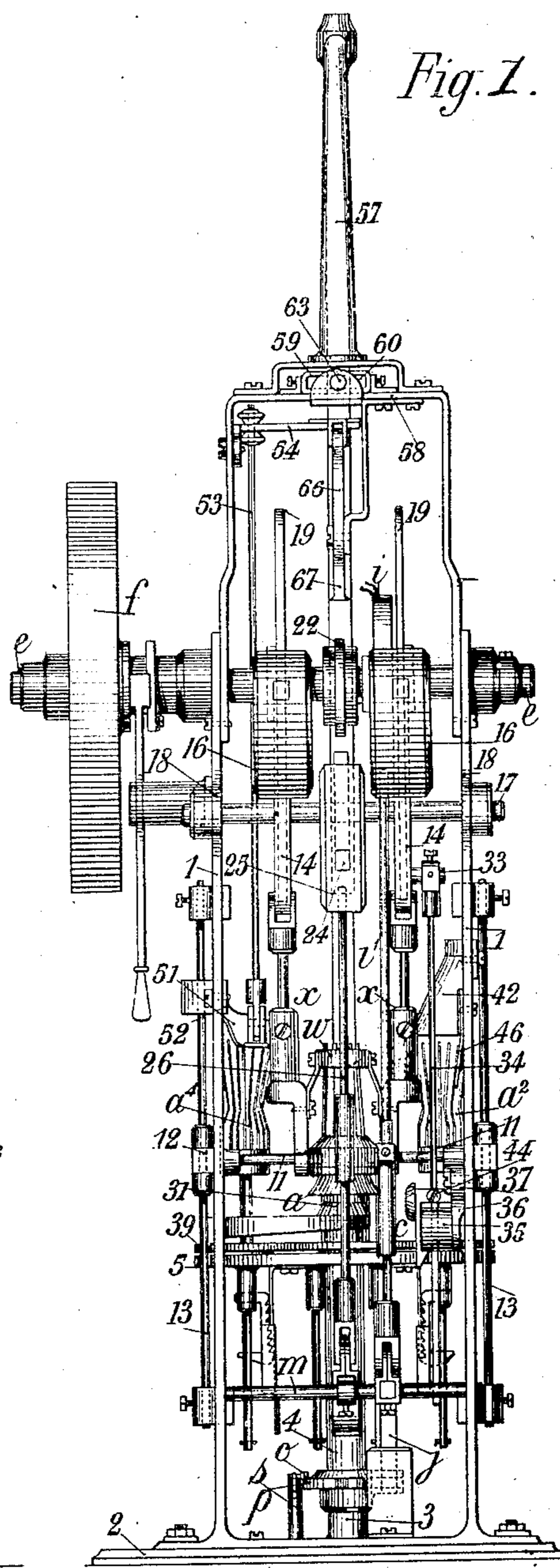
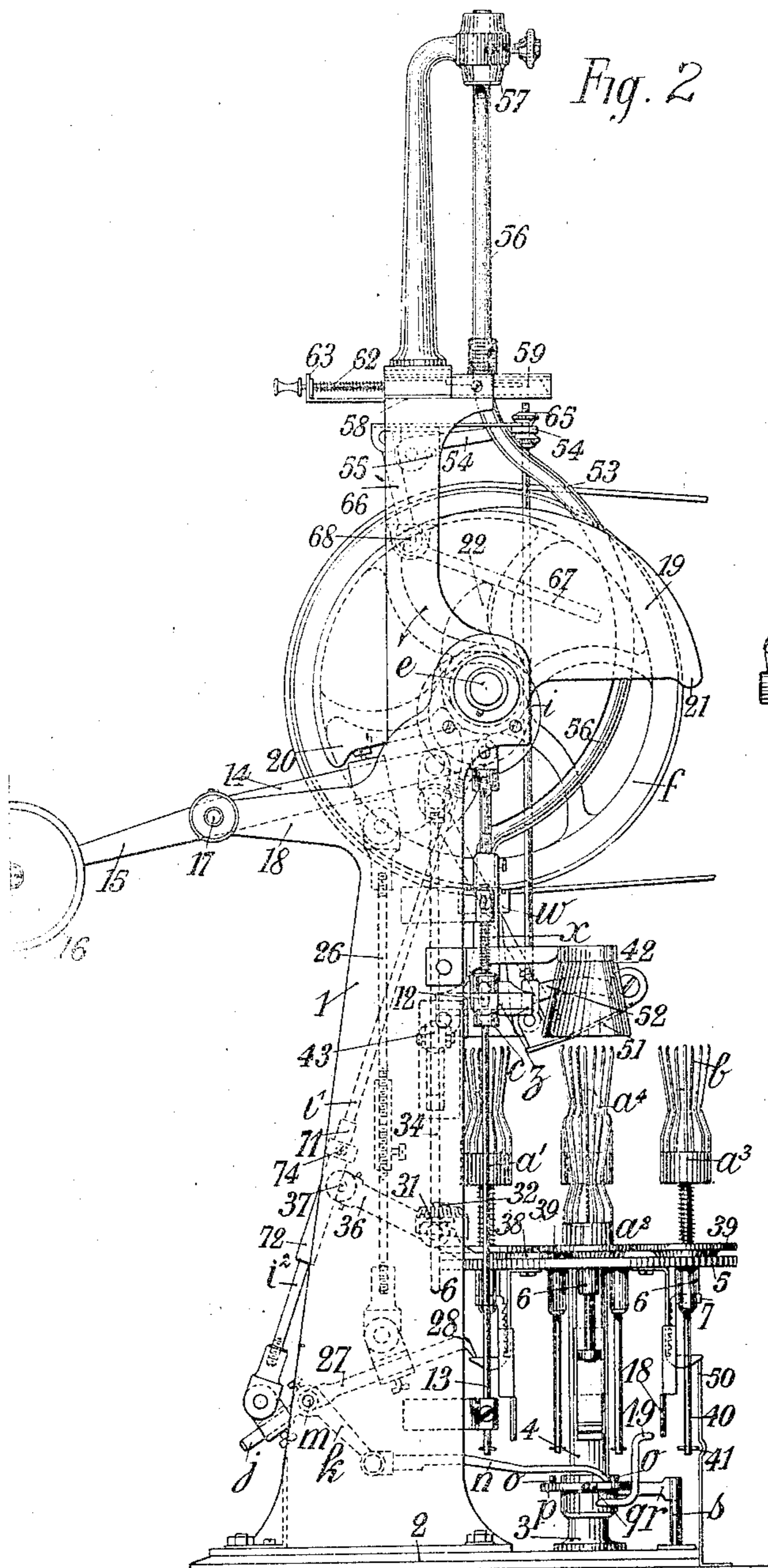


J. E. & A. TASCHER.
MACHINE FOR THE MANUFACTURE OF CORRUGATED PAPER ENVELOPS SUITABLE
FOR PACKING BOTTLES, &c.
APPLICATION FILED MAY 3, 1906.

924,854.

Patented June 15, 1909.

