July 12, 1938. E. C. SAUERMAN 2,123,548

ENVELOPE MACHINE

Filed Dec. 7, 1935 6 Sheets-Sheet 1

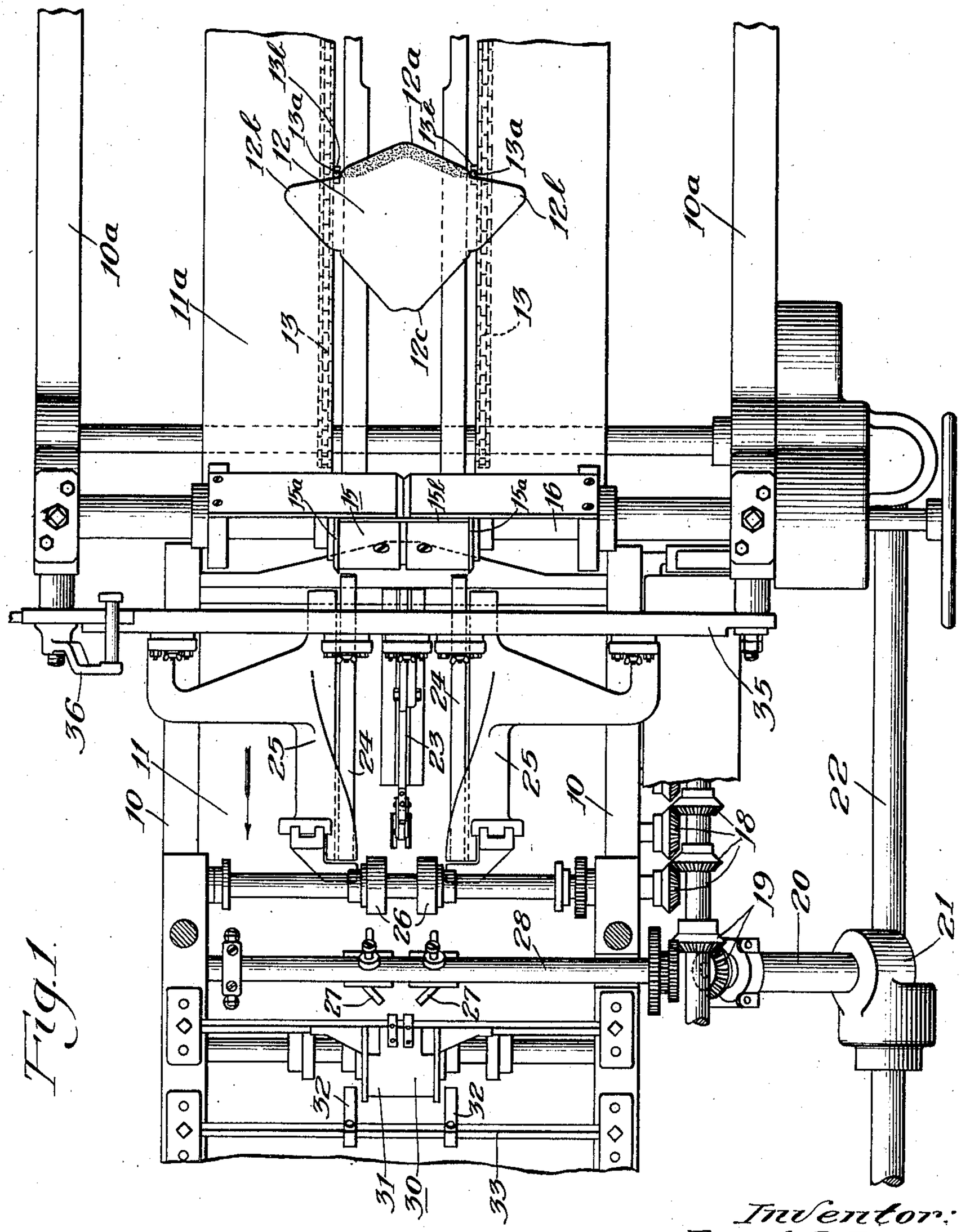

Fig. 1.

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ENVELOPE MACHINE

Filed Dec. 7, 1935 6 Sheets-Sheet 2

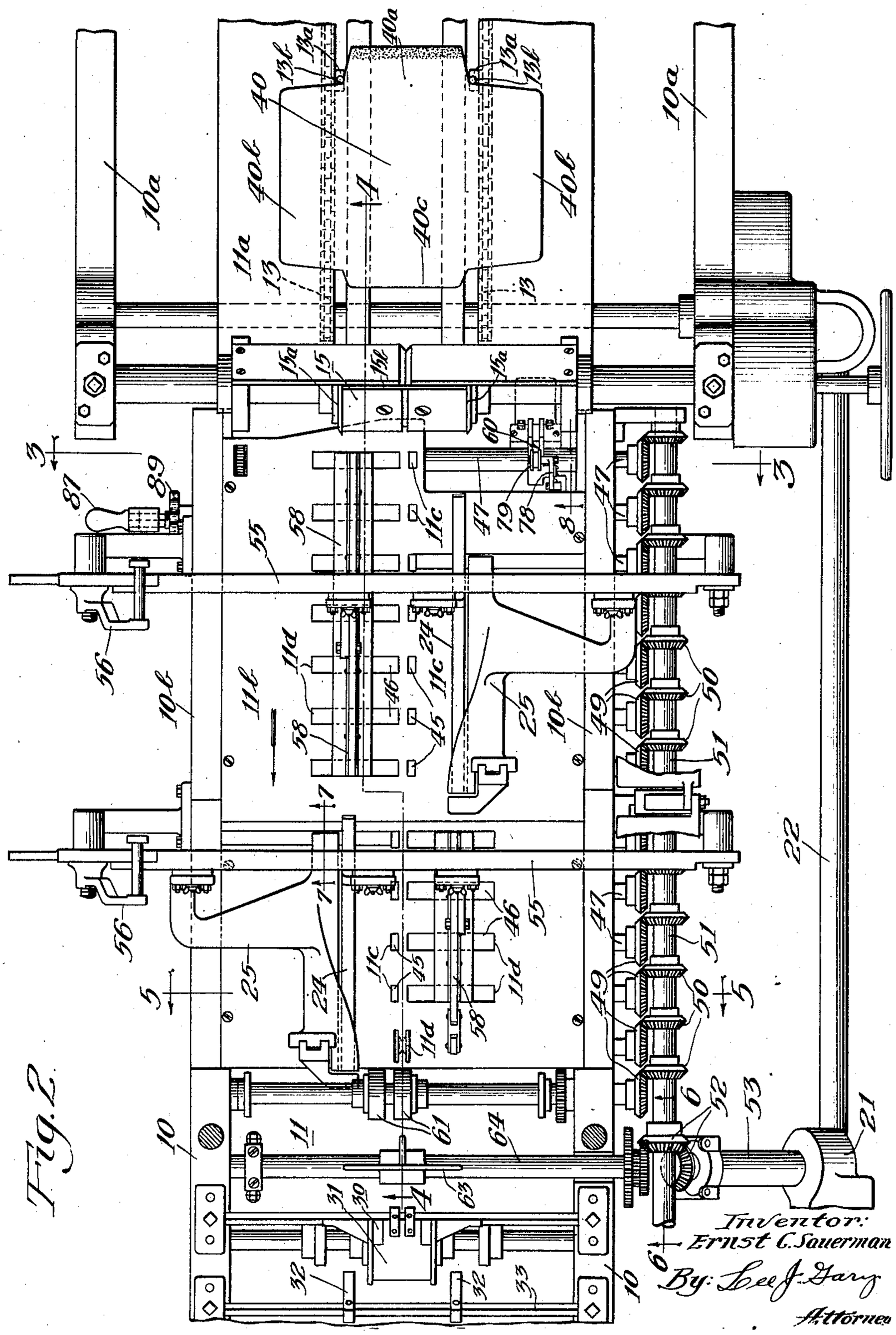

Fig. 2.

