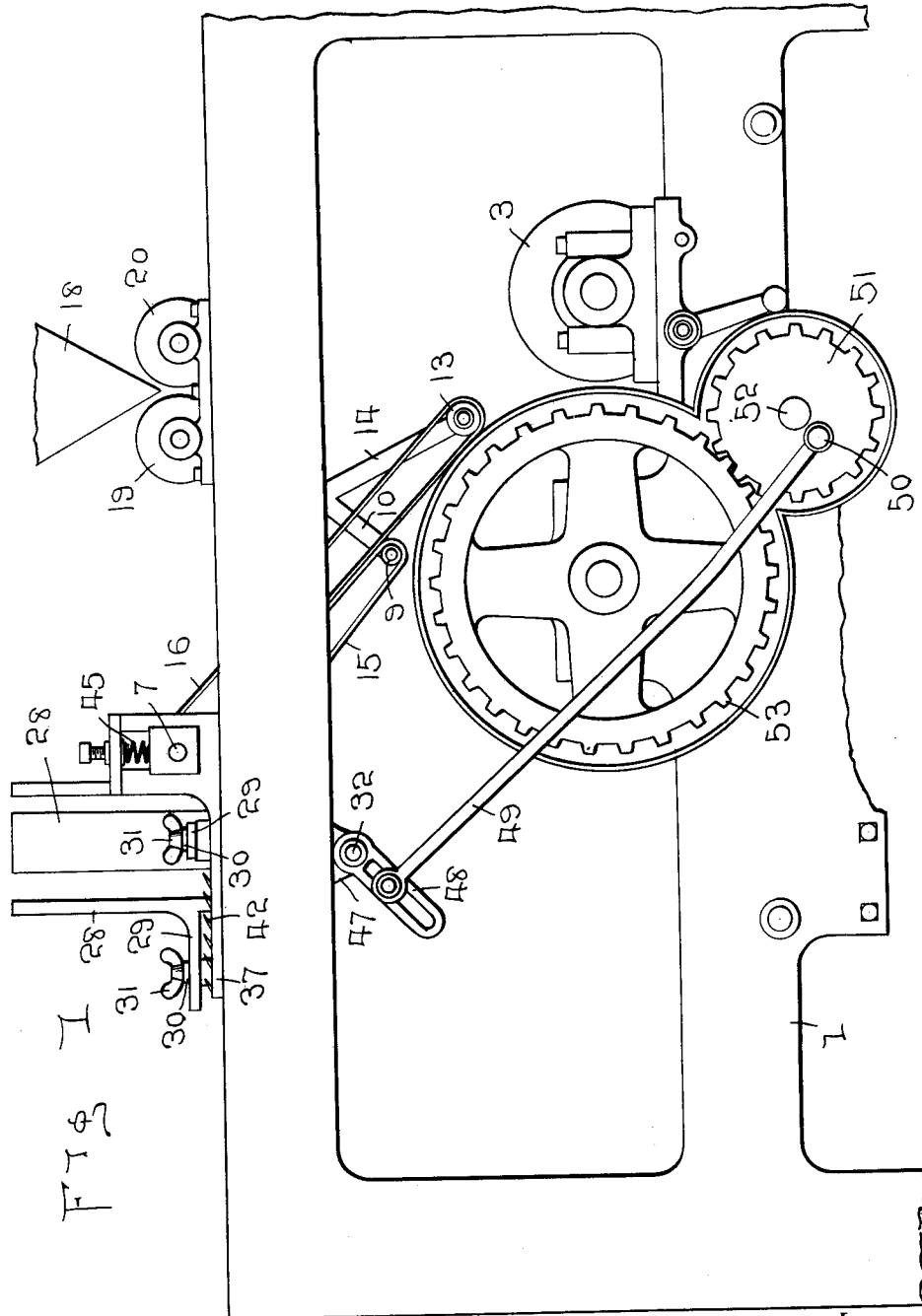


W. S. BROWN.
FEEDING ATTACHMENT FOR PRINTING PRESSES.
APPLICATION FILED APR. 4, 1911.

Patented Aug. 6, 1912.

4 SHEETS-SHEET 1.

1,034,972.