6 SHEETS—SHEET 1.



Witnesses:
Alfred Frauch
Alfred Kueper

Inventors:
Jules Ernest Tascher
Alfred Tascher
by *Otto Zimmer*
their Attorney

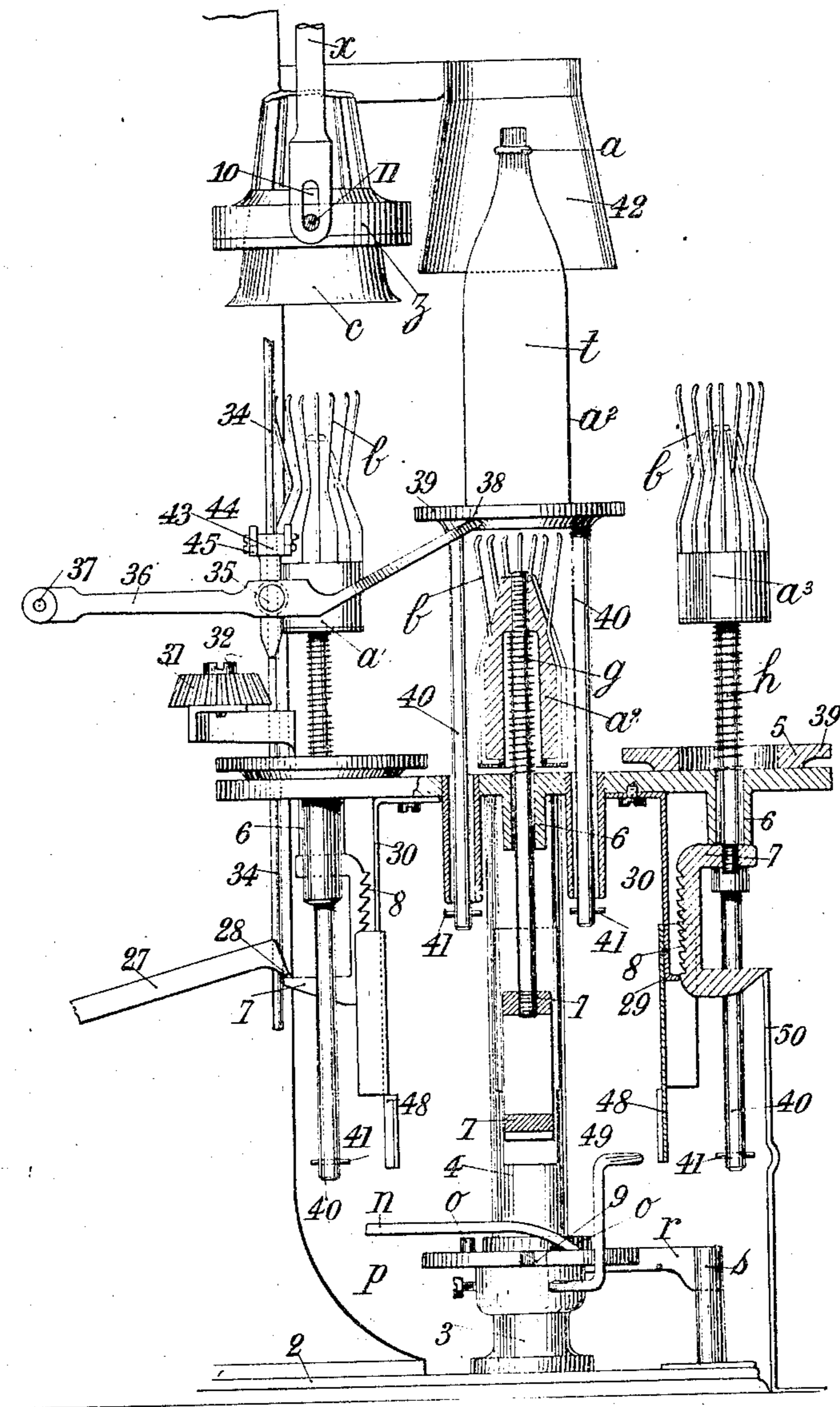
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6 SHEETS—SHEET 2.

Fig. 3.



Witnesses:-

Louis A. Frauch
Edw. A. Freyer

Inventors:-

Jules Ernest Tascher
Alfred Tascher

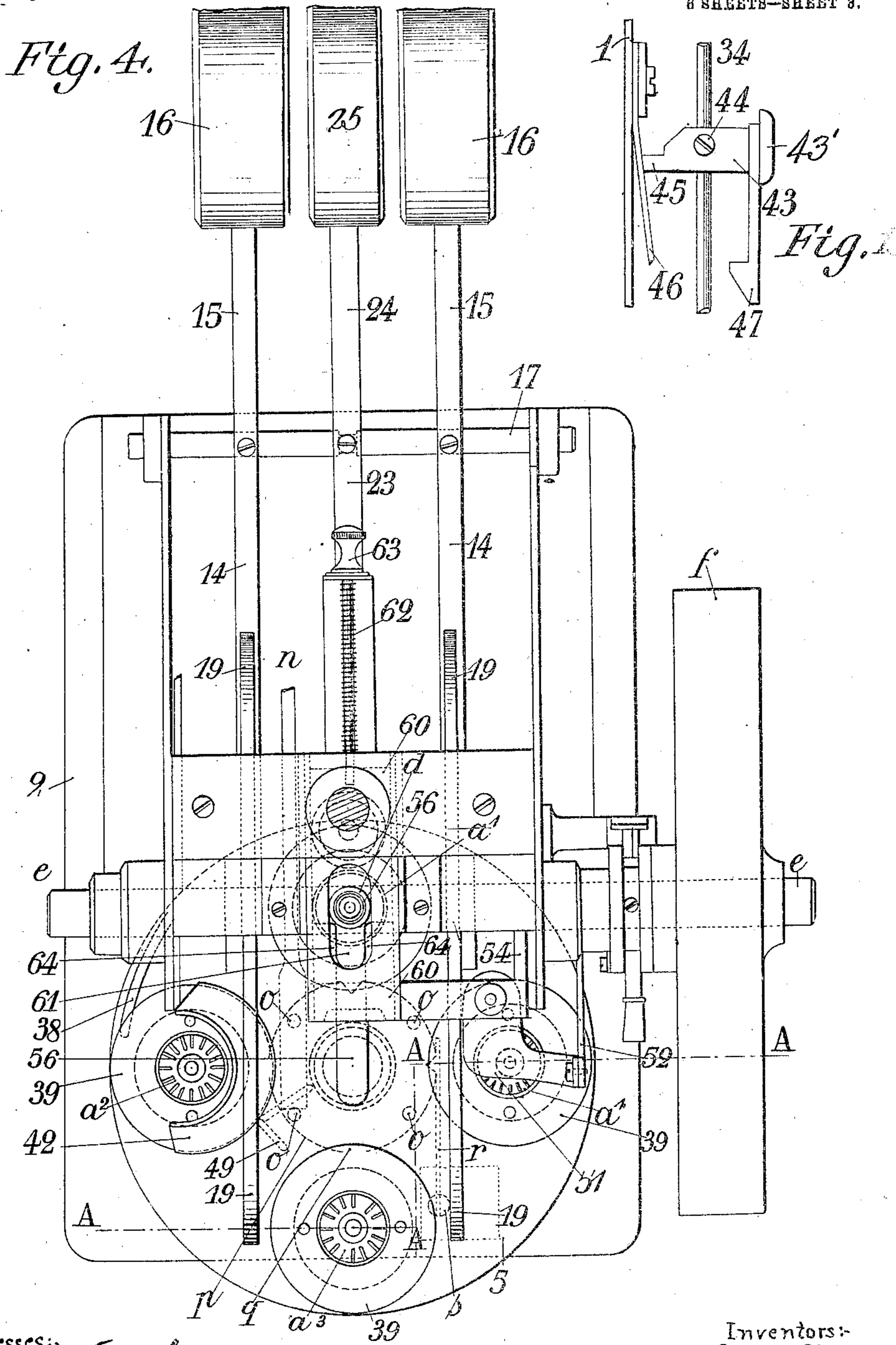
by *Otto M. R.*

their Attorneys

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6 SHEETS—SHEET 3.