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ENVELOPE MACHINE

Filed Dec. 7, 1935 6 Sheets-Sheet 3

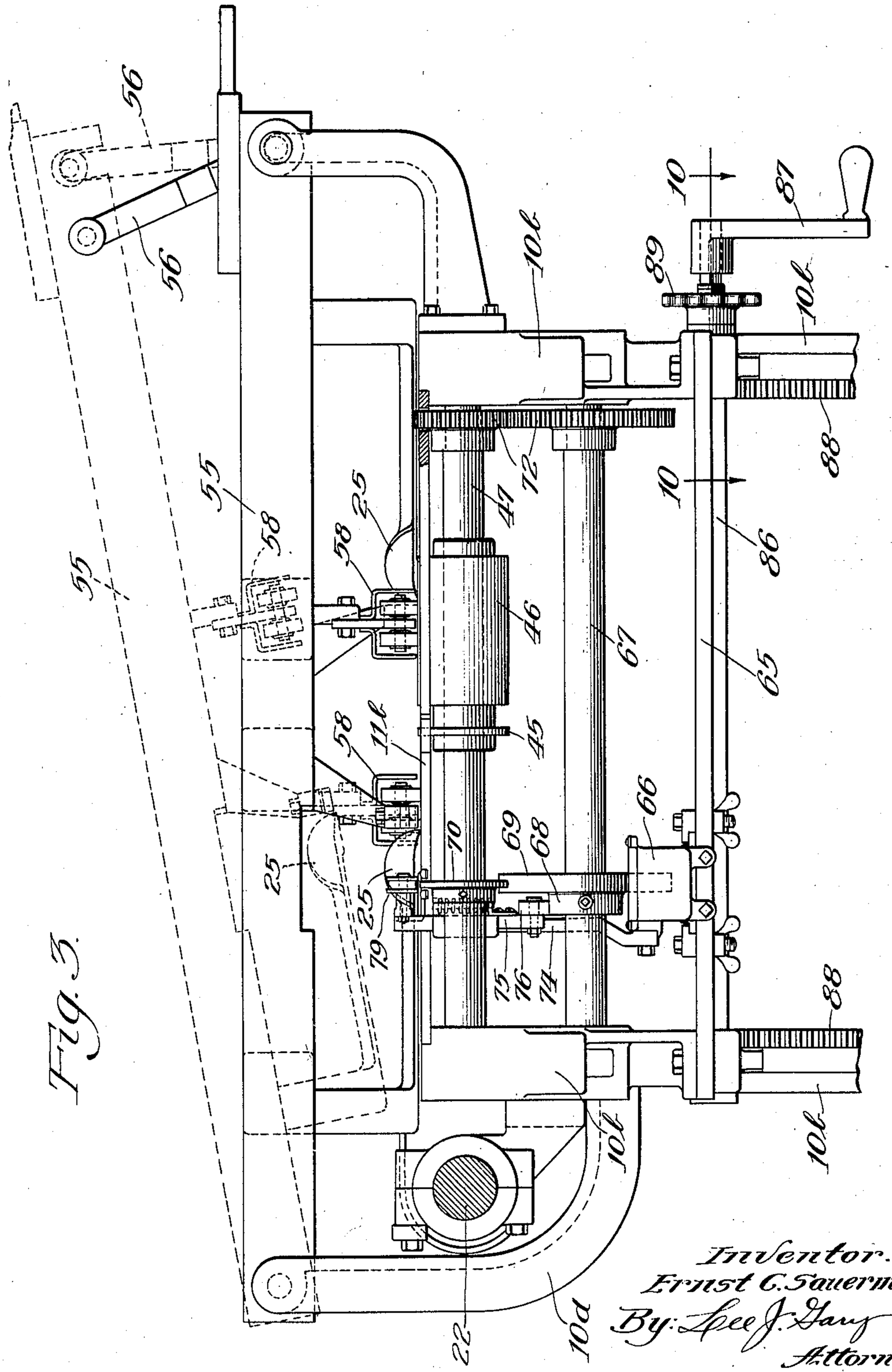

Fig. 3.

