

L. SHOGRAN.
ARTIFICIAL FLOWER MAKING DEVICE.
APPLICATION FILED AUG. 12, 1908.

943,796.

Patented Dec. 21, 1909.
2 SHEETS—SHEET 1.

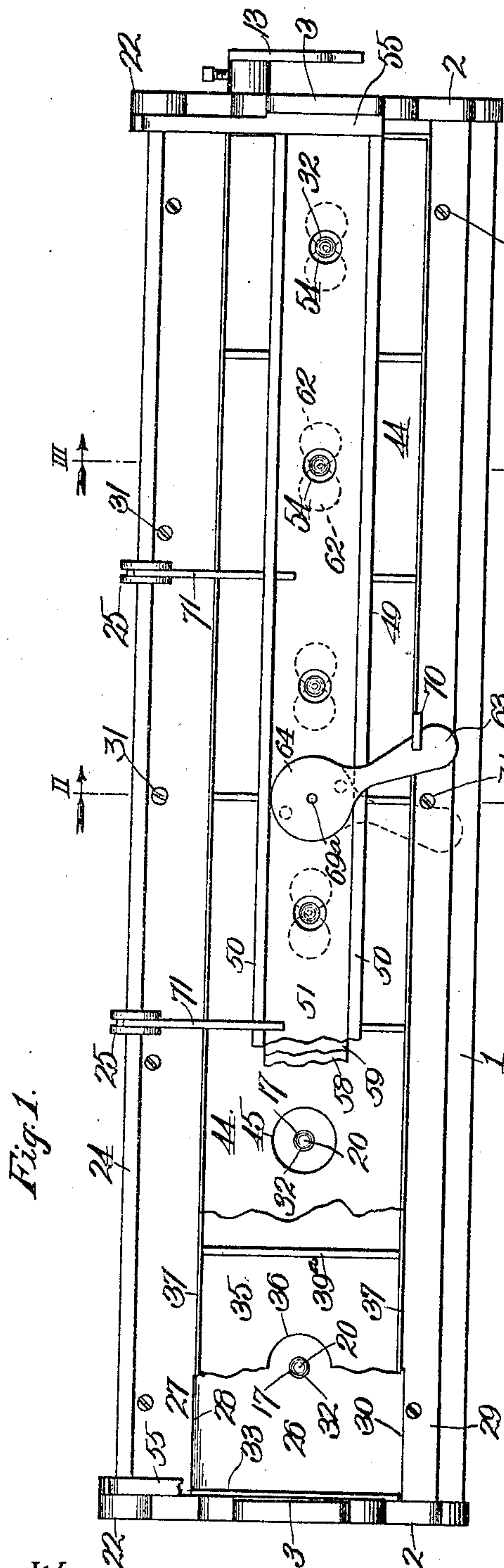


Fig. 1.

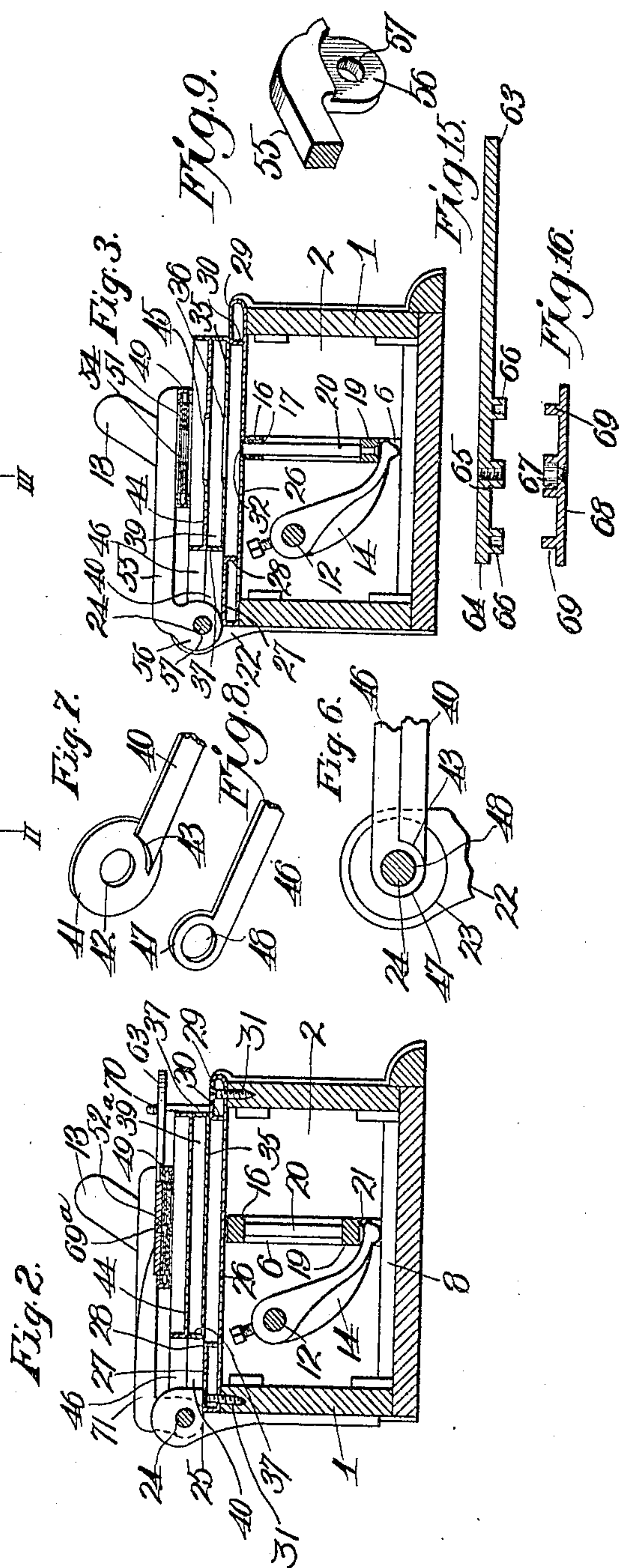


Fig. 2.

