

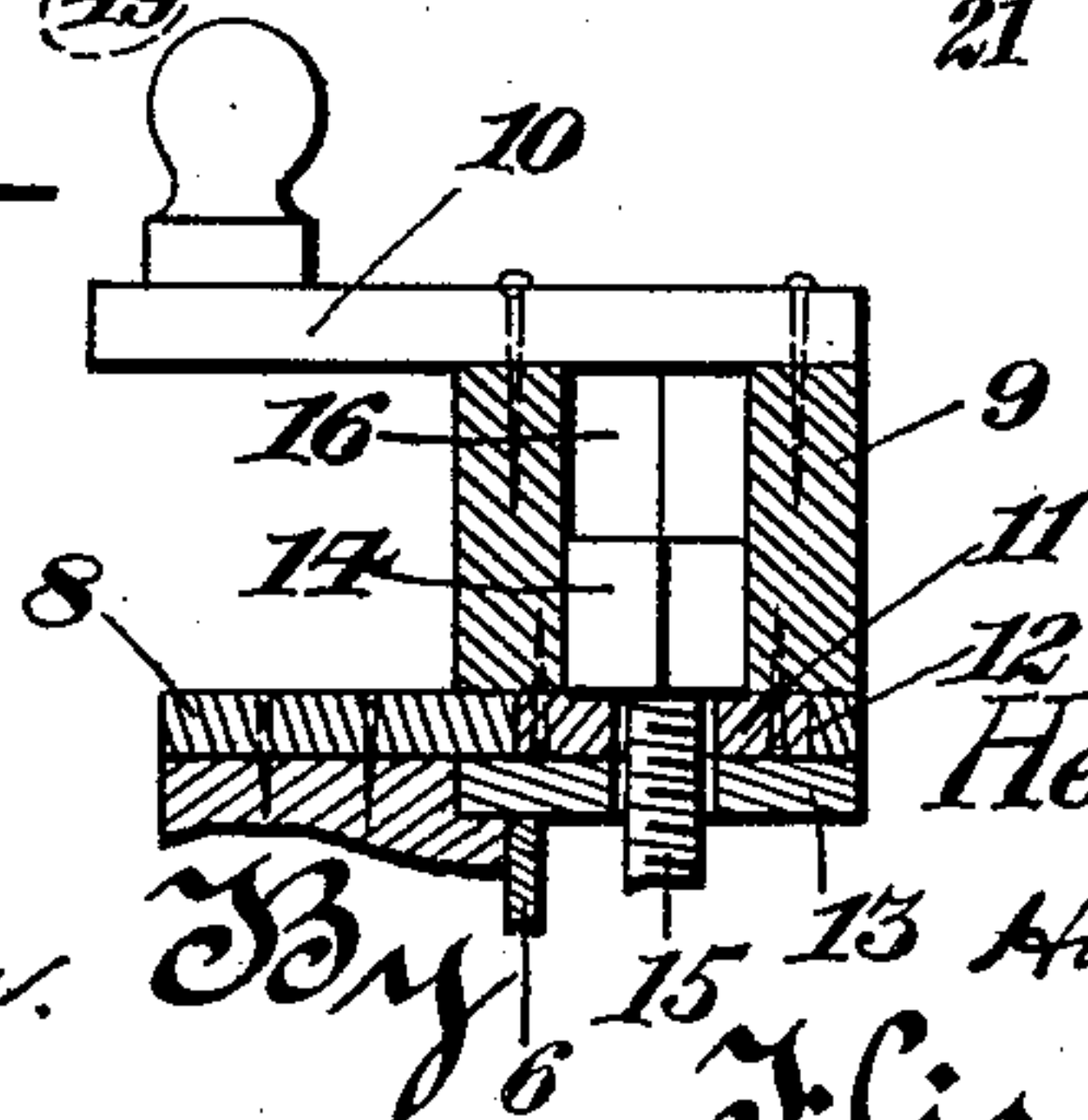
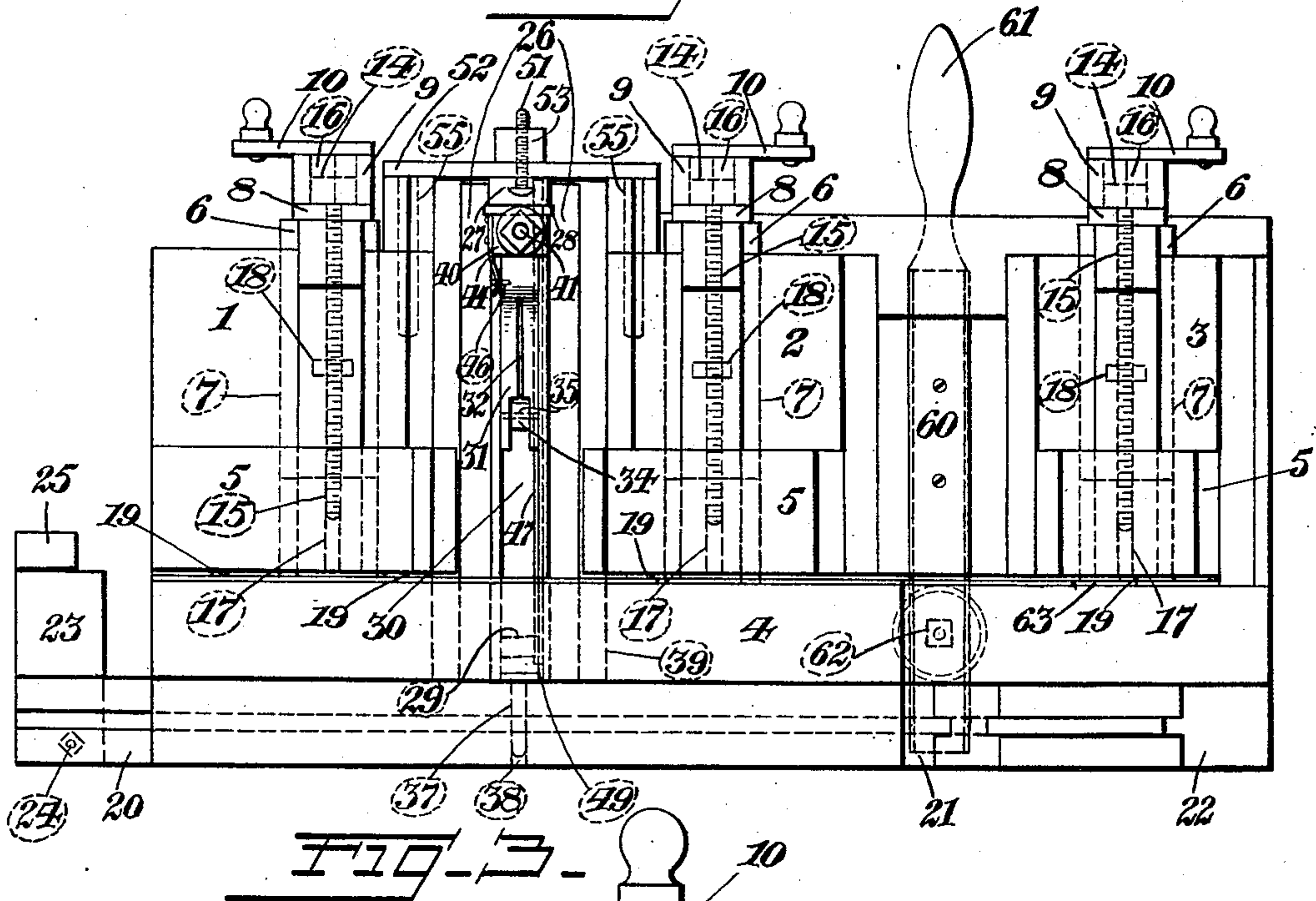