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ENVELOPE MACHINE

Filed Dec. 7, 1935 6 Sheets-Sheet 4

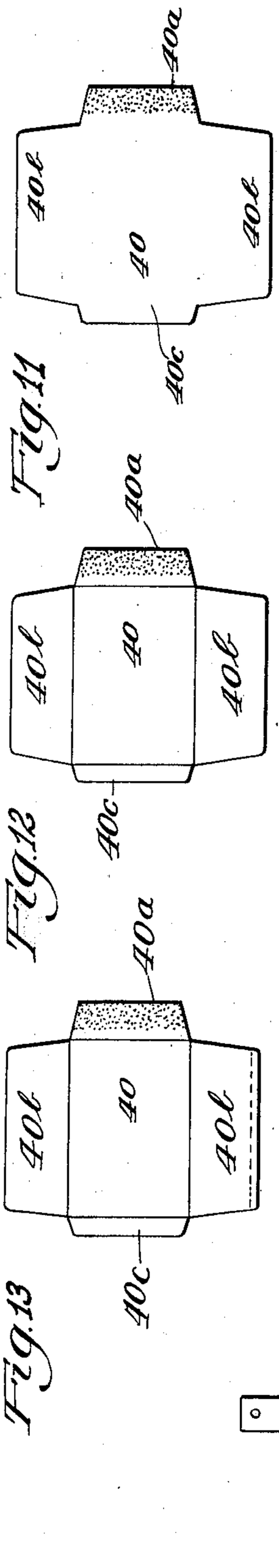

Fig. 11

Fig. 12

Fig. 13

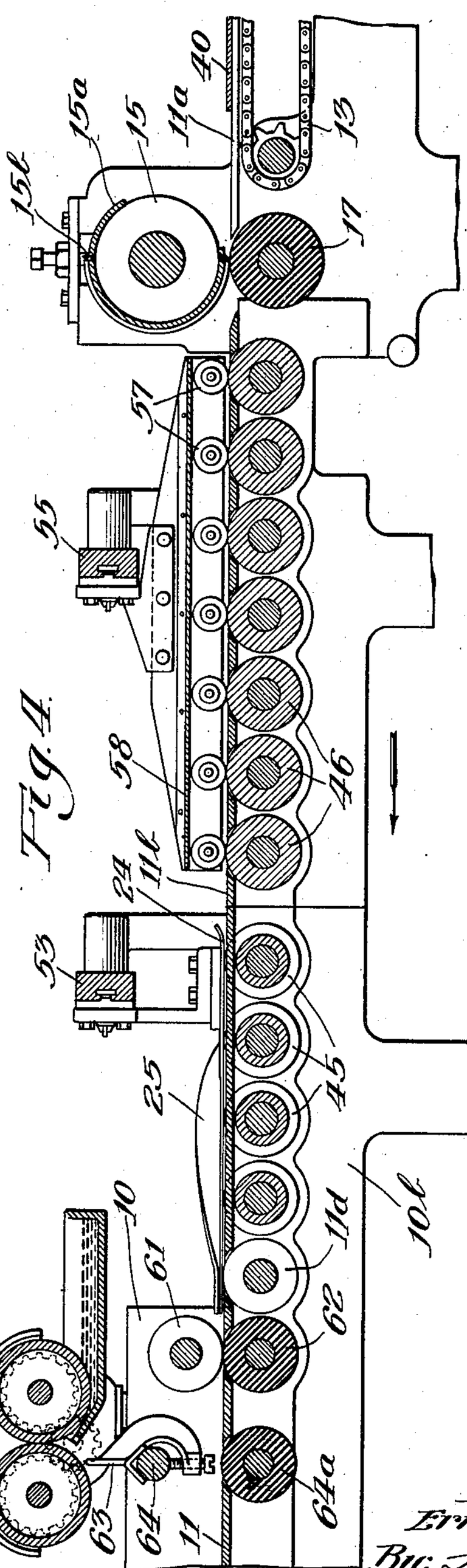

Fig. 4

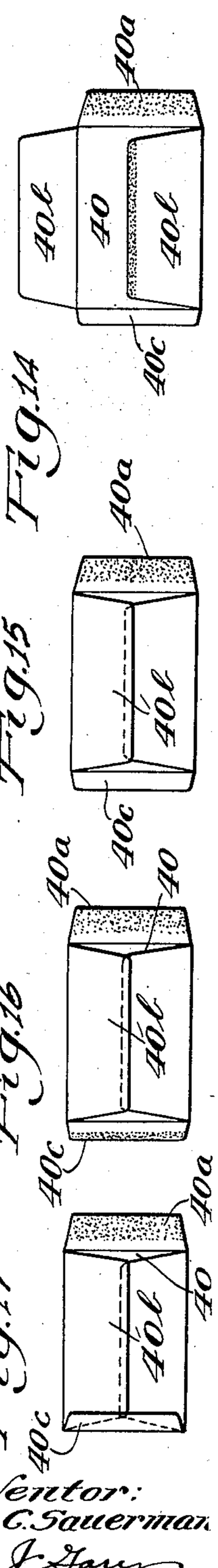

Fig. 14

Fig. 15

Fig. 16

Fig. 17

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ENVELOPE MACHINE

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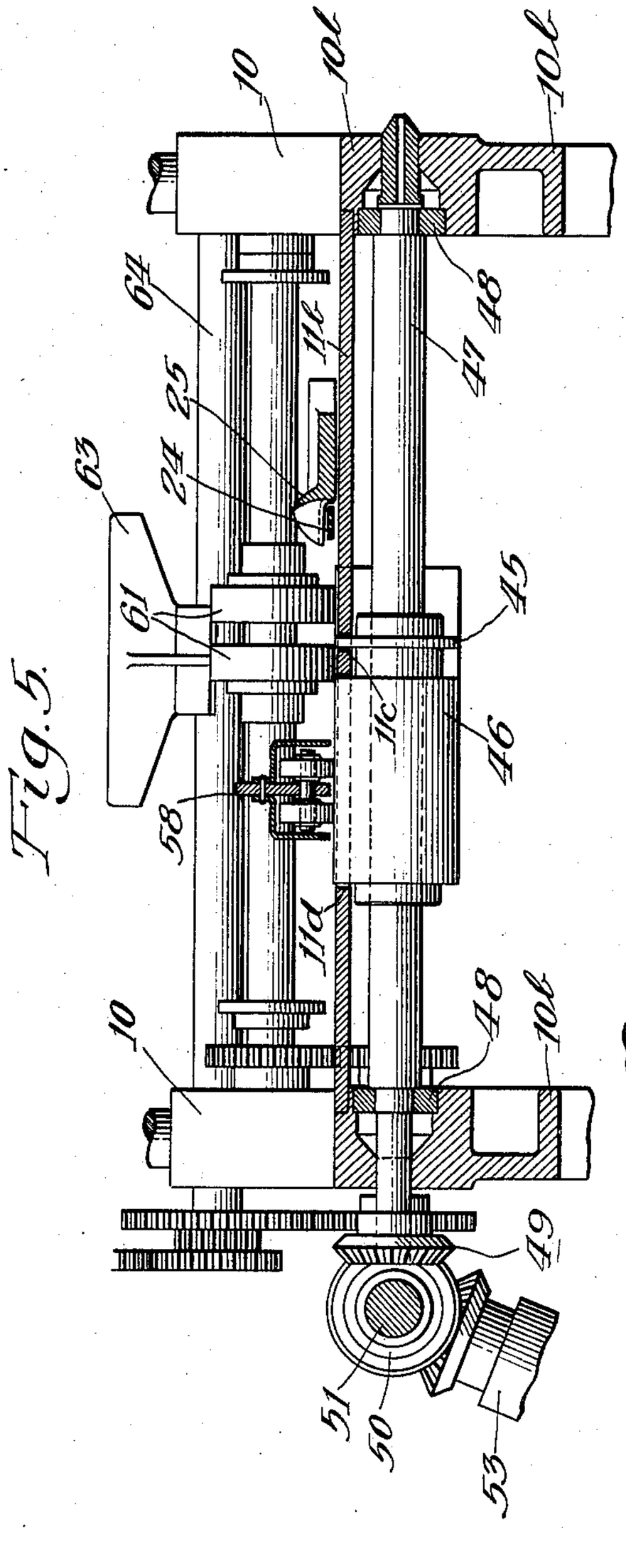

Fig. 5.

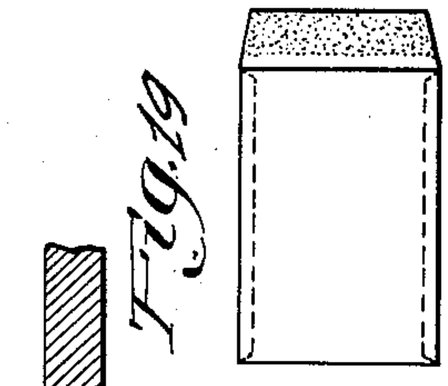

Fig. 7.

Fig. 9.

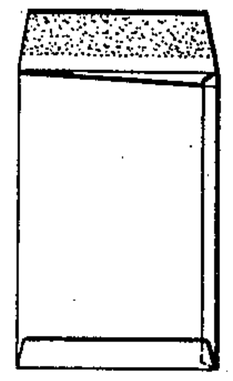

Fig. 8.

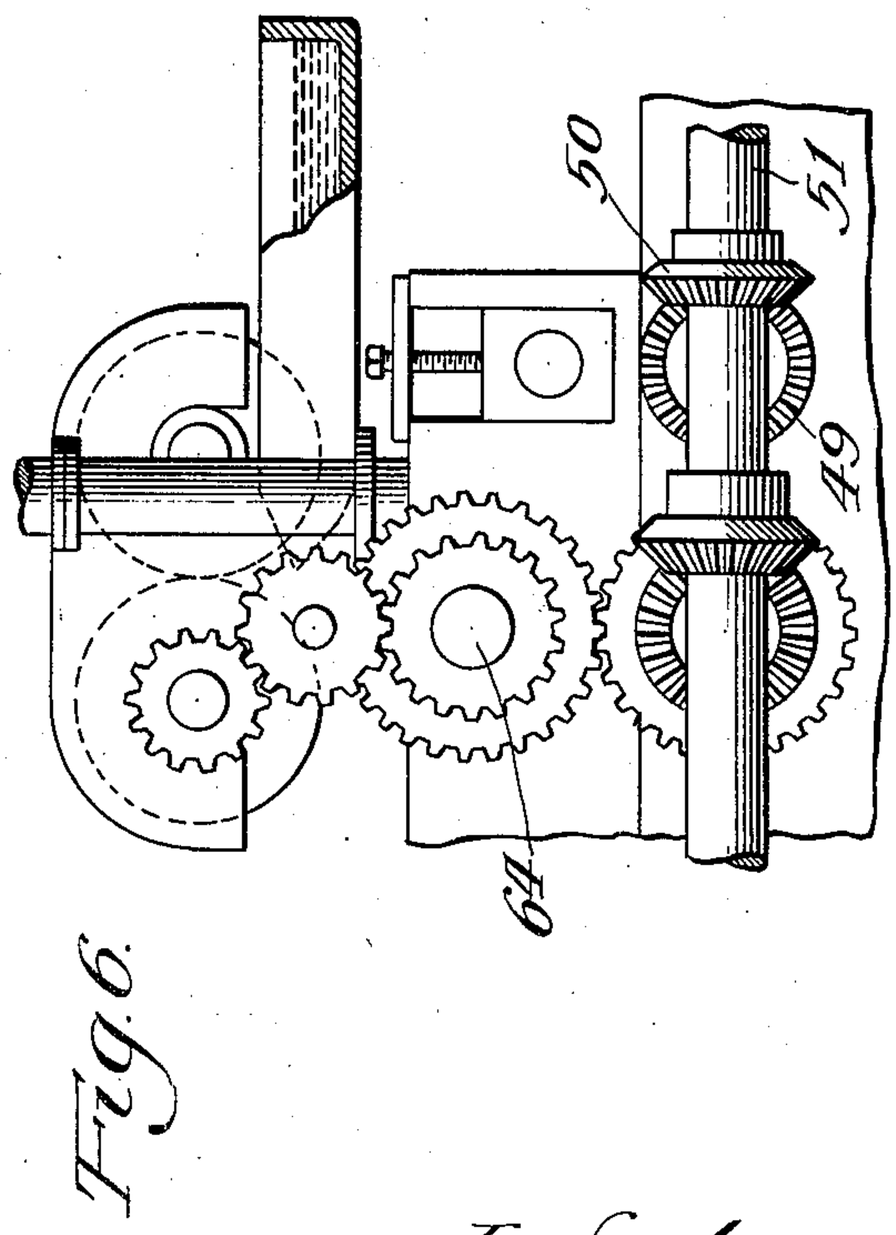

Fig. 6.

