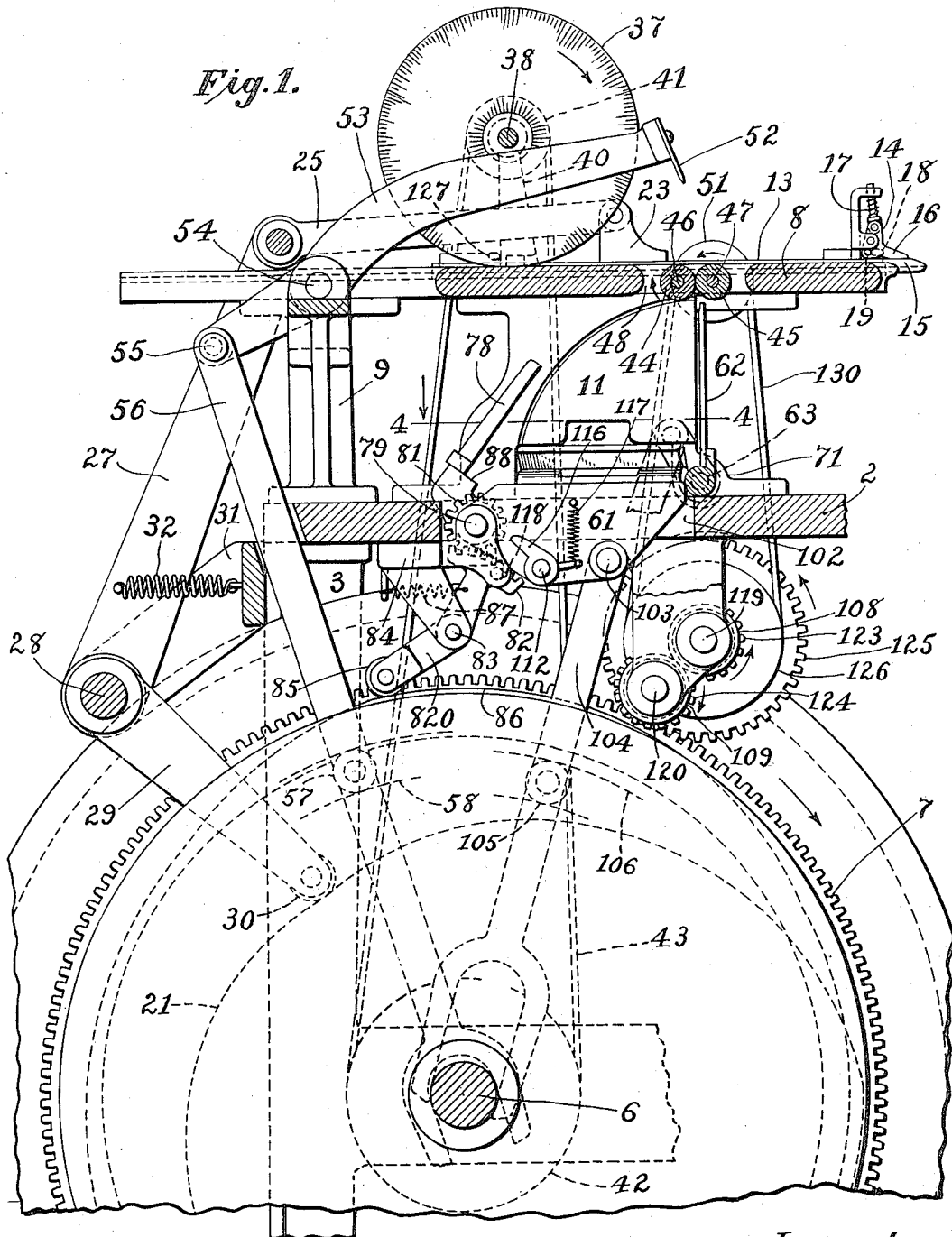


J. FROEHLICH.
ENVELOP MACHINE.
APPLICATION FILED MAR. 16, 1912.

1,042,423.

Patented Oct. 29, 1912.

5 SHEETS-SHEET 1.



Witnesses:

