

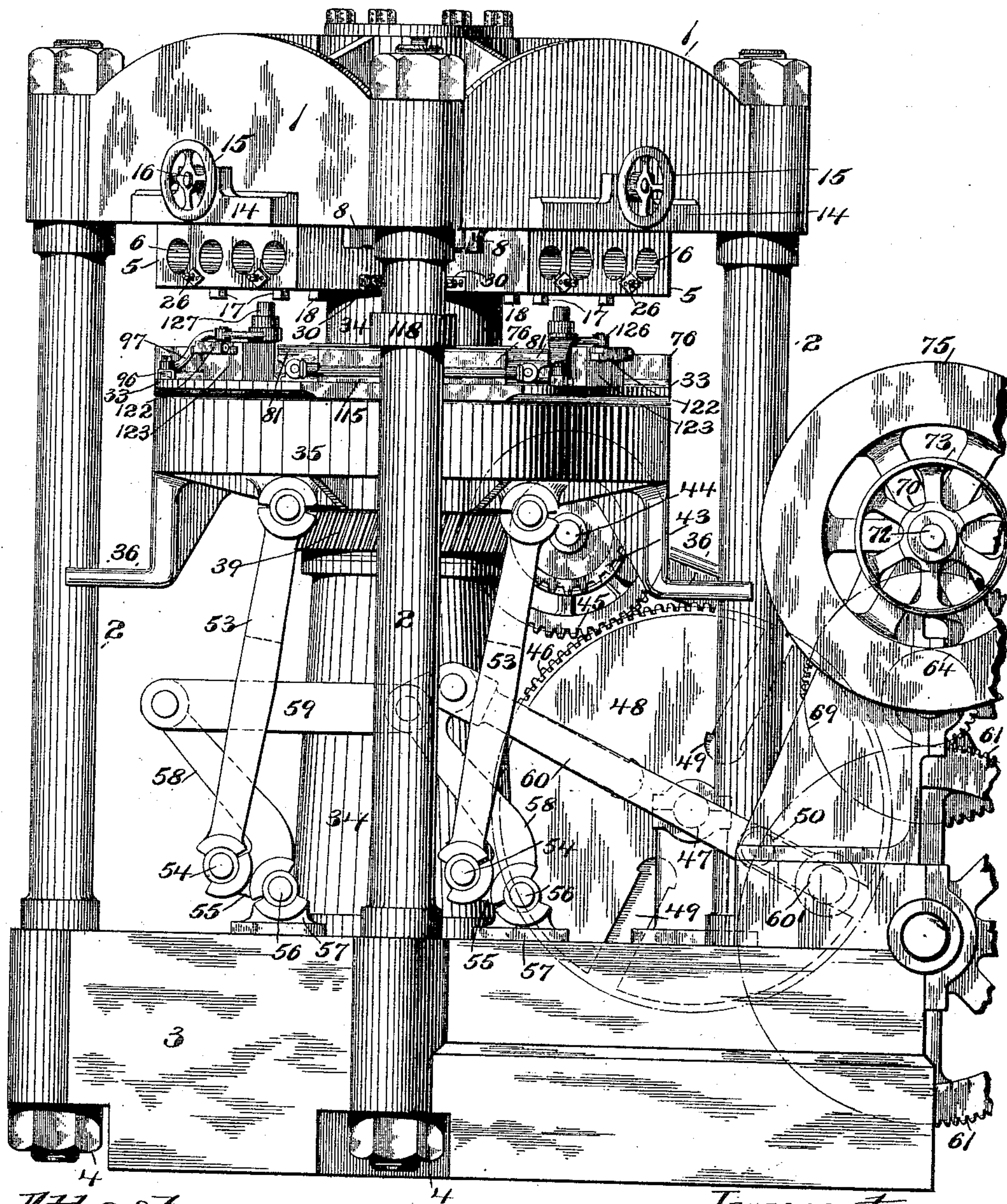
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S. K. WHITE.
EMBOSSING PRESS.
APPLICATION FILED JUNE 17, 1905.

Patented June 20, 1911.

8 SHEETS—SHEET 1.

Fig. 1.



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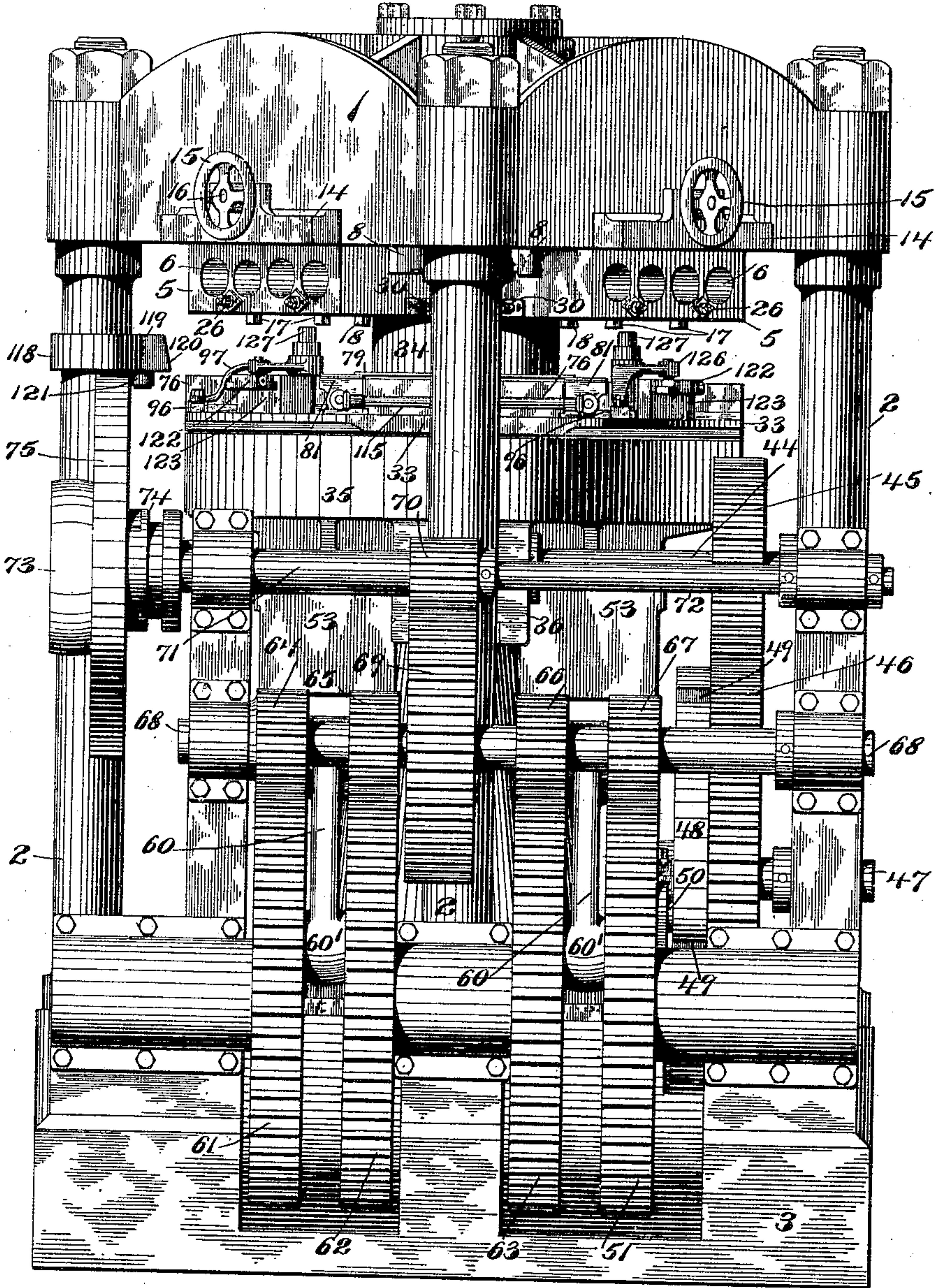
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8 SHEETS—SHEET 2.

Fig. 2.



