W. HALL.

ADDRESSING MACHINE.

APPLICATION FILED SEPT. 16, 1912.

1,067,109.

Patented July 8, 1913.

4 SHEETS—SHEET 1.

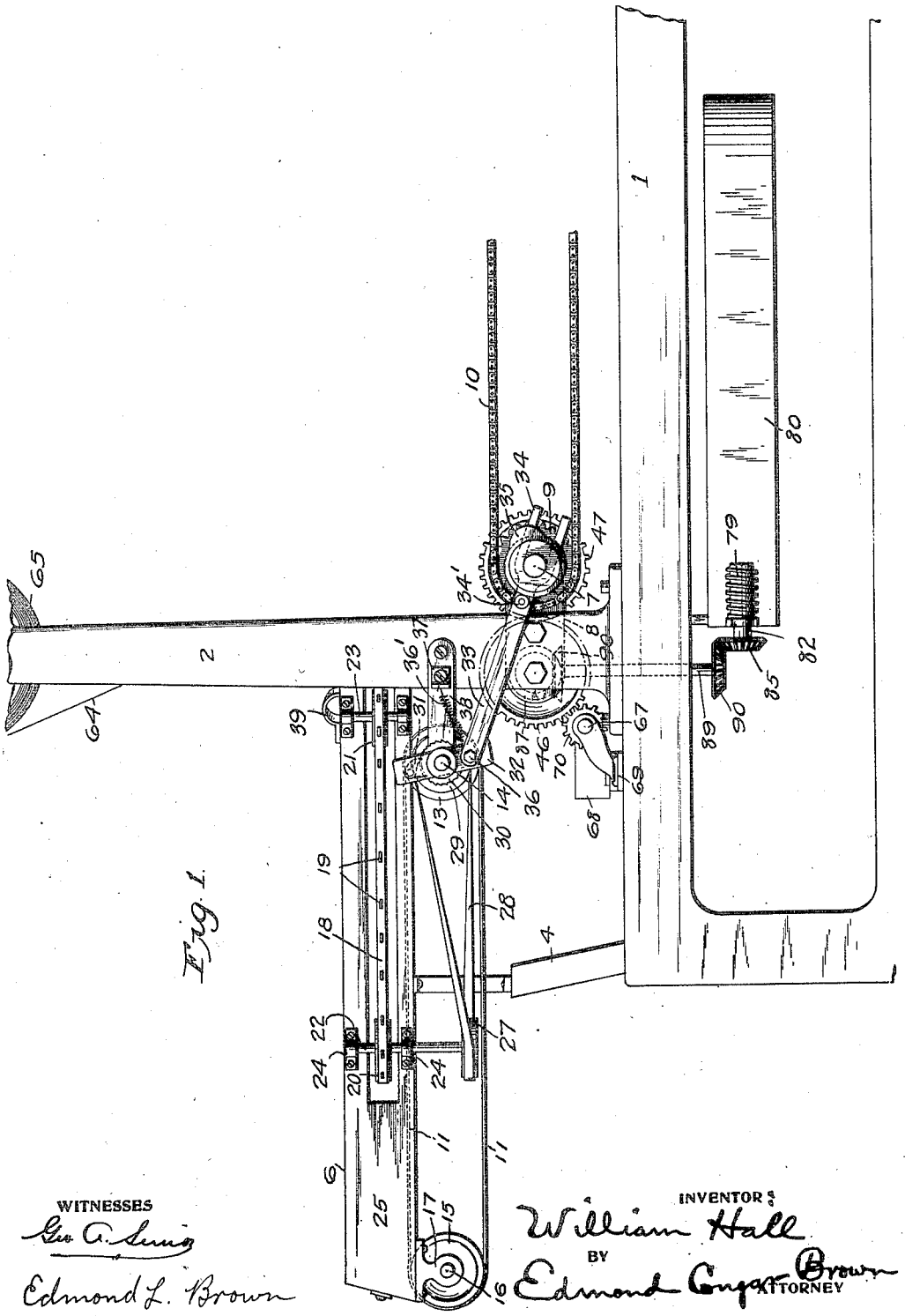


Fig 1.