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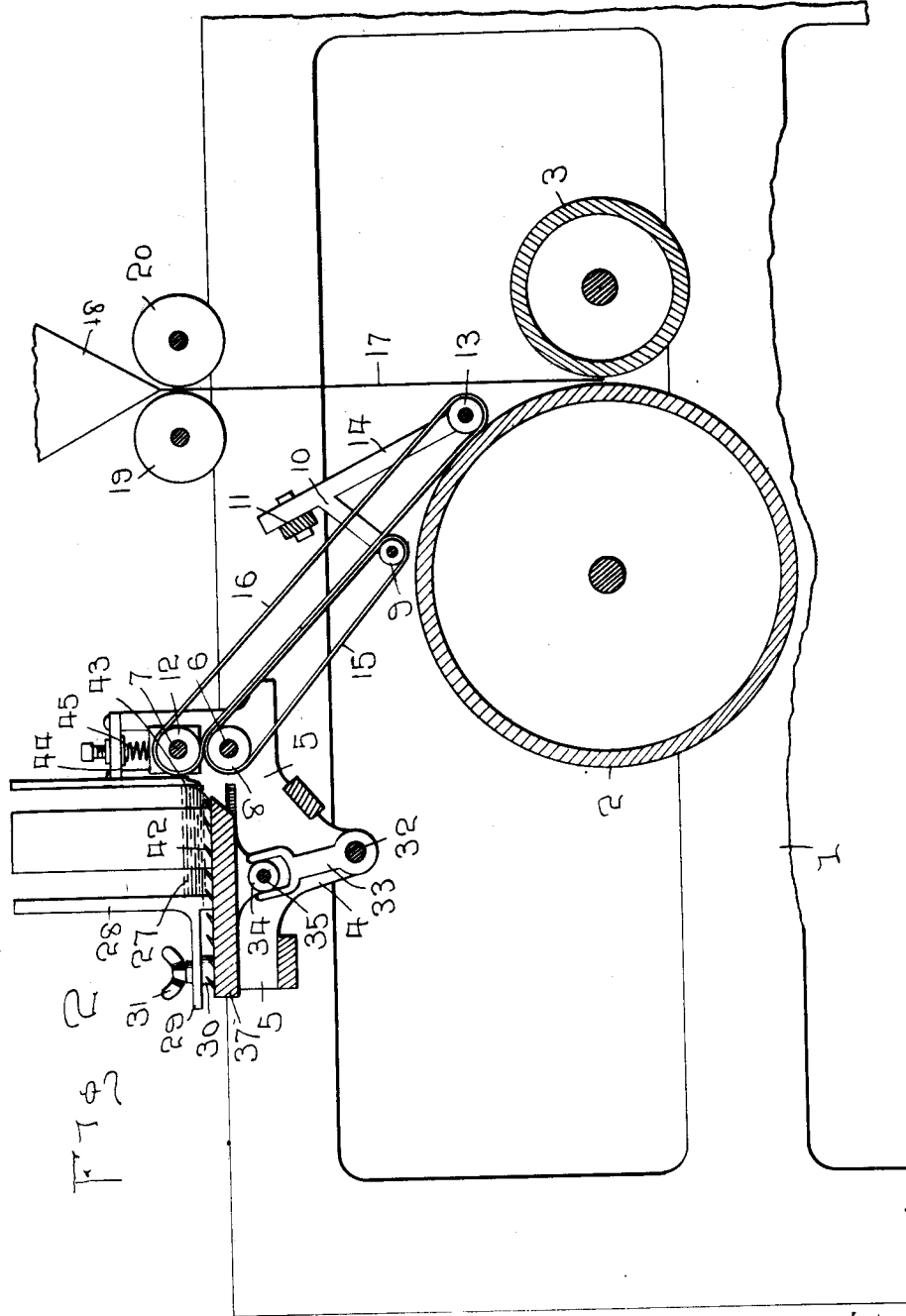
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