M. Levy
Chas. W. La Rue

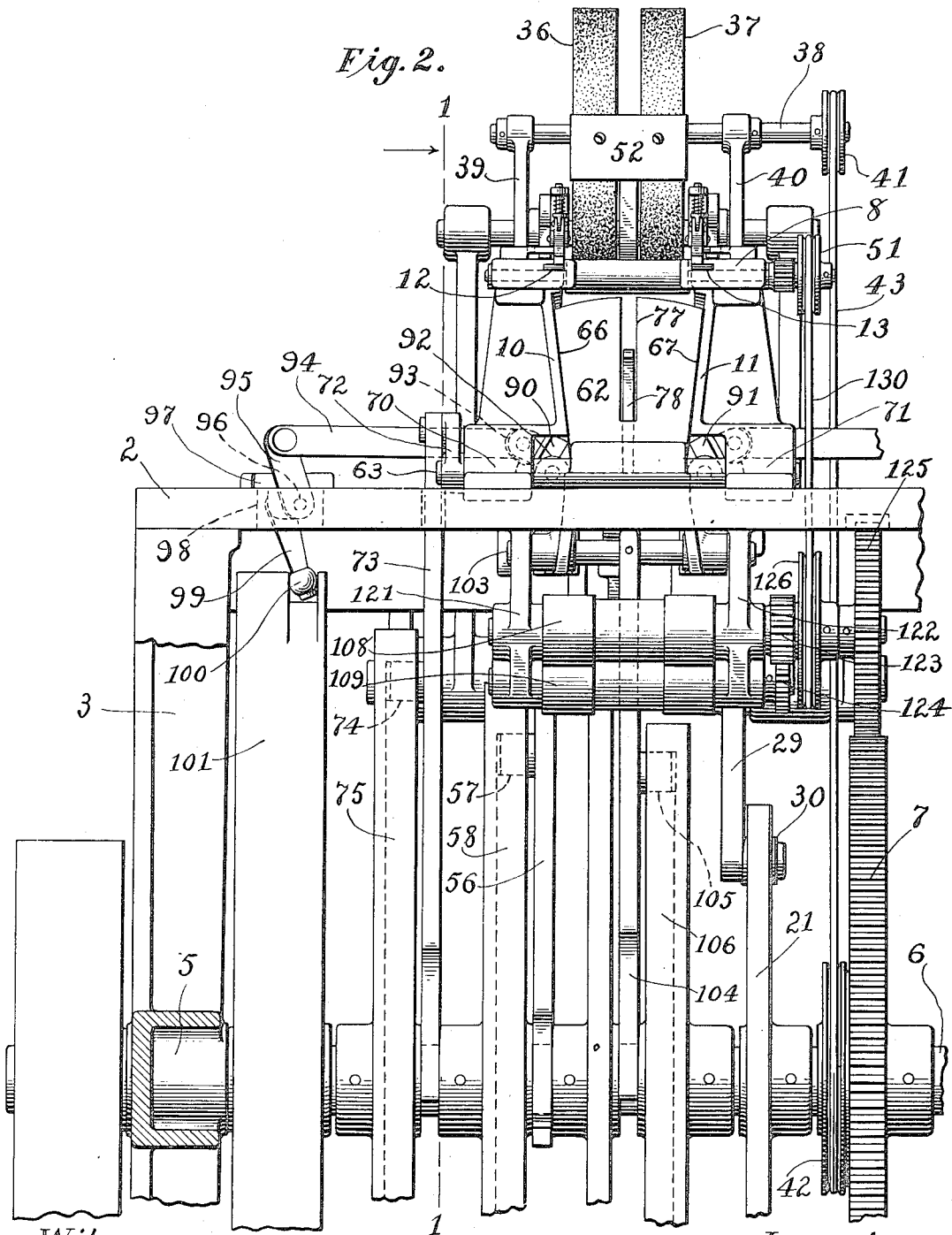
Inventor:
Joseph Froehlich
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5 SHEETS—SHEET 2.



Witnesses:

M. Levy
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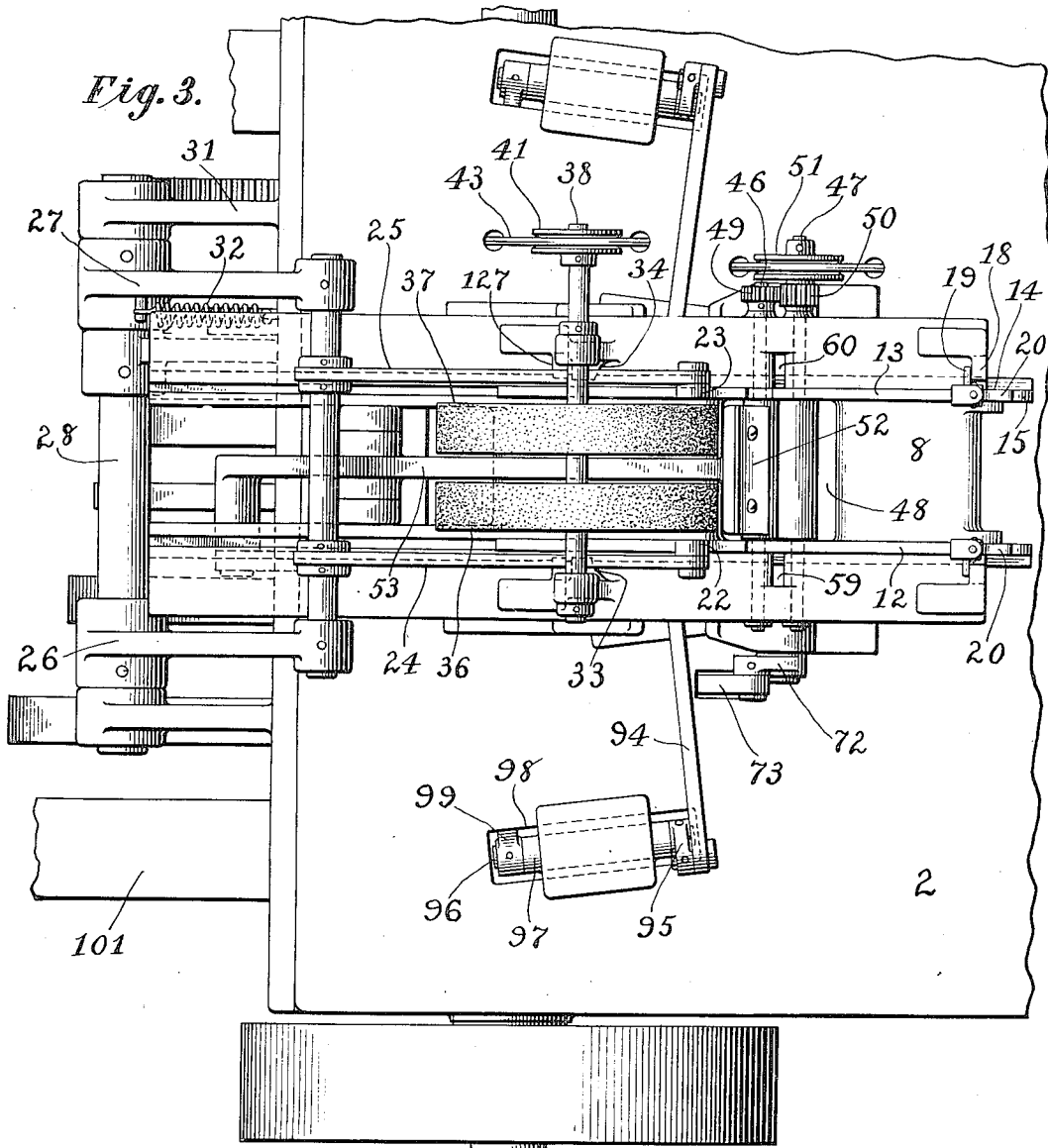
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5 SHEETS-SHEET 3