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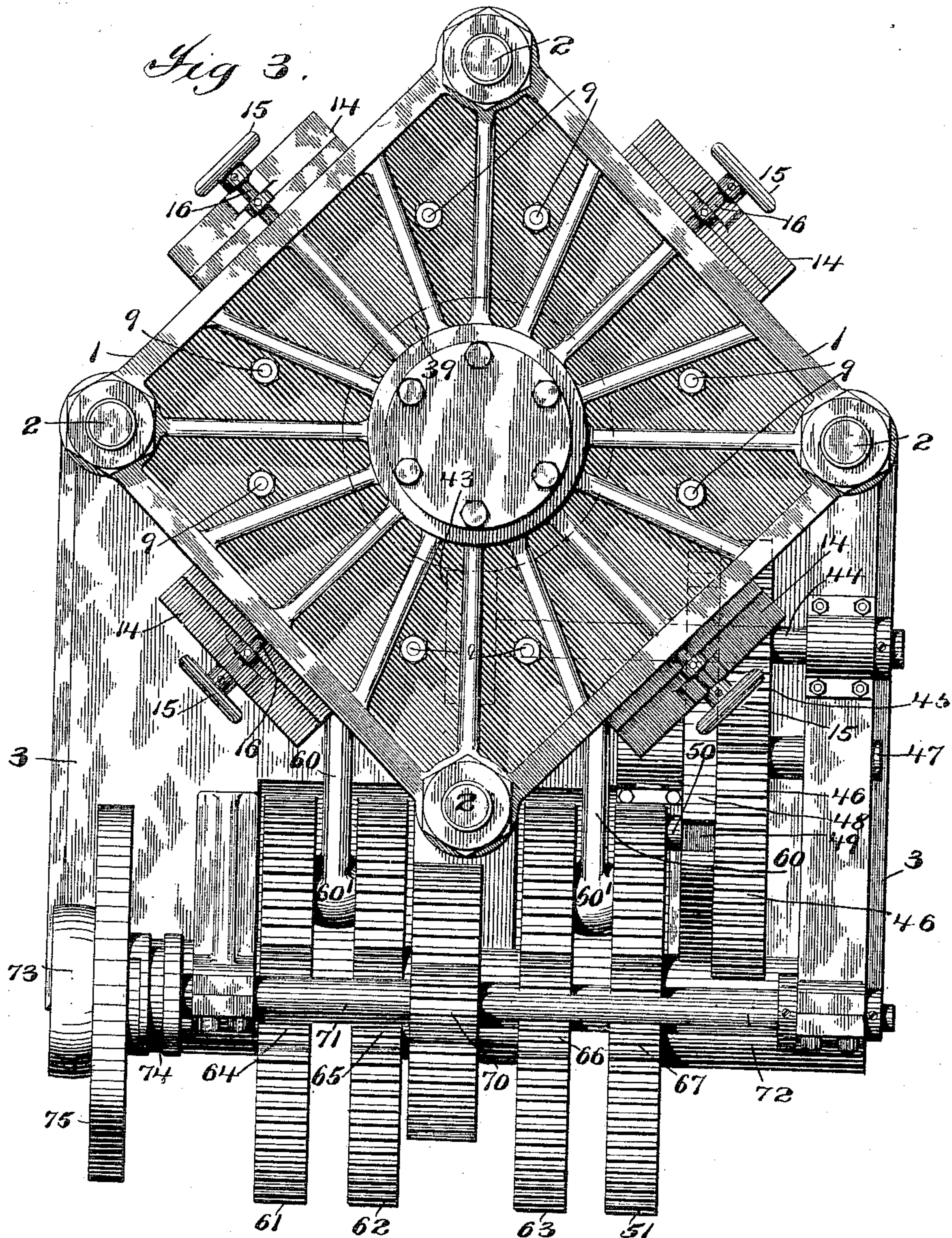
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8 SHEETS—SHEET 4.

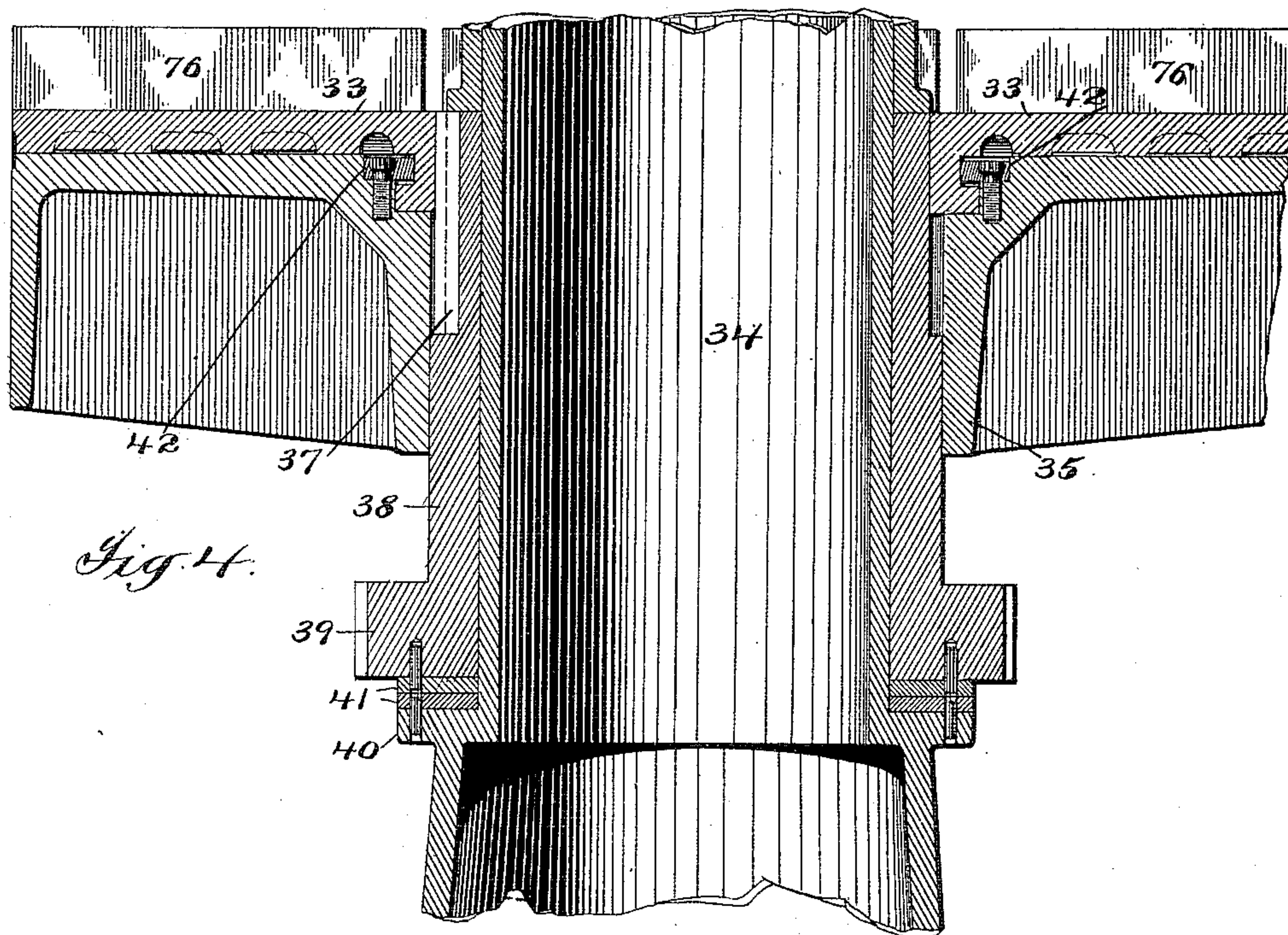


Fig. 4.