Fig. 7.

Fig. 3.

Fig. 9.

Fig. 6.

Fig. 15.

Fig. 16.

Witnesses:

E. E. Seidelman.

J. R. Glover

By

Leonard Shogran.

Atty.

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2 SHEETS—SHEET 2.

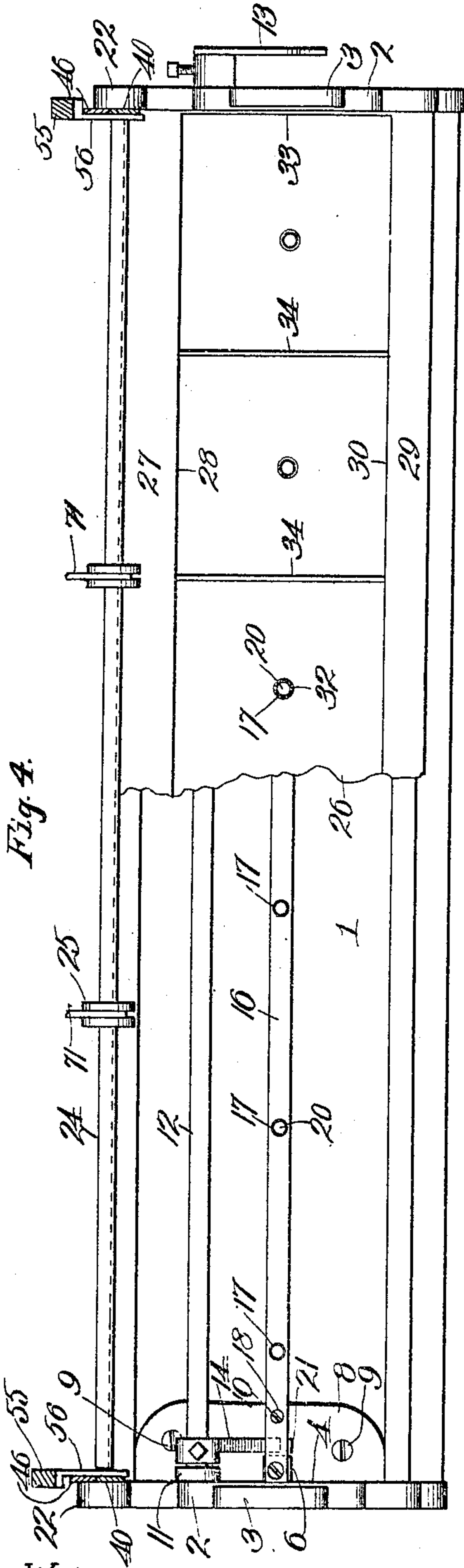


Fig. 4.

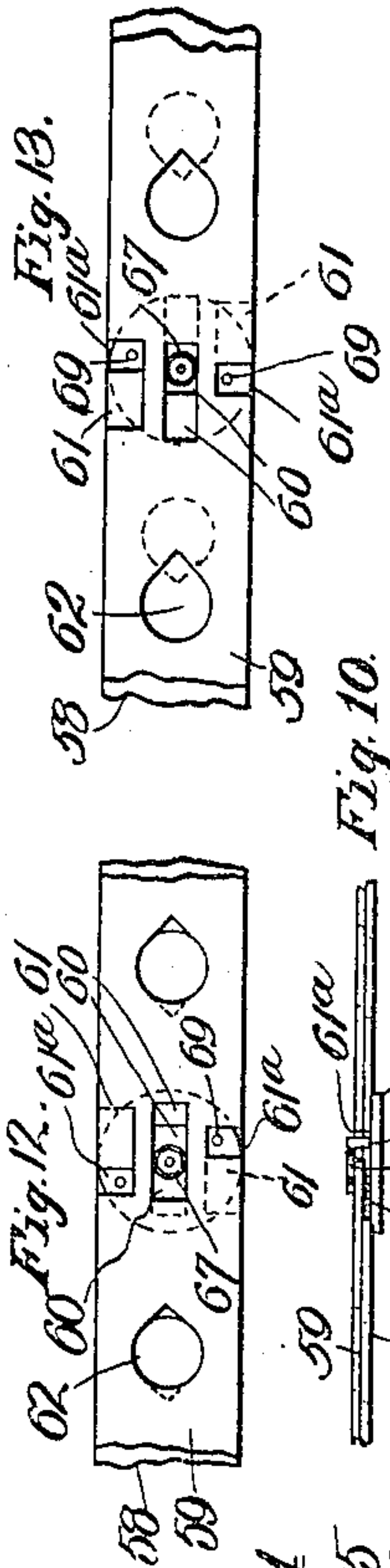


Fig. 10.

Fig. 12.

Fig. 13.

Fig. 14.

