

R. W. BARGGREN.
MAIL FOLDING MACHINE.
APPLICATION FILED JUNE 11, 1920.

1,436,005.

Patented Nov. 21, 1922.

4 SHEETS—SHEET 1.

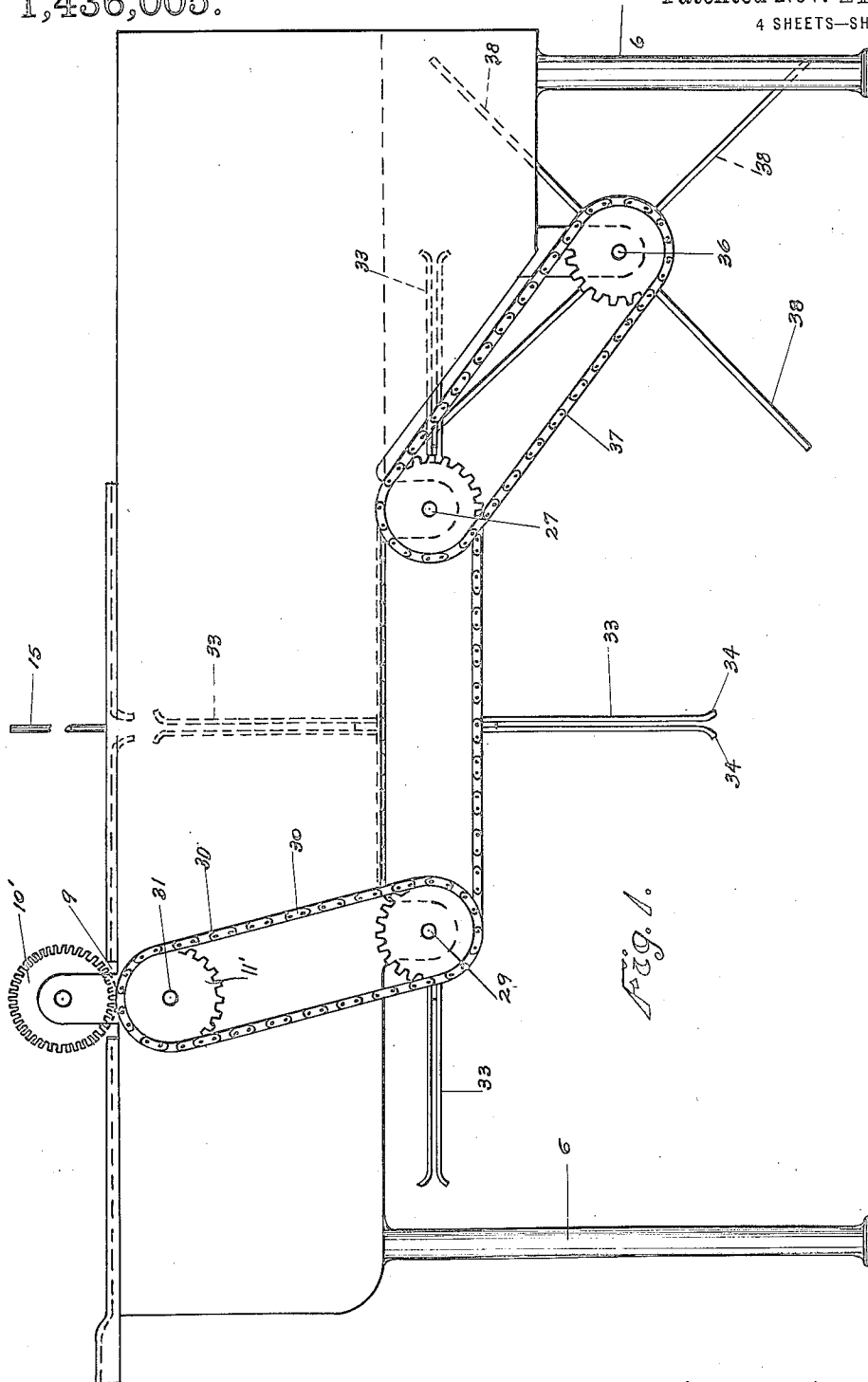


Fig. 1.