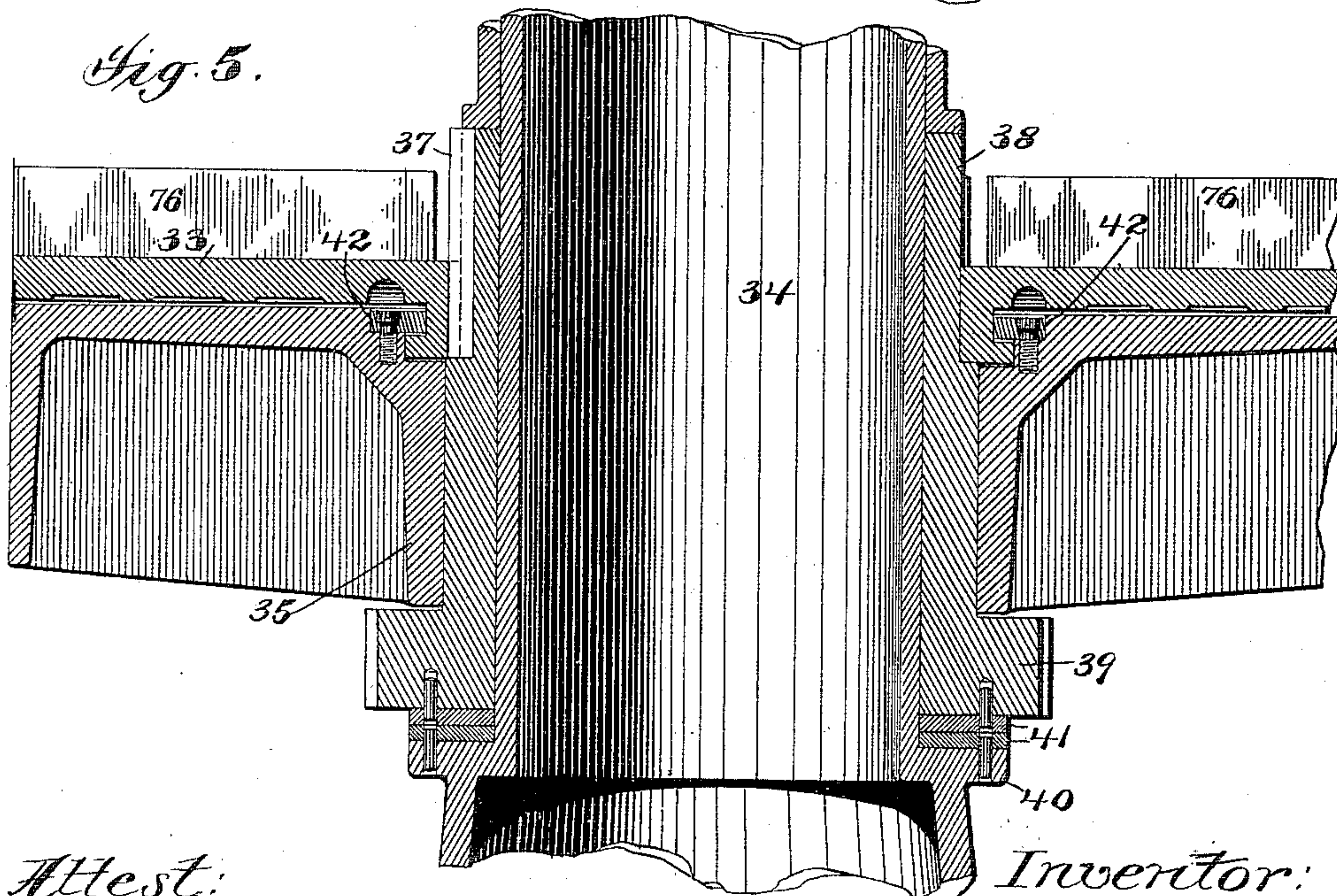


Fig. 5.

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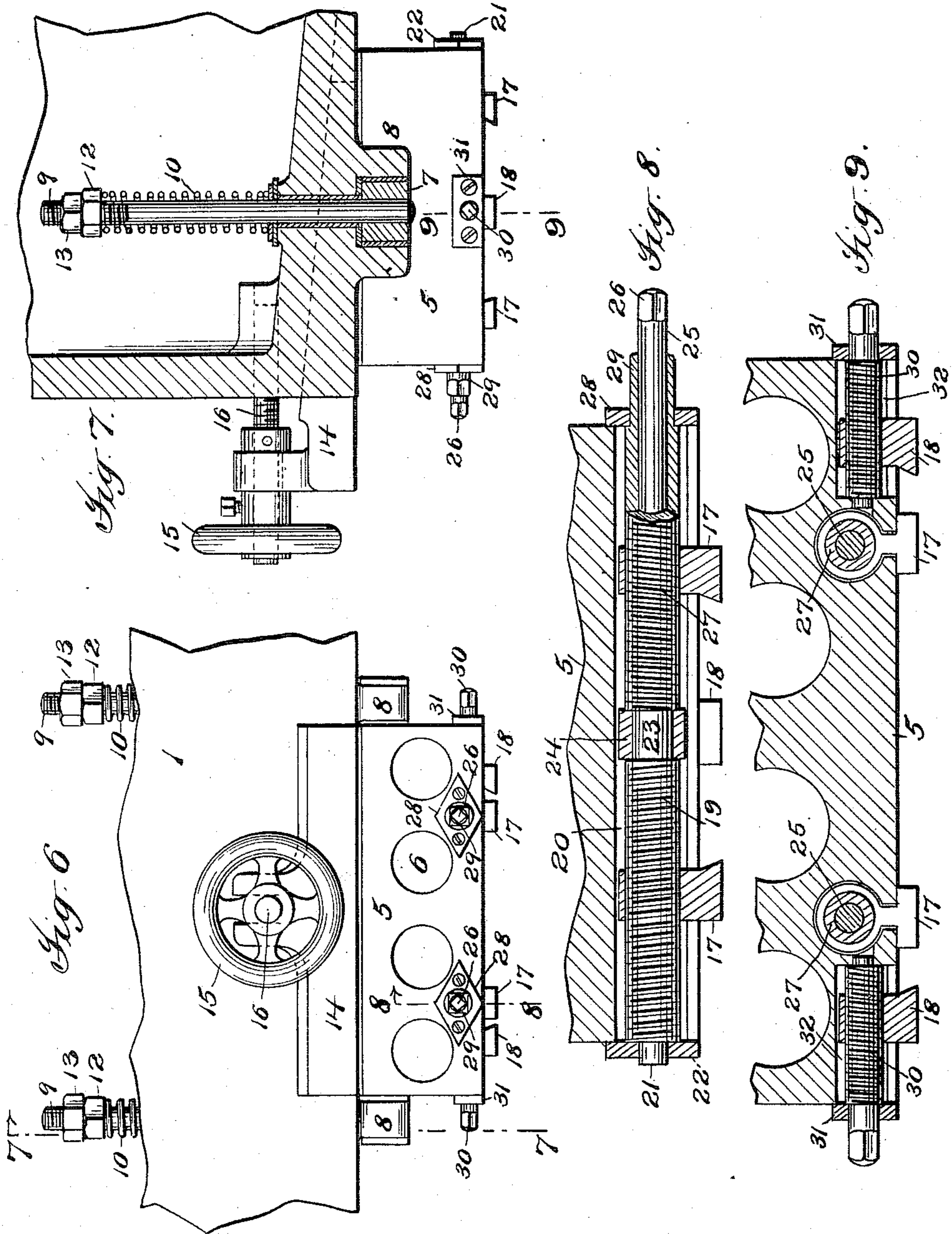
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8 SHEETS—SHEET 6.