1,042,423.



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Fig. 4.

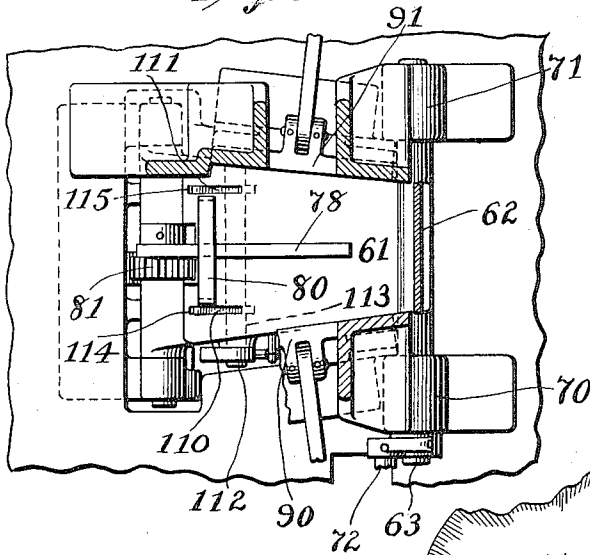


Fig. 5.

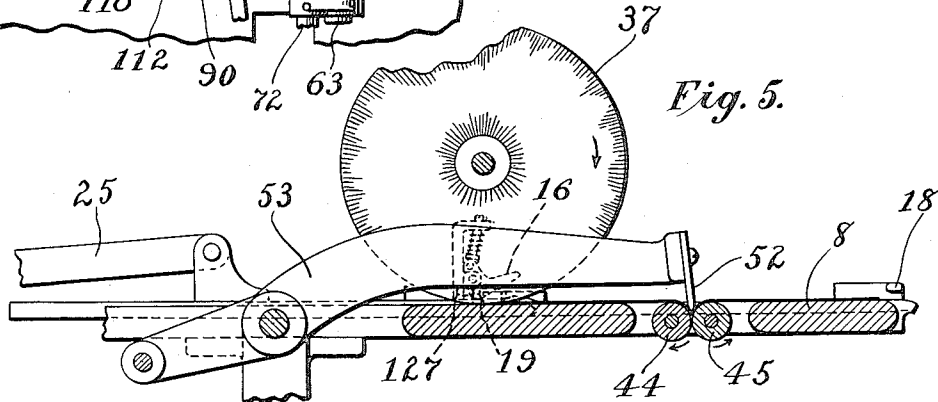


Fig. 6.

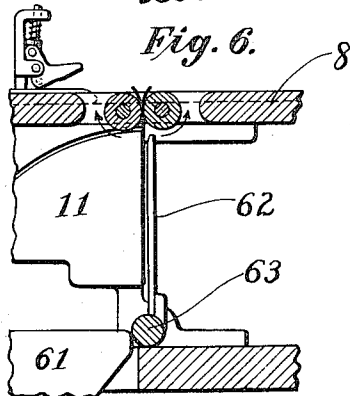
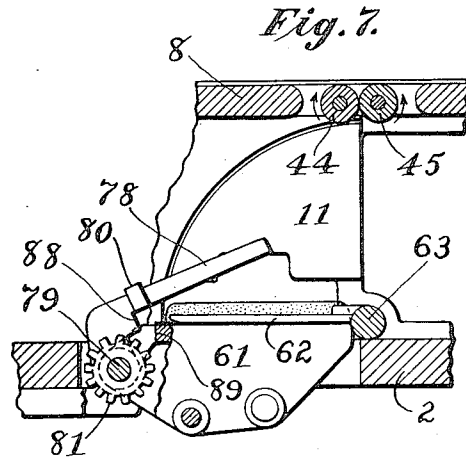


Fig. 7.