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ENVELOPE MACHINE

Filed Dec. 7, 1935 6 Sheets-Sheet 6

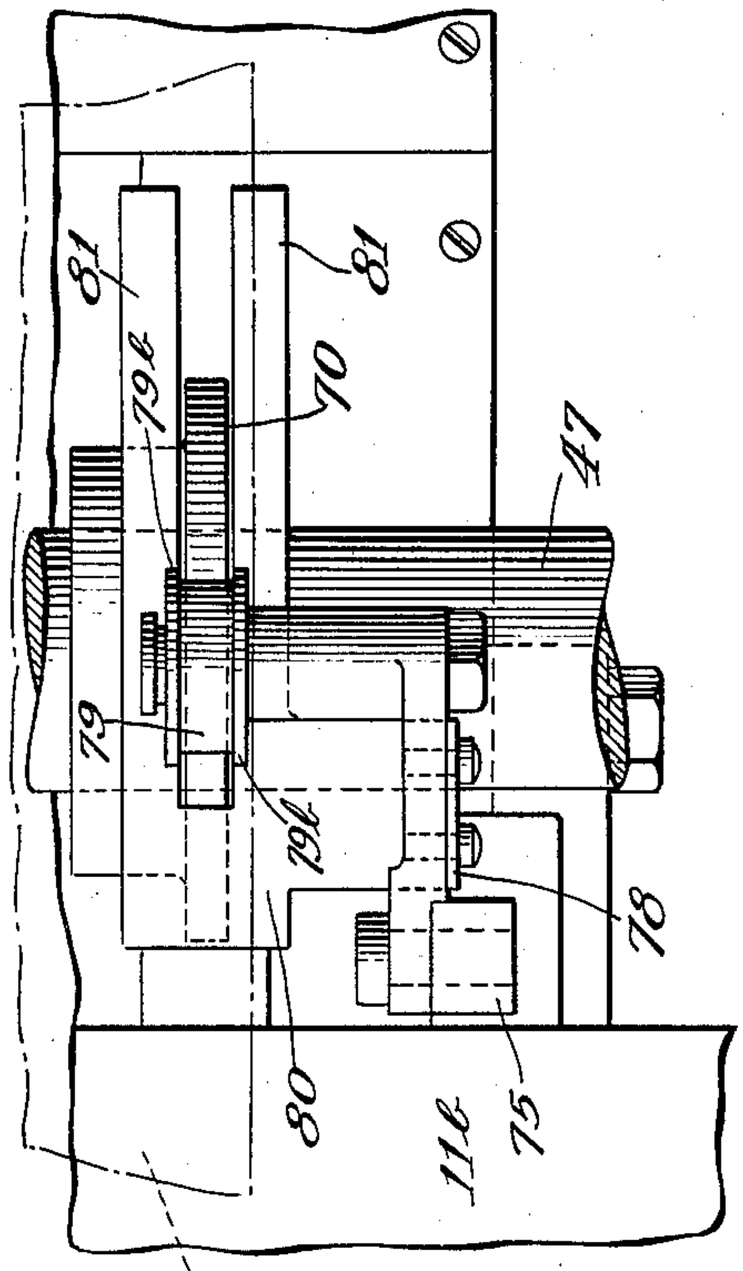

Fig. 9.

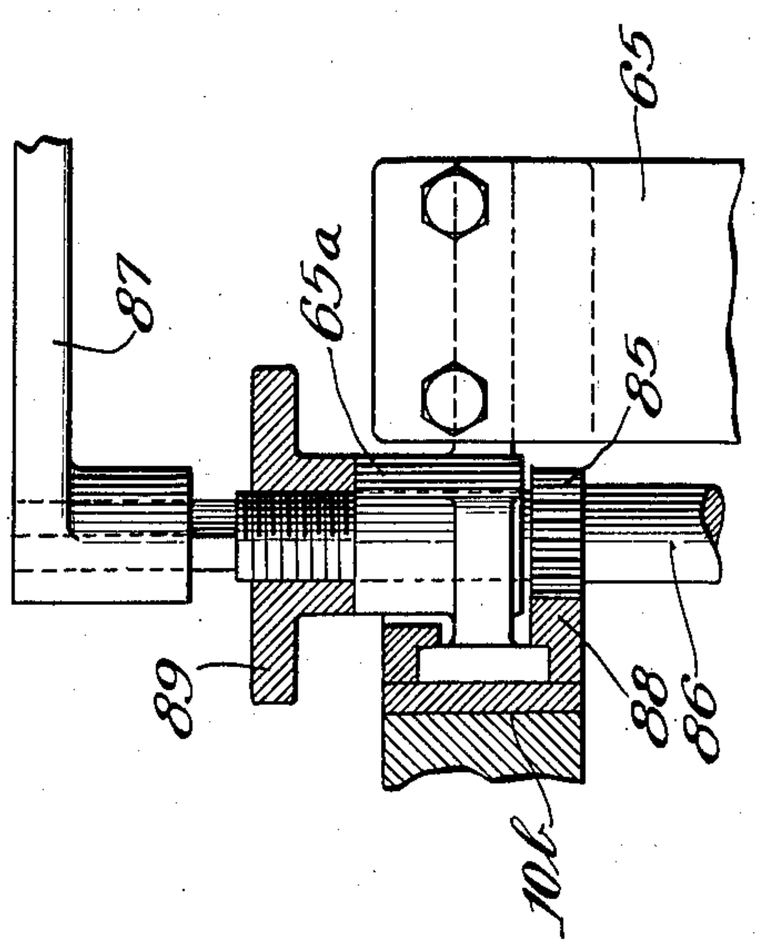

Fig. 10.