Witnesses:
Blauina French
Edw. J. Freyer

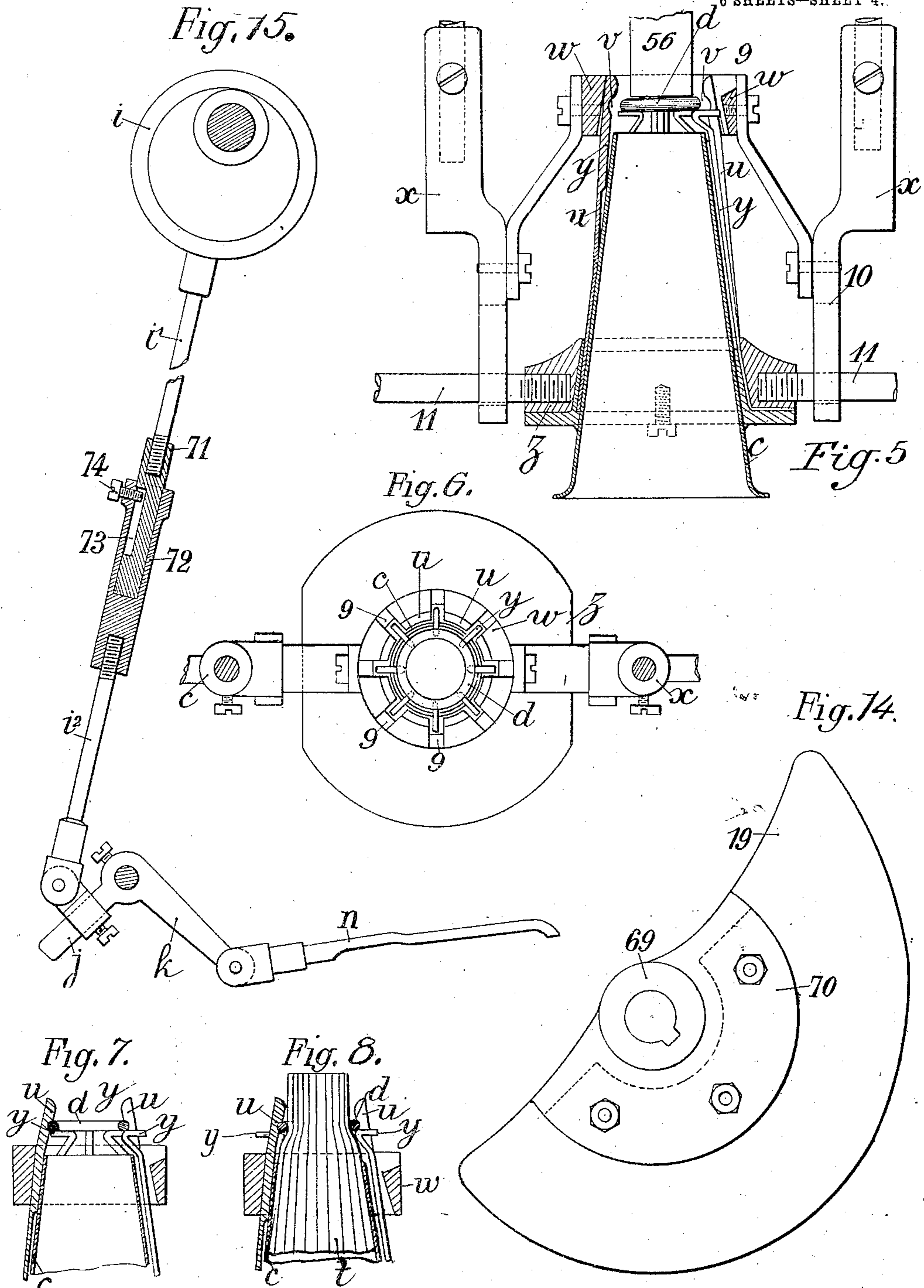
Inventors:
Giles Ernest Tascher
Alfred Tascher
Attorneys
their Attorney

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6 SHEETS—SHEET 4.



Witnesses:
Charles G. French
Edw. J. Heizer

Inventors:-
Jules Ernest Tascher
Alfred Tascher
by *Admiral*
their Attorney

J. E. & A. TASCHER.
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6 SHEETS—SHEET 6.

Fig. 9.

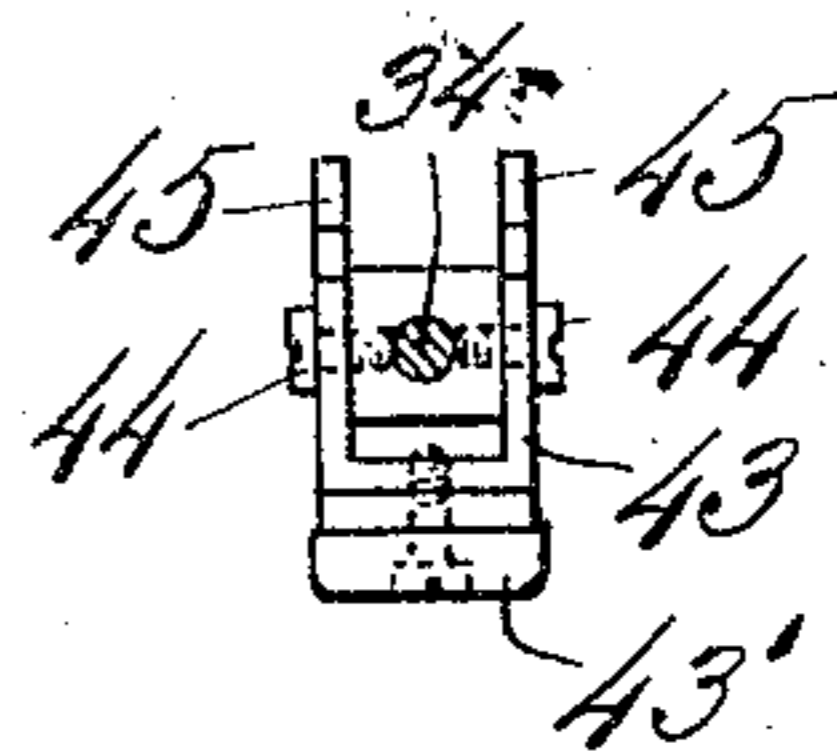
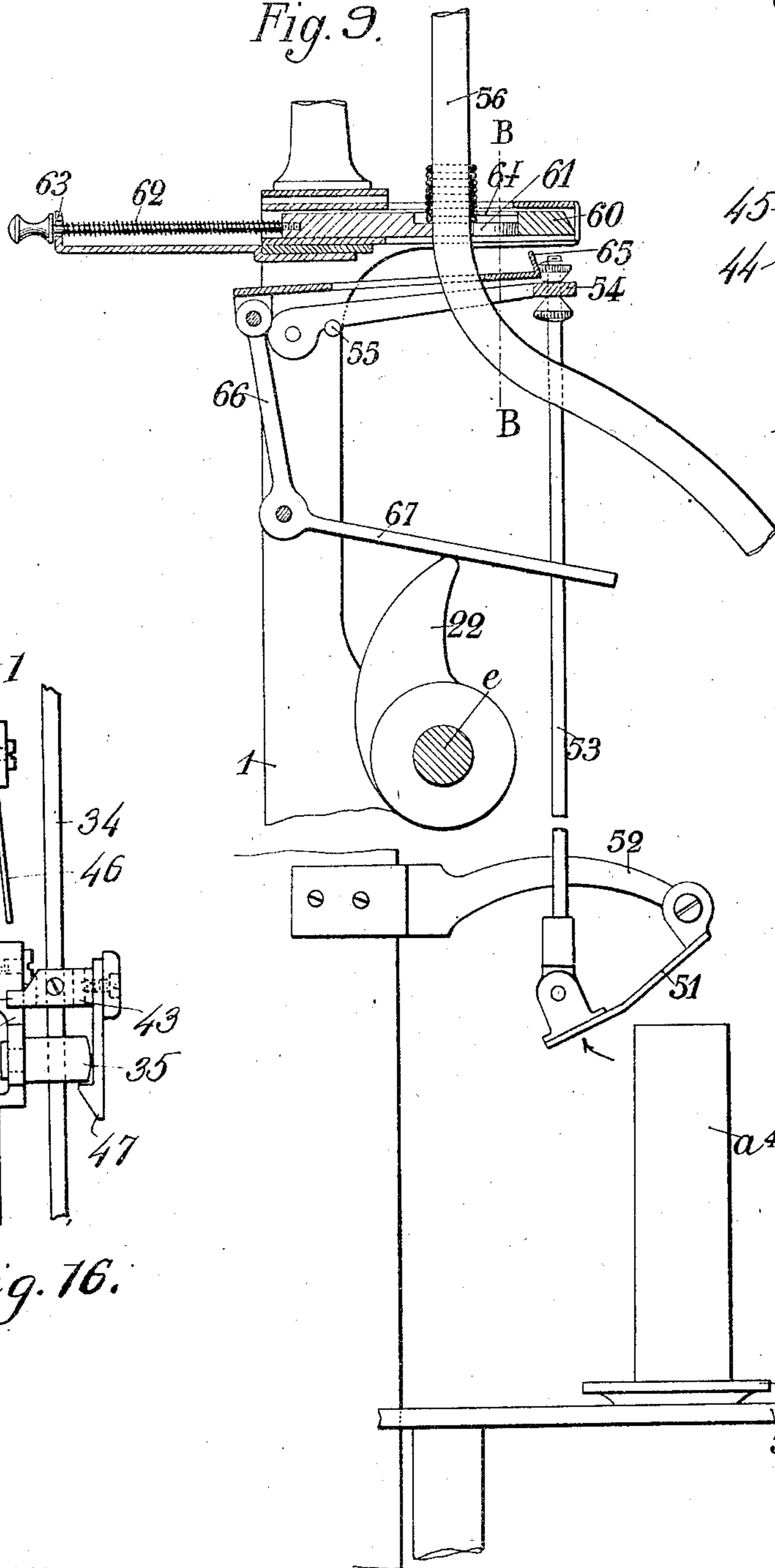


Fig. 17.