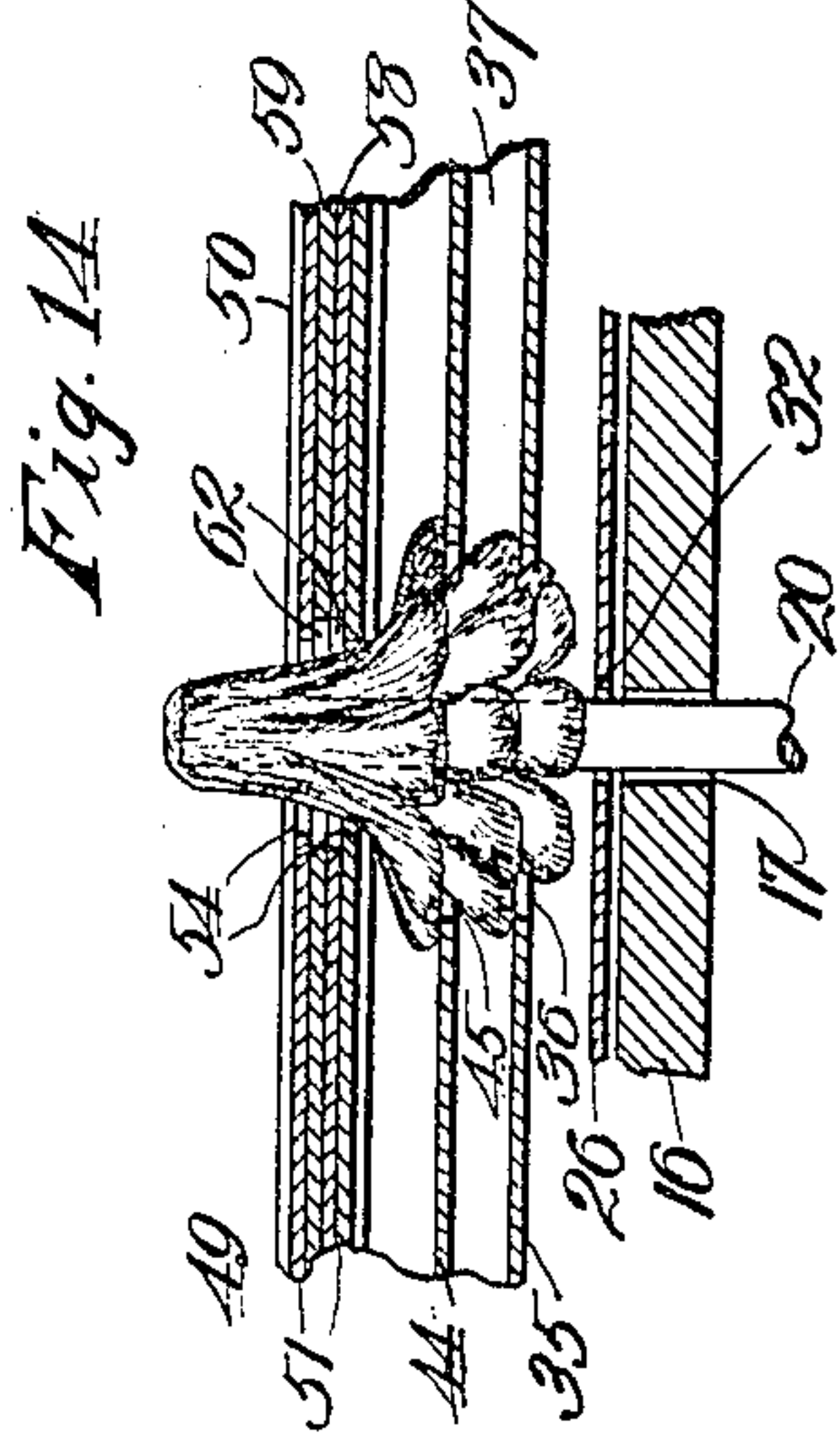


Fig. 14.