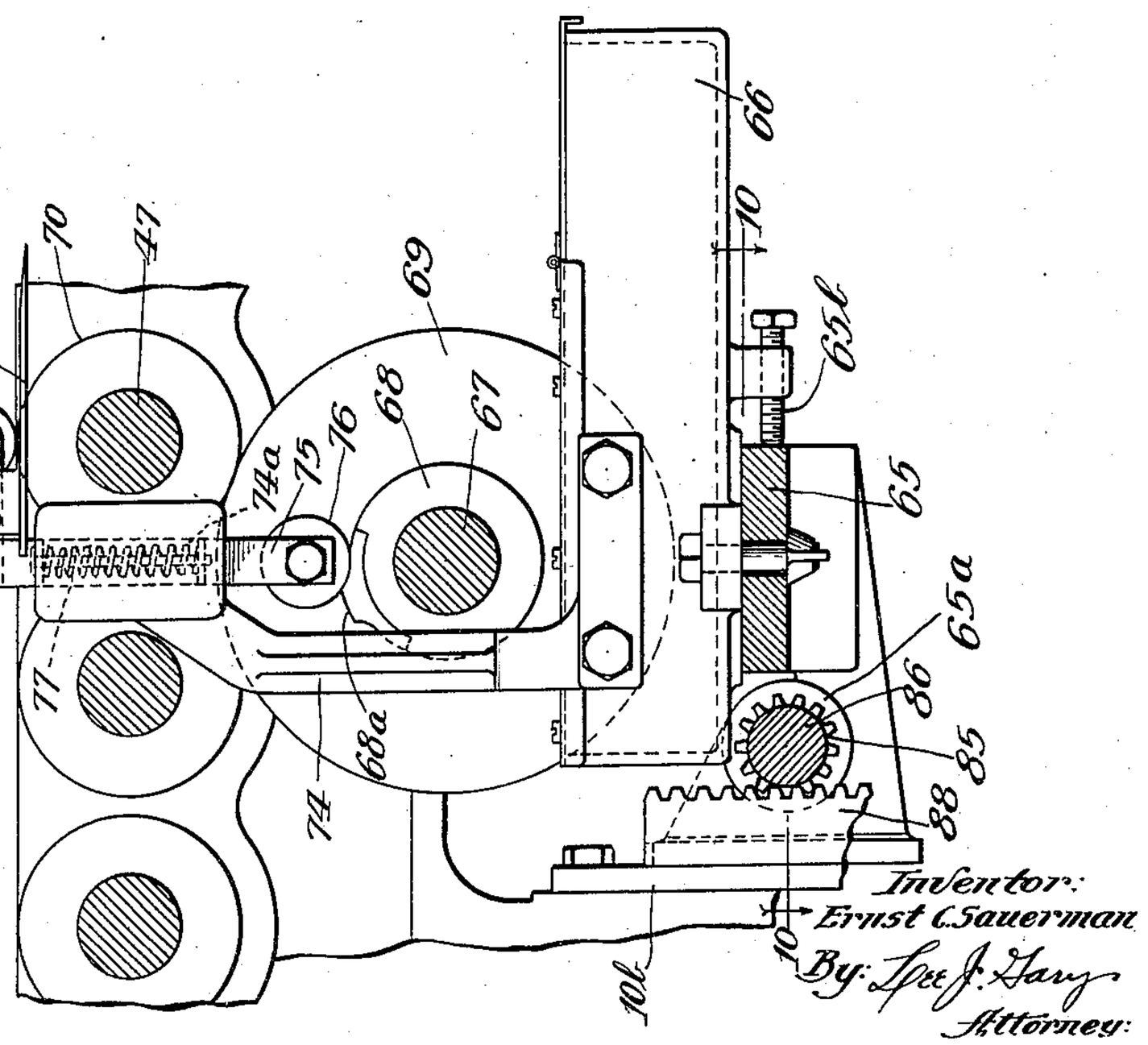

Fig. 8.

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2,123,548

UNITED STATES PATENT OFFICE

2,123,548

ENVELOPE MACHINE

Ernst C. Sauerman, Chicago, Ill.

Application December 7, 1935, Serial No. 53,306

10 Claims. (Cl. 93—62)

The present invention relates to envelope making machines and more particularly to machines composed of an assembly of mechanisms for performing certain operations upon the envelope blank, namely, feeding the blanks individually into the machine, scoring, folding and gumming. Machines of this general character have been constructed for performing the different operations in various sequences and in the machine chosen for illustration of the present invention the sealing flap of the envelope is gummed and dried before the scoring, folding and other gumming operations are performed, but it is manifest that for certain uses the sealing flap of the envelope need not be gummed.

For convenience in describing this invention, it may be said that there are two general classifications of envelopes, namely, the "letter style" and "catalogue style", both of which are manufactured in a plurality of sizes and a wide variety of shapes of flaps and overlapping arrangements thereof. By "letter style" envelope is meant envelopes of the type customarily used for correspondence and the like, and a very extensively used "letter style" envelope is characterized by having its side flaps folded over against the body panel with the bottom flap adhesively secured to the side flaps for completing the envelope pocket. The term "catalogue style" is used herein in a generic sense, and is intended to include envelopes known as "open end", "open side", "coin", "coupon", and various others used for advertising matter, data, containers, etc., and this type of envelope is characterized by having its side flaps adhesively secured together, and having the bottom flap adhesively secured to one or both of the side flaps.

Heretofore the manufacturer of the two above mentioned styles of envelopes was able to produce them only by the use of different and especially constructed machines, which are provided with adjustable devices for producing the respective styles of envelopes in a plurality of sizes. Manifestly, a manufacturer wishing to produce both styles of envelopes must necessarily equip himself with two different machines.

It is therefore, a primary object of my invention to produce a novel machine of the above mentioned character which is capable of producing either "letter" or "catalogue style" envelopes in a wide range of sizes. Another object is to produce an improved envelope making machine which may be quickly and easily converted for producing either "letter" or "catalogue style" envelopes. A further object resides in the embodiment of my invention into a unitary assembly of mechanism that is capable of quick and easy assembly into cooperative relation with other mechanisms in certain commercial envelope making machines now in use so as to render said machines convertible for producing either "letter" or "catalogue style" envelopes. It is also an object of this invention to produce a unitary assembly of mechanisms that will greatly reduce the cost of equipment necessary for producing both the "letter" and "catalogue style" envelopes.

A preferred embodiment of my invention is illustrated in the accompanying drawings in which:—Fig. 1 is a fragmentary plan view of an intermediate portion of a commercial form of machine for producing "letter style" envelopes;

Fig. 2 is a fragmentary plan view of an intermediate portion of an envelope making machine provided with my novel assembly of mechanisms, embodying the present invention;

Fig. 3 is a transverse sectional view through the machine, taken substantially as indicated at line 3—3 on Fig. 2;

Fig. 4 is a staggered longitudinal vertical section through the machine, taken as indicated at line 4—4 on Fig. 2;

Fig. 5 is a transverse section through the machine, taken as indicated at line 5—5 on Fig. 2;

Fig. 6 is a fragmentary view in side elevation showing driving connections to one of the gluing mechanisms and taken as indicated at line 6—6 on Fig. 2;

Fig. 7 is a fragmentary sectional view taken at line 7—7 on Fig. 2 showing the leading end of the plow share extending downwardly into a groove of the bed plate, to initiate folding of the end flap of the envelope blank as it is fed through the machine;

Fig. 8 is an enlarged fragmentary view of the novel gluing mechanism which is adapted to be moved into and out of operative position, and is taken as indicated at line 8—8 on Fig. 2;

Fig. 9 is an enlarged plan view of the gluing mechanism disclosed in Fig. 8;

Fig. 10 is a fragmentary sectional view of the means for locking the adjustable gluing mechanism at either of its respective positions of adjustment and taken as indicated at line 10—10 on Fig. 3;

Figs. 11 to 17 inclusive represent different steps of operation upon the envelope blank, and

Figs. 18 and 19 represent two modified forms of "catalogue style" envelopes.

For convenience and to insure a clear and complete understanding of both the nature and scope of my invention it is deemed desirable to illustrate and describe briefly certain portions of a commercial form of "letter style" envelope making machine which is capable of being quickly and easily reconstructed or reassembled with mechanisms embodying my invention.

Referring now to Fig. 1 of the drawings which discloses a portion of a commercial form of "letter style" envelope making machine it will be noted that the machine includes two pairs of laterally offset side frames or standards 10 and 10*a* respectively. For convenience in manufacture these respective pairs of frames 10 and 10*a* include unitary mechanisms for performing certain operations upon the envelope blank. Supported by these respective pairs of frames are bed plates 11 and 11*a* over which the envelope blank indicated at 12 travels in substantially horizontal direction, as indicated by the arrow.