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5 SHEETS-SHEET 5

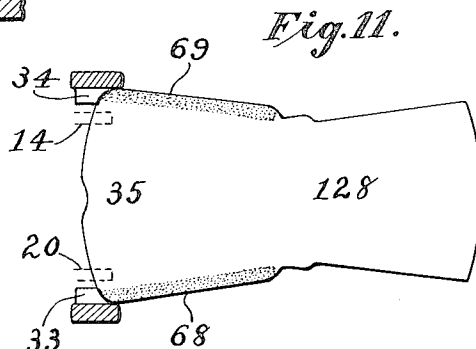
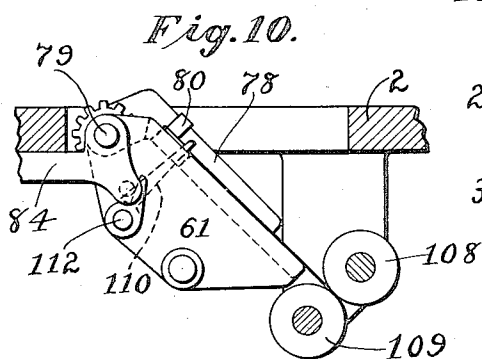
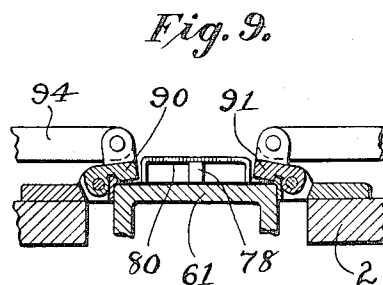
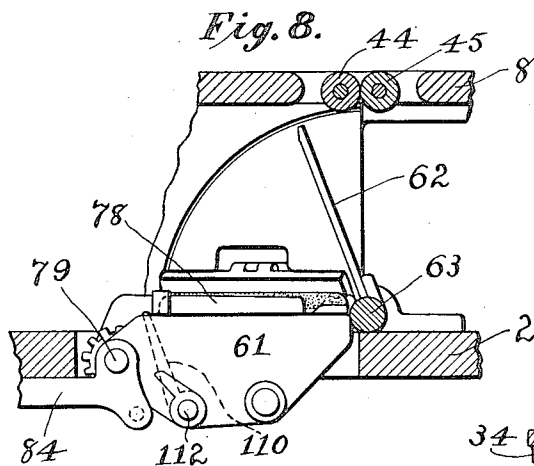


Fig. 12.

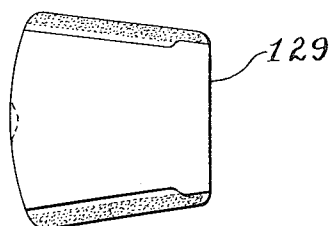


Fig. 14.

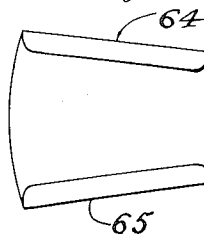
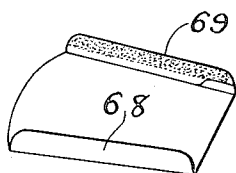


Fig. 13.



Witnesses:

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Inventor:
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UNITED STATES PATENT OFFICE.

JOSEPH FROEHLICH, OF NEW YORK, N. Y., ASSIGNOR TO FERDINAND L. SCHMIDT, OF
NEW YORK, N. Y.

ENVELOP-MACHINE.

1,042,423.

Specification of Letters Patent.

Patented Oct. 29, 1912.

Application filed March 16, 1912. Serial No. 684,094.

To all whom it may concern:

Be it known that I, JOSEPH FROEHLICH, a citizen of the United States, and a resident of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Envelop-Machines, of which the following is a specification.

This invention relates to envelop machines and directly to that class thereof which are provided for forming from suitable blanks, open ended envelops adapted for use as drinking cups.

The object of the present improvements is to provide a machine of the class specified, of simple construction, rapid and reliable in operation and having its operative parts readily accessible for inspection and adjustment.

To these ends my improvements comprise parts and combinations of parts illustrated in the accompanying drawings wherein—

Figure 1 is a side elevation in section on line 1, 1 of Fig. 2 of the preferred embodiment of my improvements. Fig. 2 is a front elevation corresponding with Fig. 1. Fig. 3 is a plan view corresponding with Figs. 1 and 2. Fig. 4 is a detail plan view in section on line 4—4 of Fig. 1. Figs. 5 to 10 inclusive are diagrammatic side elevations illustrating successive steps in the operation of my improved machine. Figs. 11 to 14 inclusive show successive steps in the operation of folding the envelop blank into a complete envelop as performed by my improved machine.

Bed 2 is conveniently supported by legs as 3 which latter are provided with bearings as 5 for main shaft 6 on which are fixed main gear 7 and several cams for imparting, through suitable connections, the required motions and timing to several of the operative parts of my improved machine. Above bed 2 is table 8 for receiving the blanks, Fig. 11, one by one, from some suitable source of supply, not shown. Said table 8 is supported from bed 2 by stanchion 9 and by side walls 10, 11 of the folding box. For advancing the envelop blank in the plane of its length onto table 8 I provide a reciprocating device preferably comprising two slides 12, 13 mounted in suitable grooves in said table. At their right hand ends, Fig. 1, said slides are provided with grippers, as 14 to slide 13, comprising a fixed lower jaw

15 and a pivoted upper jaw 16. Said upper jaw is alternately urged to its closed and open positions by spring 17 in well known manner and dog 18, fixed to table 8 is provided for closing said upper jaw 16 against lower jaw 15 for gripping the blank at the forward end of the stroke, by engagement with pin 19 projecting from said upper jaw. A similar dog 127 is provided adjacent the rear or discharge end of said stroke of slide 13 for engagement with said pin 19 for lifting said upper jaw 16, for liberating the blank. Gripper 20 of slide 12 is similarly mounted and actuated. Slides 12, 13 are reciprocated from cam 21 on shaft 6 by the following means: Said slides have ears 22, 23 fixed thereto about midway their lengths and links 24, 25 connect said ears with the upper ends of arms 26, 27 all respectively. Said arms 26, 27 are fixed to rock shaft 28 as is also downwardly reaching arm 29 carrying roll 30 for engagement with said cam 21. Rock shaft 28 is pivoted in bracket 31 fixed to the rear legs, as 3. Pull spring 32 has one end thereof fixed to arm 27 and the other end to bracket 31 for urging roll 30 to engagement with cam 21.