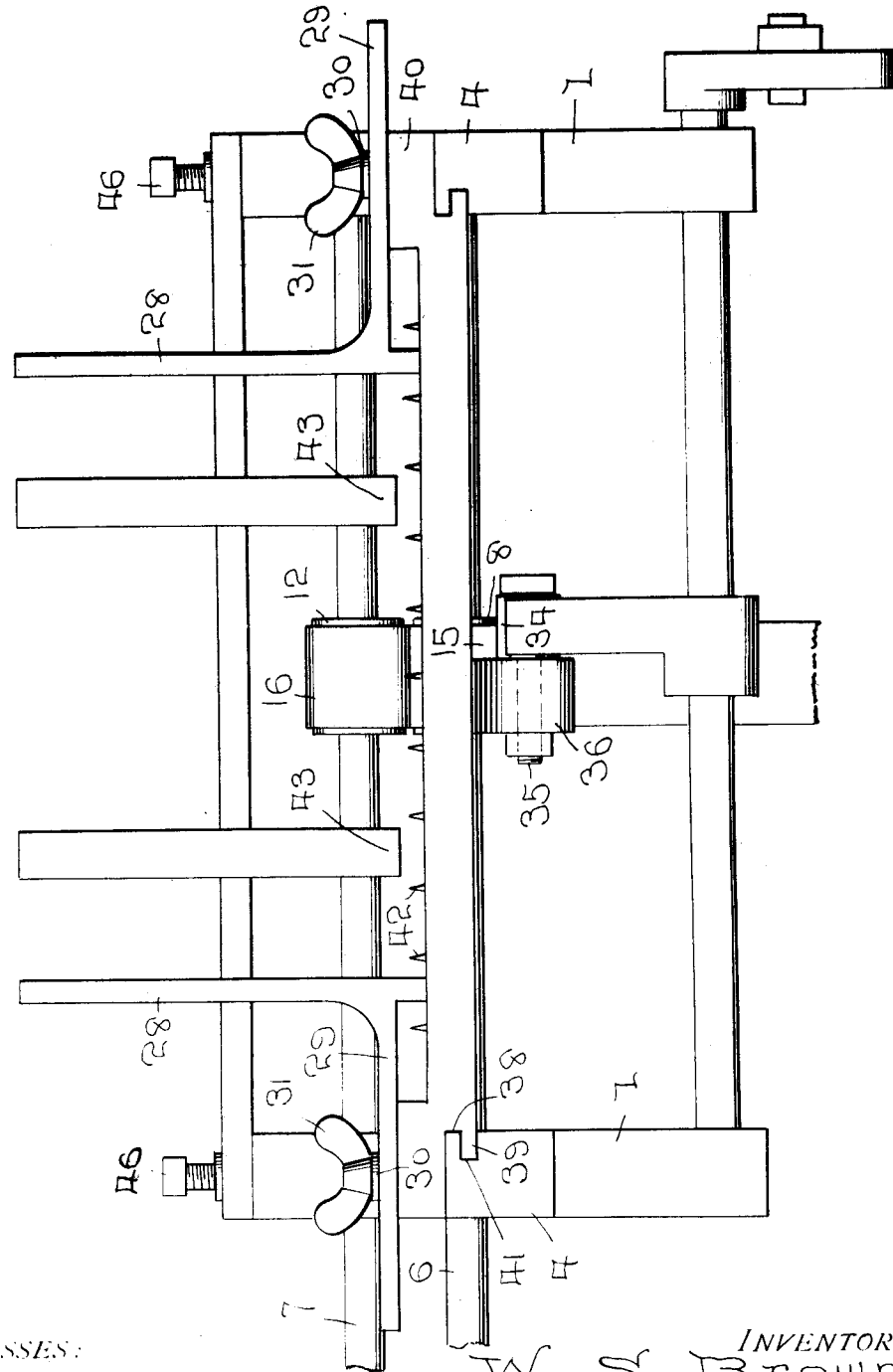
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4 SHEETS—SHEET 3.