Witnesses:
C. E. Freedy.
Paul Rosen

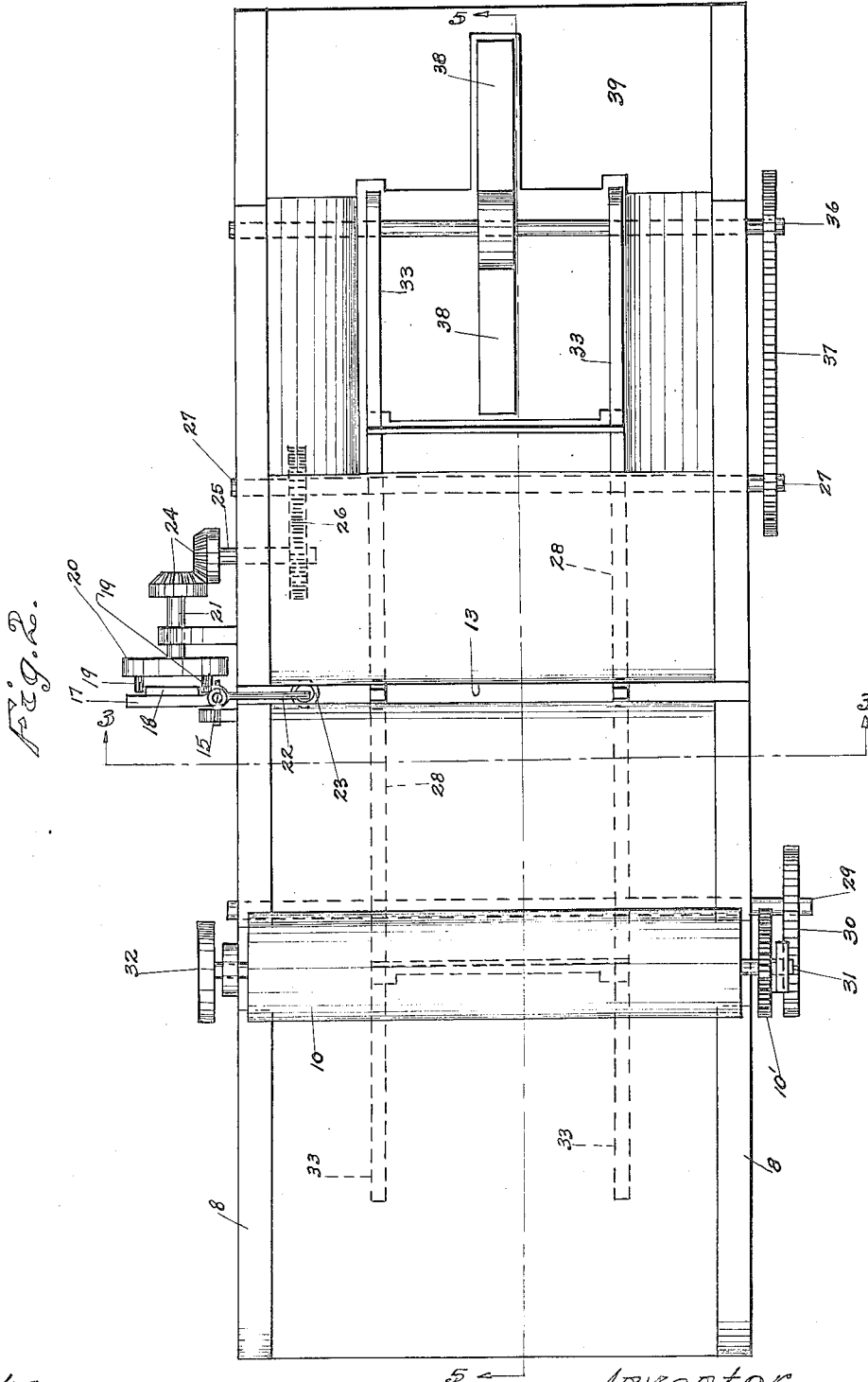
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By *John A. Horn*
His Attorney.

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4 SHEETS—SHEET 2.

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4 SHEETS—SHEET 3.