A pair of opposite stops 33, 34 are provided for engagement with the leading end 35 of the blank, Fig. 11, as that blank is delivered onto table 8 by slides 12, 13. In rapid operation of the machine the blank may sometimes rebound from said stops and thus fail to be properly located for the next operation thereon. To locate and hold said blank against said stops I have provided one or more brushes 36, 37 rotating in clockwise direction, Fig. 1, and which brush lightly over the upper surface of the blank. These brushes are fixed to shaft 38 revolubly mounted in brackets 39, 40 on table 8. Shaft 38 has pulley 41 fixed thereto and is rotated from pulley 42 on main shaft 6 by means of belt 43.

For making the main transverse fold in the blank, that is for transforming that blank from the showing of Fig. 11 to that of Fig. 12, I provide a pair of folding rolls 44, 45 fixed to shafts 46, 47 respectively, mounted in bearings in opening 48 of table 8. Said shafts are geared together by gears 49, 50 and shaft 47 has pulley 51 fixed to the outer end thereof. Table 8 is slotted at 59, 60 to permit the passage of the folded blank. For delivering the blank on a pre-

determined transverse line to said folding rolls I employ reciprocating blade 52 fixed to the longer end of arm 53. Said arm is pivoted at 54 in stanchion 9 and its shorter rearwardly reaching end is pivotally connected at 55 with cam arm 56. Said arm 56 is bifurcated at its lower end to engage shaft 6 and has roll 57 for engagement with cam 58. Rolls 44, 45 are also efficient for delivering downwardly therebetween the folded blank of Fig. 12 to the side folding means, which will be next described.

A folding box, comprising side walls 10, 11, bottom 61 and front door 62 is located between bed 2 and table 8. Said door 62 is pivotally mounted at 63 at the lower right hand of said folding box, Fig. 1, and sides 10, 11 of said box recede upwardly and rearwardly from each other, from said axis 63 in conformity with the inclination of edges 64, 65 of the finished envelop, Fig. 14. Door 62 has its upstanding edges 66, 67 in conformity with the sides respectively of the folding box, Fig. 2, and said door is adapted to swing inwardly and downwardly into that box, there being sufficient clearance between edges 66, 67 and sides 10, 11 respectively to permit the passage of the upfolded side flaps 68, 69 of the envelop, Fig. 13. Door 62 in its receiving position, Fig. 1, stands away, to the right, from the plane of the front edges of sides 10, 11 sufficiently to permit the downward passage of the folded blank of Fig. 12 between it and those edges. Door shaft 63 is mounted in bearings 70, 71 fixed to bed 2 and has arm 72 fixed thereto. Said arm is pivotally connected to cam arm 73 bifurcated at its lower end to engage shaft 6 and having roll 74 pivoted thereon for engagement with cam 75. Said cam acts to swing door 62 inwardly and downwardly through about 90 degrees to bottom 61, Fig. 7, and to return that door to its receiving position, Figs. 1 and 6. Said door 62 is provided with a central slot 77 downwardly reaching from its upper edge for the passage therethrough of retaining finger 78. Said retaining finger is pivotally mounted at 79 at that end of the folding box opposite door shaft 63 and preferably in a somewhat lower plane than that of said door shaft. Said finger is provided with cross arm 80 terminating in opposite downwardly turned fingers for engaging the side folded blank, Fig. 13, near the side flaps 68, 69 thereof. Shaft 79 to which finger 78 is fixed is the pivot shaft on which bottom 61 of the folding box swings downwardly from the position of Fig. 8 to that of Fig. 10. For actuating finger 78 gear 81 is fixed to shaft 79 and is engaged by segment gear 82 pivoted at 83 in bracket 84 of bed 2. Said segment gear 82 has downreaching arm 820, bearing roll 85 for engagement with cam 86. Spring

87 is efficient to urge said roll against said cam and finger 78 toward bottom 61. The contour of cam 86 is such that said finger is permitted not only to move from the position of Fig. 1 to coaction with bottom 61 but is further permitted to maintain that coaction from the position of Fig. 8 to that of Fig. 10. Said finger 78 is efficient to hold the folded blank, Fig. 13, against bottom 61 during the retraction of door 62, Fig. 8, and cross arm 80 is efficient to hold the sides of the blank in position during the folding down of side flaps 68, 69 from the positions of Fig. 13 to those of Fig. 14, and said finger and cross arm are then efficient to retain that fully folded envelop in position on said bottom 61 from the position of Figs. 8 and 9 to that of Fig. 10 and until that envelop is discharged from said bottom. To efficiently perform these latter functions said finger must not grip the envelop against said bottom but must allow sufficient room to permit the free passage of the envelop from said bottom. To attain this end finger 78 is provided with heel 88 for engagement with abutment 89 on bottom 61 for preventing said finger from gripping the envelop to bottom 61.