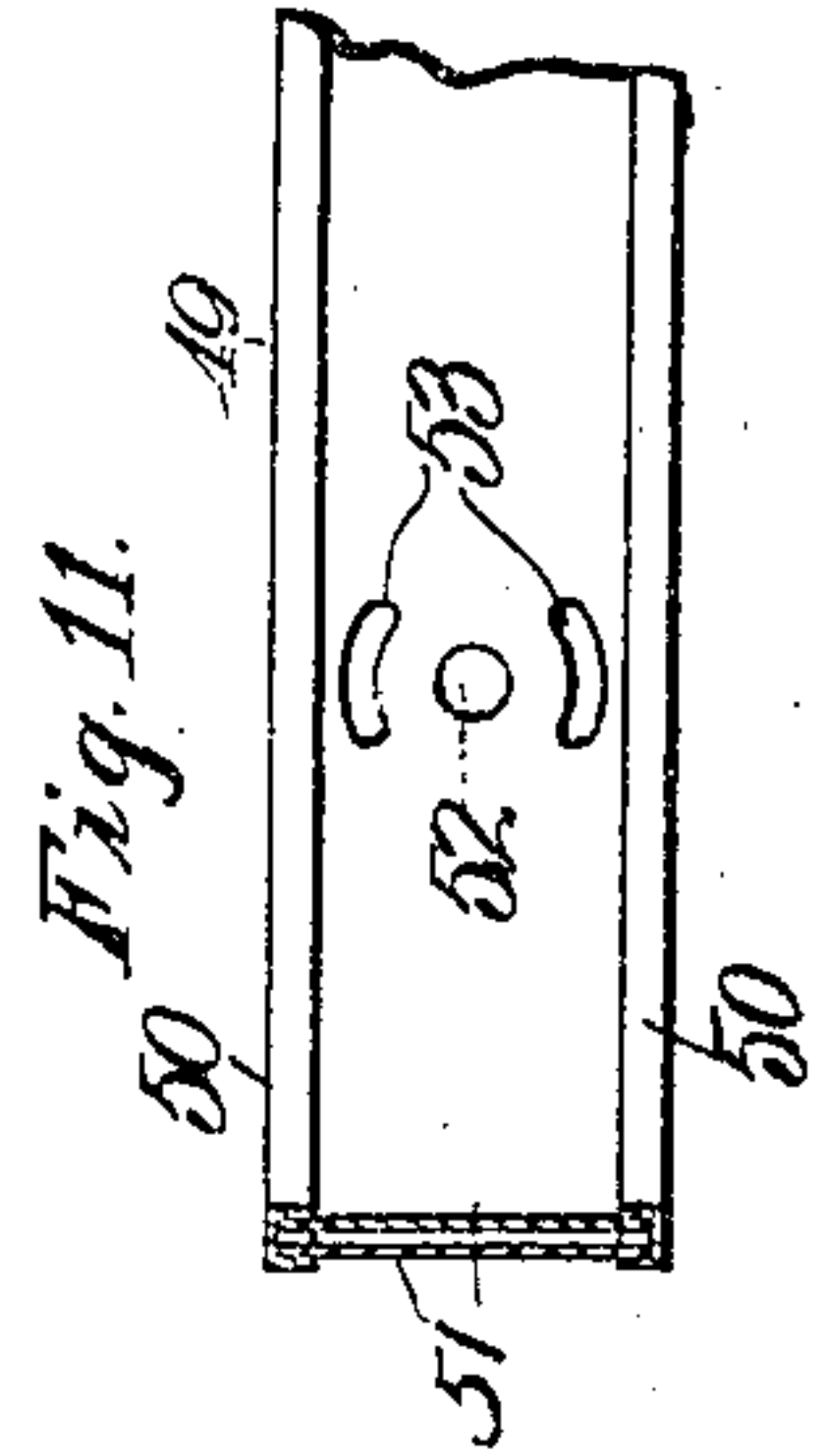


Fig. 11.

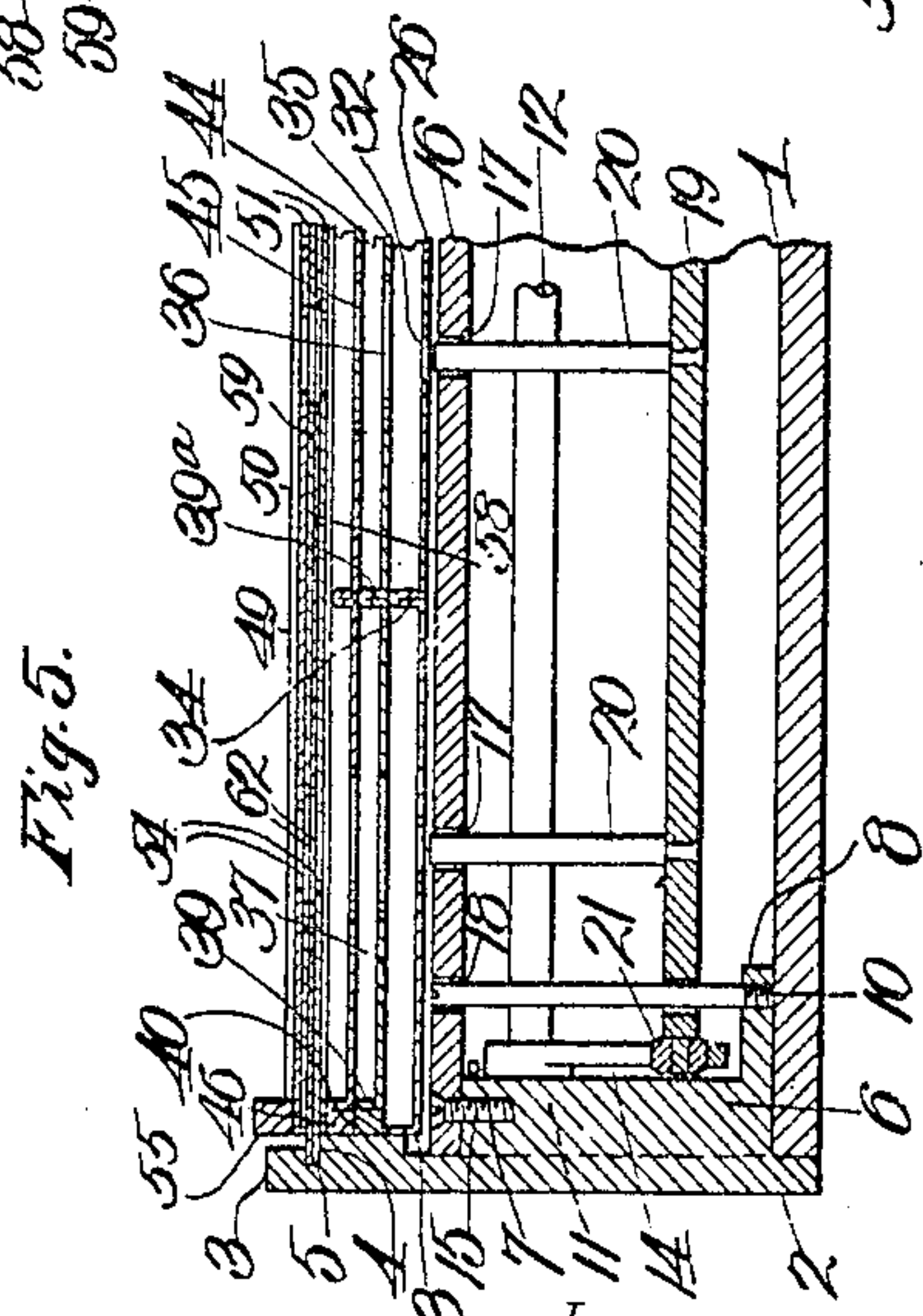


Fig. 5.

Witnesses:

E.E. Seidelman.
H. R. Gore

By
Leonard Shogran.
Atty.

UNITED STATES PATENT OFFICE.

LEONARD SHOGRAN, OF KANSAS CITY, KANSAS.

ARTIFICIAL-FLOWER-MAKING DEVICE.

943,796.

Specification of Letters Patent. Patented Dec. 21, 1909.

Application filed August 12, 1908. Serial No. 448,173.

To all whom it may concern:

Be it known that I, LEONARD SHOGRAN, a citizen of the United States, residing at Kansas City, in the county of Wyandotte and State of Kansas, have invented certain new and useful Improvements in Artificial-Flower-Making Devices, of which the following is a specification.