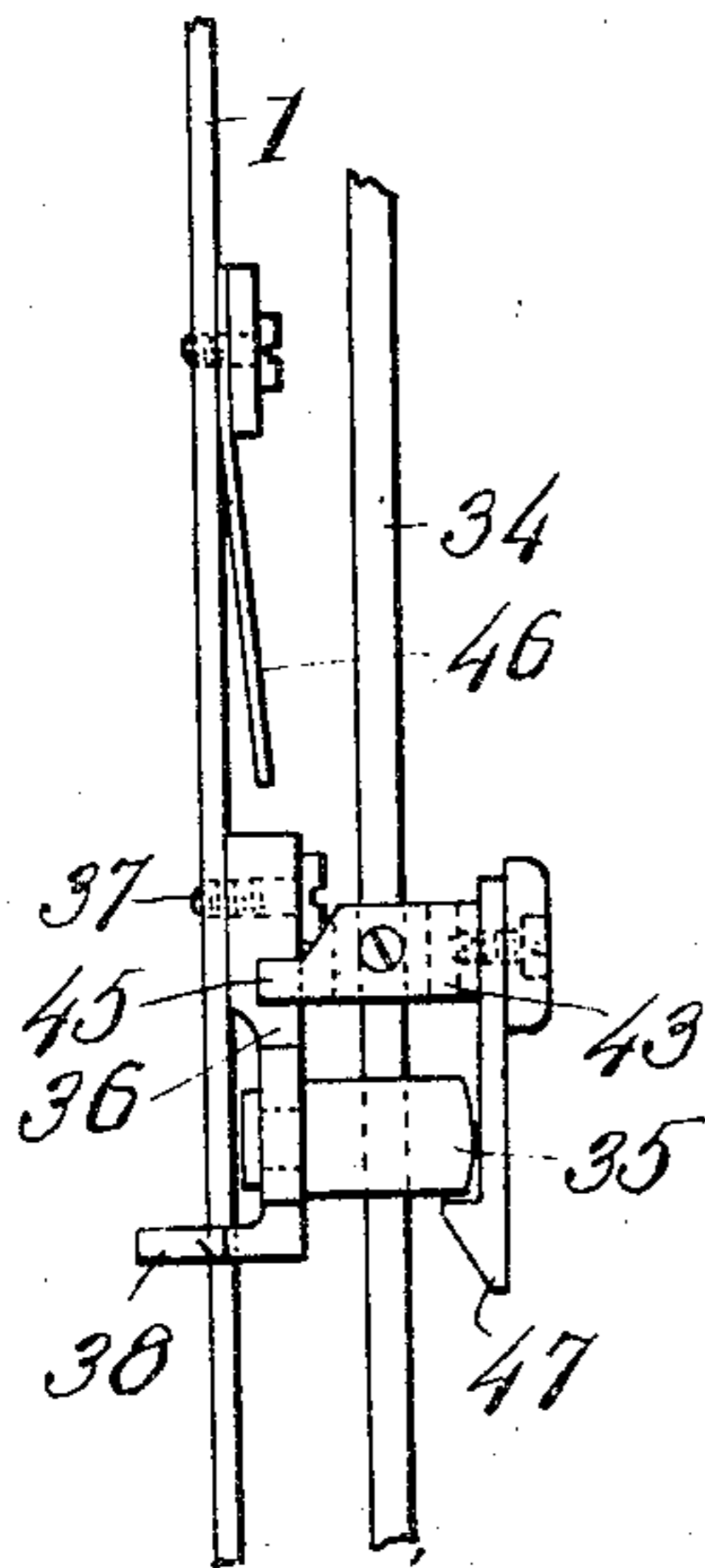


Fig. 16.

Witnesses:
John A. Frauch
Edw. A. Haege

Inventors:-
Jules Ernest Tascher
Alfred Tascher
by *Adm...*
their Attorney

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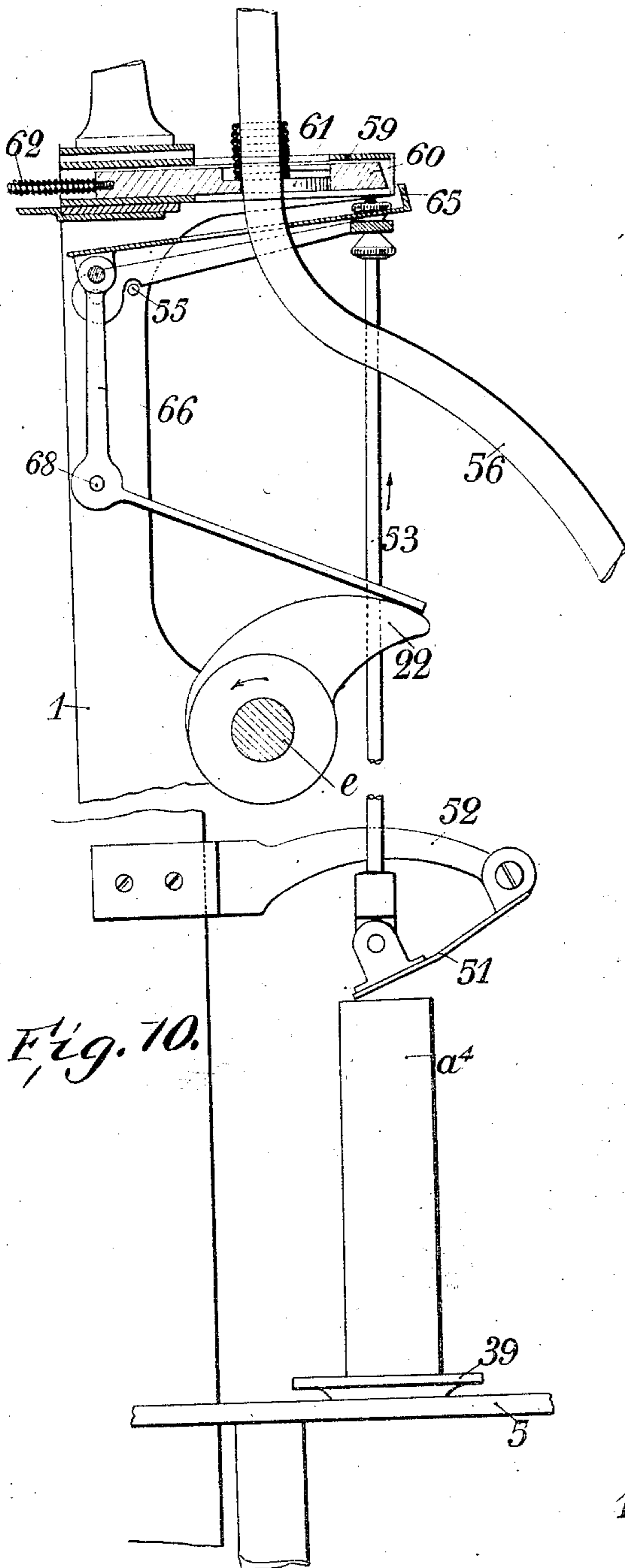


Fig. 10.