WITNESSES

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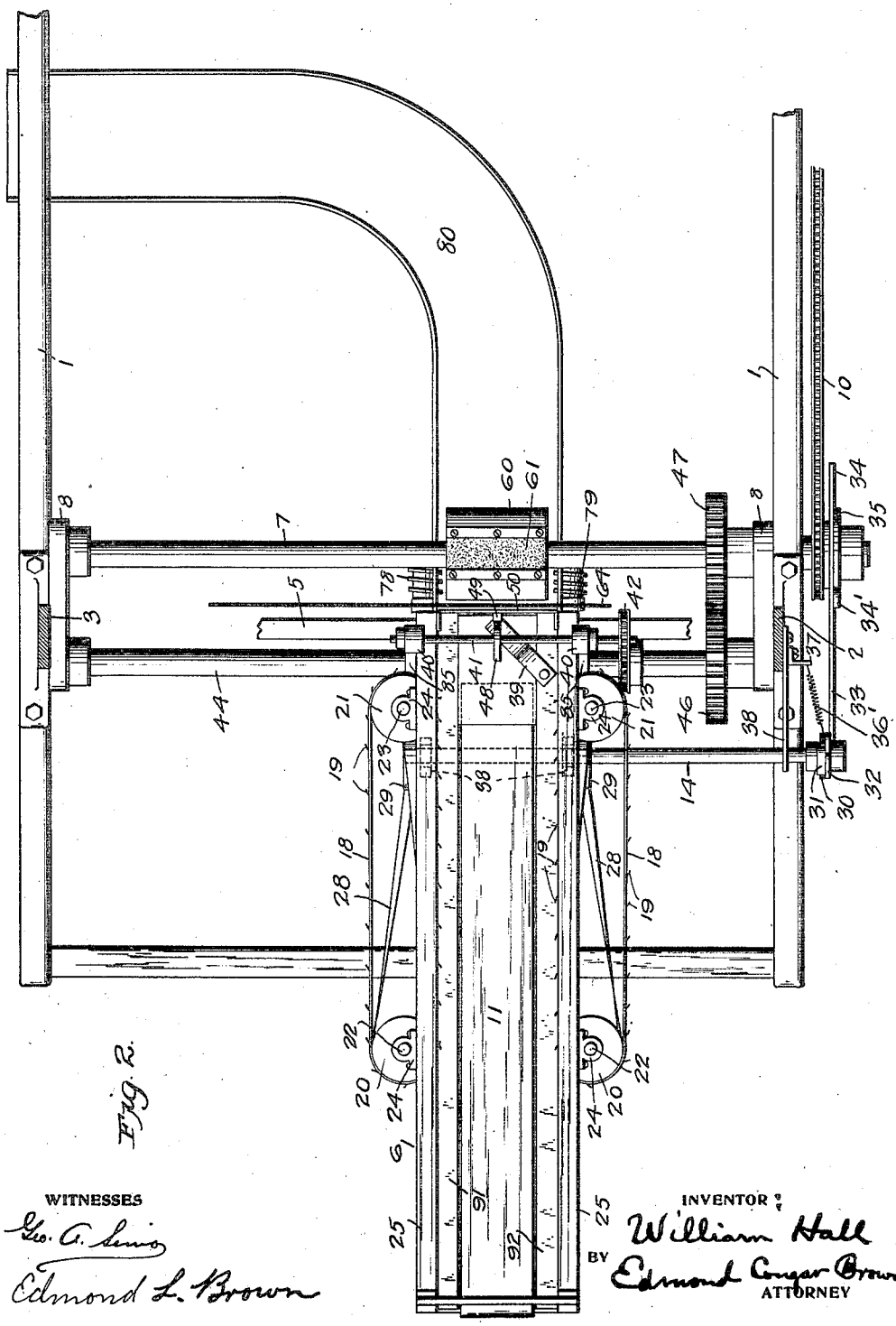


Fig. 2.

