the means for feeding the cards to a position where they may receive the imprint of the type.

The structure comprises a suitable table or bed 1 mounted upon legs 2, and near one end of the bed are pivotally supported the ends of side bars 3 united at the other end by cross pieces 4—5, these cross pieces being located near what may be termed the delivery end of the machine. Across the front of the frame composed of the side bars 3 and cross bars 4—5 is a plate 6 against which a type-carrying box or form 7 is held by a latch 8 at one end and a clip 9 at the other end, so that the type carrying frame may be easily removed when desired, or secured in the machine.

Below the bed 1 at the delivery end of the machine is a shaft 10 carrying a fly-wheel 11, which may also be used as a pulley for the application of power from a suitable source, and on this shaft 10 are eccentrics 12 connected by eccentric links 13 to a through rod or pin 14 engaging the side bars 3 between the cross bars 4 and 5. It will be seen that when the shaft 10 is rotated the type-carrying frame will be caused to move to and from the bed 1 around the pivot of the side bars 3. Secured to one of the eccentrics 12 is a pitman 15 fast to a lever 16 arranged to actuate a reciprocating feed-bar 17 movable longitudinally on top of the bed-plate 1 and passing through a card reservoir 18. The arrangement is such that the cards are moved one by one in succession into position to be engaged by type carried by the frame 7 when the latter is moved down toward the bed 1. From the foregoing it will be seen that the type-carrying frame is moved toward and from the bed plate 1 and the card-feeding mechanism is caused to reciprocate in a manner to feed the cards into position to be printed, it being understood that the movement of the several parts is all properly timed for this purpose. Coming, now, to the subject-matter of the present invention, which is directed more particularly to the means for inking the type, it will be seen that on the free ends of the bars 3 is erected a standard 19 to the upper end of which is journaled a rock-shaft 20 carrying a U-shaped frame 21 the legs 22 of which are arranged to extend downward alongside of the standards 2 and are movable through arcs described about the shaft 20. The rock-shaft 20 is secured to the frame 21 at a short distance from

its connecting yoke, as shown. Fast on each leg 22 is an ear 23 to which is connected a link 24 pivotally secured to a fixed ear 25 on a corresponding leg 2 of the machine.

The standard 19 is movable up and down with the type-carrying frame and it will be seen that when this type-carrying frame is moved upward the link 24 will cause the legs 22 of the frame 21 to move in a downward direction around the axis of the rock-shaft 20 through an arc determined by the length of the links 24. Pivotally secured to the free ends of the legs 22 are other links 26, one on each side and carrying between them a frame 27 pivotally supported by said links, and in this frame are journaled two parallel inking rollers 28. The links 26 extend beyond the legs 22 and are there connected to rods 29 extending to the yoke portion of the frame 21 and beyond the same through suitable perforations therein. Each rod 29 carries an adjustable collar 30 and between these collars and the yoke portion of the frame 21 each rod is surrounded by a helical spring 31.

Secured to front extensions 32 of the side bars 3 is a curved guide member 33 extending outward and upward and carrying a support 34 in which is journaled an ink disk 35. The structure is such that when the type-carrying frame made up of the side bars 3 and cross bars 4—5 is moved toward the bed plate 1, the inking rollers 28 will ride up the member 33 and on to the inking disk 35, and when the type are moved away from a card on which they have left an impression these inking rollers are moved downward over the member 33 and under the type box or frame 7 and ink the type therein. This latter position is illustrated in Fig. 2, while the position of the inking rollers with relation to the inking disk is shown in Fig. 1.

The inking disk 35 is provided with a central stud 36 passing through a suitable journal bearing in the support 34 and beyond the latter having secured to it a ratchet wheel 37. Between the ratchet wheel and the support 34 there is loosely mounted upon the stud 36 a rock-arm 38 carrying a pawl 39 in operative relation to the ratchet wheel 37. A cord 40 connected to the arm 38 and passing over a suitable roller 41 fast on the support 34, extends and is secured to the frame 21, so that when the latter is moved about its pivot it will cause the arm 38 to be actuated in a direction to present the pawl 39 behind a succeeding tooth of the ratchet wheel 37, while a suitable spring 42, or other means for causing the movement of the arm 38, may be provided to actuate the inking disk 35 and present a new surface to the inking rollers 28 when the frame 21 is moved in the other direction.

The parts are so timed in their movements that when the cards are being moved into position to be printed the type-carrying member is raised sufficiently to receive the ink from the inking rollers 28 and the latter are at a sufficient distance above the card which has been pushed into place to avoid touching such card and smearing it. By the time the ink rollers have passed over the type and are returning to their initial position the type-carrying frame starts to descend toward the card which has in the meantime been pushed into place, and the card remains stationary while the imprint thereon is being made.

While a structure made in general accordance with the drawings will perform the several operations ascribed thereto, it will, of course, be understood that various changes in the form, proportions, size and minor details of the structure may be made without departing from the spirit or sacrificing any of the advantages of the invention.

I claim:—

1. In a card printing press, a type carrier movable to and from a fixed support or platen, a power element directly connected to said type carrier for imparting a reciprocatory movement thereto, a standard fast on said type carrier, an ink disk, a support for the same carried by said standard and type carrier, a frame pivotally connected near one end to the standard and having legs straddling the same, link connections between the said frame at one side of its pivotal point and a fixed portion of the structure, a pivoted carriage having ink rollers journaled therein, links pivotally connected to said carriage at one end and at an intermediate point to the free ends of the legs of the pivoted frame, rods connected at one end to those ends of the links carrying the ink rollers remote from the latter, said rods having sliding bearings in the pivoted frame, and springs surrounding the rods and tending to move the same longitudinally away from the frame.

2. In a card printing press, a type carrier movable to and from a fixed support or platen, a standard fast on said type carrier, an ink disk, a support for the same carried by and movable with said standard and type carrier, a frame pivotally connected near one end directly to the standard, ink rollers and supports therefor carried by the other end of the frame, a link connection between a fixed portion of the structure and the frame between the ends of the latter and constituting a pivot support about which the frame is rocked by the movement of the type carrier to actuate the ink rollers, a pawl and ratchet for rotating the ink disk, and connections between the pawl and ratchet and the pivoted frame at the side of its pivot point remote from said pawl and ratchet.

3. In a card printing press, a type carrier movable to and from a fixed support or platen, a standard fast on said type carrier, an ink disk, a support for the same carried by

and movable with said standard and type carrier, a frame pivotally connected near one end directly to the standard, ink rollers and supports therefor carried by the other end of the frame, and a link connection between a fixed portion of the structure and the frame between the ends of the latter and constituting pivot supports for the frame and the sole means by which the frame is rocked by the movement of the type carrier to oscillate the ink rollers between the ink disk and type upon the type carrier.

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

WILLIAM ALBERT BILLMAN.

Witnesses:
J. W. BUZBEE,
C. L. BINKERT.