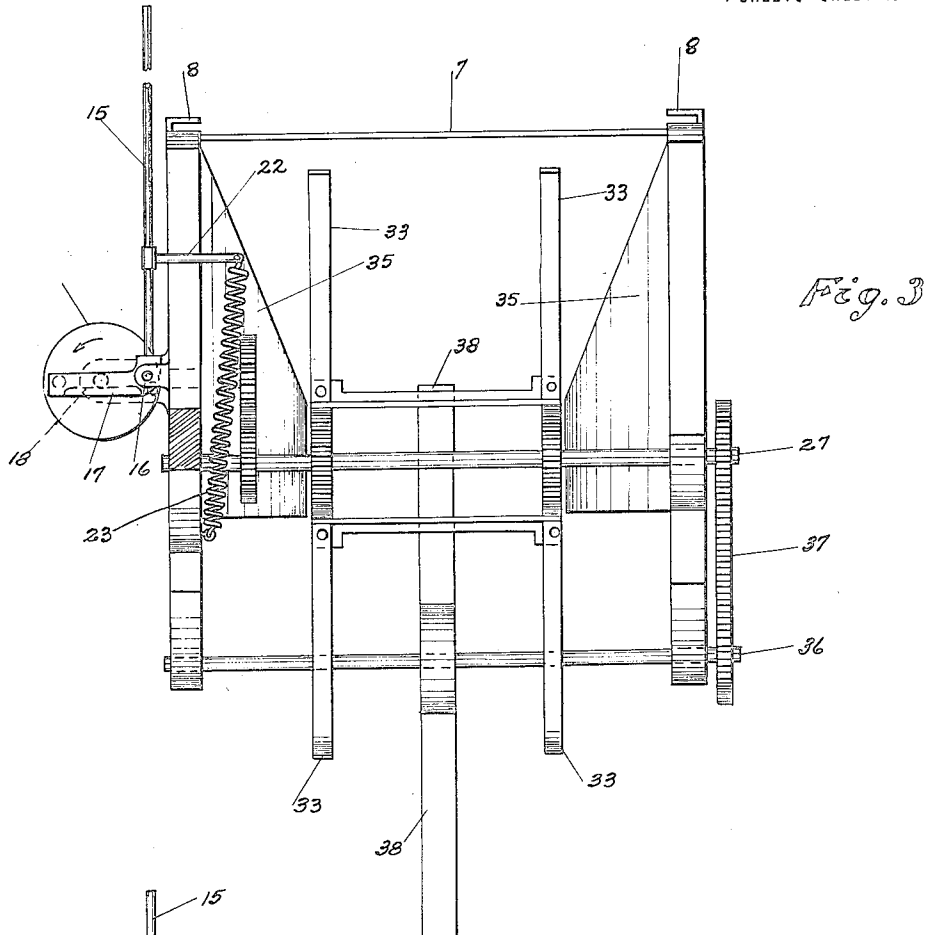


Fig. 3

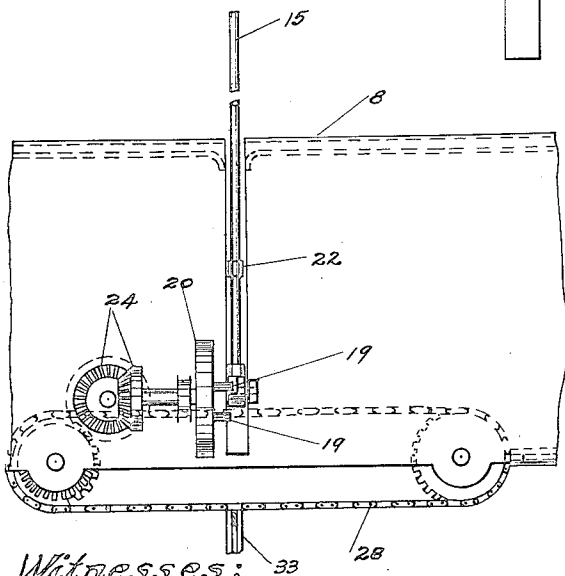


Fig. 4

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4 SHEETS—SHEET 4.