WITNESSES

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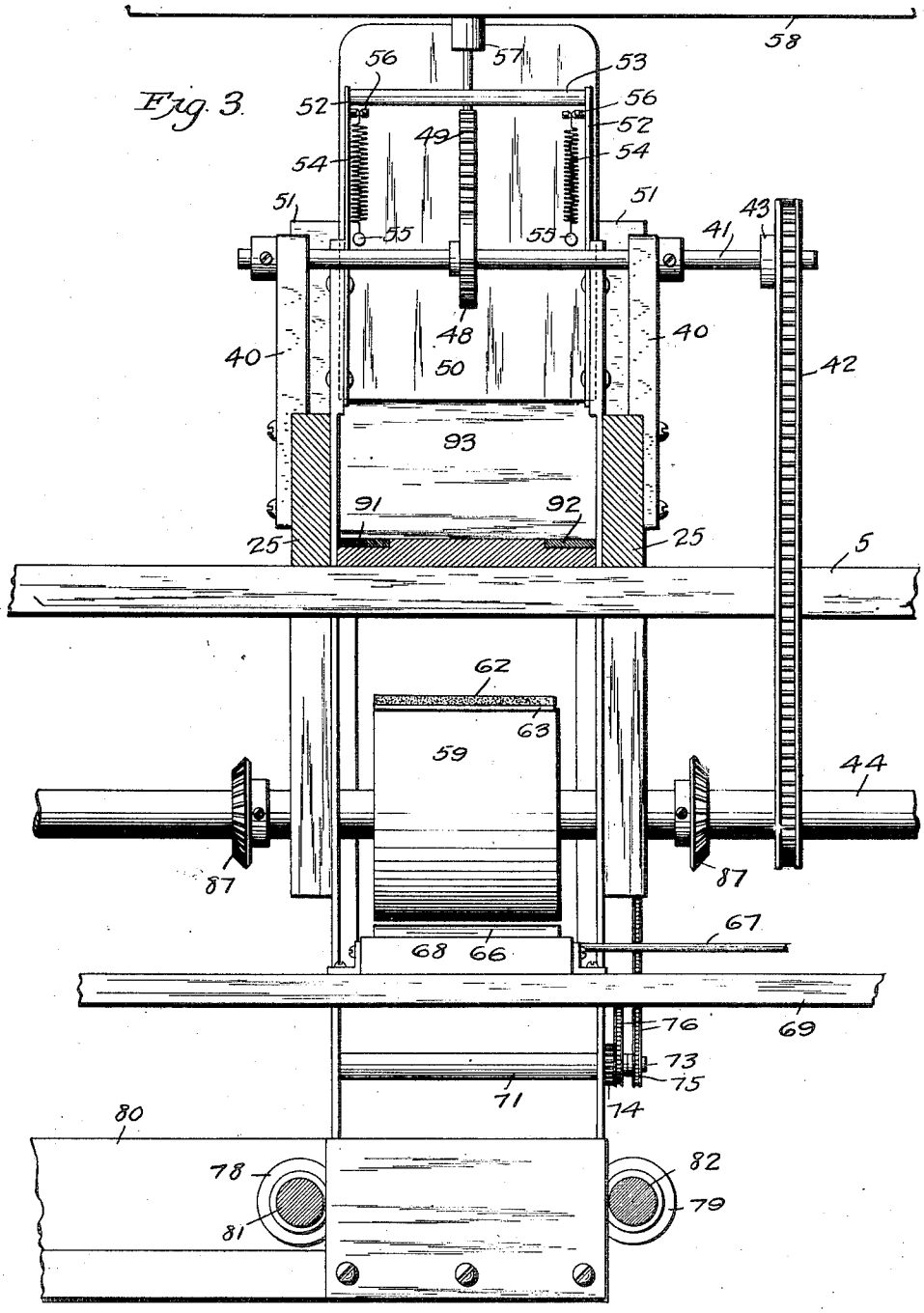
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4 SHEETS—SHEET 3.