Witnesses:
L. Larivière
Edm. S. Frey

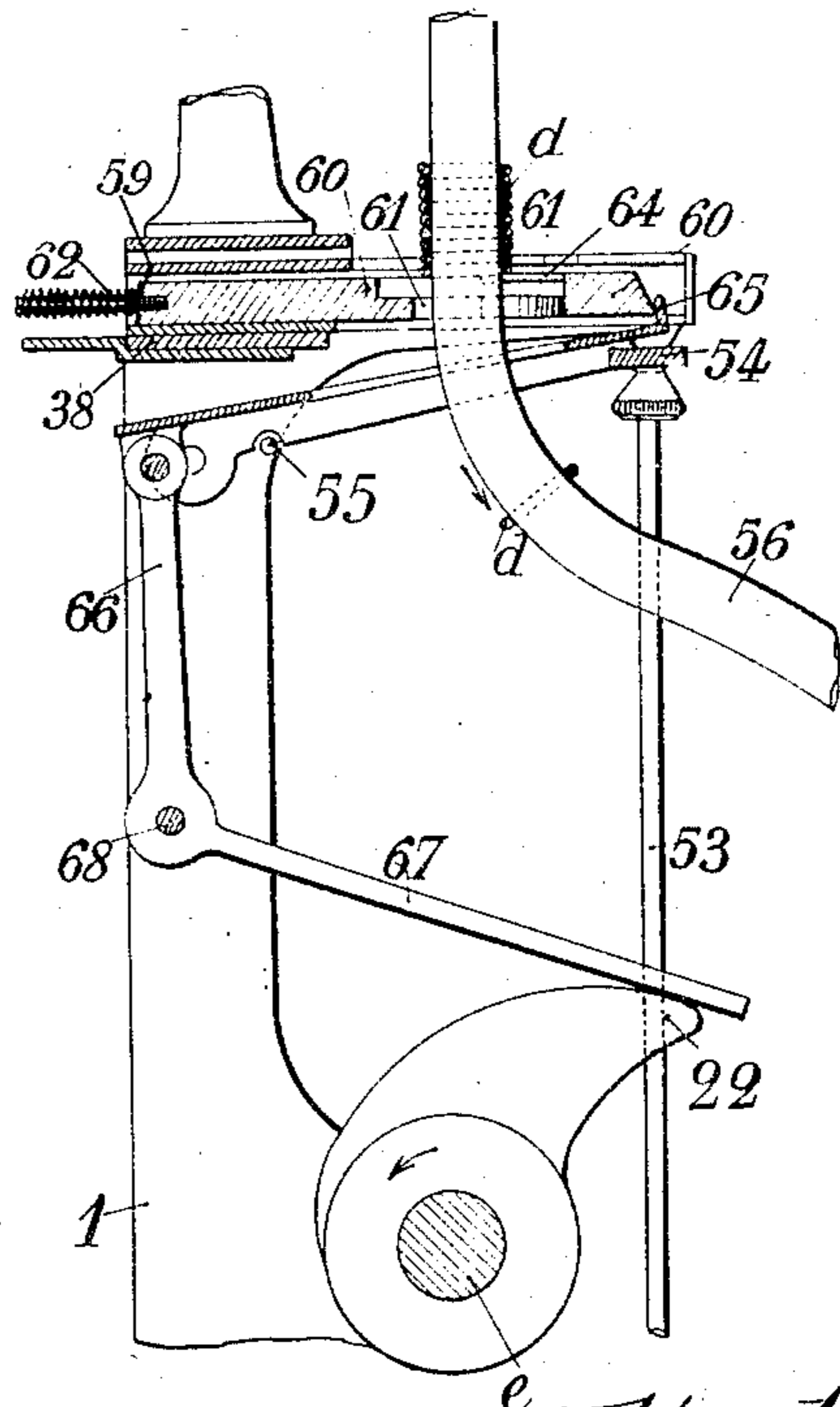


Fig. 11.

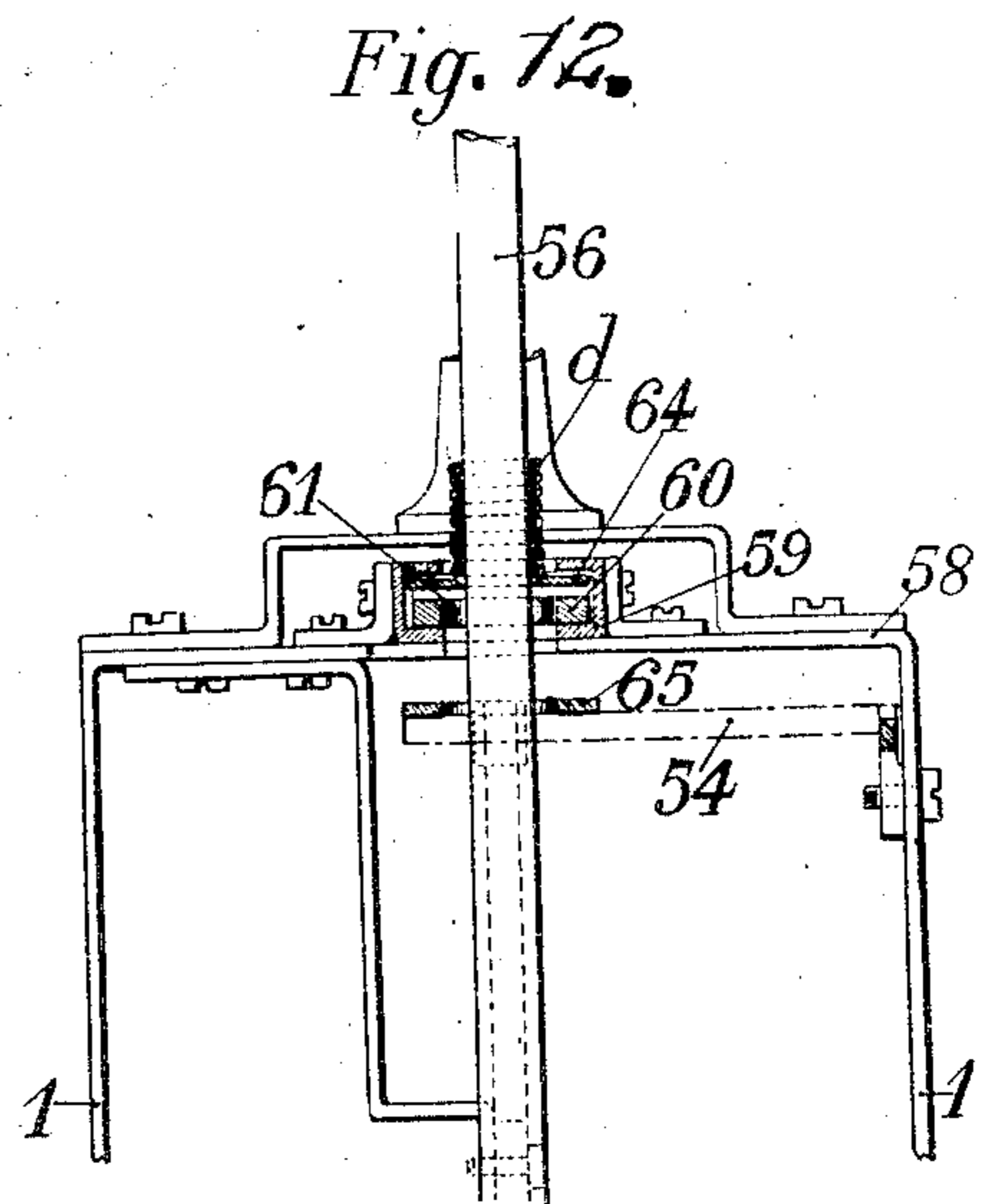


Fig. 12.

Inventors:
Jules Ernest Tascher
Alfred Tascher
Ott. Munk
their Attorney

UNITED STATES PATENT OFFICE.

JULES ERNEST TASCHER AND ALFRED TASCHER, OF BORDEAUX, FRANCE.

MACHINE FOR THE MANUFACTURE OF CORRUGATED PAPER ENVELOPS SUITABLE FOR PACKING BOTTLES, &c.

No. 924,854.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed May 3, 1906. Serial No. 315,068.

To all whom it may concern:

Be it known that we, JULES ERNEST TASCHER and ALFRED TASCHER, citizens of the Republic of France, residing at Bordeaux, France, have invented an Improved Machine for the Manufacture of Corrugated Paper Envelops Suitable for the Packing of Bottles, Flagon, and other Articles, of which the following is a specification.

10 The present invention relates to a machine for forming corrugated paper envelops from envelop blanks, and is designed to produce envelops of the character employed to pack bottles, flasks, flagon and like articles.

15 The invention consists of numerous novel structural features and combinations of elements, all of which will be fully described in the following specification, with reference to the accompanying drawings, and will be particularly pointed out by the concluding claims.

Figure 1 is an elevational view of the machine seen from the rear; Fig. 2 is a corresponding side elevational view, the parts being represented in a different position; Fig. 3 is a sectional elevational view taken on the line A—A of Fig. 4; Fig. 4 is a plan view; Figs. 5 and 6 show, respectively, in sectional elevation and in plan a detail of the former cone and its supporting parts; Figs. 7 and 8 are two vertical partial sections of elements of the former in two positions; Fig. 9 is a partial section of the mechanism taken along the axis of the ring distributor; Figs. 10 and 11 are two similar partial sections, the parts being shown in different positions; Fig. 12 is a transverse partial section taken on the line B—B of Fig. 9; Fig. 13 is a detail view of a stirrup and appurtenant parts employed in the present construction; Fig. 14 is a detail view of a cam hereinafter referred to; Fig. 15 represents an eccentric rod partly in section and partly in elevation; Fig. 16 is a view similar to Fig. 13 showing the parts in different position; and Fig. 17 is a plan view of the stirrup 43 shown in Fig. 13 and 16.

50 The purpose of the machine is to transform a cylindrical sleeve, comprising a corrugated cylindrical body having a paper cover, into a conical envelop and providing the upper part of the envelop with a binding ring.