This invention relates to artificial-flower making devices and is designed more especially as an improvement in the apparatus for manufacturing artificial flowers for which Patent No. 860,578 was granted to me on July 16, 1907, my special object in this connection being to produce a simple, strong and inexpensive device by which an unskilled person can easily and expeditiously make a plurality of like or unlike artificial flowers simultaneously.

With this general object and others in view the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed, and in order that it may be fully understood, reference is to be had to the accompanying drawings, in which—

Figure 1, is a top plan view of a device embodying my invention, with certain parts broken away to disclose others below. Fig. 2, is a vertical section on the line II—II of Fig. 1. Fig. 3, is a vertical section on the line III—III of Fig. 1. Fig. 4, is a top plan view with the forming plates omitted and with the top plate broken away to expose underlying features of construction. Fig. 5, is a central vertical longitudinal section of one end of the device. Fig. 6, is an enlarged section to disclose one of the end standards and the hinged connection thereof with of the adjacent arms of the two petal forming plates. Fig. 7, is a detail perspective view of a part of one of the arms shown in Fig. 6. Fig. 8, is a detail perspective view of a part of the adjacent arm shown in Fig. 6, said arm being inverted. Fig. 9, is a perspective view of a part of an arm of the casing which carries the calyx-pinching mechanism. Fig. 10, is an edge view of the calyx-pinching mechanism. Fig. 11, is a plan view of a part of the casing carrying the calyx-pinching mechanism. Fig. 12, is a view of one side of the calyx-pinching mechanism in its initial position. Fig. 13, is a similar view with said mechanism in its pinching position. Fig. 14, is an enlarged

central vertical longitudinal section to illustrate the method of making artificial carnations or other flowers. Fig. 15, is an edge view of the handle for operating the pinching plates. Fig. 16, is an edge view of the plate movable with said handle to cooperate with the same in operating the pinching plates.

Referring now to the drawings where like reference characters indicate corresponding parts, 1 is a preferably oblong rectangular box having its end portions 2 in the form of castings, by preference, and provided centrally with upwardly projecting lugs 3 of less width than the underlying portions so that the latter shall form upwardly disposed shoulders 4, and 5 are groove-shaped sockets formed in the inner sides of lugs 3 coincidently with shoulders 4. Each end portion is provided centrally with a vertical rib 6 at its inner side, provided with a threaded socket or bolt-hole 7 in its upper end, said end portions being also provided by preference, with inwardly projecting feet 8 resting upon and secured to the bottom by screws 9 and forming supports for the vertical guide rods 10 which terminate a slight distance above the upper ends of ribs 6. Each casting is also provided rearward of ribs 6 with inwardly projecting bosses 11 forming journals for a longitudinally extending rock-shaft 12, projecting at one end through the adjacent end-casting and equipped with an operating handle 13 at such end, and within the box, with a pair of curved crank-arms 14.

15 indicates screw-bolts engaging bolt-holes 7 and clamping down upon the ribs 6, a longitudinally extending bridge-bar 16 provided at suitable points with vertical openings 17 and near each end with a vertical hole 18 through which guide rods 10 are slipped into or out of position.

19 indicates a longitudinally arranged bar fitting slidably on guide rods 10 and provided with upwardly projecting cylindrical plungers 20 which fit loosely in the guide openings 17 and are of such length as to barely project through said openings when bar 19 occupies its normal or depressed position, it being understood that it occupies such position by force of gravity. Said bar is also provided with antifriction rollers 21 resting upon the underlying ends of the curved crank-arms 14 of rock-shaft 12, the arrangement being such that when said

crank-arms are swung upwardly by the proper manipulation of handle 13, the plungers 20 are simultaneously moved upward for the purpose of forming the calyxes of the flowers, as hereinafter more particularly referred to. The end castings are formed at their rear upper corners with arms 22 provided with circular recesses 23 in their inner faces and form journals for a longitudinal hinge rod 24, said rod being also journaled in intermediate bifurcated brackets 25 secured to the back wall of the box.

26 indicates the top plate of the box, the same being preferably of sheet-metal and stiffened at its rear and front edges by the bending of such edges back upon the body of the plate as at 27 and 29 respectively, the said bent-back portions terminating in depending ribs 28 and 30 disposed rearward and forward respectively, of the vertical plane of plungers 20 and at equal distance from such plane. The top plate is secured to the box by screws 31 and is provided with openings 32 of slightly greater diameter than and vertically above openings 17 and is stiffened at its ends by upturned ribs 33 and between said openings 32 by upturned ribs 34, the arrangement being such that the openings 32 are disposed about centrally of the chambers formed by the ribs 28 and 30 and ribs 33 and 34 or the adjacent pairs of ribs 34, all of said ribs terminating at their upper ends in the same horizontal plane, and said top plate is preferably secured in position by screwing it down upon the front and back walls of the box, as shown most clearly in Figs. 1 and 2.

35 indicates a movable flower-forming plate which normally rests upon the ribs of the top plate and is spaced from the latter by said ribs and 36 indicates large and preferably circular openings in said plate vertically over holes 32. Said plate like the top plate, is preferably made of sheet-metal and is formed at its longitudinal edges with upturned ribs 37 in approximately the vertical plane of ribs 28 and 30 of the top plate. It is also formed at its ends with upturned ribs 39 approximately vertically above ribs 33, and with intermediate upwardly projecting cross ribs 39^a vertically above ribs 34. At each end of plate 35 is a rearwardly projecting hinge-arm 40 equipped at its outer side with a circular head 41 to fit rotatably in the recess 23 of the adjacent hinge-arm 22, and provided with a central hole 42 to accommodate the hinge-rod 24, the rear ends of arms 40 being formed with segmental cavities 43, for a purpose which hereinafter appears. 44 indicates a second movable plate superposed with relation to and resting upon plate 35 and of identical construction with the latter, that is to say, it is provided with openings 45 vertically above openings 36 and is

preferably of sheet-metal and equipped with upwardly projecting ribs not numbered because of precisely the same construction and arrangement as the ribs of plate 35. Plate 44 is also provided with rearwardly projecting arms 46 adapted to rest upon arms 40 and terminating in rounded heads 47 which engage cavities 43 of arms 40 and are provided with holes 48 to accommodate hinge-rod 24, it being noticed by reference to Fig. 3, that the marginal portions of openings 36 and 45 are preferably bent upward slightly so as to facilitate the passage there-through of the material of which a flower is made, without any danger of tearing the flower.