Fig 3.



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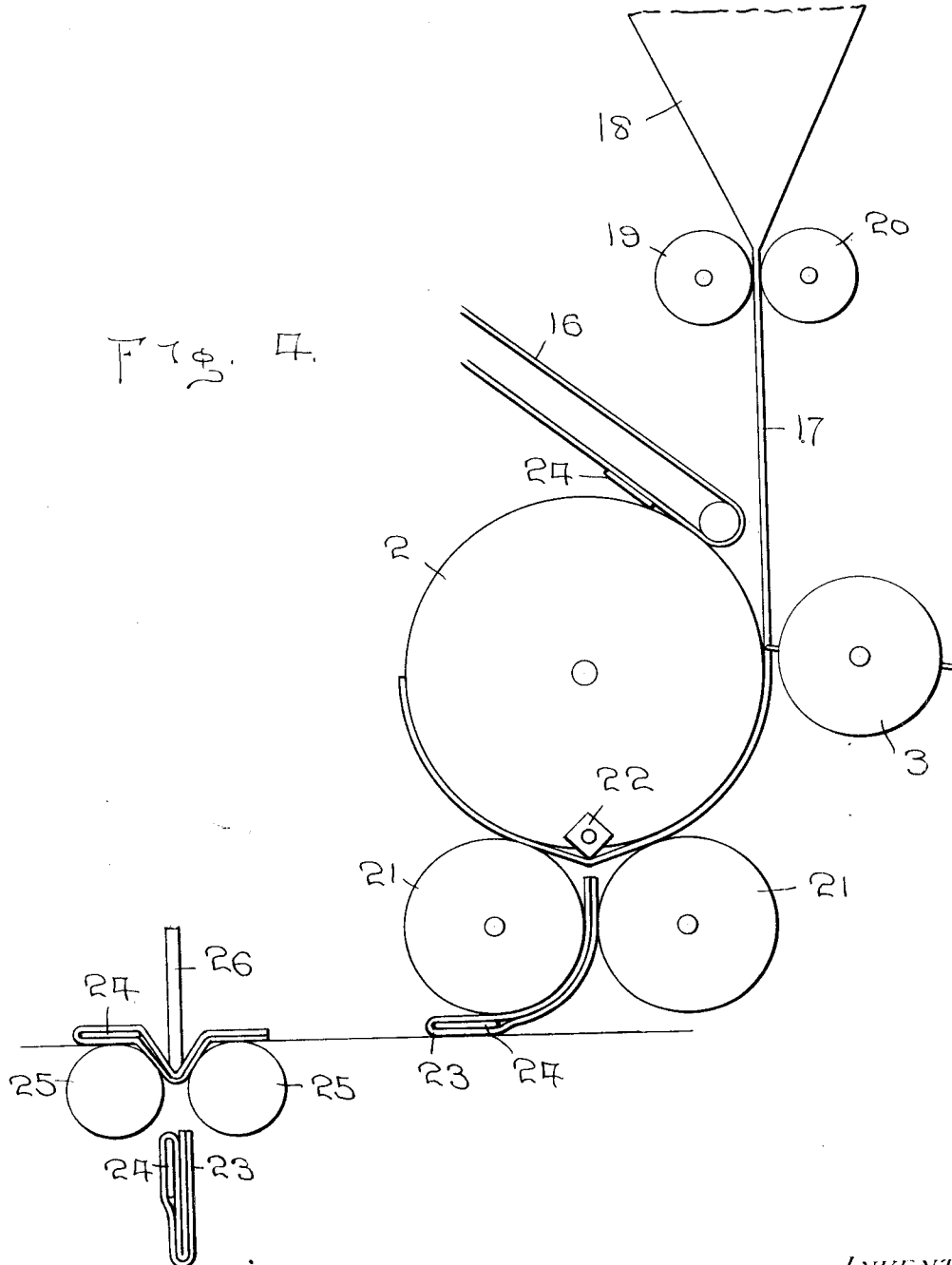
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Fig. 4.



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UNITED STATES PATENT OFFICE.

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FEEDING ATTACHMENT FOR PRINTING-PRESSES.

1,034,972.

Specification of Letters Patent.

Patented Aug. 6, 1912.

Application filed April 4, 1911. Serial No. 618,881.

To all whom it may concern:

Be it known that I, WALTER S. BROWN, a citizen of the United States, residing at Lincoln, in the county of Lancaster and State of Nebraska, have invented certain new and useful Improvements in Feeding Attachments 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, as herein set forth, comprehends certain new and useful improvements in feeding attachments for printing presses and the object of my invention is to provide a mechanism for delivering and feeding separate articles such as cards, blanks or circulars folded and carried in sealed envelops, etc., and I will hereinafter set forth in detail the preferred form of construction of my feeding attachment, it being understood that I desire to comprehend in this application all substantial equivalents and substitutes as may be regarded as falling fairly within the purview of my invention.

Other objects and advantages will be hereinafter disclosed, reference being had to the accompanying drawings, which are made a part of this application, and in which,

Figure 1 shows a side elevation of my invention as applied to use in connection with the folding cylinder of a printing press. Fig. 2 is a vertical longitudinal section therethrough. Fig. 3 is a rear view at right angles to Figs. 1 and 2, showing the feeder frame and oscillating bed removed from the main frame. Fig. 4 is a diagrammatic view showing the course taken by the paper during the folding operation within the press and the position assumed by the articles incorporated within the folds.

In order to conveniently refer to the various parts of my invention and coöperating accessories, numerals will be employed, the same numeral applying to a similar part throughout the several views.