For folding down the upstanding side flaps 68, 69, Fig. 13, I provide opposite side folders 90, 91. As these side folders and their operating means are alike the description of one will suffice for both. Side folder 90 is pivotally mounted in bracket 92 and has ear 93 thereof connected by link 94 with arm 95 fixed to rock shaft 96 rotatably mounted in bracket 97 spanning hole 98 through bed 2. Arm 99 bearing roll 100 for engagement with cam 101, is also fixed to rock shaft 96. By this means side folder 90 may be oscillated from its idle position of Figs. 2 and 4 to its operative position of Fig. 9.

For swinging bottom 61 downwardly and for delivering the fully folded envelop therefrom I employ the following means: Said bottom is mounted freely on shaft 79 in bracket 84 in opening 102 in bed 2 between the lower portions of side walls 10, 11. Pivoted to said bottom at 103 remote from shaft 79, is cam arm 104 bifurcated at its lower end for engagement with shaft 6 and bearing roll 105 for coaction with cam 106. Said cam is efficient for swinging said bottom downwardly from the position of Fig. 8 to that of Fig. 10 into delivery position with the face of said bottom in line with the bite of discharge rolls 108, 109.

For ejecting the envelop from the face of said bottom I provide a pair of ejectors 110, 111, fixed to rock shaft 112 pivoted at 113 in bottom 61. Said ejectors reach upwardly through slots 114, 115 in the face of said bottom for engagement with the rear or mouth end of said envelop. Arm 116 is

fixed to rock shaft 112 and spring 117 is efficient to urge said ejectors toward their idle positions Figs. 1, 4 and 8. Pin 118 is fixed in an outreaching ear of bracket 84 and when bottom 61 is swung downwardly, arm 116 collides with said pin and swings ejectors 110, 111 from the positions of Fig. 8 to those of Fig. 10. Rolls 108, 109 are fixed to shafts 119, 120 respectively, rotatively mounted in ears 121, 122 depending from bed 2. Said shafts are geared together by gears 123, 124, and gear 125, fixed to shaft 119, is driven by gear 7 fixed to main shaft 6. Pulley 126 fixed to shaft 119, by means of belt 130 drives pulley 51 of shaft 47.

The operation of my improved machine is as follows: Main shaft 6 being rotated in clockwise direction, Fig. 1, and the several parts of the machine being in the relative positions shown in that figure, a blank, such for instance as 128 shown in Fig. 11, is presented to and engaged by grippers 20 and 14 of slides 12, 13 respectively. Said blank has been previously provided with gum on side flaps 68, 69. Slides 12, 13 then reciprocate to the left, Fig. 1, advancing the blank in the plane of its length and delivering it against stops 33, 34. Coincident with said delivery, grippers 20, 14 are opened by engagement with dogs as 127, and brushes 36, 37 engage the blank to locate and hold it against said stops. Blank 128 is thereby positioned with the line of its main transverse fold 129 directly above the bite of rolls 44, 45 and directly below the edge of blade 52. Said blade thereupon descends and delivers said blank on that predetermined transverse line to the bite of said rolls, Fig. 5. Said rolls revolving in the directions of their respective arrows, then deliver the once folded blank to the side folding means, against the inner face of door 62, side flaps 68, 69 of the blank projecting transversely beyond said door and in front of upstanding edges 66, 67 of folding box side walls 10, 11 respectively, Fig. 6. Said door 62 then swings inwardly between said side walls, folding up side flaps 68, 69 to the positions of Fig. 13 and delivering the thus folded blank against bottom 61. During the latter part of the inward and downward movement of door 62 retaining finger 78 starts to swing downwardly through slot 77 of said door toward bottom 61 and presently comes to rest just above the blank with its heel 88 against abutment 89 of said bottom, and with the downwardly turned fingers of cross arm 80 just above the blank contiguous to side flaps 68, 69. Thereupon door 62 returns to its initial receiving position, all as in Fig. 6. Said blank is now ready for the folding down of gummed side flaps 68, 69 which folding is performed by side folders 90, 91, Fig. 9. The envelop is thereby sub-

stantially completed and there remains only its final ironing and discharge to be performed. This I preferably accomplish by means of discharge rolls 108, 109 conveniently disposed below the folding box, in coaction with ejectors 110, 111. For bringing the envelop into delivery position relatively to said rolls bottom 61 and retaining finger 78 swing downwardly on their common axis and said ejectors push the envelop downwardly over the now inclined face of said bottom into the bite of rolls 108, 109 which rolls thereupon iron the envelop and discharge it from the machine, Figs. 10 and 14.

I claim:

1. An envelop machine including in combination, a pair of rotating coacting folding rolls for forming the main transverse fold and for delivering the folded blank to the side folding means, a reciprocating blade for delivering said blank on a predetermined transverse line to said rolls, means for delivering a blank between said rolls and said blade; such side folding means consisting of a folding box having opposite side walls, a door actuated to enter said box and in coaction with the side walls of said box to fold upwardly the side flaps of the blank and to deliver the blank onto the folding box bottom, opposite side folders for folding the side flaps down onto the body of the envelop and an ejector actuated for delivering the envelop from said bottom to the discharge rolls.

2. An envelop machine including in combination, a pair of rotating coacting folding rolls for forming the main transverse fold and for delivering the folded blank to the side folding means, a reciprocating blade for delivering said blank on a predetermined transverse line to said rolls, means for delivering a blank between said rolls and said blade; such side folding means consisting of a folding box having opposite side walls, a door actuated to enter said box and in coaction with the side walls of said box to fold upwardly the side flaps of the blank and to deliver the blank onto the folding box bottom, opposite side folders for folding the side flaps down onto the body of the envelop, a pair of discharge rolls adjacent to said box, a pivotally mounted ejector and means for actuating said ejector for delivering the envelop from said bottom to the discharge rolls.