In the commercial type of machine, a portion of which is disclosed in Fig. 1 of the drawings, there is employed mechanism for feeding envelope blanks individually in overlapping relation to form a continuous band, exposing only a portion of the sealing flaps 12*a*, and the exposed portion of the sealing flaps 12*a* are then coated with gummed adhesive and the blanks are continuously fed by suitable conveying mechanism by or through a drying medium to insure complete drying of the adhesive that has been applied to the sealing flaps of the envelope blanks. The blanks are then fed individually onto a special conveyor, as seen in Figs. 1 and 4 of the drawings, which includes a pair of synchronized, transversely spaced apart longitudinally extending continuous strands of chain 13 which are provided with laterally disposed lugs 13*a* carrying upstanding pins or projections 13*b* which are aligned in pairs and are adapted to engage the rearward edge of the envelope blank for transmitting it to a scoring device indicated generally at 15. The scoring device is of a type well known in the art, and it is to be understood that it is constructed to permit adjustment to accommodate different size blanks. The device is mounted on a transversely extending rotating shaft 16 journalled in bearings of side frames 10*a*, and is geared in timed relation to other mechanisms of the machine. The scoring device includes a pair of transaxially spaced apart rotary score blades 15*a* which are adapted to score the envelope blank longitudinally with respect to the direction of travel thereof as it is fed thereunder so as to define side flaps 12*b*, which are subsequently folded over upon the body portion of the envelope blank. The scoring device also includes a transversely extending score blade 15*b* adapted to score the blank at two longitudinally spaced apart transverse planes taken with respect to the direction of travel of the blank to define a bottom flap 12*c*, and a sealing flap 12*a* of the envelope blank. Disposed below and in contactual engagement with the scoring blades, is a roller, 17, the surface of which is of resilient material. As the envelope blanks are fed between the scoring roll and roller 17, they are frictionally engaged and advanced therethrough and are then engaged and advanced in the direction of the arrow by a series of friction rolls (not shown) but similar in character to those disclosed in other views of the drawings, as will presently be described. It is to be understood that the bed plate 11' is provided with a plurality of apertures through which protrude a portion of the periphery of the friction rolls which are positively driven through pairs of bevel gears indicated at 18 which in turn derive motion through the bevel gear drive connection 19, from the obliquely disposed shaft 20, which likewise in turn is driven by a pair of bevel gears enclosed in the housing 21 from the main drive shaft, 22.

Aligned and in contactual engagement with the portion of the periphery of the friction rolls protruding through the apertures in the bed plate 11, are sets of idler rolls, (substantially the same as disclosed in Figs. 3 and 4) carried in a housing support indicated at 23. As the envelope blank is fed from the scoring device the end flaps 12*b* pass beneath longitudinally extending transversely spaced apart fingers, 24, the outer edges of which lie adjacent to and inside of the corresponding longitudinal score lines. End flap folding members 25, which for convenience may be termed "plow shares", are located in transverse alignment immediately outside of fingers, 24. The leading edge of these plow share members is inclined downwardly and extends into a groove in the bed plate, 11, (see Fig. 7) to assist in initiating the raising of the side flaps 12*b*, preparatory to folding over upon the main body portion of the envelope blank. As the blank is fed forwardly by the friction rolls, the plow shares complete the folding of the side flaps 12*b*, and the envelope blank is then picked up by the positively driven friction rolls 26 and cooperating rolls therebeneath, and advance it forwardly so that the obliquely disposed adhesive or gum applying blades indicated at 27 carried on the rotary shaft 28 engage and apply adhesive to the two forwardmost diagonally extending edges of the folded over side flaps 12*b*. The gum applying blades are driven through suitable gearing as may be seen from Figs. 1 and 6 in the drawings, so as to engage the blank 12, in timed relation to its advancement over the bed plate, 11. Through the aperture 11*e* of the bed plate, extends a "feeler" member which controls the operation of the gum applying device, in response to passage of envelope blanks over said aperture, as is well understood in the art. The blank is advanced further by a resilient surfaced friction roll located below and cooperating with the adhesive applying blades so as to move the blank to the folding mechanism indicated generally at 30, and which includes an upwardly curved plate 31 which causes the bottom or forwardmost flap 12*c* of the envelope blank to be deflected upwardly, and when it arrives at a predetermined position a pair of timed, spaced apart tucker fingers 32, which are carried on a rock shaft 33, engage the blank substantially at the transverse score line defining the flap 12*c* from the body portion of the envelope blank. As these tucker fingers move downwardly the blank is fed between folding rolls (not shown), folding the flap 12*c* onto the adhesively coated edges of the folded side flaps 12*b*, thus completing the pocket portion of the envelope. The envelope blank is then fed through another folding device (not shown) for folding the top or sealing flap 12*a* on top of the side flaps 12*b* and bottom flaps 12*c*, for completing the envelope. Since the folding mechanisms for the flaps 12*a* and 12*c* are all well known in the art, it is deemed unnecessary to fully disclose same or describe their construction in detail.

In the event of jamming of the blanks in certain mechanisms, due to any reason whatso-

ever, it may be desired to arrest the feeding of envelope blanks to the gumming and folding mechanisms, and therefore the idler rolls which are carried in the housing **23** together with said housing are rigidly connected to a transversely extending support **35** which is pivoted at one end to one side frame **10***a*. The free end of the supporting lever is provided with a pivoted latch **36** which is adapted to be swung laterally to release the supporting lever for raising, as may be seen in dotted position shown in Fig. 3. Said lever **36** may then be swung as shown in dotted lines in Fig. 3 to support said lever, **35**, in raised inoperative position. Manifestly when the idler rolls carried in the housing **23** are moved out of cooperative engagement with the driven friction rolls located below, the envelope blanks fed onto said rolls from the conveyor **13**, are arrested, and will thus give the operator opportunity to remove any obstructions along the line. It will also be observed in this connection that the fingers **24** and "plow shares" **25** are also rigidly connected to the lever support **35**, and are movable therewith. Thus when the plow shares are elevated the mechanism is rendered conveniently accessible for the operator to remove the obstruction.

As above mentioned, one of the objects of this invention consists in the provision of a machine of the general character above described in detail wherein it is possible to produce "catalogue style" envelopes as well as producing "letter style"' envelopes. Mechanisms embodying my invention may be quickly and easily embodied in a machine of the general character disclosed in Fig. 1 of the drawings, as will hereinafter appear in connection with the description of the remaining drawings. For purpose of illustration I will describe my improved envelope making machine in connection with the production of "catalogue style" envelopes. However, it will be manifest and as hereinafter will appear, the machine is so constructed that it is capable by a slight adjustment of producing the "letter style" envelope. The envelope blank indicated at **40** is fed onto the base plate **11***a* and is picked up by the projecting pins **13***b* of the conveyor chains **13**, which feed it between the scoring roll **15**, and the resilient roller **17**, as seen in Fig. 4. It will be manifest that this scoring roll has its score blades **15***a* and **15***b* dimensioned so as to produce score lines of desired length, and spaced apart relation at the proper location on the envelope blank. And it will be clear that the radius, defining the circular path of travel of the score blade **15***b* is greater than the score blade **15***b* disclosed in Fig. 1 of the drawings, because the two transverse score lines of the envelope blank **40** are spaced a greater distance apart. As is well understood by those skilled in the art, the scoring mechanism may be of such construction that the scoring blades **15***a* and **15***b* may be adjusted so as to produce score lines on the envelope blank for producing different size or shapes of envelopes.

In producing "catalogue style" envelopes it will be recognized that the closing or sealing flap **40***a* may or may not, be provided with a gummed or adhesive coating. As the blank is fed through the scoring device it defines side flaps **40***b*, bottom flap **40***c*, and sealing or closing flap **40***a*, as seen in Fig. 2 of the drawings. As the envelope blank is discharged from the scoring mechanism, it is picked up and positively advanced, in the direction of the arrow, by two staggered series of friction rolls. Each of the respective series of friction rolls are composed of sets each including a relatively small roll **45** and relatively long roll **46**, the small roll having a portion of its periphery protruding through an aperture **11***c* in the bed plate **11***b* relatively close to the longitudinal center line of the machine, and the relatively long roll **46** having a portion of its periphery protruding through an elongated aperture **11***d* of the bed plate **11***b*, on opposite sides of the center line of the machine. In this construction it will be noted that each of the representative set of rolls **45** and **46** are rigidly mounted on a transversely extending shaft **47** journalled in bearings **48** of the side frames **10***b*. At one end of the roll shaft **47** of each of the respective roll units is a bevel gear **49** meshing with a cooperative bevel gear **50** carried on shaft **51**, which in turn is driven through a pair of bevel gears **52** on the shafts **51** and **53** which latter in turn derives its power through a pair of bevel gears enclosed in the housing **21** from the main shaft **22** as in the construction shown in Fig. 1. It will be observed that the bevel gear drive arrangement for the friction rolls is such that they all rotate in the same direction.