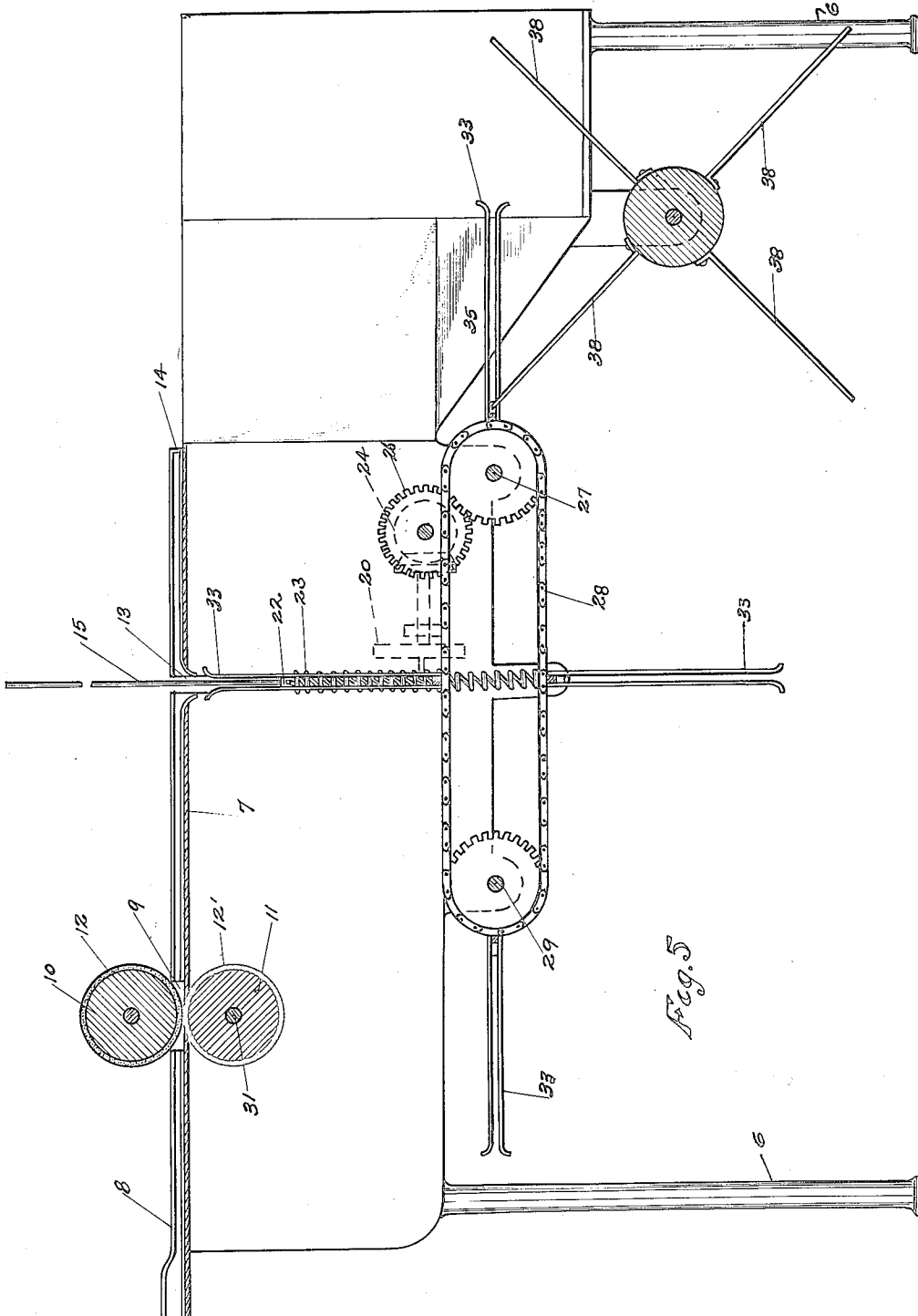


Fig. 5

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UNITED STATES PATENT OFFICE.

RICHARD W. BARGGREN, OF CHICAGO, ILLINOIS.

MAIL-FOLDING MACHINE.

Application filed June 11, 1920. Serial No. 388,223.

To all whom it may concern:

Be it known that I, RICHARD W. BARGGREN, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Mail-Folding Machines, of which the following is a specification.

My invention relates to improvements in mail folding machines, and has for its object the provision of a machine of this character adapted and arranged to be used in conjunction with an ordinary mimeograph machine or the like, and adapted and arranged to automatically receive letters or the like therefrom, and fold the same for insertion in envelopes.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification, and in which,

Fig. 1, is a side view of a machine embodying the invention,

Fig. 2, a top plan view of the same,

Fig. 3, a transverse section taken on line 3—3 of Fig. 2,

Fig. 4, a detail side view of a folding finger and its operating mechanism employed in the machine, and

Fig. 5, a longitudinal section taken on line 5—5 of Fig. 2.

The preferred form of construction, as illustrated in the drawings, comprises a suitable frame or standard 6 having a supporting table 7 at the top thereof and adapted and arranged to be positioned to receive letters or the like delivered from an ordinary mimeograph machine or the like. The table 7 is provided at its side edges with inwardly turned raised guides 8 adapted to guide the edges of a letter or other paper coming from said mimeograph machine. The table 7 is provided adjacent its receiving end with a transverse slot 9 and feed rollers 10 and 11 are arranged above and below said table to meet through the slot 9, said rollers being geared together by means of gears 10' and 11' as shown. The upper roller 10 is covered with blotting paper 12 and the lower roller 11 is covered with a rubber pad 12', and whereby the letter or other paper coming from a mimeograph ma-