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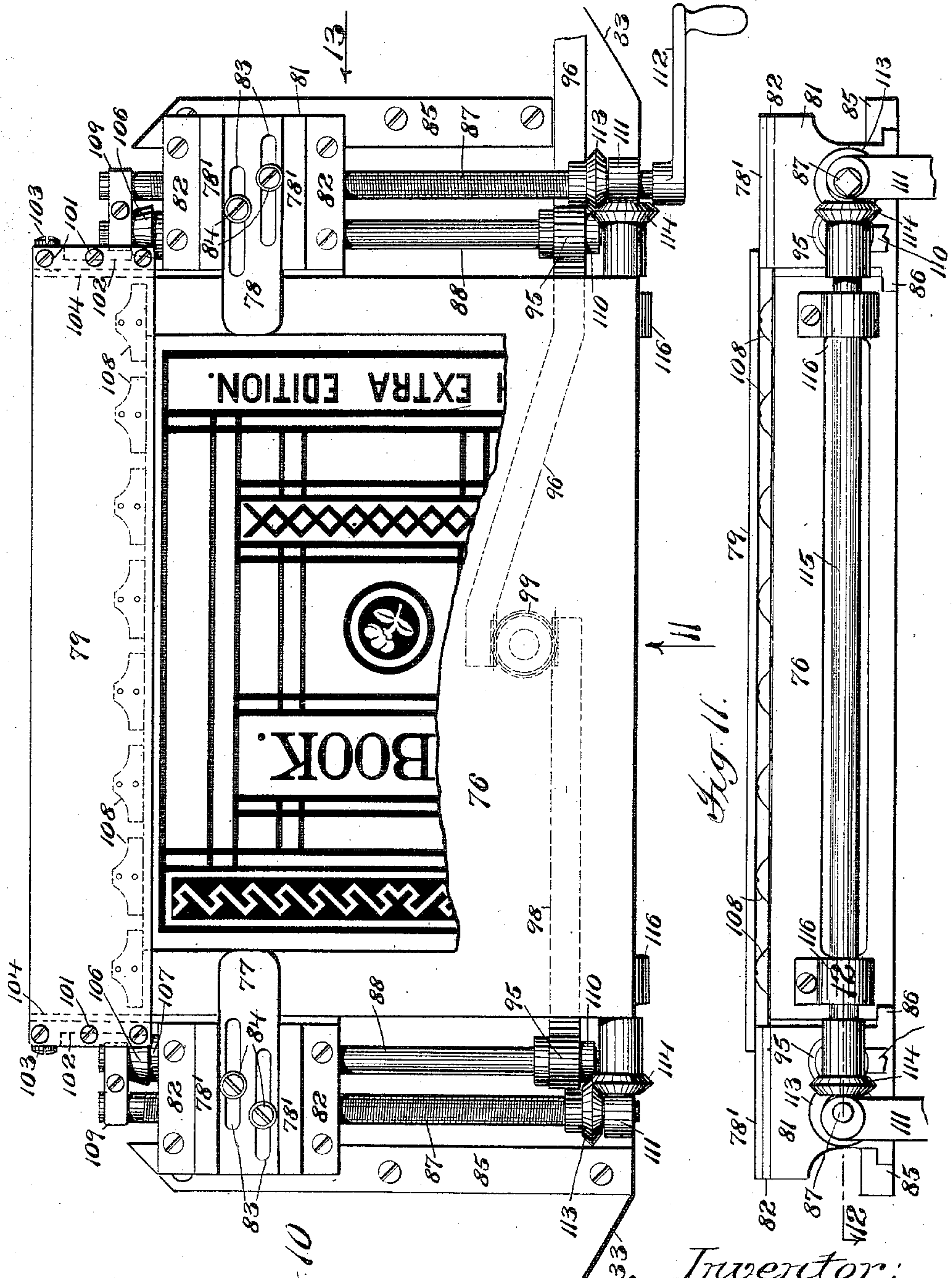
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8 SHEETS—SHEET 6.



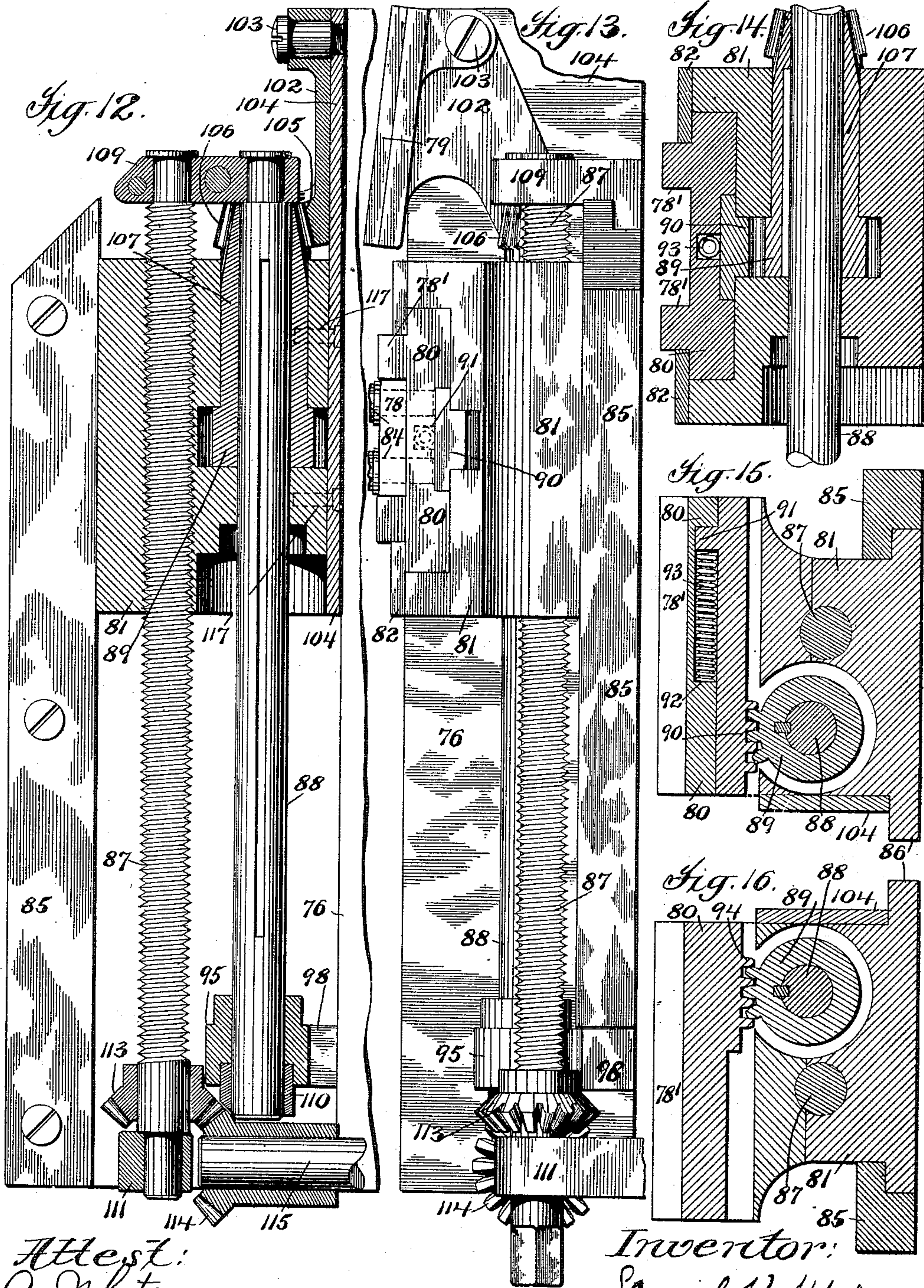
S. K. WHITE.
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8 SHEETS—SHEET 7.