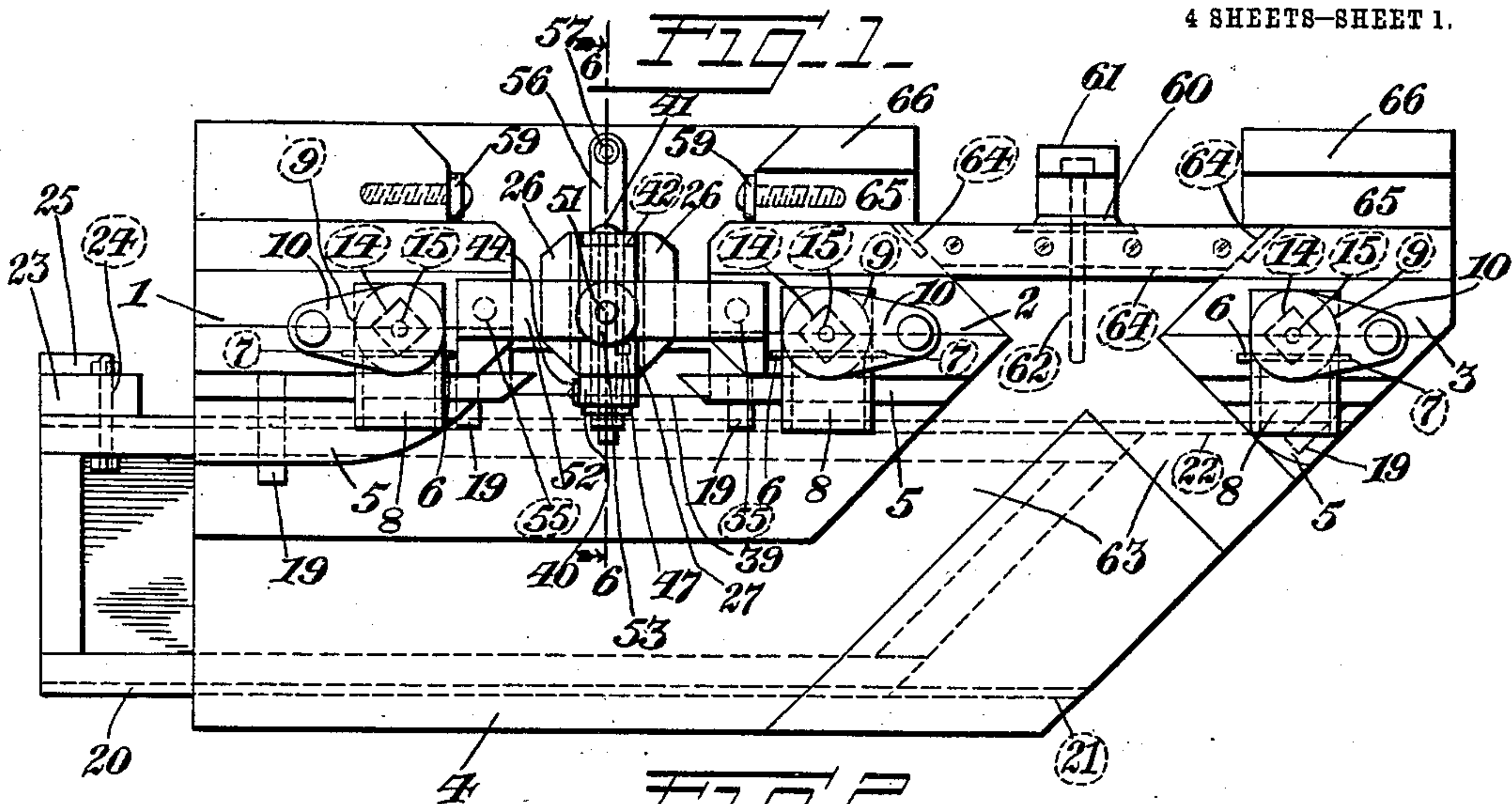
H. L. ROEWE.
MITER BOX.