Fig. 3.



WITNESSES

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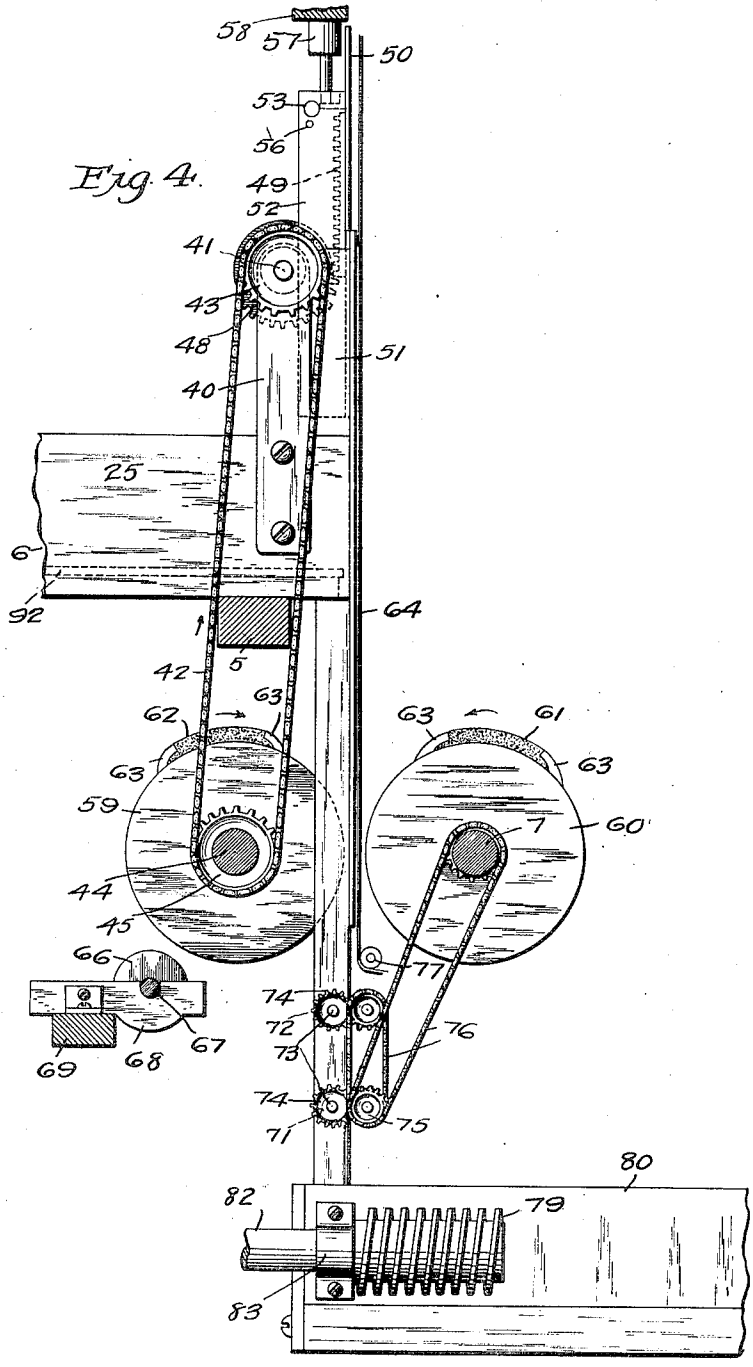
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4 SHEETS—SHEET 4.

Fig. 4.



WITNESSES

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UNITED STATES PATENT OFFICE.