It will be seen that the "catalogue type" envelope produced by the machine herein disclosed, is of the type wherein the side flaps **40***b* are successively folded over one upon the other, as distinguished from the simultaneous folding over of the side or end flaps **12***b* of the "letter style" envelope blank disclosed in connection with the machine shown in Fig. 1 of the drawings. To obtain this successive folding of the side flaps the fingers **24** and the "plow shares" **25** which are identical with those disclosed in Fig. 1 of the drawings, are arranged in longitudinal staggered relation and each set of these members is carried on a transversely extending supporting lever **55** pivotally mounted on brackets **10***d*, of the side frame **10***b*, and the free ends of said levers are provided with latch handles **56** for operation in substantially the same manner as described in connection with the construction shown in Fig. 1 of the drawings. It will be understood that the "plow shares" **25**, and fingers, **24**, together with the sets of idler rolls are adjustable laterally on said levers, **55**, so as to accommodate envelope blanks of different sizes. For this reason friction roll, **46**, is of substantial length to permit a wide range of cooperative driving adjustment therewith by said idler rollers, carried in the housings **58**. Mounted for cooperation with the power driven friction rolls **45** and **56** are a plurality of pairs of idler rolls **57**, enclosed in housings **58**, which are secured to the respective pivoted supporting levers **55**. The fingers **24**, and "plow shares" **25** together with the supporting housings **58** carrying the idler rolls **57** are laterally adjustable on the pivoted supporting levers **55** so as to permit producing envelopes of a desired size.

When the envelope blank **40** is fed from the scoring device **15** to the friction rolls **45** and **46**, and cooperating idlers, **57**, the underside of the left hand side flap **40***b*, as determined by the direction of travel of the blank, as seen in Fig. 13 of the drawings, is coated with adhesive gum by an adhesive applying roller **60** which will hereinafter be described in detail. As the scored envelope blank is then fed forwardly by the first series of friction rolls **45**—**46** and idler rolls **57** the side flap **40***b* which has just been coated

on the under side with adhesive gum, is brought into engagement with the adjacent folding device or "plow share" **25**, for folding said flap against the body portion of the envelope blank, as above described. This will dispose the wet gummed edge of the flap **40***b*, facing upwardly, adjacent the longitudinal center of the envelope, as seen in Fig. 14. As the blank is discharged by the first series of friction rolls, it is engaged by the second series of friction rolls, and further movement in the direction of the arrow causes the other side flap **40***b* to engage the other "plow share" **25**, folding said other flap **40***b* against the body portion of the envelope blank and bringing its outer edge into engagement with the adhesively coated surface of the already folded side flap **40***b*, as seen in Fig. 15. The partially folded envelope blank is then engaged by cooperating sets of friction rolls **61** and **62**, which are likewise driven from the shaft **51** by bevelled gearing **49—50**, for adhesively securing the side flaps, **40***b*, together. The envelope blank is then advanced further for application of adhesive gum to the bottom flap **40***c* by the wiper blade **63**. It will be noted that the wiper blade is substantially straight and parallel with the axis of the shaft **64** on which it is carried, and thus applies adhesive in a transverse band to the edge of the end flap **40***c* as seen in Fig. 16 of the drawings. As above mentioned the application of the adhesive gum to the blade **63**, as seen in Fig. 4, is effected in a manner well known in the art, and detail description at this time is believed unnecessary. It is to be understood that the blade **63** is brought into contact with the flap **40***c* of the envelope blank in timed relation so as to insure applying adhesive to the proper area of the bottom flap **40***c*. Mounted below the adhesive applying wiper blade **63**, for cooperation therewith is a resilient surfaced roller, **64***a*, which is also driven through a set of bevel gears, **49—50**, from shaft, **51**, as seen in Fig. 6. This roller with the blade **63**, also serves to advance the blank forwardly. As the partially folded envelope blank continues its travel in a forward direction the bottom flap **40***c* is deflected upwardly by a curved plate, **31**, and a pair of timed, rockable tucker fingers **32** engage the blank at the score line, dividing the bottom flap **40***c* from the body portion of the envelope, tending to fold flap **40***c* upwardly, and it is then fed between folding rollers, (not shown) for causing the flap **40***c* to be folded down and adhesively secured to the two side flaps **40***b*, as seen in Fig. 17 of the drawings. As above mentioned in connection with the machine shown in Fig. 1, continued travel of the envelope causes it to be engaged by another set of folding rolls (not shown) for folding the sealing flap **40***a* down against the two side flaps **40***b*. It is apparent that the machine may be adjusted for producing different forms of "catalogue" envelopes, such as for example as shown in Figs. 18 and 19.

When it is desired to produce "letter style" envelopes by my novel machine desirably the housings **58** are adjusted along the supporting levers **55** so that the pairs of idler rolls, **57**, are aligned along the longitudinal center of the machine, with one of the idler rolls of each pair in registration with the small friction drive roll **45** and the other idler roller in cooperative relation with the adjacent end of the long drive roller **46**, of each of the roll units. Manifestly in making the "letter style" envelope on this form of machine the gumming mechanism indicated generally at **60** will be disposed in inoperative position, and a gum applying blade, for the bottom flap, such as shown in Fig. 1, may be substituted for the straight blade **63**.

The gum applying mechanism, above referred to, and indicated generally at **60**, is capable of being quickly adjusted into or out of operative position when it is desired to change from one style of envelope to another. This mechanism includes a transversely extending support, **65**, connected to the side frames, **10***b*, and on which is carried a reservoir **66** containing adhesive gum. Journalled in said side frames is a transversely extending shaft **67** on which is mounted a cam **68** and an adhesive pick up disc **69**. As may be seen in Fig. 8 of the drawings the disc **69** is positioned so that a substantial outer portion thereof continuously travels in a bath of adhesive gum, and the periphery of this disc **69** engages the periphery of an adhesive applying roll **70** carried on shaft **47** of one of the forwardmost friction drive rolls. This shaft through gearing **72** drives the shaft **67** in definite timed relation thereto. Rigidly connected to the reservoir **66** is an upstanding bracket **74** which is formed with chamber **74***a* through which extends a slidable cam follower rod **75** the lower end of which is provided with a roller **76**, which is in continual engagement with the periphery of the rotatable cam, **68**. A coil spring **77**, is disposed in the chamber **74***a*, and reacts against a shoulder on said rod, **75**, for normally maintaining the roller **76** in engagement with the periphery of the cam. The upper end of the rod **75** carries a pivoted bracket **78**, releasably secured in horizontal position, as seen in Figs. 8 and 9 and journalled in the outer end of said bracket is a double flanged roller **79** which cooperates with the gum applying roller **70**. Mounted on the bed plate **11***b* is a supporting plate **80** which is slotted to form a pair of bifurcated fingers **81** disposed on opposite sides of the adhesive applying wheel **70** and with which the flanges **79***b* of the roller **79** engage at timed intervals. Thus as the envelope blank, **40**, is fed through the scoring device **15**, adhesive is applied to the outer edge of the under surface of the adjacent flap **40***b*, and in order that the peripheral surface of the idler wheel **79** does not become soiled with adhesive gum, it is normally moved in timed relation by said cam **68**, away from the periphery of the adhesive applying wheel **70**, except when the flap of the envelope is passing therebetween. In other words, the spring **77** always exerts a pressure in a downward direction on the follower rod **76**, for holding the idler wheel **79** in such position as to frictionally engage the flap **40***b* of the envelope blank as it is being fed through the machine, but when the high area **68***a* of the cam engaged the roller **76**, the flanged roller **79**, is raised in spaced relation to the fingers **81**. In order that this gumming mechanism may be adapted for producing envelopes of different widths, the entire unit including reservoir, **66**, with bracket **74**, cam **68**, roller **69**, are transversely movable on support **65**, and may be secured in adjusted position by clamping screw, **65***b*.