3. An envelop machine including in combination, a pair of rotating coacting folding rolls for forming the main transverse fold and for delivering the folded blank to the side folding means, a reciprocating blade for delivering said blank on a predetermined transverse line to said rolls, means for delivering a blank between said rolls and said blade; such side folding means con-

sisting of a folding box having opposite side walls, a door actuated to enter said box and in coaction with the side walls of said box to fold upwardly the side flaps of the blank and to deliver the blank onto the folding box bottom, a retaining finger for holding the folded blank against the folding box bottom, opposite side folders for folding the side flaps down onto the body of the envelop, a pair of discharge rolls adjacent to said box, a pivotally mounted ejector and means for actuating said ejector for delivering the envelop from said bottom to the discharge rolls.

4. An envelop machine including in combination, a pair of rotating coacting folding rolls for forming the main transverse fold and for delivering the folded blank to the side folding means, a reciprocating blade for delivering said blank on a predetermined transverse line to said rolls, means for delivering a blank between said rolls and said blade; such side folding means consisting of a folding box having opposite side walls located for defining the opposite side folds of the blank, a door pivotally mounted at its lower edge and actuated to swing into said box and in coaction with the side walls of said box to fold up the side flaps of the blank and for delivering said blank onto the folding box bottom, opposite side folders for folding the side flaps down onto the body of the envelop and means for ejecting the envelop.

5. An envelop machine including in combination, a pair of rotating coacting folding rolls for forming the main transverse fold and for delivering the folded blank to the side folding means, a reciprocating blade for delivering said blank on a predetermined transverse line to said rolls, means for delivering a blank between said rolls and said blade; said side folding means consisting of a folding box having opposite side walls located for defining the opposite side folds of the blank, a door pivotally mounted at its lower edge and actuated to swing into said box and in coaction with the side walls of said box to fold up the side flaps of the blank and for delivering said blank onto the folding box bottom, a retaining finger pivotally mounted opposite the axis of said door, means for actuating said finger for holding the folded blank against the folding box bottom, said front door having an opening therethrough for the passage of the retaining finger, opposite side folders for folding the side flaps down onto the body of the envelop and mean for ejecting the envelop.

6. An envelop machine including in combination, a pair of rotating coacting folding rolls for forming the main transverse fold and for delivering the folded blank to the side folding means, a reciprocating blade

for delivering said blank on a predetermined transverse line to said rolls, means for delivering a blank between said rolls and said blade, said side folding means consisting of a folding box having opposite side walls located for defining the opposite side folds of the blank, a door pivotally mounted at its lower edge and actuated to swing into said box and in coaction with the side walls of said box to fold up the side flaps of the blank and for delivering said blank onto the folding box bottom, opposite side folders for folding the side flaps down onto the body of the envelop, means for moving the folding box bottom outwardly from the folding box, a pair of discharge rolls below said box, an ejector carried by said bottom and means for actuating said ejector for delivering the envelop from said bottom to the discharge rolls.

7. An envelop machine including in combination, a pair of rotating coacting folding rolls for forming the main transverse fold and for delivering the folded blank to the side folding means, a reciprocating blade for delivering said blank on a predetermined transverse line to said rolls, means for delivering a blank between said rolls and said blade, such side folding means consisting of a folding box having opposite side walls located for defining the opposite side folds of the blank, a door pivotally mounted at its lower edge and actuated to swing into said box and in coaction with the side walls of said box to fold up the side flaps of the blank and for delivering said blank onto the folding box bottom, opposite side folders for folding the side flaps down onto the body of the envelop, a folding box bottom pivotally mounted at its rearward end, means for swinging said bottom on its pivot, outwardly from said box, and means for ejecting the envelop.

8. An envelop machine including in combination, a pair of rotating coacting folding rollers for forming the main transverse fold and for delivering the folded blank to the side folding means, a reciprocating blade for delivering said blank on a predetermined transverse line to said rolls, means for delivering a blank between said rolls and said blade, said side folding means consisting of a folding box having opposite side walls located for defining the opposite side folds of the blank, a door pivotally mounted at its lower edge and actuated to swing into said box and in coaction with the side walls of said box to fold up the side flaps of the blank and for delivering said blank onto the folding box bottom, opposite side folders for folding the side flaps down onto the body of the envelop, a folding box bottom pivotally mounted at its rearward end, a pair of discharge rolls adjacent to said box, means for swinging said folding box bot-

tom on its pivot, outwardly from said box into delivery position relatively to said discharge rolls, an ejector carried by said bottom and means for actuating said ejector for delivering the envelop from said bottom to the discharge rolls.

9. An envelop machine including in combination, reciprocating means for advancing a blank in the plane of its length, a gripper on said blank advancing means, means at the receiving end of the stroke of the blank advancing means for closing said gripper and means at the discharge end of said stroke for opening said gripper, a stop for said blank, a rotating brush for locating and holding the blank against said stop, a pair of rotating coacting folding rolls for forming the main transverse fold and for delivering the folded blank to the side folding means, a reciprocating blade for delivering said blank on a predetermined transverse line to said rolls; said side folding means consisting of a folding box having opposite side walls located for defining the opposite side folds of the blank, a door actuated to enter said box and in coaction with the side walls of said box to fold upwardly the side flaps of the blank and to deliver the blank onto the folding box bottom, opposite side folders for folding the side flaps down onto the body of the envelop and means for ejecting the envelop.