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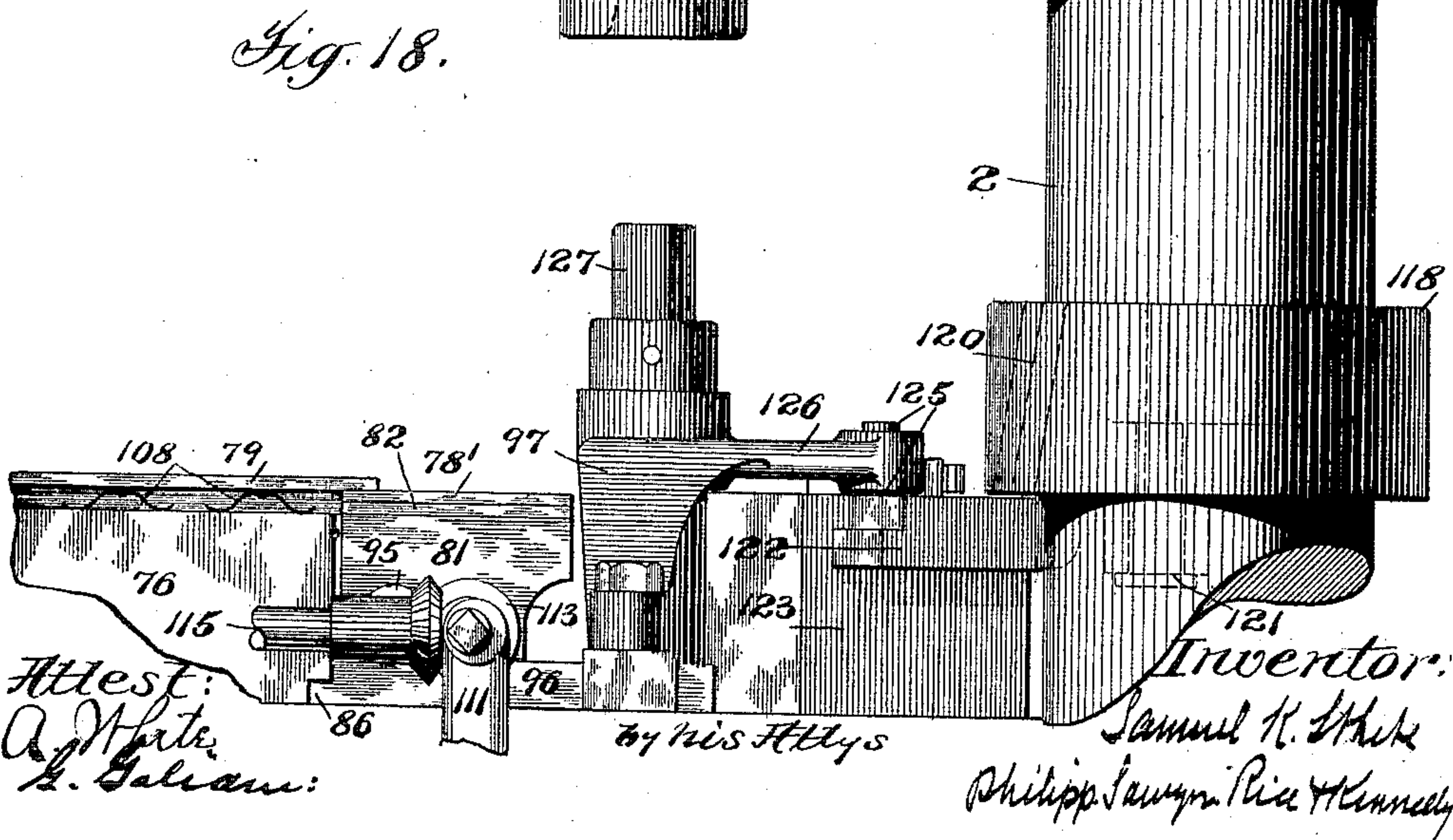
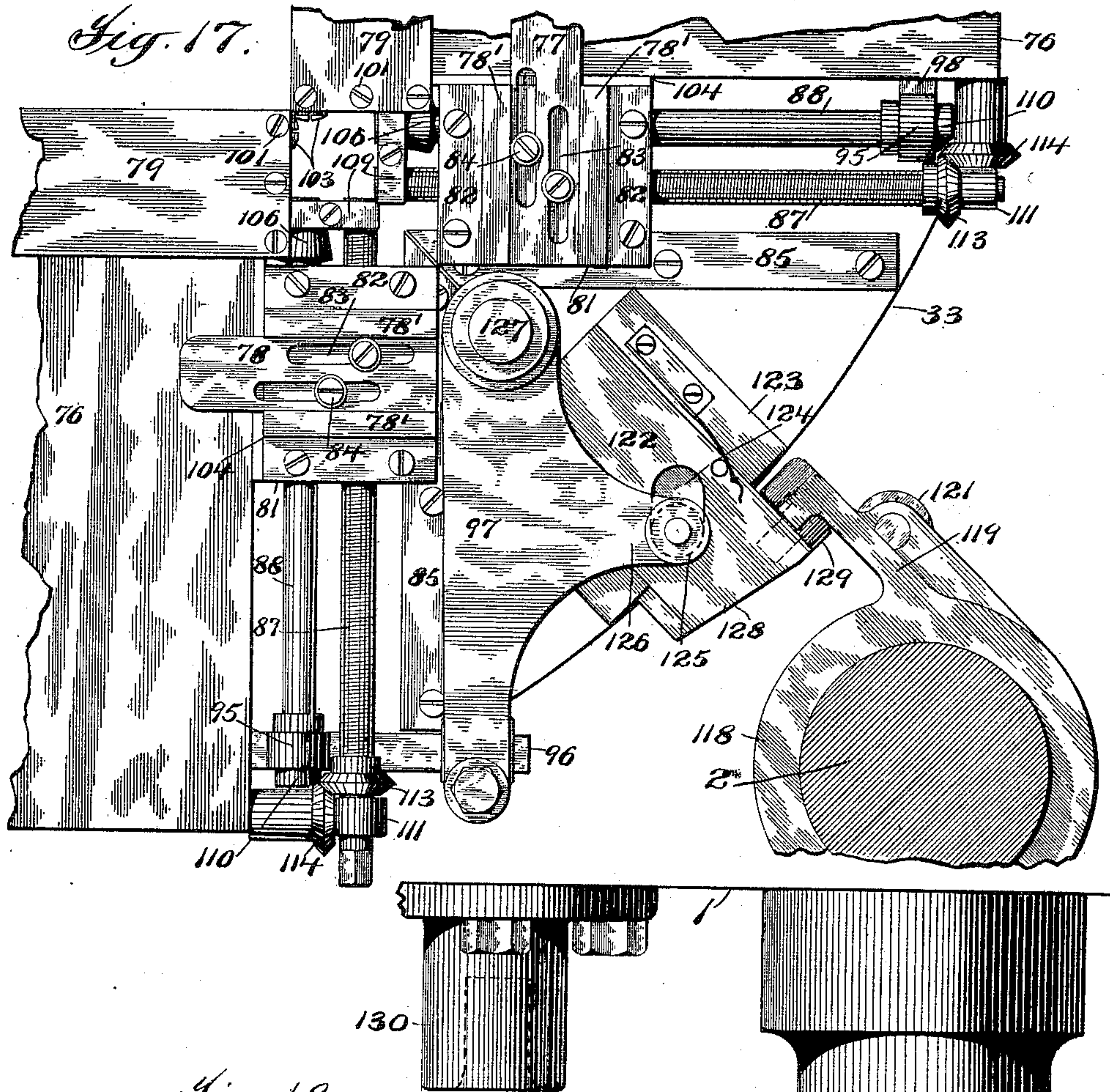
S. K. WHITE.
EMBOSSING PRESS.

APPLICATION FILED JUNE 17, 1905.

995,509.

Patented June 20, 1911.

8 SHEETS—SHEET 8.



UNITED STATES PATENT OFFICE.

SAMUEL K. WHITE, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE SMYTH MANUFACTURING COMPANY, OF HARTFORD, CONNECTICUT, A CORPORATION OF CONNECTICUT.

EMBOSSING-PRESS.

995,509.

Specification of Letters Patent. Patented June 20, 1911.

Application filed June 17, 1905. Serial No. 265,807.

To all whom it may concern:

Be it known that I, SAMUEL K. WHITE, a citizen of the United States, residing at Hartford, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Embossing-Presses, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to certain improvements in embossing presses.

In embossing presses as now usually constructed, the embossing is effected in a machine provided with a die and a bed or platen on which the work is placed, a relative movement being produced between the parts to force the work against the die. In some classes of work, however, it is necessary to subject the material to be embossed to a number of embossing operations, and this class of work is now performed by running the material through the press a number of times corresponding to the number of operations to be performed.

The present invention has for one of its objects to produce an embossing press in which a number of embossing operations may be performed on the work without removing it from the machine, whereby the embossing operations may be carried on much more rapidly than heretofore.

A further object of the invention is to improve the details of construction of embossing machines.

With these and other objects not specifically referred to in view, the invention consists in certain constructions and in certain parts, improvements and combinations as will be hereinafter fully described and specifically pointed out.