49 indicates a longitudinally extending casing, the same consisting of a pair of parallel channel bars 50 connected by a pair of horizontal plates 51 spaced apart one above the other, each of said plates being provided with a central opening 52 and a pair of segmental slots 53 at diametrically opposite sides of said openings. Each plate 51 is also provided with a series of openings 54 preferably smaller than openings 45 and registering with the latter when the casing occupies its operative position, that is when it is resting upon the ribs of plate 44. At each end the casing is provided with a rearwardly projecting hinge-arm 55 overlying the adjacent hinge-arm 46 and each provided with a depending ear 56 fitting against the inner side of the adjacent heads 41 and 47 and provided with a hole 57 to accommodate the hinge-rod. Arranged in superposed relation within said casing is a pair of similar slidable pinching plates, 58 indicating the lower one and 59 the upper one, and said plates are provided centrally with communicating longitudinally extending slots 60 and with a pair of openings 61 and 61^a in their opposite edges, of different lengths. They are also provided with top-shaped holes 62, the rounded portions of said holes being adapted to register so as to conjointly form circular holes when the slide-bars are in normal position, that is when one of them is projected beyond one end of the casing and the other beyond the other end of said casing, at which time said projecting ends may be in engagement with the groove-shaped sockets 5 of the end-castings so as to lock the casing in closed or depressed position. When the casing is unlocked by moving said slide plates so as to withdraw their projecting ends into the casing, the rounded portions of their holes 62 are thrown out of register and their pointed ends are brought very closely together, as shown in Fig. 13, the result of this withdrawal action being not only to unlock the casing preliminary to swinging it back upon the hinge-rod but also to cause the slide plates to clamp the calyxes of the artificial flowers tightly between them

and thus permit the operator to twist the stems and complete the formation of the flowers.

To impart the reciprocatory motion described, to the slide plates, I provide a handle 63 with a circular head 64 having a centrally-depending internally-threaded cylindrical boss 65 and a pair of diametrically opposite bosses 66, the central boss being adapted to fit into a large boss 67 projecting upward from the center of a circular plate 68, which plate is provided with diametrically opposite pins 69 to enter bosses 66. The plate 68 is arranged at the underside of the casing with its boss 67 pivotally engaging holes 52 (see Fig. 11), and the bosses 66 depend through slots 53, it being noticed by reference to Figs. 12 and 13, that the boss 67 extends through the longitudinal slots 60 of the interposed slide plates and that one of the bosses 66 extends through one of the openings 61 and the registering slots 53 and the other through the other opening 61 and the registering slots 53. A screw-bolt 69^a extends up through plate 68 and engages boss 65 to clamp the handle and plate 68 firmly together. By thus interlocking the handle 63 and plate 68 together, they are held in position and rotate together and in such rotation bosses 66 are caused to simultaneously slide plates 58 and 59 in opposite directions, sliding them in one direction as hereinbefore explained, to unlock the casing and incidentally pinch the calyxes of the flowers being made, and in the other direction to unlock the casing and incidentally release the flowers. When the handle 63 occupies the position shown in Fig. 1, the casing is locked down in operative position and in order to utilize said handle as a means of stiffening the central portion of the casing against the upward thrust of the plungers, as hereinafter referred to, I provide a hook 70 which projects up from the top plate 26 to overlies said handle, it being noticed that the casing is also braced against the thrust of the plungers by the intermediate hinge arms 71 which project rearwardly and fit upon the hinge rod 24 within the bifurcated upper ends of brackets 25.

With a device of this character a plurality of artificial flowers of the same or different kinds can be made, the flowers being made preferably of tissue paper in the form of peripherally fluted or serrated sheets. Assuming that it is desired to simultaneously make six carnations or pinks, the casing and the forming plates 44 and 35, will be swung back out of the way so as to expose the top plate. Six of the sheets referred to will then be laid flatly upon the top plate, one in each of the rectangular chambers formed by the upwardly projecting ribs of said plate, which ribs, it will be noted, are preferably disposed at equal distances from the open-

ing 32 so as to insure the centralization of the sheets with respect to said openings. Forming plate 35 is then swung down to its horizontal position as shown in Figs. 2, 3, 5 and 14. A second series of sheets is then arranged upon said forming plate in the chambers formed by the ribs thereof. The second forming plate is then closed down upon the first and if it is desired to produce a compact or dense flower such second plate will likewise be equipped with sheets. The casing is then swung down to a horizontal position and handle 63 is swung under the hook 70, this action resulting in causing the slide plates to slide in opposite directions and each interlock with one end of the box by entering the sockets thereof and to dispose the top-shaped openings of said slide plates in the position shown most clearly in Fig. 12. The operator then pushes handle 13 rearwardly for the purpose of forcing the plungers 20 upward through the vertically aligned openings of the top plate, the forming plates and the casing, as indicated by Fig. 14, it being noticed that in such operation the central portion of each sheet is pushed or pinched upwardly and that the sheets assume substantially the shape or contour of a bell, the undermost sheet, because its central portion is moved upwardly a greater distance than the sheet next above, having its periphery describing a circle of smaller diameter than the periphery of the overlying sheet so that the flower when completed has a rounded or arched-shaped top portion corresponding approximately to the natural flower or carnation. In this operation the sheets are pressed so tightly in the undermost opening of the casing that the withdrawal of the plungers has no tendency to effect the collapse of the flower. The handle 63 is then swung to the position shown by dotted lines Fig. 1, and through the instrumentalities described, withdraws the slide plates from engagement from the sockets and causes the tapered or contracted ends of the top-shaped openings to move toward each other until they assume substantially the position shown in Fig. 13, and in such action pinch or compress the calyxes of the flowers in an obvious manner so as to hold the body portions of petals thereof stationary while the operator grasps the calyxes and twists them, the material of course, being of such character that the twists will be retained. If desired, the operator can also equip these twisted stems with wire by simply looping the wires around them and drawing such wires tightly so that they will retain their position and thus enable the flowers to be afterward conveniently assembled for the making of wreaths or other floral designs. As soon as the stems are produced on the flowers by the twisting operation described, or im-