WILLIAM HALL, OF NEW YORK, N. Y., ASSIGNOR TO HUBERT GARDINER, FRANK E. FENNESSY, AND EDWARD H. FENNESSY.

ADDRESSING-MACHINE.

1,067,109. Specification of Letters Patent. Patented July 8, 1913.

Application filed September 16, 1912. Serial No. 720,592.

To all whom it may concern:

Be it known that I, WILLIAM HALL, a citizen of the United States, and a resident of the borough of Brooklyn, city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Addressing-Machines, of which the following is a specification.

The invention consists in the novel construction, combination and arrangement of various devices, elements and parts, whereby the object of my invention is attained, all as fully and specifically set forth in this specification, and in the accompanying drawings which form a part hereof.

The invention relates more particularly to that type of addressing machines which comprises feeding mechanism adapted to feed stenciling cards into printing or stenciling position with reference to a continuous roll of paper, and its object is to provide a simple, effective and efficient mechanism to accomplish the necessary end in a workmanlike and accurate manner.

By means of my invention, the stencil plates or cards, which are of the usual type of perforated plates or cards, are accurately fed one at a time, carried into printing or stenciling position, used for stenciling, and neatly and accurately galleyed for boxing or casing for future use. The feeding and stenciling being mechanical, the stenciling is performed accurately in a predetermined position on the continuous paper roll which passes on, as in the case of a wrapping and addressing machine, to a point where it is cut to the proper size for wrapping.

Means are also provided by my invention wherein the feed can be so adjusted to compensate for the various thicknesses of stenciling cards or plates.

Further advantages of my invention will be pointed out in the following specification and illustrated in the accompanying drawings which form a part hereof.

Referring to the said drawings, Figure 1 is a side elevation of my improved device showing a portion of the framework of the machine to which the feeding mechanism is attached; Fig. 2 is a plan view of Fig. 1; Fig. 3 is a transverse vertical section of my improved device; and Fig. 4 is an enlarged side elevation of the same, partly in section.

In the said drawings, a portion of the framework of the machine to which the feeding mechanism is attached is shown at 1. The entire feeding and stenciling mechanism is carried on the two pedestals 2 and 3 and an upright bracket 4 secured to the frame 1. Attached to the two pedestals 2 and 3 is a transverse bar 5 which carries and supports the discharge end of the feed box 6, the said feed box 6 being supported at the middle by the upright bracket 4. A main drive shaft 7 carried in bearings 8 secured to the pedestals 2 and 3 receives its power through a sprocket 9 secured thereto and driven by a chain 10 from some outside source.

The stencil cards are fed into the feed box 6 wherein they rest on a belt 11 which forms a part of the bottom of said box and is adapted to carry the cards forward and toward the discharge end of the said feed box, but said belt terminates at a short distance from the said discharge end. The belt travels over a driving pulley 13 secured to the shaft 14 and an idler pulley 15 mounted on a shaft 16 mounted in bearings 17 secured to the bottom of the feed box 6. The belt 11 is not, however, absolutely essential to the operation of the apparatus and may if desired be dispensed with; but in order to insure the position and regular feeding of the cards in an upright position, I provide a feed belt 18 on each side of the receptacle or feed box 6, said belts 18 being provided with projecting fingers 19. The feed belts 18 are carried on the driving pulleys 20 and idler pulleys 21 secured to the shafts 22 and 23, mounted in suitable bearings 24 on the sides 25 of the box 6. The shafts 22 receive their rotation through pulleys 27 mounted thereon, the belts 28 and the pulleys 29 mounted on the shaft 14.