When it is desired to convert the machine for running "letter style" envelopes the friction roll **79** with its bracket **78** is swung upwardly about its pivot connection to the rod **75** and is withdrawn in a downward direction together with a reservoir of adhesive gum. Mounted as a transversely disposed shaft **86**, journalled in bearings **65***a* carried by the support **65**, are a pair

of pinions 85 in constant engagement with vertically disposed racks, 88, which are rigidly secured to the frame members 10*b*, as seen in Figs. 3 and 9. Thus by rotating the shaft 86 by the hand crank indicated at 87 at the outer end of the shaft, the pinions are caused to rotate and thereby elevate or lower the support 65 and the adhesive reservoir and the bracket, 74, together with the idler 79 and its supporting bracket 78, to either operative or inoperative positions. To securely lock this mechanism in either its upper or lower position of adjustment I provide a threaded hand wheel 89 on shaft 86, which may be threaded tightly against the slidable bearing 65*a* which supports the shaft 86 preventing rotation thereof. Then as above mentioned, the proper size and style of adhesive applying blade or blades is substituted on shaft 64, and the fingers 24, "plow shares" 25 and idler rolls, 57, are laterally adjusted, and the machine is then ready to produce "letter" style envelopes.

Although I have shown and described a preferred embodiment of my invention, it is apparent that in its broadest aspect it is capable of modification and rearrangement without departing from the spirit and scope thereof. I do not, therefore, wish to be understood as limiting my invention to the particular construction herein shown and described, except as indicated in the appended claims.

I claim as my invention:

1. In an envelope making machine, single means for scoring an envelope blank to define a closing flap, a bottom flap, and side flaps, means for advancing the blank in timed, spaced apart relation, means for gumming the underside of one of the side flaps for adhesive securement to the other side flap, said gumming means including a gum applying roller for coating the edge of the side flap, a cooperating idler roller for engaging the upper surface of said side flap, and means for transaxially moving the idler roller in timed relation to the advancing means for urging said edge of the said side flap in positive contact with the peripheral surface of the gumming roller, means for first folding the gummed side flap, and then folding the other side flap thereon, means for applying gum adhesive for securement of the bottom flap to the side flaps, and means for folding the bottom flap on top of said side flaps for completing the pocket of the envelope.

2. An envelope making machine in accordance with claim 1, in which the idler roll is formed with spaced apart flanges for straddling the gum applying roller.

3. In a convertible envelope making machine for producing a plurality of different style envelopes, means for scoring an envelope blank to define a closing flap, a bottom flap and side flaps, means for advancing said blank, gumming means operable at will for coating the under surface of the outer edge of one of the side flaps, for adhesive securement to the other side flap, said gumming means including a gum applying roller for engaging the side flap, a gum reservoir, means for supplying gum from the reservoir to said roller, a support for said reservoir and last mentioned means, means for moving the reservoir and supplying means to or from operative position, means for successively folding the side flaps one upon the other against the body portion of the blank, means for applying gum adhesive for securement of the bottom flap to the side flaps, and means for folding the bottom flap on top of the side flaps for completing the pocket of the envelope.

4. A machine as set forth in claim 3, in which said means for moving the support with the gumming means to or from operative position includes a rack and cooperating pinion, a shaft on which the pinion is mounted, means for rotating the shaft, and means operable at will for locking the shaft against rotation for securing the gumming means at either position of adjustment.

5. An envelope making machine including means for scoring an envelope blank to define a closing flap, a bottom flap and side flaps, means for advancing the blank, means for gumming one of the side flaps for adhesive securement to the other, and separate, longitudinally spaced apart means arranged on opposite sides of the longitudinal center line of the machine, for successively folding said side flaps one upon the other, said folding means being laterally adjustable to accommodate different size blanks, said advancing means including two sets of longitudinally spaced apart driving rollers arranged in opposite relation to the respective folding means, and each set including a series of transversely disposed power driven rollers having relatively wide faces, and idler rollers mounted in peripheral contact with the power rollers for feeding the envelope blanks in a forward direction, said idler rollers being laterally adjustable, toward or away from the corresponding folding means, for engaging different surface areas of said power rollers, for accommodating different size envelope blanks.

6. An envelope making machine including means for scoring an envelope blank to define a closing flap, a bottom flap and side flaps, means for advancing the blank, means for gumming one of the side flaps for adhesive securement to the other, and separate longitudinally spaced apart means arranged on opposite sides of the longitudinal center line of the machine, for successively folding said side flaps one upon the other, said folding means being laterally adjustable to accommodate different size blanks, said advancing means including two sets of longitudinally spaced apart driving rollers arranged in opposite relation to the respective folding means, and each set including a series of small power driven rollers located on the same side of the machine as the corresponding folding means, and an aligned series of power driven rollers, having relatively wide faces, arranged on the opposite side of the machine, and two sets of idler rollers disposed in peripheral contact with said power driven rollers for feeding the blanks in a forward direction, said idler rollers being laterally adjustable for engaging different surface areas of the power driven rollers for accommodating different size envelope blanks.

7. An envelope making machine including means for scoring an envelope blank to define a closing flap, a bottom flap and side flaps, means for advancing the blank, means for gumming one of the side flaps for adhesive securement to the other, and separate longitudinally spaced apart means arranged on opposite sides of the longitudinal center line of the machine, for successively folding said side flaps one upon the other, said folding means being laterally adjustable to accommodate different size blanks, said advancing means including two sets of longitudinally spaced apart driving rollers arranged in opposite rela-

tion to the respective folding means, and each set including a series of small power driven rollers located on the same side of the machine as the corresponding folding means, and an aligned series of power driven rollers, having relatively wide faces, arranged on the opposite side of the machine, and two sets of idler rollers disposed in peripheral contact with said power driven rollers for feeding the blanks in a forward direction, said idler rollers being laterally adjustable for engaging different surface areas of the power driven rollers for accommodating different size envelope blanks, each set of idler rollers includes a plurality of pairs, spaced apart so that in one position of adjustment one roller of each pair is positioned for cooperation with one of the small power driven rollers, while the other roller of each pair engages the corresponding aligned, wide face power driven roller.

8. An envelope making machine including means for scoring an envelope blank to define side flaps, means for advancing the blank and separate longitudinally spaced apart means arranged on opposite sides of the longitudinal center line of the machine, for successively folding said side flaps upon the body portion of the envelope blank, said folding means being laterally adjustable to accommodate different size blanks, said advancing means including two sets of longitudinally spaced apart driving rollers arranged in opposite relation to the respective folding means, and each set including a series of transversely disposed power driven rollers having relatively wide faces, and idler rollers mounted in peripheral contact with the power rollers for feeding the envelope blanks in a forward direction, said idler rollers being laterally adjustable, toward or away from the corresponding folding means, for engaging different surface areas of said power rollers, for accommodating different size envelope blanks.

9. An envelope making machine including means for scoring an envelope blank to define side flaps, means for advancing the blank and separate longitudinally spaced apart means arranged on oppcsite sides of the longitudinal center line of the machine, for successively folding said side flaps upon the body portion of the envelope blank, said folding means being laterally adjustable to accommodate different size blanks, said advancing means including two sets of longitudinally spaced apart driving rollers arranged in opposite relation to the respective folding means, and each set including a series of small power driven rollers located on the same side of the machine as the corresponding folding means, and an aligned series of power driven rollers, having relatively wide faces, arranged on the opposite side of the machine, and two sets of idler rollers disposed in peripheral contact with said power driven rollers for feeding the blanks in a forward direction, said idler rollers being laterally adjustable for engaging different surface areas of the power driven rollers for accommodating different size envelope blanks.

10. An envelope making machine including means for scoring an envelope blank to define side flaps, means for advancing the blank and separate longitudinally spaced apart means arranged on opposite sides of the longitudinal center line of the machine, for successively folding said side flaps upon the body portion of the envelope blank, said folding means being laterally adjustable to accommodate different size blanks, said advancing means including two sets of longitudinally spaced apart driving rollers arranged in opposite relation to the respective folding means, and each set including a series of small power driven rollers located on the same side of the machine as the corresponding folding means, and an aligned series of power driven rollers, having relatively wide faces, arranged on the opposite side of the machine, and two sets of idler rollers disposed in peripheral contact with said power driven rollers for feeding the blanks in a forward direction, said idler rollers being laterally adjustable for engaging different surface areas of the power driven rollers for accommodating different size envelope blanks, each set of idler rollers includes a plurality of pairs, spaced apart so that in one position of adjustment one roller of each pair is positioned for cooperation with one of the small power driven rollers, while the other roller of each pair engages the corresponding aligned, wide face power driven roller.

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