Referring to the drawings—Figure 1 is a side elevation of one form of machine embodying the invention. Fig. 2 is a rear elevation of the construction shown in Fig. 1. Fig. 3 is a top plan view of the construction shown in Fig. 1. Figs. 4 and 5 are detail sectional views on a large scale, illustrating the manner of mounting the support for the work holders. Fig. 6 is a detail front elevation, on an enlarged scale, illustrating the means for mounting the retaining blocks. Fig. 7 is a section on the line 7—7 of Fig. 6. Fig. 8 is a section on the line 8—8 of Fig. 6. Fig. 9 is a section taken on the line 9—9 of Fig. 7, through the lower

part of the retaining block at right angles to the plane of section of Fig. 8. Fig. 10 is a plan view of one of the work holders and the mechanism for operating it. Fig. 11 is a side view of the construction shown in Fig. 10, the position of the observer being indicated by the arrow 11 in that figure. Fig. 12 is a section of one end of the construction shown in Figs. 10 and 11, the plane of section being indicated by the line 12—12 of Fig. 11. Fig. 13 is an end view of the construction shown in Fig. 10, looking in the direction of the arrow 13, certain parts of the construction illustrated in Fig. 10 being omitted. Figs. 14, 15 and 16 are detail sectional views. Fig. 17 is a plan view of a portion of the support for the work holders, showing the parts of two holders and the means by which the holders are locked and released. Fig. 18 is a side view of part of the construction illustrated in Fig. 17, this view also illustrating a registering device employed.

In the particular machine selected to illustrate the invention, a plurality of die holders is employed, these die holders being mounted on a stationary bed. This stationary bed is marked 1 in the drawings and is supported by a series of pillars 2, four such pillars being shown. These pillars are secured to a heavy bed-plate 3 by nuts 4, or in any other suitable manner. The details of construction so far described, may of course, be varied, but it is to be understood that where a stationary bed carrying the die holders is employed, the bed itself and its supporting structure should be very strongly built in order to withstand the heavy pressures necessarily employed in embossing operations.

The particular form of die retainers employed may be varied with wide limits, and the number of die retainers may also be varied in accordance with the character of work which the machine is designed to produce. In the particular machine illustrated, four die retainers are employed. As these retainers are duplicates, the description of one will suffice for all. As shown, these retainers each embody a block 5 which may be, and in the best constructions will be, chambered, as indicated at 6, to provide for heating the die. The blocks 5 in the best constructions will be made adjustable toward and away from the work, so that the proper pressure may be exerted on the material to

be embossed when it is forced against the dies secured to the retainers. While the means for effecting this adjustment may be varied, in the construction illustrated, each of the blocks 5 (see Fig. 7) is provided with a pair of projections 7 which may be cast integral with the blocks or may be secured thereto in any suitable manner. The projections 7 are received in openings in lugs 8 cast on the frame and the blocks are supported by rods, which, as shown, are tapped into the projections, and pass through openings in the bed. There is a pair of these rods 9 for each block and each rod is supported by a spring 10, the spring bearing against the top of the bed or against a washer 11 resting on the bed, the other end of the spring bearing against an adjusting nut 12, by which nuts the tension of the springs may be adjusted. A lock nut, as 13 may, if desired, be employed to hold the nut 12 in position. In the particular construction illustrated, a wedge, as 14, is located between the top of the block and the under side of the bed, the under side of the bed being tapered, in the construction shown, to correspond to the taper of the wedge. The position of the wedge may be varied by means of a hand-wheel 15 and a screw 16 tapped into the front wall of the bed. It is apparent that by turning the operating hand wheels, the position of each of the blocks 5 may be adjusted vertically or toward and away from the work holders to be hereinafter described.

The means for retaining the die plates on the retaining blocks may be widely varied. In the best constructions, however, these means should be of such a character as to permit each die plate to be adjusted, so that as the work is brought against successive dies, the impressions produced by the dies may fall in the proper places on the work. In the particular construction illustrated, six retaining jaws are employed, this number being well adapted for holding an oblong plate. This number enables two pairs of jaws to be employed for holding the sides of the plate and one pair for holding the ends. In the particular construction shown, the pairs of jaws for operating on the sides of the oblong plate are marked 17, and the pair of jaws holding the ends of the plate are marked 18.

While the means for mounting and operating the jaws may be varied, in the best constructions each jaw will be independently adjustable, so that a practically universal adjustment of the plate may be had. As shown, the jaws 17 for operating on one side of the plate are mounted on screws 19, these screws being located in channels 20 in the lower part of the blocks 5. These screws have journals 21 formed on their rear ends which are supported in clips 22

secured to the back of the blocks 5. The screws have other journals 23 formed at about their centers which are supported in bearings 24 secured in the channels 20, and have long reduced forward parts 25 which are provided with squared heads 26. Surrounding the reduced forward parts 25 of these screws 19 are screws 27 which carry the jaws 17 for operating on the other side of the plate. These screws 27 pass at their front ends through bearings 28 secured to the front side of the plate and are provided with squared heads 29. The jaws 18 for holding the end portions of the plate are mounted on screws 30, these screws being supported in bearing plates 31 secured to the blocks 5, and being located in channels 32 in the ends of which bearings are formed for the rear ends of the screws. The walls of the channels 20 and 32 are slotted to permit the jaws to work through them in a well-known manner.

The construction just described provides for a practically universal adjustment of any die plate inasmuch as any one of the jaws can be adjusted without disturbing the adjustment of any other jaw, or any combination of jaws can be adjusted independently of any other combination of jaws. Thus, by operating the screws 30 the plate can be adjusted endwise without disturbing the sidewise adjustment. By operating the screws 25, the jaws 17 which operate on one side of the plate can be adjusted to effect a sidewise adjustment of the plate, and by adjusting one of these screws more than the other an angular adjustment of the plate can be obtained.

In the best constructions a plurality of work holders will be employed and these work holders will be given a traveling movement. In the particular construction shown, this traveling movement is a rotating movement, the holders being mounted on a support 33 which is in the form of a circular plate. This plate rotates around a central standard 34 which is connected to the bed 1 and to the plate 3. As shown, this support is not only given rotating movements which movements operate to properly position the work holders beneath the dies on the die retainers, but has other movements given it which permit embossing movements, that is, movements by which the work in the work holders is forced against the dies. In the particular construction illustrated, the support 33 rests on a carrier 35 in the form of a circular table, this carrier being provided (see Fig. 1) with yokes or fingers 36 which embrace two of the pillars 2, thus preventing the carrier from having a rotating movement. The support is secured by means of a feather 37, or in any other suitable manner, to a sleeve 38 which surrounds the standard 34, this sleeve having

a pinion 39 formed on its lower end. This sleeve and pinion are supported by a shoulder 40 formed on the standard, wear plates 41 being introduced, if desired, between the pinion and the shoulder. The carrier 35 surrounds this sleeve 38 and is movable thereon. Gibs 42 connect the support and the carrier, these gibs permitting the support to rotate on the carrier but requiring the vertical movements, to be hereinafter described, which are given the support and carrier, to take place simultaneously.

In the machine selected to embody the invention, the support for the work holders is given a step by step rotating movement and between these movements the support is given vertical movements by which the work in the holders is forced against the dies, the vertical movements being referred to as the embossing movements.

While the step by step rotating movement may be produced in any desired manner, as shown, the gear 39 hereinbefore referred to which is a spiral gear, is utilized for this purpose in connection with the mechanism which will now be described. Meshing with this spiral gear 39 is another spiral gear 43 mounted on a shaft 44. This shaft 44 is provided with a pinion 45 which meshes with a gear 46 mounted on a short shaft 47. Mounted on the shaft 47 and fast to the gear 46 is a slotted wheel 48, the slots in this wheel being marked 49. This wheel is of the kind ordinarily used in the well-known mechanical movement usually termed the Geneva movement. This slotted wheel 48 is given step-by-step rotating movements by means of a stud 50 mounted on a gear 51 which gear will be hereinafter referred to. As this gear 51 rotates, however, it will be seen that on each revolution, the stud 50 will enter one of the slots and give the wheel 48 a quarter turn which, through the gearing hereinbefore described, will give the spiral gear 39 and its sleeve 38 a quarter turn, and consequently the support 33 on which the work holders are mounted a quarter turn, this being the movement required in the machine illustrated to move the work supports from one die retainer to the next.