To accomplish the intermittent feed necessary to feed the cards one at a time a ratchet 30 is secured to the shaft 14 and actuated by a pawl 31 carried on a pawl plate 32 revolubly mounted on the said shaft 14. A reciprocating arm 33 having a bifurcated end 34 to fit over the shaft 7 carries a roller 34′ to engage with a cam 35 mounted on said shaft 7, the other end being pivotally secured at 36 to the pawl plate 32. It can be seen that for each revolution of the shaft 7 the reciprocating arm 33, through the action of the cam 35 on the roller 34, receives an impulse of such amplitude as to force

the pawl plate 32, its pawl 31 and the ratchet 30 on its shaft 14, the distance between two successive teeth of the said ratchet 30, the resultant rotation when translated through the belt 11 and the auxiliary belts 18 into lateral movement, being sufficient to discharge one card. The pawl plate 32 together with the reciprocating arm 33 are then returned into their normal or rest position by a spring 36′ attached thereto and to a bracket 37 secured to one of the bearings 38 of the shaft 14. To guard against any of the cards being pushed upward at the discharge end of the box due to crowding, a holding finger 39 of spring steel or other suitable material is secured to one of the sides 25 of the box 6.

Carried in uprights 40 which are supported by the sides 25 of the feed box 6 is a shaft 41 driven by a chain 42, on a sprocket 43 on said shaft 41 and receiving power from an auxiliary shaft 44 by means of a sprocket 45 secured thereon, said shaft 44 being driven from the main shaft 7 by a pair of spur gears 46 and 47. Secured to the shaft 41 is a segmental gear 48 coöperating with a rack 49 secured to a plunger plate 50 mounted in suitable slides 51 having upwardly projecting ears 52, said ears being braced and tied by the rod 53. It can be seen that as the shaft 7 and the shaft 44 are continuously revolved, the shaft 41 is continuously revolved and consequently, the segmental gear 48 and when the teeth on the said gear 48 come into engagement with the rack 49 fastened to the plunger plate 50 the said plunger plate is forced downward and as it passes downward, one card which is at the discharge end of the feed box 6 is forced downward by said plunger plate 50. As soon as the plunger plate is at the downward limit of its movement, the last tooth on the segmental gear 48 has ridden out of engagement with the rack 49, at which time the plunger is returned to the upper limit of its movement under the impulse of springs 54 secured to pins 55 on the plunger plate 50 and to pins 56 secured to the ears 52 of the slides. To take up the jar of the plunger plate 50 on its upward movement, a dash pot 57 is secured to a transverse rod 58 which is secured to the pedestals 2 and 3.

Mounted on the shafts 7 and 44 are drums 59 and 60 having a rubber or similar facing on a part of their periphery 61 and 62, said facing being held in place by suitable clamps 63. As the stencil card is forced down behind the paper 64 which is carried on a reel 65 mounted between the pedestals 2 and 3, it comes into the bite of the facing 61 and 62 on the drums 59 and 60, the facing on the drum 59 having previously been inked by contacting with an inking roller 66, mounted on a spindle 67 and revolving in an ink well or receptacle 68 carried on a transverse bar 69 on the frame 1 of the machine, and as the stencil card comes into such bite, it is firmly pressed against the paper 64 and ink from the facing 62 is pressed or rolled through the perforations in said stencil card and onto the paper 64 in the proper position on such paper.

To secure uniform distribution of the ink on the inking roll 66, said roll 66 is constantly rotated by having a gear 70, secured to the spindle 67 and in mesh with the gear 46.

When the stencil card passes out of the bite of the drums 59 and 60 it passes into the bite of rollers 71 and 72 mounted on spindles 73 by a train of spurs 74, said spurs and spindles being operated by sprockets 75 and chains 76, the paper meanwhile passing under a roll 77 and inward to be cut and used in the machine to which this invention is attached. Having passed the rolls 71 and 72 the card drops into the threads of two worms 78 and 79, synchronously operated, which carries each stenciling card out of the path of the succeeding card and stacks the cards in a galley 80 from which they are readily removed by the operator and boxed or cased for future use. A weight of suitable shape and form may be placed ahead of the cards in the galley for the cards to stack against and so prevent their tumbling over, which weight will slide along by the pressure of the cards forced along by the worms 78 and 79. To secure the rotation of the worms 78 and 79, which are carried on spindles 81 and 82 mounted in bearings 83, on the side of the galley 80, bevel gears 85 are secured to the said spindles 81 and 82 and are driven from bevel gears 87 on the shaft 44 through an intermediate shaft 89 and gears 90.