chine will be blotted and fed further onto the table 7. The table 7 is provided with another transverse slot or opening 13 located at a suitable distance from a stop flange 14 at the extreme end of said table and a folding finger or arm 15 is arranged to operate through the slot 13. The finger 15 is pivoted at 16 in suitable brackets on the side of the machine and carries a laterally extending operating arm 17 having a ledge or flange 18 along one side thereof and set in the path of two crank pins 19 on a face plate 20 as indicated. The face plate 20 is carried by a counter shaft 21 for operating the same and the finger 15 carries an inwardly extending arm 22 connected with a tension spring 23 tending to draw the finger 15 downwardly through the slot 13 to fold a letter or the like along the line of said slot. The arrangement is such that the arm 15 will be drawn downwardly through the slot 13 by the action of spring 23 and will be raised by the action of pins 19 on the ledge 18 of arms 17.

The shaft 21 is connected by beveled gears 24 with another shaft 25 connected by gears 26 with a transverse shaft 27 and shaft 27 is connected by two parallel sprocket chains 28 with another transverse shaft 29. The shaft 29 is connected by a sprocket chain 30 with shaft 31 upon which the roller 11 is mounted, shaft 31 carries a driving pulley 32 for driving the machine. The sprocket chains 28 carry four pairs of bifurcated fingers or arms 33 having divergent outer lips or ends 34 and arranged to travel under the slot 13 to receive the letters folded by the downward passage of the finger 15, the operation of the parts being so timed that the finger 15 passes downwardly through said slot 13 and between the corresponding fingers 33 at each operation, said finger 15 rising quickly and the fingers 33 having sufficient flexibility to permit of this motion. By this arrangement each letter upon delivery from the mimeograph machine will be automatically fed against the stop 14 and then immediately folded centrally and carried downwardly through slot 13 between the corresponding pair of fingers or arms 33, between which it will be held and carried forward. At the end of their forward travel the fingers 33 pass downwardly between two converging surfaces 35 which cooperate with said fingers to fold the protruding edges of the carried letter upwardly substantially at

right angles to the body of the letter. The delivery shaft 36 is arranged at the delivery end of the machine and carries four delivering arms or fingers 38 operating between the pairs of fingers 33 to discharge the folded letter therefrom onto the delivery table 39 which is slotted to permit of the free passage of the arms 38. The shaft 36 is connected with shaft 27 by a sprocket chain 37 and is driven thereby. In this way, the folded letters will be automatically discharged from the machine onto the table 39.

By this arrangement, letters or the like, coming from an ordinary mimeograph machine will be completely folded once and then partially folded again, thus greatly facilitating their complete folding and insertion in envelopes.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. A machine of the class described comprising a table arranged and adapted to receive printed sheets from a mimeograph machine or the like, said table being provided with a slot; a traveling conveyer arranged to pass under said slot and bifurcated to receive a folded sheet; an oscillating folding member arranged to swing downwardly through said slot to fold and deliver a sheet to said conveyer; means for operating said folding member; means for turning up the side edges of said folded sheet; and means for discharging a folded sheet from said conveyer, substantially as described.

2. A machine of the class described comprising a table arranged and adapted to receive printed sheets from a mimeograph machine or the like, said table being provided with a slot; feed rollers co-operating with said table, one of said rollers being provided with a periphery of blotting material; a traveling conveyer arranged to pass under said slot and provided with bifurcated fingers to receive a folded sheet; a folding member arranged to pass downwardly through said slot to fold and deliver a sheet into the bifurcated fingers of said conveyer; means for operating said folding member; and means including members traveling between said fingers for simultaneously refolding and discharging a folded sheet from said conveyer, substantially as described.

3. A machine of the class described comprising a table arranged and adapted to re-

ceive printed sheets from a mimeograph machine or the like, said table being provided with a slot; feed rollers co-operating with said table; one of said rollers being provided with a periphery of blotting material; a traveling conveyer arranged to pass under said slot and having bifurcated members to receive a folded sheet; an oscillating folding member arranged to swing downwardly through said slot to fold and deliver a sheet to said conveyer members; means for operating said folding member; and means including rotating arms operating between said conveyer members for discharging a folded sheet from said conveyer, substantially as described.

4. A machine of the class described comprising a table arranged and adapted to receive printed sheets from a mimeograph machine or the like, said table being provided with a slot; a traveling conveyer arranged to pass under said slot and bifurcated to receive a folded sheet; a folding member arranged to pass downwardly through said slot to fold and deliver a sheet to said conveyer; means for operating said folding member; inclined guides at the sides of said conveyer and co-operating therewith to fold the edges of said folded sheet at substantially right angles to the body thereof; and means for discharging a folded sheet from said conveyer, substantially as described.