APPLICATION FILED MAR. 26, 1910.

998,989.

Patented July 25, 1911.

4 SHEETS—SHEET 1.



Witnesses:
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George G. Anderson.

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H. L. ROEWE.

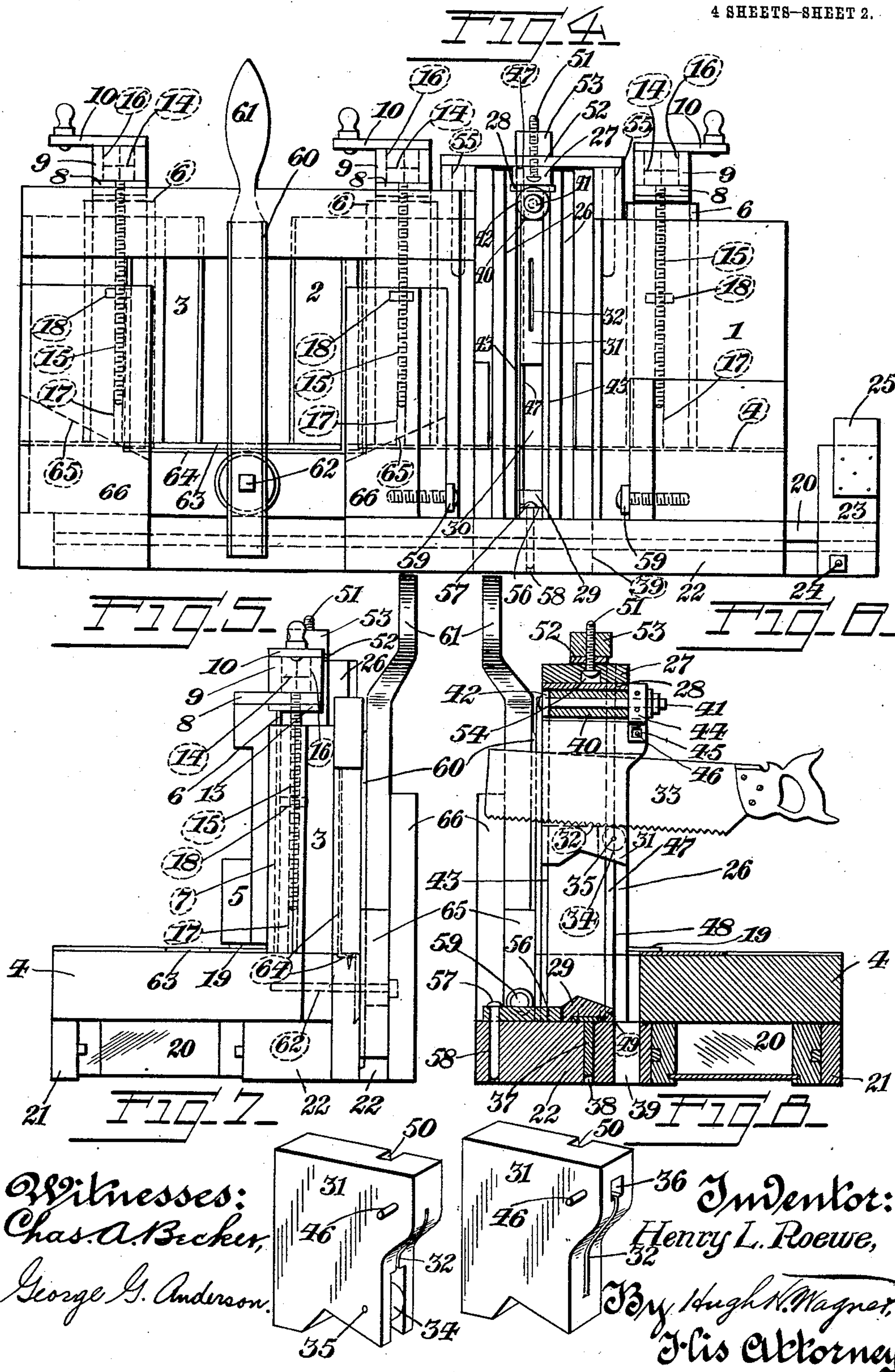
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4 SHEETS-SHEET 2.



H. L. ROEWE.

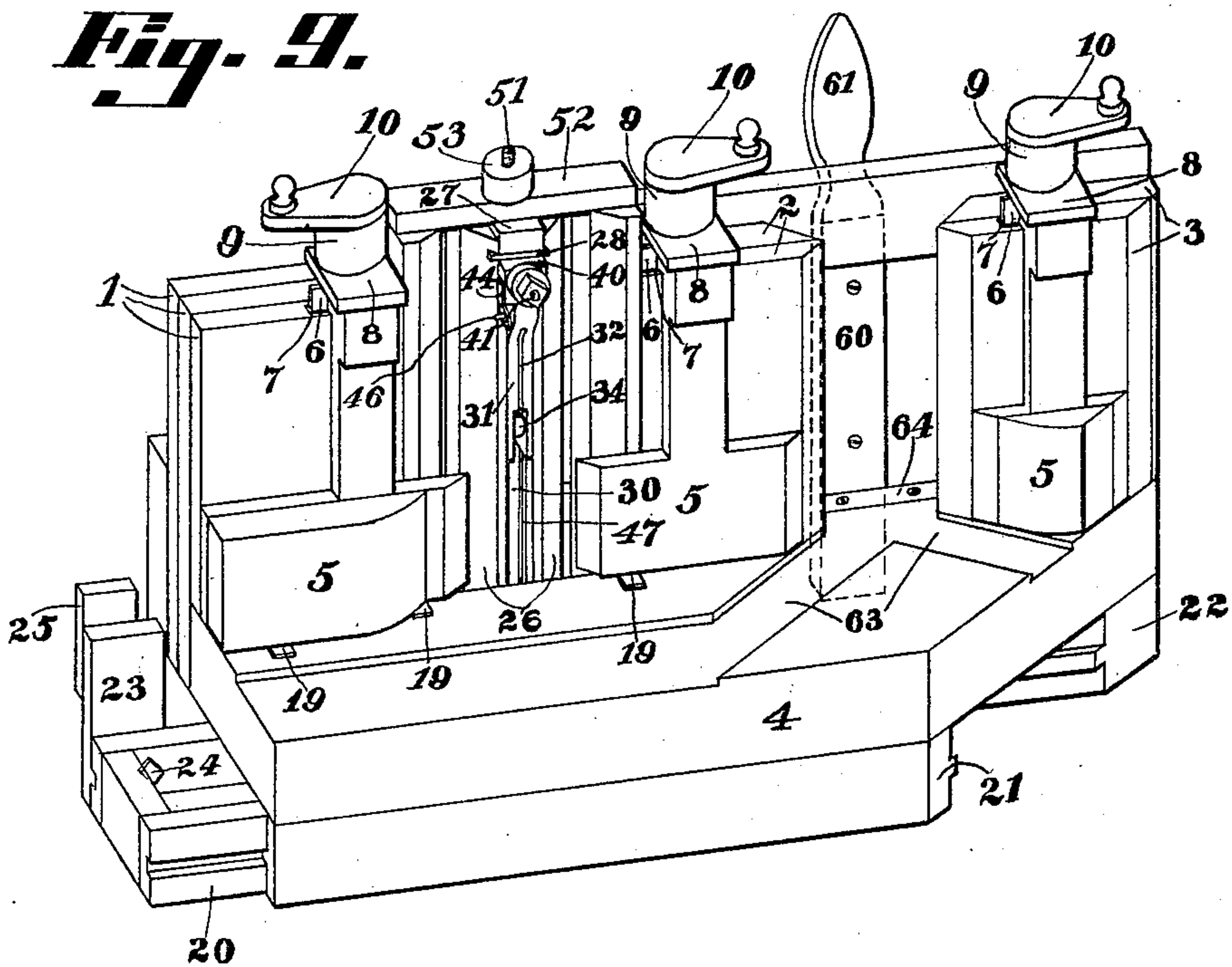
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4 SHEETS—SHEET 3.