To compensate for various thicknesses of stencil cards which may be used, the bottom of the feed box 6 may have longitudinal strips set along the inside of the bottom of said box and be adapted to be longitudinally adjusted to vary the space between the ends of such strips which are shown at 91 and 92 and the stop plate 93. Means for securing such plates or strips are not shown but the result may be obtained by securing the strips with screws let into elongated holes let into such strips.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is as follows:

1. In an apparatus of the kind specified, the combination with a receptacle adapted to contain addressing cards, and devices adapted to feed said cards along and out of said receptacle, comprising a feeding belt at the bottom of said receptacle, and auxiliary feeding belts at the sides of said receptacle, and devices adapted to propel said belts; of

pushing devices adapted to act upon said cards after they leave said receptacle and move them continuously downward into printing position; devices adapted to feed material into printing position; and devices adapted to depress a card upon said material and to print upon the said material.

2. In an apparatus of the kind specified, the combination with a receptacle adapted to contain addressing cards, and devices adapted to feed said cards along and out of said receptacle, comprising a feeding belt at the bottom of said receptacle and auxiliary feeding belts at the sides of said receptacle provided with fingers adapted to engage with said cards, and devices adapted to propel the said belts; of pushing devices adapted to act upon said cards after they leave said receptacle and move them continuously downward into printing position; devices adapted to feed material into printing position; and devices adapted to depress a card upon said material and to print upon the said material.

3. In an apparatus of the kind specified, the combination with a receptacle adapted to contain perforated printing cards, and devices adapted to feed said cards along and out of said receptacle, comprising feeding belts at the sides of said receptacle, and devices adapted to propel said belts; of pushing devices adapted to act upon said cards after they leave said receptacle and move them continuously downward into printing position; devices adapted to feed material into printing position; inking devices; devices adapted to depress such inking devices upon a card and upon such material to be printed, whereby ink is forced through the perforations of said card and upon said material.

4. In an apparatus of the kind specified, the combination with a receptacle adapted to contain perforating printing cards, and devices adapted to feed said cards along and out of said receptacle, comprising feeding belts at the sides of said receptacle provided with fingers adapted to engage with said cards, and devices adapted to propel said belts; of pushing devices adapted to act upon said cards after they leave said receptacle and move them continuously downward into printing position; devices adapted to feed material into printing position; inking devices; devices adapted to depress such inking devices upon a card and upon such material to be printed, whereby ink is forced through the perforations of said card and upon said material.

5. In an apparatus of the kind specified, the combination with a receptacle adapted to contain addressing cards, and devices adapted to feed said cards along and out of said receptacle, comprising feeding belts located at the sides of said receptacle, and devices adapted to propel said feeding belts; of pushing devices adapted to act upon said cards after they leave said receptacle and move them continuously downward into printing position; devices adapted to feed material into printing position, and devices adapted to depress a card upon the said material.

6. In an apparatus of the kind specified, the combination with a receptacle adapted to contain addressing cards, and devices adapted to feed said cards along and out of said receptacle, comprising feeding belts located at the sides of said receptacle provided with projections adapted to engage with the edges of said cards, and devices adapted to propel the said feeding belts; of pushing devices adapted to act upon said cards after they leave said receptacle and move them continuously downward into printing position; devices adapted to feed material into printing position; and devices adapted to depress a card upon said material and to print upon the said material.

In witness whereof I have hereunto signed my name this 12th day of September 1912, in the presence of two subscribing witnesses.

WILLIAM HALL.

Witnesses:
EDMOND CONGAR BROWN,
J. W. MANNEBACH.