The machine shown in the drawings comprises in general a series of compensators a with flexible prongs b adapted to be capped

by cylindrical envelops in such manner that the spindles penetrate into the grooves of the envelop. The compensators, thus capped, are presented successively beneath a special former of truncated cone shape which has first received at its upper part a ring d from an automatic distributor; the cylindrical envelop is then, by the combined movements of the former and of the compensator, suitably conformed or shaped and fastened with a ring at its upper part. The compensator capped by the finished envelop is finally removed from the former and ejecting mechanism removes the envelop from the compensator and discharges it from the machine into a basket or any other convenient receptacle.

Fixed upon a sole 2 are two uprights 1 which at their upper parts form bearings for the main shaft e that receives its movement by a fly wheel f driven by any suitable power transmitting mechanism.

Mounted to turn upon a vertical rod 3 fixed to the sole 2 is a sleeve 4, which at its upper end carries a circular plate 5 that serves as a support and carries the guiding devices, catches and other parts for four compensators.

Each compensator, as more particularly shown in Fig. 3, comprises a hollow cylindrical conical body (a^1, a^2, a^3, a^4) fixed at its lower end upon the upper end of a rod g guided in a socket or bush 6 projecting from the lower face of the plate 5.

The rod g carries at its lower extremity a stirrup 7 provided externally with a series of tooth-like notches 8. A spring h , arranged around the rod g and bearing at the one end upon the bottom of the hollow of the corresponding cylinder a and at the other end upon the plate 5, tends constantly to lift the compensator and bring it into the normal position for commencement of an operation as shown at a^1, a^3 and a^4 .

The plate 5, which forms a supporting guide for the four compensators is intermittently rotated and rotates a quarter of a revolution for each revolution of the main shaft e . This movement is effected by means of an eccentric i , keyed upon the shaft e , and of which the rod i^1 is jointed to the arm j of a bent lever $j-k$ mounted to turn about an axle m that is carried by the machine framing. To the arm k of this lever is pivoted a

finger pawl *n* which acts successively upon four pins *o* arranged at diametrically opposite parts of and perpendicular to a disk *p* keyed at its center upon the sleeve 4.

At diametrically opposite parts intermediate to the pins, the periphery of the disk *p* is formed with four notches *q*. The nose of a spring catch *r* fixed to a support *s* of the frame successively engages each of these notches. The engagement of the retaining catch *r* and the notches *q* takes place each time the finger *n* has completed its movement and caused the plate to turn a quarter of a revolution, thus insuring that the angular movements of the plate shall be exact.

The eccentric rod carried by the eccentric *i* is, as shown in Fig. 15, made in two parts *i*¹, *i*². At the lower end of the part *i*¹, which is fixed to the collar of the eccentric *i*, is screwed a plug 71 which fits into a socket or bush 72 that at its lower end is fixed to the upper end of the part *i*². Into a longitudinal groove 73 of the plug 71 enters a screw 74 carried by the socket 72 so that the amount of longitudinal displacement which the part *i*¹ of the rod can make with respect to the part *i*² is limited. When the eccentric moves downwardly, the plug 71 bears upon the bottom of the socket or bush 72 and drives the swinging lever *j-k* which actuates the finger *n* but when the eccentric moves upwardly the plug 71 slides in the socket, the swinging lever *j-k* remaining at rest until the bottom of the groove 73 abuts against the screw 74.

The former, Fig. 5, is constructed as a frustum of a cone *c* upon the exterior of the wall of which are fixed the lower ends of eight flexible tongues *u* movable relatively to the cone *c* and the upper ends of which project over the upper edge of the former cone and are formed with notches *v*. The several notches constitute a device for temporarily holding a ring *d* when the tongues are forced toward each other by a conical ring *w* carried by two connecting rods *x*.

Between the fingers *u* are arranged eight flexible hooks *y* fixed at their lower ends by a collar *z* fixed to the cone *c* by means of a screw. The noses or bent lugs of the hooks *y* are level with the lower edges of the notches *v*, which as will be hereafter described, assures the exact coincidence of the periphery of the ring *d* with the said notches and permits the ring to be satisfactorily held, during the passage of the collar of the envelop through the ring. The ring *w* is itself formed upon its periphery with indentations 9 to allow for the movement of the supporting noses *y*.

In the connecting rods *x* are formed grooves 10 (Fig. 3) through which pass rods 11 fixed to the cone *c* through the collar *z* and which are guided at their outer ends 12 upon vertical rods 13 fixed to the machine frame. The connecting rods *x* are each

jointed at its upper end to one arm 14 of a swinging lever 14-15 fixed upon a shaft 17 that is mounted to turn in the two arms 18 of the frame. The arm 15 of the swinging lever is furnished with a counterweight 16 and bearing upon each arm 14 is the periphery of a cam 19 keyed upon the shaft *e*.

When the parts are in the positions shown in Fig. 2, noses 20 of the cams 19 are in contact with the arms 14 which are kept raised by the counterweight 16. When the shaft *e* turns in the direction of the arrow the noses 20 lower the arms 14 and the connecting rods *x* descend carrying along with them the ring *w* which, at the start, is located in the position shown in Fig. 5. Below the former is located a compensator *a*¹ capped by a cylindrical sleeve *t*. A ring *d* has been brought onto the hooks *y* by the automatic distributor hereinafter described. The descent of the ring *w* locks the tongues *u* upon the ring *d* (Fig. 7) so that it is from that time held in the socket formed by the notches *v*. The noses of the rods *y*, under the thrust of the paper *t*, move apart and thereby release the ring *d* which then remains simply held by the socket formed by the notches *v*. At this moment the upper ends of the grooves 10 of the connecting rods *x* meet the rods 11, so that these connecting rods carry along in their continued downward movement both the ring *w* and the cone *c*. The rods *x* descending with the rods 11, the tongues *u* approach each other and the hooks *y* separate. At the end of this descending movement the tongues *u* separate sufficiently to release the ring *d*. The shaft *e* continuing to rotate, keeps the noses 20 of the cams 19 in contact with the lever arms 14 which cause the connecting rods to descend, until the cone *c* of the former entirely fits onto the envelop *t* (Fig. 8). When the arms 14 and the connecting rods arrive at the end of their stroke the shaft *e* continuing its rotation brings circular concentric parts of the cams 19 into contact with the arms 14 so that these arms remain stationary. At this time a cam 22, likewise keyed upon the shaft *e*, is caused to act upon the arm 23 (Fig. 4) of a counterweighted swinging lever 23-24-25 mounted to turn about the shaft 17. To the arm 23 is jointed one of the heads of a connecting rod 26 of which the other head is jointed to a lever 27 the nose 28 of which is then in contact with the stirrup 7 of the compensator. This latter therefore is moved downwardly and is thereby partially disengaged from the former. The compensator thus releases the conical part of the envelop.

When lowered the compensator is held in the position shown at *a*² in Fig. 3, by the nose 29 of a flexible blade 30 fixed to the plate 5, engaging into the toothing 8 of the stirrup 7. During this movement the spring

h of the compensator is compressed and then the noses 21 of the cams 19 to the rear of the noses 20 come into action upon the lever arms 14 and cause them to move farther downwardly thereby bringing the former cone into the position shown in Fig. 1. The retaining ring *d* slips over the neck of the envelop (Fig. 8) when the cam noses 21 are upon the point of quitting the arms 14. The counterweights 16 then cause the levers to fall again by gravity and raise the connecting rods *x*, and return the whole of the former to the starting position indicated in Fig. 2.

The finished envelop is prevented from following the upward movement of the former by a rotary friction device 31 which grips it and which is mounted to turn about a vertical shaft 32 carried by an arm fixed upon the frame. The eccentric *i* and lever *j-k* are then actuated and the finger pawl *n* by pushing a pin *o* causes a quarter of a turn to be given to the plate 5. The compensator capped with the finished envelop then comes into the position indicated at a^2 while the compensator which follows takes its place. The divided construction of the eccentric rod hereinbefore described allows the compensator to complete its second course without the eccentric being able during such time to actuate the revolver plate.

One of the arms 14 carries a laterally projecting pin 33 to which is jointed the head of a rod 34 which is guided in another pin 35 projecting from a lever 36 that is pivoted at 37 to a fixed point of the frame (Figs. 1 and 3). At the commencement of an operation (Fig. 2), the finger-like end 38 of the lever 36 is in contact with the underside of a washer-like plate 39 which carries depending rods 40 guided in the plate 5. Each washer-like plate 39 forms a support for an envelop and the shaped envelop will be lifted off the compensator by the finger 38, the rise of the washer-like plate being limited by stops 41 carried by the guide rods 40 (Fig. 3). This movement is effected when the envelop shaped under the former has advanced a quarter of a revolution and is located under a semi-guiding funnel 42 carried by the frame.