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MITER BOX.

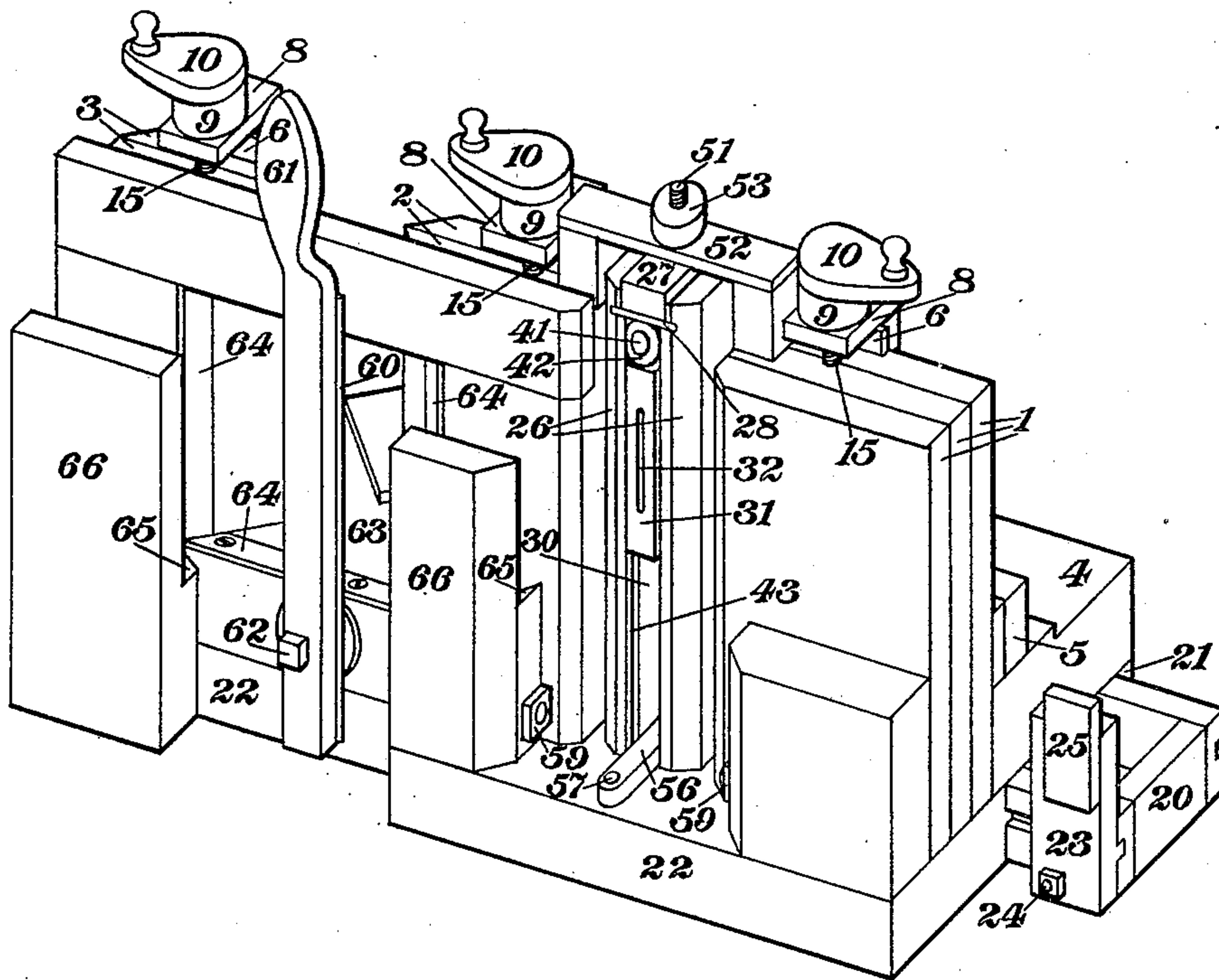
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4 SHEETS—SHEET 4.