While the embossing movements hereinbefore referred to may be effected in any desired manner, in the construction shown, the carrier 35 has connected to it four toggle links 53 (see Fig. 1), which are in the form of broad plates. Each of these links is pivoted at 54 to short arms or links 55 pivoted at 56 in bearings 57 mounted on the plate 3. These arms 55 have formed integral therewith operating levers 58. There are two of these toggles on each side of the machine, and the operating levers 58 of the two toggles on each side of the machine are connected by a link 59. One of the levers

58 (see Fig. 1) is operated by a connecting rod 60 fast to the lever and a wrist pin 60'. The wrist pin of one pair of toggles, namely, the pair nearest the observer as the machine is illustrated in Fig. 1, is carried, see Fig. 2, by two gears 61, 62. The wrist pin for the other pair of toggles, to wit, the toggles on the rear side of the machine, is carried by a pair of gears, one of these gears being the gear 51 before referred to and the other being marked 63. The gears 61, 62, 63 and 51 are driven by pinions 64, 65, 66 and 67, these pinions being carried on a shaft 68 supported in bearings bolted to the frame. This shaft 68 is provided with a gear 69 which is in mesh with a pinion 70 on a sleeve 71, this sleeve being supported on a shaft 72 which carries the belt pulley 73. A clutch 74 of ordinary construction connects the sleeve and a balance wheel 75 which is fast to the driving pulley.

The gearing before described, as will be readily understood, will alternately make and break the toggles, thus lifting and lowering the carrier 35 and the support 33, and as the gear 51 rotates, it will be understood that it will, through the Geneva movement and other connections referred to, give the support 33 step by step rotating movements which take place between two successive lifting movements of the carrier 35.

The machine will be provided with a suitable holder or holders in which the work to be embossed will be placed in order that it may be subjected to the action of the die. While the construction of these holders may be varied within wide limits, in the particular construction illustrated, the work will be placed on a bed 76 and held thereon between two holding fingers 77 and 78 which operate on two sides of the work, the work being further held by a clamp 79 which operates on one of its edges (see Fig. 10) in which the work to be embossed,—a book cover—is shown in position in the holder. The fingers 77, 78, when this form of holding device is employed, may be mounted and operated in any desired manner. As shown, the finger 78 lies between ribs 78' (see Figs. 10 and 14) on a plate 80 which is mounted in a recess in a block 81, the plate being held in the recess by means of gibs 82, or in any other suitable manner. The finger 78 is adjustably connected to the plate 80 by means of slots 83 and screws 84, or in any other suitable manner. There are, of course, as many of these blocks 81 as there are clamping fingers 78, there being four in the machine illustrated, and each of the blocks 81 rests on the support 33, the blocks being held on the support by gibs 85, or in any other suitable manner. In the particular construction shown, each of these blocks 81 is further provided with a projection 86 which underlies the plate 76 on

which the work rests. The slots 83 and screws 84 provide for an adjustment of these fingers 78 toward and away from the work. Means will, however, in the particular machine shown, be provided for adjusting the fingers along the work. While this may be accomplished in any desired manner, as shown there is provided a screw shaft 87 which takes into a threaded aperture in the block.

Means are provided for moving the finger 78 toward and away from the work in order to clamp and release the work. While this may be effected in any desired manner, in the construction shown, there is provided a shaft 88, this shaft having a segment gear 89 thereon, meshing with a toothed rack 90 which slides in a recess in the under side of the plate 80, the teeth on this rack projecting through a slot in the block 81 (see Figs. 14 and 15). This rack has an operating shoulder 91 and between this shoulder and a shoulder 92 on the under side of the plate 80 there is located a spring 93. When the shaft 88 is turned, the rack 90 is moved either forward or backward, as the case may be, and when moving forward, it moves the plate 80 forward through the action of the spring 93. This spring permits the rack to move after the finger has come in contact with the work without producing any further movement of the finger.

The finger 77 is mounted and operated in the same way as the finger 78, except that (see Fig. 16) the rack 90 and the spring 93 are omitted and the teeth on the pinion 89 mesh with teeth 94 formed directly on the underside of the plate 80.

In the machine shown, the fingers 77 and 78 are simultaneously operated to clamp the work, and through the construction described, the work is always brought into proper register by the finger 77. When, for instance, the two shafts 88 (see Fig. 10) are rotated to advance the fingers and the fingers strike the work, the finger 77 will be positively advanced an amount corresponding to the amount of rotation given the shaft 88 which drives that finger. The finger 78, however, can, if necessary, be forced back against the spring 93. The work is, therefore, always positioned by the finger 77 of each work holder. The shafts 88 may be operated in any desired manner. As shown (see Figs. 10 and 11) each of these shafts is provided with a pinion 95. The pinion 95 on the shaft 88 for operating the fingers 78 is in mesh with teeth on a sliding rack 96, this rack being connected to a lever 97 (see Fig. 17) which will be hereinafter referred to. The pinion 95 on the other shaft 88 is in mesh with a sliding rack 98. The rack 96 has teeth formed on its inner end (see Fig. 10) these teeth being in mesh with a pinion 99, this pinion being secured to

the under side of the plate 76 and being in mesh with teeth formed on the end of the rack 98. When the rack 96 is operated, it will be seen that both shafts 88 will be rocked simultaneously toward or away from each other, according to the direction of movement of the rack 96, thus moving the fingers 78, 77 into and out of operative position with respect to the work on the support.

The clamp 79 hereinbefore referred to, when such a clamp is employed, may be mounted and operated in any desired manner. In the particular construction shown, this clamp 79 is secured by screws 101, or in any other suitable manner, to a pair of rocking plates 102 (see Fig. 13) there being one of these plates at each end of the clamp 79. These rocking plates 102 are pivoted on screws 103 which are tapped into slides 104, these slides resting on the projections 86 of the blocks 81 before referred to. The rocking plates 102 have gear teeth 105 formed on one end, these plates, therefore, being in reality segment levers. The teeth 105 mesh with bevel pinions 106, the teeth of these pinions being integral with a sleeve 107, this sleeve having on its other end the teeth which form the gears 89. The sleeve is connected to the shaft 88 by means of a feather, or in any other suitable manner which will allow the sleeve to have a longitudinal movement with respect to the shaft. It has been heretofore stated that when the shafts 86 are rocked, the fingers 77, 78 are thrown into and out of engagement with the work, according to the direction of movement of the shafts. It is obvious that the movement of these shafts 88 will also, through the rocking plates 102, throw the clamp 79 into and out of engagement with the work.

In the construction shown, each clamp 79 carries on its under side spring stops 108 which prevent the work from passing too far underneath the clamp and at the same time allow the clamp to descend a greater or less extent according to the thickness of the work.

The shafts 87, 88 are supported at their inner ends in a double bearing 109. The other ends of the shafts 88 are supported in bearings 110 rising from the support 33 and the other ends of the shafts 87 are supported in bearings 111 also rising from the plate 33.

In the particular construction shown, provision is made for a simultaneous adjustment of the fingers 77, 78 and the clamp 79. While the means by which this is effected may be varied, in the construction shown, one of the shafts 87 (see Fig. 10) is provided with a squared end on which may be placed a crank handle 112. This shaft 87 carries a bevel gear 113 and a similar bevel gear is mounted on the other shaft 87.

These two bevel gears 113 are in mesh with bevel gears 114 which are mounted on the end of a shaft 115 supported in bearings 116 located on the front of the plate 76. With this construction it is apparent that when the screw shaft 87 is turned by the crank handle, the other screw shaft will be turned and this rotation of these screws will move the blocks 81 in one direction or the other according to the direction of rotation of the screw shaft. The plates 104 which are the plates to which the rocking plates 102 are secured, are secured by screws 117, or in any other suitable manner, to the blocks 81, so that as the blocks are moved in one direction or the other, the clamps 79 will move with them.

It has been heretofore stated that the rack 96 by which the locking and releasing movements of the fingers 77, 78 and the clamp 79 is produced is operated by a rock lever 97. In the best construction, the clamps will be locked and released at one point in the rotation of the support 35, or during the time when the work holder is passing from the last die of the series to the first die of the series. While this may be accomplished in any desired manner, in the construction shown, one of the pillars 2 is provided with a collar 118 and from this collar projects an arm 119 which carries a beveled or cam surface 120 and a roller 121. The support 33 is provided with a slide plate 122 which moves in guides 123 secured to the support 33, this slide having a slot 124 which is engaged by a stud 125 fast on an arm 126 which is formed integral with the lever 97. The lever 97 is pivoted on a long stud 127 which rises from the support 33. The slide 122 has a beveled edge 128 and is also provided with a pin 129. In the rotation of the bed, when a given work holder comes opposite the roll 121, the beveled edge 128 strikes the roll 121 which moves the slide 122 inward, this movement of the slide being transmitted, through the arm 126 and lever 97 to the rack 96, this movement of the rack being the proper movement to release the fingers and clamp before referred to. The work which has been placed in the clamp may now be removed and fresh work substituted. This opening movement of the clamps is completed at about the time the support 33 completes one of its step by step movements. This support is now thrown up by the toggle mechanism before described, and as it rises the stud 129 strikes the cam surface 120, thus moving the slide in the opposite direction and closing the clamps. In order to cause the rising movement of the support 33 to take place truly, the stud 127 is caused to enter a socket in a casting 130 secured to the top plate 1 before referred to.