Upon the rod 34 is pivoted by means of screws 44 a stirrup 43 (Fig. 13) the arms of which have projections 45 which bear upon a flexible blade 46 fixed at one end to the machine frame. The stirrup 43 is provided with a hooked catch 47 and a counterweight 43. During the downward movement of the connecting rods *x*, the rod 34 and the stirrup 43 also descend until the stirrup is beneath the lower edge of the blade 46 and the hooked catch 47 is afterward engaged beneath the pin 35 (Fig. 1). When the connecting rods *x* rise again, the hooked catch 47 lifts the pin 35 and with it the finger 38 which in its turn

effects the rise of the washer 39 under which it bears (Fig. 3). As this lifting movement is produced abruptly by the fall of the counterweight 16, the result is that the envelop is projected rather violently from the form. In this upward return movement the noses 45 of the stirrup 43 meet the lower edge of the blade 46 and the stirrup is thereby caused to rock about its axle 44 and so disengage the hooked catch 47 from the pin 35, which slides back along the rod 34 with the finger 38.

When the compensator in the position indicated at a^2 has been relieved of the finished envelop, the finger *n* which during this time has been drawn back, assumes a position behind the next pin *o* in such manner that as the shaft *e* continues to turn the disk *p* is caused to make a fresh quarter turn by the thrust of the finger *n*. In this movement an arched prolongation 48 of the flexible blade 30 meets a fixed pin 49 which causes the blade to move inwardly and thereby disengages the nose 29 from the toothing 8; the spring *h* then lifts the compensator and brings it into its original position. The compensator is thus brought into the position indicated at a^3 ready to receive a fresh cylindrical envelop to shape.

The lower arm of the stirrup 7 is moved above the upper edge of a stop 50 fixed upon the sole 2. This stop prevents any compression of the spring *h* and the descent of the compensator while it is being capped by a new envelop blank. The cycle hereinbefore described then recommences, the four compensators pass successively from the position indicated at a^3 where they receive the cylindrical envelop or blank to the position indicated at a^4 where this envelop as will be seen actuates the retaining ring distributing mechanism, then to the position indicated at a^1 where the shaping takes place, and finally to the position indicated at a^2 where the finished envelop is thrown out of the machine.

When in the position indicated at a^4 the compensator, capped with its envelop blank, is located, as is more clearly shown in Fig. 9, opposite the driving gear of the retaining ring distributor. This gear comprises an actuating lever 51 pivoted to a fixed arm 52 of the machine frame, a connecting rod 53 jointed to the lever 51 at its lower end and connected at its upper end to a lever 54 pivoted to the frame and the descent of which is limited by a stop 55.

The retaining rings to be distributed are threaded upon a guide rod 56 conveniently fixed to the machine frame at 57 (Figs. 1 and 2) the lower extremity of which terminates in proximity to and at the center of the conical ring *w* of the former when this is in the raised position (Fig. 5); so that a ring *d* escaping from the distributor 56 falls directly upon the noses of the support *y*.

Upon a plate 58 of the machine frame (Figs. 9 to 12) is fixed a box 59 adapted to form a guide for a slide block 60 which is formed with an oblong hole 61 for the passage of the rod 56 against which a spring 62, supported at 63, tends to constantly push the block 60. The pile of retaining rings threaded upon the rod 56 is kept by the upper face of the slide block 60 above the hole 61. The anterior part of this hole is of a larger size than the external diameter of the rings d so that if the slide block is forced toward the rear in which position the rod 56 extends through the larger part of the hole, the lower ring d is released. In order that only one ring d shall be released at a time the slide block carries a beveled blade 64 adapted to project between the lower ring and the one immediately above it, as the slide block 60 is drawn backwardly.

The retiring movement of the slide block and the compression of the spring 62 are effected as follows:—A pusher 65 is pivoted to one of the arms 66 of a bent lever pivoted to the machine frame at 68 and the other arm 67 of which is subjected to the action of the cam 22. The nose of the cam 22 in lifting the arm 67 produces the withdrawal of the pusher 65 which rests upon the lever 54 that lifts it when the connecting rod 53 is itself lifted by the push of the compensator which passes from the position indicated at a^4 to the position indicated at a^1 . There are thus produced two successive movements, firstly the rise of the pusher 65 by the connecting rod 53 (Fig. 10) and then the backward movement of the pusher by the cam 22 (Fig. 11). When the nose of the cam 22 quits the lever 67 this falls again by its own weight, the pusher is brought forward while yet falling, and the slide block 60 is itself brought forward again by the spring 62. The retaining rings employed with this machine will preferably be closed rings, the ends simply meeting or they might be soldered together or the rings may be made of a single piece of metal.

In order that the same machine may serve for the manufacture of envelops of different dimensions the cams 19 may be removable and cams of different dimensions may be mounted on a sleeve 69 with cheeks 70, such as that represented in elevation in Fig. 14. In like manner the length of the connecting rods and links may be adjustable, for this purpose, they are preferably made in two pieces screw threaded at their ends and connected by a screw threaded sleeve, a stop screw being provided for fixing the parts after adjustment. The supporting arm of the semi-funnel 42, the arm 52 which carries the actuating lever 51, adjustable collar nuts of the connecting rod 53 of the distributor, the stop blade 46 and the stirrup 43 carrying the hooked catch 47 are all removable and adjustable in height according to require-

ments. It is obvious also that the conducting rod 56 for the retaining rings d may be replaced by any other suitable rod of appropriate length. In all cases the former and the compensator will be of dimensions suitable to the envelop.

The stirrup fixed to the arm 24 of the swinging lever 23—24 and that fixed to the swinging lever 27 are arranged to slide along the whole length of the arms of these levers so that the stroke of the stirrups of the compensators may be varied according to requirements. The nearer the stirrup of the swinging lever 23—24 is brought to the axis of the lever the more the stroke of the connecting rod which drives the swinging lever 27 is diminished. The effective stroke of the lever 27 may also be reduced by drawing back the stirrup thereon away from the axis of such lever. The strokes may thus always be regulated according to the dimensions of the envelops to be manufactured and the corresponding compensators. The stroke of the finger catch n which actuates the revolver plate is varied in like manner. In this form of the machine the counterweights fixed to the swinging levers bring them back to their starting positions.

What we claim is:—

1. In a machine of the character described, the combination with a reciprocatory former, of a support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, means for depressing said devices after the formation of the envelops to remove the latter from said former, and devices associated with said envelop-presenting devices and reciprocatory relatively thereto for displacing the formed envelops therefrom.

2. In a machine of the character described, the combination with a reciprocatory former, of a rotatable support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, means for depressing said devices after the formation of the envelops to remove the latter from said former, and devices associated with said envelop-presenting devices and reciprocatory relatively thereto for displacing the formed envelops therefrom.

3. In a machine of the character described, the combination with a reciprocatory former, of a support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, means for depressing said devices after the formation of the envelops to remove the latter from said former, means for intermittently operating said support to successively position the envelop-presenting devices to the former, and devices associated

with said envelop-presenting devices and reciprocatory relatively thereto for displacing the formed envelopes therefrom.

4. In a machine of the character described, the combination with a reciprocatory former, of a support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, means for depressing said devices after the formation of the envelopes to remove the latter from said former, devices associated with said envelop-presenting devices and reciprocatory relatively thereto for displacing the formed envelopes therefrom, and means for restoring the envelop-presenting devices to normal position after displacement of the formed envelopes therefrom.

5. In a machine of the character described, the combination with a reciprocatory former, of a support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, means for depressing said devices after the formation of the envelopes to remove the latter from said former, means for locking the envelop-presenting devices in depressed position, devices associated with said envelop-presenting devices for displacing the formed envelopes therefrom, and means for restoring the envelop-presenting devices to normal position after displacement of the formed envelopes therefrom.

6. In a machine of the character described, the combination with a reciprocatory former, of a support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, means for intermittently operating said support to successively position the envelop-presenting devices to the former, means for depressing said devices after the formation of the envelopes to remove the latter from said former, means for locking the envelop-presenting devices in depressed position, devices associated with said envelop-presenting devices for displacing the formed envelopes therefrom, and means for restoring the envelop-presenting devices to normal position after displacement of the formed envelopes therefrom.

7. In a machine of the character described, the combination with a reciprocatory former, of a rotatable support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, means for depressing said devices after the formation of the envelopes to remove the latter from said former, and devices surrounding the envelop-presenting devices and reciprocatory relatively thereto for displacing the formed envelopes therefrom.