5. A machine of the class described comprising a table arranged and adapted to receive printed sheets from a mimeograph machine or the like, said table being provided with a slot; a traveling conveyer arranged to pass under said slot and bifurcated to receive a folded sheet; an oscillatory folding member arranged to pass downwardly through said slot to fold and deliver a sheet to said conveyer; means for operating said folding member; inclined guides arranged at the sides of said conveyer and co-operating therewith to fold the edges of said folded sheet at substantially right angles to the body thereof; and means for discharging a folded sheet from said conveyer, substantially as described.

6. A machine of the class described comprising a table arranged and adapted to receive printed sheets from a mimeograph machine or the like, said table being provided with a slot, co-operating feed rollers mounted above and below said table, the upper of said rollers being provided with a periphery of blotting material; a traveling conveyer arranged to pass under said slot and bifurcated to receive a folded sheet; a folding member arranged to pass downwardly through said slot to fold and deliver a sheet to said conveyer; means for operating said folding member; inclined guides at the sides of said conveyer and co-operating therewith to fold the edges of said folded

sheet at substantially right angles to the body thereof; and means for discharging a folded sheet from said conveyer, substantially as described.

5 7. A machine of the class described comprising a table arranged and adapted to receive printed sheets from a mimeograph machine or the like, said table being provided with a slot, feed rollers co-operating
10 through a slotted opening in said table for moving said sheets, the upper of said rollers being provided with a periphery of blotting material; a traveling conveyer arranged to pass under said slot and bifurcated
15 to receive a folded sheet; an oscillatory folding member arranged to swing downwardly through said slot to fold and deliver a sheet to said conveyer; means for operating said folding member; inclined
20 guides arranged at the sides of said conveyer and co-operating therewith to fold the edges of said folded sheet at substantially right angles to the body thereof; and means for discharging a folded sheet from
25 said conveyer, substantially as described.

8. A machine of the class described comprising a table arranged and adapted to receive printed sheets from a mimeograph machine or the like, said table being provided
30 at its sides with guides and with a transverse slot, feed rollers co-operating with said table, the upper of said rollers being provided with a periphery of blotting material; an endless chain conveyer provided with
35 pairs of bifurcated fingers arranged to pass under said slot to receive a folded sheet; a folding member arranged to pass downwardly through said slot to fold and deliver a sheet to said fingers; means for operating
40 said folding member; inclined guides arranged at the sides of said conveyer and co-operating therewith to fold the edges of said folded sheet at substantially right angles to the body thereof; and means for discharging
45 a folded sheet from said conveyer, substantially as described.

9. A machine of the class described comprising a table arranged and adapted to receive printed sheets from a mimeograph machine or the like, said table being provided
50 at its sides with guides and with a trans-

verse slot, feed rollers co-operating with said table, the upper of said rollers being provided with a periphery of blotting material; an endless chain conveyer provided with
55 pairs of bifurcated fingers arranged to pass under said slot to receive a folded sheet; a folding member arranged to pass downwardly through said slot to fold and deliver a sheet to said fingers; means for operating
60 said folding member; a shaft at the discharge end of said machine; a plurality of fingers carried by said shaft and arranged to pass between the fingers on said conveyer to discharge a folded sheet therefrom; and
65 a delivery table adapted to receive the sheets from said revolving fingers, substantially as described.

10. A machine of the class described comprising a table arranged and adapted to receive printed sheets from a mimeograph machine or the like, said table being provided
70 at its sides with guides and with a transverse slot, feed rollers co-operating with said table, the upper of said rollers being
75 provided with a periphery of blotting material; an endless chain conveyer provided with pairs of bifurcated fingers arranged to pass under said slot to receive a folded sheet; a folding member arranged to pass
80 downwardly through said slot to fold and deliver a sheet to said fingers; means for operating said folding member; inclined guides arranged at the sides of said conveyer and co-operating therewith to fold the
85 edges of said folded sheet at substantially right angles to the body thereof; a shaft at the discharge end of said machine; a plurality of fingers carried by said shaft and arranged to pass between the fingers on said
90 conveyer to discharge a folded sheet therefrom; and a delivery table adapted to receive the sheets from said revolving fingers, substantially as described.

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

RICHARD W. BARGGREN.

Witnesses:

ROSE ROSEN,
ROSE K. TRIB.