Referring to the numerals on the drawings, 1 indicates part of the frame of the folding attachment of a printing press, while 2 designates the folding cylinder of the usual or any preferred construction, and 3 the auxiliary cylinder coöperating with

the folding cylinder and adapted to cut the paper at predetermined points.

Briefly stated, my invention consists of suitable means for successively introducing into a folded part of each paper, a card or a sealed envelop containing a card, folder or the like, whereby each paper will be provided within its folds with one of said articles, so that the article will be held within the folds against casual displacement, thus insuring that each paper will be delivered with its respective card or sealed envelop or other object deposited therein, and with the foregoing purpose in view I have provided mechanism of comparatively simple character which will be found reliable and efficient in the performance of its office.

It being necessary to mount my feeding attachment in close coöperation with the folding cylinder 2, I provide a suitable feeder frame 4, having conveniently arranged arms 5 adapted to rest upon and be held by a contiguous part of the framework in which the folder cylinder is mounted, and I dispose in suitable bearings, in said feeder frame, the parallel shafts 6 and 7, having upon their outer ends suitable pulleys or band wheels, it being understood that the equivalents of said wheels may be used, as gears or sprocket wheels, each being previously connected with the source of power, as with driving wheels of shafts contiguous thereto and forming a part of the framework of the press, and as this connection with the source of power is a matter of expediency, I deem it unnecessary to illustrate the same. The shaft 7 is directly above the shaft 6, the purpose of which will later appear. I also secure upon the shaft 6 the band wheel 8, and coöperating with this wheel is an auxiliary band wheel 9, mounted upon the free end of the arm or bracket 10, bolted to a contiguous part of the framework, as designated by the numeral 11. In like manner I secure to the shaft 7 the band wheel 12, placed in co-operation with the auxiliary band wheel 13, mounted upon the end of the arm or bracket 14, the wheels 8 and 9 being placed in co-operative relationship by means of the belting 15, or the equivalent thereof, while the wheels 12 and 13 are similarly connected by suitable belting 16 or equivalent means.

Obviously the arms 10 and 14 may, if de-

sired, be rendered adjustable, whereby the belting may be easily made taut or given the requisite degree of tension. Furthermore, it will be obvious that the parts 15 and 16 designated as "belting," constitute a conveyor, and their object is to cooperatively carry and deliver the articles, such as sealed envelopes, as before explained, first onto the periphery of the folding cylinder 2 and thence into the space immediately between said cylinder and the vertical section 17 of the paper which has been folded longitudinally upon itself through the mediation of the tapered nose 18 and the cooperating rollers 19 and 20, common to some forms of printing presses. The longitudinally folded paper web then passes between the cylinder 2 and the cutting cylinder 3 and is then fed between the cylinder 2 and two rolls 21, and simultaneously with the cutting of the web by the knives on the cylinder 3 the tumbler 22 assumes a position above the pass between the rolls 21.

When the paper web travels around the cylinder 2, the envelop which has been fed between said cylinder and the web is carried therewith so that when tumbler 22 arrives in the position indicated in Fig. 4 the web will be folded upon itself, as shown at 23, and will be fed between rolls 21, thereby carrying the article between the folds, as shown at 24. Said folded web and the sealed envelop therein are then carried into position above rolls 25, where the web is again folded by means of a plunger 26, and the envelop is thus securely incorporated within the folds of the web and cannot be easily removed therefrom except by unfolding the paper. This apparatus for folding the web does not constitute any portion of my invention, but is merely one of a number of means utilized for folding paper webs.

In Fig. 2 I have shown a bundle or stack of sealed envelopes supposed to contain folded circulars and cards, which envelopes and cards are designated by the numeral 27, said envelopes being held in contact, one upon another, by any suitable means, as the vertically disposed plates 28, carried by the adjustable horizontal arms 29, which are secured and adjusted in position upon the pins 30 by means of the set-screws 31. The pins 30 project upwardly from the arms 5 of the feeder frame 4.

In order to successively feed the envelopes into cooperation with the conveyer belts 15 and 16 I provide, upon the rock shaft 32, the arm 33, which has its upper end forked to engage opposite sides of the roller 34, upon the stub shaft 35. The stub shaft 35 is carried in the ear 36, which is integral with and projects downward from the center portion of the under side of the reciprocatory feed bed or table 37, which has two opposite side edges cut away to provide the

guide flanges 39, slidably sealed within the guide slots 41 of the auxiliary frame 4.