FIG. 10.



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UNITED STATES PATENT OFFICE.

HENRY L. ROEWE, OF ST. LOUIS, MISSOURI.

MITER-BOX.

998,989.

Specification of Letters Patent.

Patented July 25, 1911.

Application filed March 26, 1910. Serial No. 551,622.

To all whom it may concern:

Be it known that I, HENRY L. ROEWE, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Miter-Boxes, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to miter-boxes, and it consists in the novel construction and arrangement of parts hereinafter fully described and pointed out in the claims.

In the drawings forming part of this specification, in which like numbers of reference denote like parts wherever they occur, Figure 1 is a top plan view of a mitering machine provided with a miter box embodying this invention; Fig. 2 is a front elevation; Fig. 3 is a sectional view, on an enlarged scale, of the means for operating one of the clamp blocks; Fig. 4 is a rear elevation; Fig. 5 is an end elevation; Fig. 6 is a sectional view on the line 6—6, Fig. 1; Figs. 7 and 8 are perspective views, on an enlarged scale, of two forms of saw-guides which may be employed. Fig. 9 is a perspective view of the complete machine. Fig. 10 is a perspective view of the machine looking from the back.

The uprights 1, 2, and 3 are secured by any suitable means to the base or bed 4 and are grooved to receive the vertically-adjustable clamp-blocks 5, respectively. The end of base 4 that is adjacent upright 3 is preferably cut at an angle to allow a plane (not shown in the drawings) to be used to make the miter smooth that is sawed or cut in the manner hereinafter described, the material being held by means of clamp-block 5 borne by upright 3 so that the mitered end of said material extends beyond said end of base 4. Each of said clamp-blocks 5 is provided with a strip 6, preferably metal, that is slidable in slot 7 in its respective upright in order to guide same. A top-piece 8 of clamp-block 5 supports hub 9 of a crank-handle 10. A ring 11 borne by hub 9 extends through an opening 12 in top-piece 8, and is fastened to washer 13 on the under side of said top-piece in order to hold said hub in place on said top-

piece. The enlarged angular end 14 of a screw-threaded rod 15, which passes through ring 11 and washer 13, extends into a similarly shaped opening 16 in hub 9, and, when crank-handle 10 is rotated, rod 15 is caused to rotate therewith. Rod 15 extends into an opening 17 in its respective upright and passes through a nut 18 which is secured rigidly within said opening. When a crank-handle 10 is turned in one direction or another, its rod 15 is caused to move inwardly or outwardly through nut 18 with the result that clamp-block 5 is caused to move toward or away from base 4. A plurality of pads 19, preferably formed of rubber, is set in depressions in the surface of base 4 in order to aid in holding the material in place on said base.

A drawer 20 is supported in any suitable manner by means of members 21 and 22 that are secured to the under side of base 4 and is preferably arranged to be drawn open from either end of said base. When the drawer is pulled open from either end of base 4 a block 23 may be fastened by means of a bolt 24 or the like to the side of the drawer that is adjacent the uprights 1, 2, and 3, said block being of such size that the top surface thereof registers in the horizontal plane of base 4 in order to support the outer end of a piece of material that is too long to rest entirely upon said base. A cleat 25, which is fastened to the back surface of block 23, projects higher than the top surface of said block and registers in the vertical plane of the front surface of each upright so that a long piece of material that rests upon block 23 and base 4 can be held in the proper position to be sawed in the manner hereinafter described.

A pair of vertically-disposed members 26 is located between uprights 1 and 2, and rests upon member 22. Said members 26 are connected at their upper ends by means of block 27 borne by member 28, and at their lower end by means of block 29 so that a slot 30 is left between said members 26 to receive a vertically-movable saw-guide 31 which is slotted at 32 to allow the blade of a saw 33 to pass therethrough. The back of saw 33 is preferably parallel to the teeth

so that the blade can pass through slot 32 without becoming wedged within said slot. A portion of the lower part of slot 32 is enlarged to receive a roller 34 that is pivoted 5 by means of pin 35 to saw-guide 31, said roller being arranged to support saw 33, when said saw is at rest in slot 32. When it is desired a back-saw (not shown in the drawings) can be used, in which case the 10 roller 34 is omitted entirely and the upper part of slot 32 in saw-guide 31 is enlarged at 36 to receive the enlarged back of said back-saw.