mediately after such stems have been equipped with wires if such equipment is desirable, the operator swings the casing back to its original position and at the same time operates handle 63 so as to withdraw the slide or pinching plates to their original positions as shown in Fig. 12, the swinging operation simultaneously removing the flowers from the forming plates and the last-named operation of the pinching plates permitting the flowers to drop out of the casing. The forming plates 44 and 35 are then swung back to their original positions and the machine is ready for the production of a second set of carnations or other flowers, the kind of flowers produced, of course, depending on the configuration or color or both configuration and color, of the sheets or blanks employed.

From the above description it will be apparent that I have produced a device for making an artificial flower or a number of such flowers simultaneously, which is susceptible of modification in minor particulars without departing from the spirit and scope of the appended claims.

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

1. A device of the character described, comprising a plurality of forming-plates having registering openings and spaced apart, a plate having an opening registering with the openings of the forming-plates and spaced therefrom, and movable means carried by the last-named plate to be operated across the opening of the same for the purpose of pinching the calyx of an artificial flower to permit the part of the calyx at the opposite side of said pinching means from the forming-plates to be twisted or otherwise handled.

2. A device of the character described, comprising a plurality of forming-plates having registering openings and spaced apart, a plate having an opening registering with the openings of the forming-plates and spaced therefrom, and a pair of movable calyx-pinching plates fitting flatly together and adapted to be moved simultaneously in opposite directions partially across the opening of said last-named plate.

3. A device of the character described, comprising a plurality of forming-plates having registering openings and spaced apart, a plate having an opening registering with the openings of the forming plates and spaced therefrom, movable means carried by the last-named plate to be operated across the opening of the same for the purpose of pinching the calyx of an artificial flower to permit the part of the calyx at the opposite side of said pinching means from the forming-plates to be twisted or otherwise handled, and rotary means for imparting

movement in one direction or the other to said pinching means.

4. A device of the character described, comprising a plurality of forming-plates having registering openings and spaced apart, a plate having an opening registering with the openings of the forming plates and spaced therefrom, a pair of longitudinally-movable plates arranged flatly together and against the last-named plate and provided with registering openings which are reduced in width at their opposite ends, and means to impart simultaneous sliding movement in opposite directions to said plates to cause their reduced ends to move toward each other and partially across the opening of the last-named plate.

5. A device of the character described, comprising a plurality of forming-plates having registering openings and spaced apart, a plate having an opening registering with the openings of the forming-plates and spaced therefrom, a pair of longitudinally-movable plates arranged flatly together and against the last-named plate and provided with registering openings which are reduced in width at their opposite ends, and provided with longitudinal slots and with openings of variable length at opposite sides of said slots, the longer opening of each of said plates registering with the shorter opening of the other, a rotary handle having a pivot extending through the plate carrying the slide-plates and through the longitudinal slots of the latter, and cylindrical bosses movable with said handle and disposed at diametrically opposite sides of said pivotal point, each of said bosses engaging one of the longer openings and the registering short opening of said slide plates.

6. A device of the character described, comprising a plurality of forming plates having registering openings and spaced apart, a plate having an opening registering with the openings of the forming-plates and spaced therefrom, movable means carried by the last-named plate to be operated across the openings of the same for the purpose of pinching the calyx of an artificial flower to permit the part of the calyx at the opposite side of said pinching means from the forming-plates to be twisted or otherwise handled, and a plunger to be moved endwise through the openings of said forming-plates and the other plate and then withdrawn preliminary to the operation of said pinching plates.

7. A device of the character described, comprising a plurality of forming-plates having registering openings and spaced apart, a plate having an opening registering with the openings of the forming-plates and spaced therefrom, a pair of movable calyx-pinching plates fitting flatly together and adapted to be moved simultaneously in op-

posite directions partially across the opening of said last-named plate, and a plunger to be moved endwise through the openings of the said forming-plates and the other plate and then withdrawn preliminary to the operation of said pinching plates.

8. A device of the character described, comprising a plurality of forming-plates having registering openings and spaced apart, a plate having an opening registering with the openings of the forming-plates and spaced therefrom, movable means carried by the last-named plate to be operated across the opening of the same for the purpose of pinching the calyx of an artificial flower to permit the part of the calyx at the opposite side of said pinching means from the forming-plates to be twisted or otherwise handled, rotary means for imparting movement in one direction or the other to said pinching means, and a plunger to be moved endwise through the openings of the said forming-plates and the other plate and then withdrawn preliminary to the operation of said pinching plates.