The feed bed or table 37 is provided with a plurality of spaced feeding spurs or teeth 42, which are directed or inclined between the conveyer belts 15 and 16. These teeth or spurs pierce the under surface of the envelop or card and carry the latter toward the conveyer belts to be engaged between said belts and carried to the folding cylinder 2 to be incorporated in the paper being folded, as previously described; the envelop or card being normally, constantly and entirely supported by the reciprocatory table 37, upon the points of the spurs 42.

It will be understood that the vertical rods 28 rest slightly above the table 37, practically touching the latter and as the rock shaft 32 is rocked back and forth, the table 37 will be carried rearward, the plates or standards 28 holding the envelopes or cards in proper position, and as the reciprocatory table 37 moves forward or toward the conveyer, the spurs 42 will engage the under side of the lower article to be fed and will carry it forward, forcing its folded edge between the belts 15 and 16, at which point it will be caught by the rollers and belting and carried to the folding mechanism, as previously described.

As the standards 28 are adjustable they may be placed to accommodate envelopes, cards, etc., of various sizes and dimensions. In order that only the bottom envelop or card be forced forward by the action of the teeth 42, I have provided the flexible stop 43, which is preferably made of rubber slightly beveled, as shown in Fig. 2. This stop is positioned so as to allow but one envelop to pass under it, and it yields to any pressure placed thereon incident to the inward movement of the lowest article, but immediately assumes its normal vertical position when such force is removed. If desired, a number of these stops may be employed, and in Fig. 3 I have represented the attachment as being provided with two such stops.

It will be understood that the shaft 7 is provided with a pressure bearing block 44 having the spring 45 and the regulating screw 46 at its opposite ends. By means of these pressure regulators, the rollers may be regulated to vary the space between the belts 15 and 16 passing thereover to properly grip the articles as they are fed therebetween.

By reference to Fig. 1, it will be observed that the rock shaft 32 is mounted in suitable bearings 47, carried by the folder frame and is actuated by means of the slotted arm 48, rigidly secured to the outer end thereof in any suitable manner. The slotted arm 48 is connected with the source of power by means of the link member or bar 49, extending downwardly and into engagement with

the wrist pin 50 upon the gear carried by the shaft 52, it being understood that said gear is placed in mesh with the gear 53 on the end of the folding cylinder 2, said gear
5 being of proper size to secure the requisite movement of the shaft 26, whereby the movement of the reciprocatory feeding bed 37 will be properly timed for the performance of its office in successively drawing the
10 the envelops or cards into engagement with the tapes, as before mentioned.

It will be observed that my feeding mechanism is entirely automatic in its operation, all that is required of the attendant
15 being to provide the supply of cards or sealed envelops containing the folded circulars or the like, or other articles which it is desired shall be drawn into the folds of the paper at the instant that the latter is
20 received by the folding mechanism.

Inasmuch as various modifications may be made in the construction or combination of elements deemed necessary in materializing my invention, I do not wish to be confined
25 strictly to the exact showing herein made.

What I claim is:

1. A card feeding mechanism comprising a horizontally reciprocatory table having a series of inclined spurs rigidly secured
30 thereto, and means for retaining a column of cards or the like entirely supported by said reciprocatory table and in such relation thereto that the lower surface of the lowermost card is slightly punctured by said
35 spurs as the table reciprocates, and thereby moving said card from under the remaining cards.

2. A card feeding mechanism comprising a horizontally slotted frame, a table having
40 inclined spurs rigidly secured thereto and

mounted to reciprocate in a horizontal slot of the frame, and means independent of the table for retaining a column of cards or the like continually supported upon said table in such relation that the lower surface of the
45 bottom card is slightly punctured by said spurs as the table reciprocates, and thereby moving said bottom card from under the remaining cards.

3. In combination with a machine for
50 operating upon cards and the like, a conveyer, means for actuating the conveyer, a horizontally movable table carrying a series of spurs, means associated with the table
55 and co-acting with the spurs for containing and normally supporting a column of said cards or the like, and means for reciprocating the table and thereby delivering the lowermost card of the column, to the conveyer.
60

4. In combination with a machine for operating on cards and the like, a conveyer, means for actuating the conveyer, a horizontally movable table carrying a series of
65 spurs, means over the table co-acting with the spurs for containing and supporting a column of said cards or the like, a roller connected to the table, a forked arm engaging the roller, and means for oscillating the forked arm and thereby reciprocating
70 the table and the spurs, for delivering a card or the like to the conveyer.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WALTER S. BROWN.

Witnesses:

J. D. CURRIE,
T. L. EDWARDS.