A pin 37 that is fastened to block 29 extends into opening 38 in member 22 in order 15 to allow members 26 to be rotated upon member 22, said member 22 being slotted at 39 to allow the saw-dust to fall therethrough.

A vertically-adjustable block 40 extends 20 transversely through slot 30 and limits the upward movement of saw-guide 31. A bolt 41 passes through block 40 and, also, through a washer 42, which is movable in the vertically-disposed grooves 43 in mem- 25 bers 26, respectively, and affords a means for fastening said block at any desired height in slot 30. A spring 44, in which a perforation 45 is formed, is fastened to block 40, and, when saw-guide 31 is raised 30 into engagement with said block, a pin 46 borne by said saw-guide enters said perforation in spring 44 with the result that said saw-guide is held in its raised position to allow the material to be placed beneath 35 saw 33.

A key 47 passes through perforations in block 27 and member 28 and extends longitudinally through groove 48 in one of the 40 members 26, the lower end of said key being arranged to seat in a depression 49 in block 29. Said key passes through groove 50 in saw-guide 31, and, also, through a similar groove in block 40 in order to guide said saw-guide and said block in their move- 45 ment in slot 30. Said key is arranged so that it can be withdrawn from groove 48 to allow a saw-guide 31 to be removed from or inserted into slot 30.

A bolt 51 extends through perforations in 50 block 27 and cross-piece 52 and receives a nut 53 by means of which members 26 can be locked from being rotated, the head of said bolt being held in opening 54 in block 27. Each end of cross-piece 52 is provided with 55 a pin 55. One pin 55 projects into an opening in the top of upright 1 and the other pin 55 extends into an opening in the top of upright 2 so that members 26 can be raised to allow a comparatively thick piece of material to be placed beneath saw 33. 60

A member 56 is preferably fastened in the lower end of slot 30 to members 26 and is arranged to project from said slot. A pin

57 is inserted through a perforation in member 56 into an opening 58 in member 22 in 65 order to hold members 26 in a central position to cause saw 33 to make a square cut through the material. When nut 53 is loosened and pin 57 is withdrawn from opening 58, members 26 can be rotated in 70 either direction on member 22 to allow saw 33 to cut a miter at any desired angle. Said member 56 is movable between a pair of adjustable stop screws 59, one of said screws being attached to upright 1 and the other 75 one of said screws being attached to upright 2. By means of the adjustable stop screws 59 the rotation of members 26 can be limited to allow saw 33 to cut miters at the desired angle without having to set the saw for 80 each cut, *i. e.*, the members 26 are rotated to the right or left so that saw 33 occupies a position to cut miters at the desired angle and a stop screw 59 is adjusted to engage 85 one side of member 56 with the result that saw 33 cuts miters at the same angle as long as member 56 engages said adjusted stop screw. When it is desired the members 26 can be held with nut 53 in order to allow saw 33 to make cuts at any desired angle. 90

A knife 60 bearing a handle 61 is pivoted between uprights 2 and 3 by means of a bolt 62 or the like to base 4. A pair of grooves 63 is formed in base 4 in order to afford a means for holding the material in position 95 to allow knife 60 to cut a miter, said grooves being arranged to intersect each other and each being disposed at an angle of 45 degrees to the plane of knife 60. To afford shearing surfaces for knife 60, metal plates 100 64 are set in base 4 and uprights 2 and 3, respectively, and are located adjacent the plane of said knife. A pair of beveled blocks 65 is fastened to base 4 and is arranged to limit the movement of knife 60 105 when said knife is moved toward the right or left on pivot 62. Members 66 are secured to blocks 65, respectively, and are arranged to hold knife 60 firmly against a plate 64 when said knife is moved toward the right 110 or left on bolt 62. The knife 60 is preferably used to cut miters on small material, and, also, to trim the sawed miters on larger material in order to make a cleaner cut than the cut made with saw 33. 115

The operation of the machine is as follows: When the saw 33 is to be used to make a square cut, the members 26 are rotated to a position to allow pin 57 to be inserted through the perforation in member 56 and 120 into opening 58. If the saw 33 is to be used to cut a miter the pin 57 is withdrawn from opening 58 and members 26 are rotated in either direction until said saw occupies a position to cut the miter at the desired 125 angle. In order to hold the saw 33 in the de-

sired position, either the nut 53 is tightened or a stop screw 59 is moved into engagement with member 56. The material is then placed upon base 4 and against upright 1 or 2 and is held in position on said base by means of a clamp-block 5. Spring 44 is moved out of engagement with pin 46 borne by saw-guide 31, whereby the saw 33 is lowered to cut the miter. If the knife 60 is to be used to cut a miter the material is placed in position in one of the grooves 63 so that an end of the material extends beyond the intersection of two of the plates 64. The knife is then moved toward the material with the result that a miter is cut thereby.