The machine selected to embody the in-

vention is particularly adapted for the embossing of book covers.

It is to be understood that the construction by which the invention is carried into effect may be varied within wide limits. The invention is not, therefore, to be confined to the specific construction hereinbefore set forth.

What is claimed is:—

1. In an embossing press, the combination with a bed, of a plurality of die retainers mounted on the under side thereof, a support arranged beneath the bed and carrying a plurality of holders for the material to be embossed, means for moving the support to bring each holder successively into position with respect to the die retainers, and means for further moving the support to force the material to be embossed against the dies.

2. In an embossing press, the combination with a stationary bed, of a plurality of die retainers mounted thereon, a support, a work holder for the material to be embossed mounted on the support, and means for giving the support successive positioning and embossing movements.

3. In an embossing press, the combination with a stationary bed, of a plurality of die retainers mounted thereon, a support, a plurality of work holders for the material to be embossed mounted on the support, means for giving the support movements to bring the work holders successively into operative position with respect to the die retainers, and means for giving the support embossing movements whereby the work in the holders is simultaneously subjected to the action of the dies.

4. In an embossing press, the combination with a stationary bed, of a plurality of die retainers mounted thereon, a support, a plurality of work holders mounted on the support, means for giving the support successive rotating movements to bring each work holder beneath each die retainer, and means whereby the work in the holders is subjected to the action of the dies in the retainers.

5. In an embossing press, the combination with a stationary bed, of a plurality of die retainers mounted thereon, a support, a plurality of work holders mounted on the support, means for giving the support successive rotating movements to bring each work holder beneath each die retainer, and means for giving the support embossing movements whereby the work in all the holders is subjected simultaneously to the action of the dies in the retainers.

6. In an embossing press, the combination with a stationary bed, of a plurality of die retainers mounted thereon, a support, a plurality of work holders mounted on the support, a carrier for the support, means for giving the support rotating movements to

successively position the work holders with respect to the dies, and means for giving the carrier movements for forcing the work in the holders against the dies in the retainers.

5 7. In an embossing press, the combination with a bed, of a plurality of die retainers mounted thereon, adjusting devices for each retainer whereby each retainer and the die
10 carried thereby may be properly positioned, a work holder, and means for effecting relative movements between the work holder and the bed to cause the work in the holder to be successively brought into embossing relation with the die in each retainer.

15 8. In an embossing press, the combination with a bed, of a plurality of die retainers mounted thereon, an adjusting device for each retainer, a support, a plurality of work holders mounted on the support, means for
20 giving the support successive movements to position each work holder with respect to each die retainer, and means for causing the work in the holders to be simultaneously brought into embossing relation with respect
25 to the dies in the retainers.

9. In an embossing press, the combination with a bed, of a plurality of die retainers mounted thereon, a support, a plurality of work holders mounted on the support, each
30 of said holders including suitable clamping means, means for rotating the support, locking and releasing devices to which the clamping means of each holder are successively presented, and means for giving the
35 support embossing movements.

10. In an embossing press, the combination with a bed, of a plurality of die retainers mounted thereon, adjusting devices for each die retainer, a support, a plurality of
40 work holders mounted on the support, said work holders including suitable clamping devices, means for adjusting the position of the work in each holder, means for rotating the support and for giving it movements to
45 bring the work in the holders into embossing relation with the dies in the retainers, and locking and releasing devices for the clamping devices, the clamping device for each holder being successively presented to said
50 locking and releasing devices.

11. In an embossing press, the combination with a bed, of a plurality of die retainers mounted thereon, a central standard, a support mounted to rotate about the standard, a plurality of work holders mounted on the
55 support, a carrier, and means for giving the carrier and support movements lengthwise of the standard to bring the work in the holders into embossing relation with the dies in the retainers.
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12. In an embossing press, the combination with a bed, of a plurality of die retainers mounted thereon, a central standard, a support mounted to rotate about the standard, a plurality of work holders including
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suitable clamps mounted on the support, means for giving the support the rotating movements and movements lengthwise of the standard whereby the work in the holders is successively presented to the dies in the retainers, and locking and releasing devices to which the clamping device of each holder is successively presented. 70

13. In an embossing press, the combination with a bed, of a plurality of die retainers mounted thereon, a central standard, a support mounted to rotate about the standard, a plurality of work holders including suitable clamps mounted on the support, a carrier, means for giving the standard and support movements lengthwise of the standard whereby the work in the holders is presented to the dies in the retainers, and locking and releasing devices to which the clamping device of each work holder is successively presented. 75 80 85

14. In an embossing press, the combination with a bed, of a plurality of die retainers mounted thereon, a central standard, a support, a plurality of work holders mounted on the support, gearing for rotating the support about the standard, a carrier for the support, and a toggle mechanism for moving the carrier and support lengthwise of the standard. 90 95

15. In an embossing press, the combination with a bed, of a plurality of retainer blocks, means for adjusting the position of the blocks with respect to the bed, die clamps mounted on the blocks, operating means for said clamps, a plurality of work holders, and means for causing the work in the holders to be successively presented to the dies in the clamps. 100

16. In an embossing press, the combination with a bed, of a plurality of retainer blocks mounted thereon, means including a suitable wedge for adjusting the position of each block with respect to the bed, screw operated die clamps on the blocks, a plurality of work holders, and means for successively presenting the work in the holders to the dies in the clamps. 105 110

17. In an embossing press, the combination with a bed, of a plurality of die retainers mounted thereon, means for adjusting the position of the retainers, a support, a plurality of work holders mounted on the support, means for adjusting the position of the work held by the holders, a standard, gearing for rotating the support about the standard, and means including a toggle mechanism for moving the support lengthwise of the standard. 115 120

18. In an embossing press, the combination with a bed, of means for supporting a plurality of die retainers, a work support, means for effecting relative traveling and embossing movements between the support and retainers, and means for effecting an 125 130

adjustment of the dies in the retainers in the direction of the embossing movements.

19. In an embossing press, the combination with a bed, of means for supporting a plurality of die retainers, a work support, means for effecting relative traveling and embossing movements between the support and retainers, and means for effecting an adjustment of the dies in the retainers in the direction of the traveling movements.

20. In an embossing press, the combination with a bed, of means for supporting a plurality of die retainers, a work support, means for effecting relative traveling and embossing movements between the support and the retainers, and means for effecting an adjustment of the dies in the retainers across the line of the traveling movements.

21. In an embossing press, the combination with a bed, of means for supporting a plurality of die retainers, a work support, means for effecting relative traveling and embossing movements between the die and the work support, and means for effecting a universal adjustment of the die with respect to the retainer.

22. In an embossing press, the combination with a bed, of means for supporting a plurality of die retainers, a work support,

means for effecting a universal adjustment of the die with respect to the retainer, and means for adjusting the retainer in the direction of the embossing movement.

23. In an embossing press, the combination with a work supporting bed, of a work holder including a pair of holding fingers, one of said fingers being rigidly mounted and the other yieldingly mounted, and connections whereby both fingers are automatically thrown into operative position.

24. In an embossing press, the combination with means for supporting a plurality of dies, of a support, means for giving the support a rotating movement, a plurality of work holders mounted on the support including suitable clamping devices, locking and releasing devices located alongside the path of movement of the support, and connections operated by said devices for locking and releasing the clamping devices.

In testimony whereof, I have hereunto set my hand, in the presence of two subscribing witnesses.

SAMUEL K. WHITE.

Witnesses:

MARY E. CREEDON,
F. D. TAYLOR.