10. An envelop machine including in combination, a folding box having opposite side walls, a pivotally mounted door actuated to enter said box and in coaction with the side walls of said box to fold upwardly the side flaps of the blank and to deliver the blank onto the folding box bottom, opposite pivotally mounted side folders for folding the side flaps down onto the body of the envelop and means for ejecting the envelop.

11. An envelop machine including in combination, a folding box having opposite side walls located for defining the opposite side folds of the blank, a door pivotally mounted at its lower edge and actuated to swing into said box and in coaction with the side walls of said box to fold up the side flaps of the blank and for delivering said blank onto the folding box bottom, opposite side folders for folding the side flaps down onto the body of the envelop, a folding box bottom pivotally mounted at its rearward end, means for swinging said bottom on its pivot, outwardly from said box, and means for ejecting the envelop from said bottom.

12. An envelop machine including in combination, a folding box having side walls located for defining the opposite side folds of the blank, a door pivotally mounted at its lower edge and actuated to swing into said box and in coaction with the side walls of said box to fold up the side flaps of the blank and for delivering said blank onto

the folding box bottom, opposite side folders for folding the side flaps down onto the body of the envelop, a folding box bottom pivotally mounted at its rearward end, means for swinging said bottom on its pivot, outwardly from said box, a pivotally mounted ejector, means for actuating said ejector for delivering the envelop from said bottom.

13. An envelop machine including in combination, a folding box having opposite side walls located for defining the opposite side folds of the blank, a door pivotally mounted at its lower edge and actuated to swing into said box and in coaction with the side walls of said box to fold up the side flaps of the blank and for delivering said blank onto the folding box bottom, a retaining finger, means for actuating said finger for holding the folded blank against the folding box bottom, said front door having an opening therethrough for the passage of the retaining finger, opposite side folders for folding the side flaps down onto the body of the envelop, means for moving the folding box bottom outwardly from the folding box and means for ejecting the envelop from said bottom.

14. An envelop machine including in combination, a folding box having opposite side walls located for defining the opposite side folds of the blank, a door pivotally mounted at its lower edge and actuated to swing into said box and in coaction with the side walls of said box to fold up the side flaps of the blank and for delivering said blank onto the folding box bottom, a retaining finger, means for actuating said finger for holding the folded blank against the folding box bottom, said front door having an opening therethrough for the passage of the retaining finger, opposite side folders for folding the side flaps down onto the body of the envelop, a folding box bottom pivotally mounted at its rearward end, a pair of discharge rolls below said box, means for swinging said folding box bottom on its pivot, outwardly from said box into delivery position relatively to said discharge rolls, an ejector carried by said bottom and means for actuating said ejector for delivering the envelop from said bottom to the discharge rolls.

15. An envelop machine including in combination, reciprocating means for advancing a blank in the plane of its length, a stop for said blank, means for locating and holding the blank against said stop, means for folding the blank on a predetermined transverse line and delivering the folded blank to the folding box, said folding box having opposite side walls located for defining the opposite side folds of the blank, a door actuated to enter said box and in coaction with the side walls of said box to fold upwardly the side flaps of the blank and to deliver the

blank onto the folding box bottom, opposite side folders for folding the side flaps down onto the body of the envelop and means for ejecting the envelop.

- 5 16. An envelop machine including in combination, a folding box having a bottom movable outwardly therefrom, a retaining finger pivoted on said bottom, means for actuating said finger for holding the folded
10 blank against the folding box bottom, opposite pivotally mounted side folders for folding the side flaps down onto the body of the envelop and means for moving the folding box bottom outwardly from the folding box,
15 without disturbing the relation of the retaining finger to said bottom.

17. An envelop machine including in combination, a folding box having a pivotally mounted bottom, means for folding the side
20 flaps, a pair of discharge rolls below said box, a retaining finger pivotally mounted on said bottom, means for actuating said finger for holding the folded blank against the folding box bottom and means for
25 swinging said bottom on its pivot outwardly from said box into delivery position relatively to said discharge rolls, without disturbing the relation of the retaining finger to said bottom.

- 30 18. An envelop machine including in combination, a folding box having a pivotally mounted bottom, a retaining finger pivot-

ally mounted on said bottom, means for actuating said finger for holding the folded
blank against the folding box bottom, means 35 for folding the side flaps, a pair of discharge rolls below said box, means for swinging said bottom on its pivot outwardly from said box into delivery position relatively to said discharge rolls without dis- 40
turbing the relation of the retaining finger to said bottom and means for ejecting the envelop from said bottom.

19. An envelop machine including in combination, a folding box having opposite side 45 walls located for defining the opposite side folds of the blank, a folding box bottom, a door pivotally mounted at its lower edge and actuated to swing into said box and in coaction with the side walls of said box to 50
fold up the side flaps of the blank and for delivering said blank onto the folding box bottom, opposite pivotally mounted side folders for folding the side flaps down onto the body of the envelop and means for eject- 55
ing the envelop from said bottom.

Signed at New York, N. Y., this 13th day of March, 1912, before two subscribing witnesses.

JOSEPH FROEHLICH.

Witnesses:

WILBUR M. STONE,
ELIOT L. WILLIAMS.