I claim:

1. In a miter-box, the combination of a slotted revoluble member, a saw-guide movable in the slot in said member, and a detachable member adapted to guide said saw-guide in said slot.

2. In a miter-box, the combination of a slotted revoluble member, a saw-guide movable in the slot in said member, an adjustable stop for said saw-guide, and a detachable member adapted to guide said saw-guide and said stop in said slot.

3. In a miter-box, the combination of a support, a pair of uprights having openings therein, a slotted member pivoted to said support, a saw-guide movable in the slot in said member, a cross-piece borne by said member, and pins projecting from said cross-piece into the openings in said uprights, said member being pivoted to said cross-piece.

4. In a miter-box, the combination of a support, a pair of uprights having openings therein, a slotted member pivoted to said support, a saw-guide movable in the slot in said member, a cross-piece pivoted to said member, pins projecting from said cross-piece into the openings in said uprights, and locking means for said member.

5. In a miter-box, the combination of a support, means for clamping material upon said support, a drawer borne by said support, and means borne by said drawer adapted to support material projecting from said support.

6. In a miter-box, the combination of a base, a pair of spaced uprights mounted thereon, a slotted member revoluble in the space between said uprights and provided with an arm, a saw-guide movable in the slot in said member, and a pair of oppositely-disposed longitudinally-adjustable stops carried by said uprights and arranged in the path of said arm for limiting the movement of said member in either direction.

7. In a miter-box, the combination of a base, a pair of spaced uprights mounted thereon, a slotted member revoluble in the

space between said uprights and provided with a perforated arm, said base having an opening with which the perforation in said arm is adapted to register when the latter is in its central position, a removable retaining pin adapted for insertion through said perforation and opening, and a pair of stops carried by said uprights and arranged in the path of said arm for limiting the movement of said member in either direction.

8. In a miter-box, the combination of a base, a pair of spaced uprights mounted thereon, a slotted member revoluble in the space between said uprights and provided with a perforated arm, said base having an opening with which the perforation in said arm is adapted to register when the latter is in its central position, a removable retaining pin adapted for insertion through said perforation and opening, and a pair of oppositely-disposed longitudinally adjustable stops carried by said uprights and arranged in the path of said arm for limiting the movement of said member in either direction.

9. In a miter-box, the combination of a slotted revoluble member, a saw-guide movable in the slot in said member and having one of its side faces formed with a longitudinal groove, and a guide key detachably connected to the side of said slot adjacent said groove and engaged in the latter.

10. In a miter-box, the combination of a slotted revoluble member, a saw-guide movable in the slot in said member, and a stop block arranged in the upper portion of said slot and constituting a companion part to said saw-guide, one of said companion parts being provided with an apertured spring and the other part with a pin adapted for engagement in the aperture in said spring for holding said saw-guide in elevated position.

11. In a miter-box, the combination of a slotted revoluble member, a saw-guide movable in the slot in said member, a vertically-adjustable stop movable in said slot above said saw-guide, means for holding said stop in adjusted position, and coöperating devices upon said stop and saw-guide for holding the latter in elevated position.

12. In a miter-box, the combination of a slotted revoluble member, a saw-guide movable in the slot in said member, a vertically-adjustable stop movable in said slot above said saw-guide, a detachable member for guiding said stop and saw-guide in said slot, means for holding said stop in adjusted position, and coöperating devices upon said stop and saw-guide for holding the latter in elevated position.

13. In a miter-box, the combination of a slotted revoluble member, a saw-guide mov-

able in the slot in said member, a vertically-
adjustable stop movable in said slot above
said saw-guide and constituting a companion
part thereto, one of said companion parts be-
5 ing provided with an apertured spring and
the other part with a pin adapted for en-
gagement in the aperture in said spring to
hold said saw-guide in elevated position, and

a detachable member for guiding said stop
and said saw-guide in said slot. 10

In testimony whereof I have affixed my
signature in presence of two witnesses.

HENRY L. ROEWE.

Witnesses:

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GEORGE G. ANDERSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."