8. In a machine of the character described, the combination with a former, of a support, depressible means for presenting envelop blanks to the former carried by said support, means for successively bringing the envelop presenting means into position for the former to operate upon the envelopes carried thereby, and means for depressing said envelop presenting means after completion of the envelopes.

9. In a machine of the character described, the combination with a reciprocatory former, of a rotatable support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, means for intermittently operating said support to successively position the envelop-presenting devices to the former, means for depressing said devices after the formation of the envelopes to remove the latter from said former, and devices surrounding the envelop-presenting devices and reciprocatory relatively thereto for displacing the formed envelopes therefrom.

10. In a machine of the character described, the combination with a former, of means for successively presenting envelop blanks thereto, means for operating said former and envelop presenting means, and means actuated by the envelop presenting means for delivering binding rings to the former to be placed upon the envelop blanks.

11. In a machine of the character described, the combination with a former, of means carried thereby for releasably retaining binding rings, and means for successively presenting envelop blanks to said former to be shaped and provided with binding rings.

12. In a machine of the character described, the combination with a former, of means carried thereby for releasably retaining binding rings, means for successively presenting envelop blanks to said former, and means operating simultaneously to depress said former into operative position and to lock said binding rings in position to receive envelopes.

13. In a machine of the character described, the combination with a former, of means for successively presenting envelop blanks thereto, and means actuated by the envelop presenting means for automatically delivering binding rings to said former.

14. In a machine of the character described, the combination with a former, of means for successively presenting envelop blanks thereto, means for delivering binding rings to said former, and means carried by the former for releasably retaining said binding rings.

15. In a machine of the character described, the combination with a former, of means for successively presenting envelop

blanks thereto, means actuated by the envelop presenting means for delivering binding rings to said former, and means to prevent more than one binding ring being delivered at a time to the former.

16. In a machine of the character described, the combination with a former, of means for successively presenting envelop blanks thereto, means for delivering binding rings singly to the former, and means for releasably retaining said binding rings in relation to the former.

17. In a machine of the character described, the combination with a reciprocatory former, of a support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, a main shaft, means operated thereby for depressing said envelop-presenting devices after the formation of the envelops to remove the latter from said former, means also actuated by said main shaft for operating said support, and devices associated with said envelop-presenting devices and reciprocatory relatively thereto for displacing the formed envelops therefrom.

18. In a machine of the character described, the combination with a reciprocatory former, of a rotatable support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, a main shaft, means operated thereby for depressing said envelop-presenting devices after the formation of the envelops to remove the latter from said former, means also actuated by said main shaft for intermittently rotating said support, and devices associated with said envelop-presenting devices and reciprocatory relatively thereto for displacing the formed envelops therefrom.

19. In a machine of the character described, the combination with a reciprocatory former, of a support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, a main shaft, means operated thereby for depressing said envelop-presenting devices after the formation of the envelops to remove the latter from said former, an eccentric carried by the main shaft, a jointed eccentric rod operable by said eccentric for intermittently operating said support, and devices associated with said envelop-presenting devices and reciprocatory relatively thereto for displacing the formed envelops therefrom.

20. In a machine of the character described, the combination with a reciprocatory former, of a support arranged adjacent thereto and movable across the path of re-

ciprocation of the former, devices carried by said support for presenting envelop blanks to the former, a main shaft, a plurality of cams carried by said shaft, a plurality of arms actuated by said cams, connecting rods between said arms and the former, whereby said former is operated by said cams, means operated by said main shaft for depressing said envelop-presenting devices after the formation of the envelops to remove the latter from said former, means also actuated by said main shaft for operating said support, and devices associated with said envelop-presenting devices and reciprocatory relatively thereto for displacing the formed envelops therefrom.

21. In a machine of the character described, the combination with a reciprocatory former, of a support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, a main shaft, a plurality of cams carried by said shaft, a plurality of weighted arms actuated by said cams, connecting rods between said arms and the former, whereby said former is operated by said cams, means operated by said main shaft for depressing said envelop-presenting devices after the formation of the envelops to remove the latter from said former, means also actuated by said main shaft for operating said support, and devices associated with said envelop-presenting devices and reciprocatory relatively thereto for displacing the formed envelops therefrom.

22. In a machine of the character described, the combination with a reciprocatory former, of a support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, a main shaft, a plurality of cams carried by said shaft, a plurality of weighted arms actuated by said cams, connecting rods between said arms and the former, whereby said former is operated by said cams, means operated by said main shaft for depressing said envelop-presenting devices after the formation of the envelops to remove the latter from said former, means for locking the envelop-presenting devices in depressed position, means also actuated by said main shaft for operating said support, and devices associated with said envelop-presenting devices and reciprocatory relatively thereto for displacing the formed envelops therefrom.

23. In a machine of the character described, the combination with a reciprocatory former, of a support arranged adjacent thereto and movable across the path of reciprocation of the former, devices carried by said support for presenting envelop blanks to the former, a main shaft, a plurality of cams

carried by said shaft, a plurality of weighted arms actuated by said cams, connecting rods between said arms and the former, whereby said former is operated by said cams, means 5 operated by said main shaft for depressing said envelop-presenting devices after the formation of the envelops to remove the latter from said former, means for locking the envelop-presenting devices in depressed position, means also actuated by said main 10 shaft for operating said support, devices associated with said envelop-presenting devices and reciprocity relatively thereto for displacing the formed envelops therefrom, 15 means for automatically releasing the locking means of the envelop-presenting devices, and means for restoring said envelop-presenting devices to normal position.

24. In a machine of the character described, the combination with a former, of means for successively presenting envelop blanks thereto, means for depressing the former into operative position upon the envelop blanks presented thereto, means 25 for depressing the envelop blank presenting means during the operation of the former, and means for elevating the envelop blank presenting means after an envelop has been formed and ejected therefrom.

25. In a machine of the character described, the combination with a former, of a revolving plate, a series of compensators upon which envelop blanks are designed to be held carried by said plate, a washer like 35 plate associated with each compensator, means for presenting the several compensators successively to the operation of the former, means for depressing the compensators upon completion of an envelop and 40 means for quickly elevating the said washer like plates and thereby ejecting the completed envelops from the machine.

26. In a machine of the character described, the combination with a former, of a revolving plate, a series of compensators adapted to present envelop blanks to the former carried by said plate, means for depressing the compensators during the formation of the envelop blanks carried thereby, 50 means for moving the compensators in their depressed condition beyond the former and means for elevating the compensators to adapt the same for the reception of new envelop blanks.

27. In a machine of the character described, the combination with a former, of a revolving plate, a series of compensators adapted to present envelop blanks to the operations of the former carried by said 60 plate, means for depressing the compensators during the operation of the former upon the envelop blanks carried thereby, means

for revolving the plate after completion of an envelop, means for retaining in depressed condition the compensator carrying the completed envelop during revolution of the plate, means for elevating said compensator after revolution of the plate, and means for holding the compensator in elevated position to permit a new envelop blank being 70 placed thereon.

28. In a machine of the character described, the combination with a former, of a revolving plate carrying means for presenting envelop blanks successively to the former, 75 means to depress the former upon the envelop blanks for the formation thereof, means to elevate the former after the completion of the envelop blanks and means operating by frictional contact to prevent the completed envelop from following the former in its ascent. 80

29. In a machine of the character described, the combination with a former, of a series of compensators designed to successively present envelop blanks to the operation of the former, each of said compensators being provided with a depending stirrup, means for depressing said former into operative position upon the envelops carried by the compensators, and means cooperating 90 with said stirrup to depress the compensators.

30. In a machine of the character described, the combination with a former, of a series of compensators, each being provided 95 with a depending stirrup, for successively presenting envelop blanks to the former, a main shaft associated with an eccentric rod, a pawl carried by said eccentric rod and adapted to move said compensators successively into operative relation to the former, a lever adapted to cooperate with said stirrup to depress the compensators and release the completed envelops therefrom, and means for actuating said lever. 105

31. In a machine of the character described, the combination with a former, of means for successively presenting envelop blanks thereto, means for operating the former and the envelop presenting means, 110 and means for delivering binding rings to said former comprising a receptacle for containing rings, means for releasing the same singly therefrom and a rod by which the rings are conveyed to the former. 115

Signed at Bordeaux France in the consulate of the United States of America this seventeenth day of April 1906.

JULES ERNEST TASCHER.
ALFRED TASCHER.

Witnesses:

LOUIS J. GRICOT,
JEAN ALFRED BLANC.