9. A device of the character described, comprising a plurality of forming plates having registering openings and spaced apart, a plate having an opening registering with the openings of the forming-plates and spaced therefrom, a pair of longitudinally-movable plates arranged flatly together and against the last-named plate and provided with registering openings which are reduced in width at their opposite ends, and provided with longitudinal slots and with openings of variable length at opposite sides of said slots, the longer openings of each of said plates registering with the shorter openings of the other, a rotary handle having a pivot extending through the plate carrying the slide-plates and through the longitudinal slots of the latter, cylindrical bosses movable with said handle and disposed at diametrically opposite sides of said pivotal point, each of said bosses engaging one of the longer openings and the registering shorter opening of said slide plates, and a plunger to be moved endwise through the openings of the said forming plates and the other plate and then withdrawn preliminary to the operation of said slide plates.

10. A device of the character described, comprising a plurality of forming-plates having registering openings and spaced apart, a plate having an opening registering with the openings of the forming-plates and spaced therefrom, a pair of longitudinally-movable plates arranged flatly together and against the last-named plate and provided with registering openings, which are reduced in width at their opposite ends, means to impart simultaneous sliding movement in opposite directions to said plates to cause their reduced ends to move toward each

other and partially across the opening of the last-named plate, and a plunger to be moved endwise through the openings of the said forming plates and the other plate and then withdrawn preliminary to the operation of said sliding plates.

11. In a device of the character described, a suitable box, a top-plate therefor provided with an opening, a plurality of forming-plates parallel with and above and spaced from each other and from said top-plate and provided with larger openings registering with each other and with the opening of the top-plate, a casing arranged horizontally above the topmost forming plate and spaced therefrom and provided with openings registering with the first-named openings and the opening of the top-plate, a pair of slidable pinching plates fitting flatly together within the casing and provided with openings registering with each other and the openings of the casing and having their opposite ends contracted, a vertically movable bar in the box having an upwardly projecting plunger, means for forcing said frame upward to cause the plunger to move up through all of said aligned or registering openings, and means after the plunger has withdrawn to its original position, to slide said pinching plates in opposite directions to cause said contracted ends to approach closely together and then slide in the opposite direction to withdraw said contracted ends of the pinching plates.

12. In a device of the character described, a suitable box, a top-plate therefor provided with an opening, a plurality of forming-plates parallel with and above and spaced from each other and from said top-plate and provided with larger openings registering with each other and with the opening of the top-plate, a casing arranged horizontally above the topmost forming-plate and spaced therefrom and provided with openings registering with the first-named openings and the opening of the top-plate, a pair of slidable pinching plates fitting flatly together within the casing and provided with openings registering with each other and the openings of the casing and having their opposite ends contracted, a vertically movable bar in the box having an upwardly projecting plunger, a rock-shaft journaled in the box and provided with crank arms underlying said bar, an operating handle externally of the box whereby the plunger may be moved upward through said registering or aligned openings and then permitted to return to its original position, and means, after the plunger has withdrawn to its original position, to slide said pinching plates in opposite directions to cause said contracted ends to approach closely together and then slide in the opposite direction to withdraw said contracted ends of the pinching plates.

13. In a device of the character described, a box having end portions provided with upwardly projecting lugs equipped with sockets at their inner sides, a movable casing adapted to assume a horizontal position in line with said sockets and provided with vertically alined openings, a plurality of movable forming-plates arranged one above the other and below said casing and provided with larger openings registering with the openings of the casing, a vertically movable bar in the casing having a plunger capable of moving upward through said registering openings and back again, a pair of slidable pinching plates fitting flatly together and within the casing and provided with openings registering with each other and with the openings of the casing, and means to slide said pinching plates endwise in opposite directions simultaneously to cause their ends to protrude from the ends of the casing and enter said sockets and to reverse such sliding operation to withdraw said slide plates from the sockets and cause the opposite longitudinally alined ends of their openings to approach and partially close the openings of the casing after the plunger has been projected through and then withdrawn from said last-named openings and the openings of the forming-plates.

14. In a device of the character described, a box having its ends provided centrally with inwardly projecting vertical ribs, a horizontal bridge bar secured upon said ribs and provided with a plurality of openings, a pair of rigid guide pins mounted in the box near its ends, a horizontal bar extending longitudinally of the box and mounted slidably on said guide pins and provided with upwardly projecting rigid plungers fitting slidably in the openings of said bridge bar, a longitudinal rock-shaft journaled in the box and projecting beyond the same at one end, a handle mounted on said projecting end, and a pair of curved crank arms within the box and projecting from said rock-shaft and underlying said bar.

15. In a device of the character described, a box having its ends provided centrally

with inwardly projecting vertical ribs, and with sockets in the inner sides of its ends above said ribs, a horizontal bridge bar secured upon said ribs and provided with a plurality of openings, a top-plate secured upon the box above the bridge bar and provided with openings registering with the openings of the bridge-bar and with upwardly projecting ribs, a longitudinal hinge-rod carried by the box at its rear side, a forming plate hinged to said rod and adapted to be closed down and rest upon the ribs of said top-plate and provided with openings registering with but larger than the openings of the latter and with upwardly projecting ribs, a second forming plate bearing a hinged relation to said hinge-rod and adapted to be closed down and rest upon said ribs of the first-named forming-plate and provided with openings registering with the openings of the latter and of substantially the same size, a casing bearing a hinged relation to said rod and adapted to be closed down and rest upon the ribs of the second forming-plate and embodying a pair of horizontal plates spaced apart and provided with openings smaller than and registering with the openings of the forming-plates, a pair of slidable pinching plates arranged flatly together within the casing and provided with openings registering with the openings of the latter and having their opposite ends of tapering form, and means to slide said plates in opposite directions to cause the end of one of them to enter one of said sockets, and the end of the other the other socket and the tapering ends of their openings to move apart and to reverse such movement to withdraw their ends from said sockets and cause the tapering ends of their openings to move partially across the openings of the casing.

In testimony whereof I affix my signature, in the presence of two witnesses.

LEONARD SHOGRAN.

Witnesses:

H. C. RODGERS,

G. Y. THORPE.