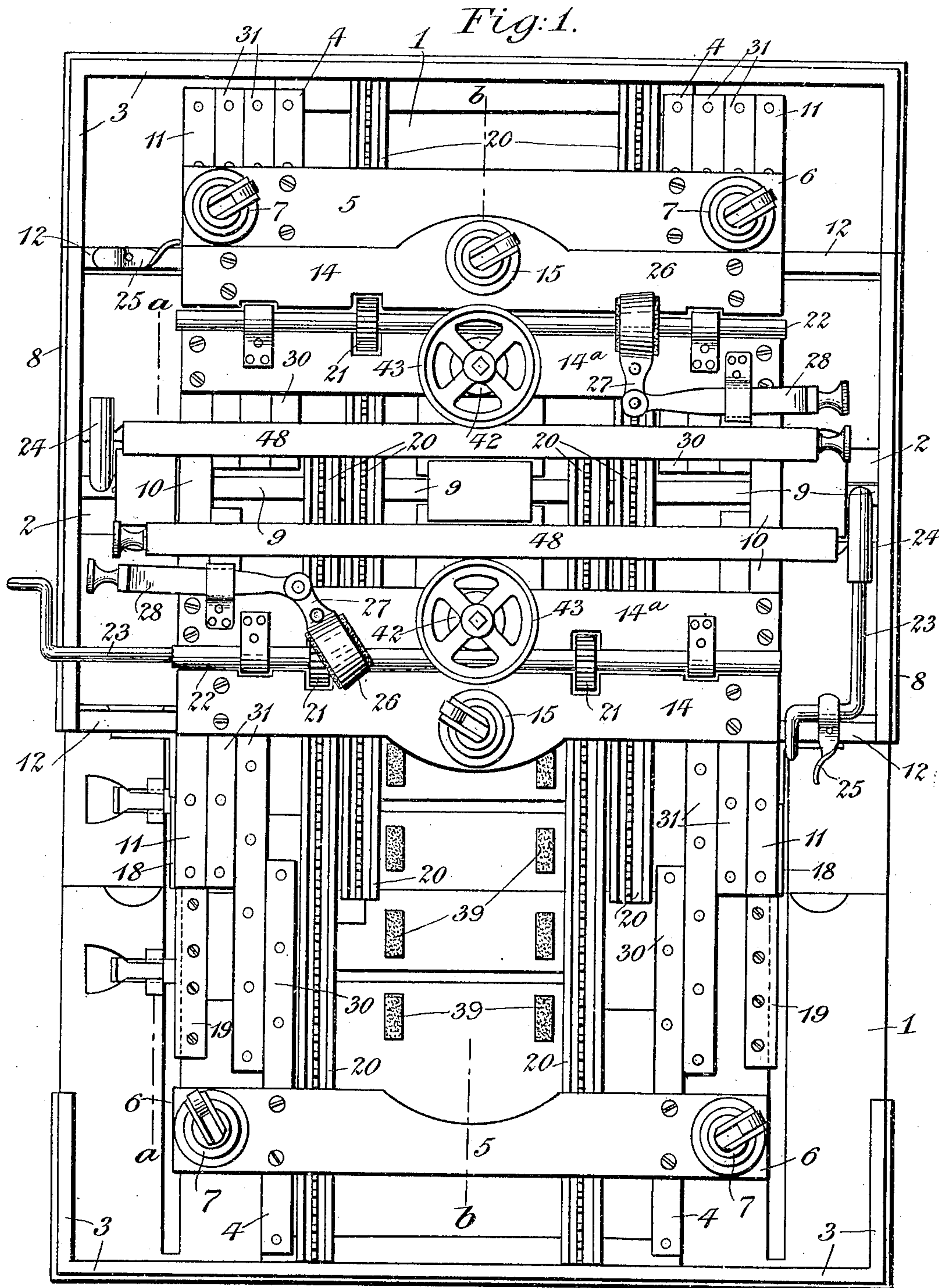


M. FINHOLM.
EXTENSION TABLE.
APPLICATION FILED FEB. 29, 1908.

927,782.

Patented July 13, 1909.

5 SHEETS—SHEET 1.



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927,782.

Patented July 13, 1909.

6 SHEETS—SHEET 2.

Fig:3.

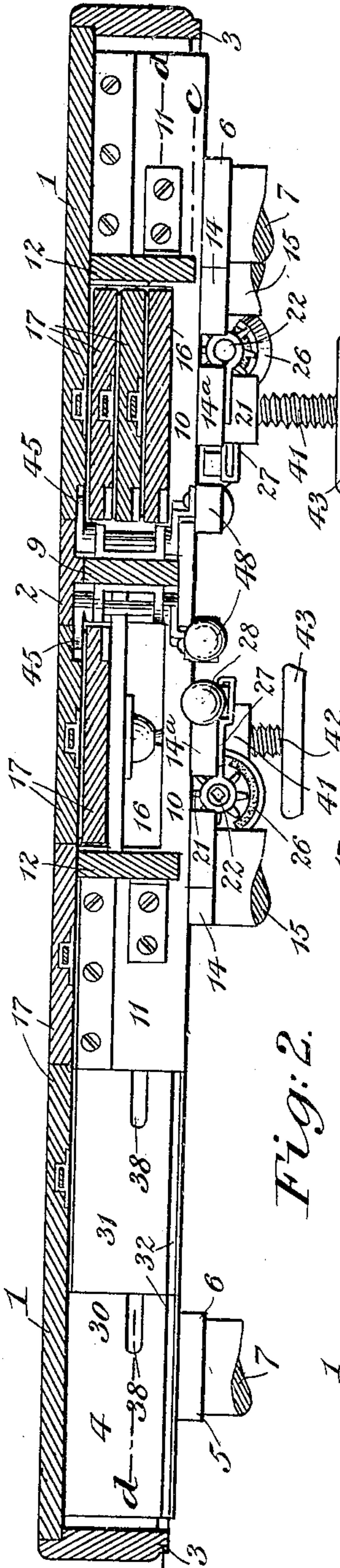
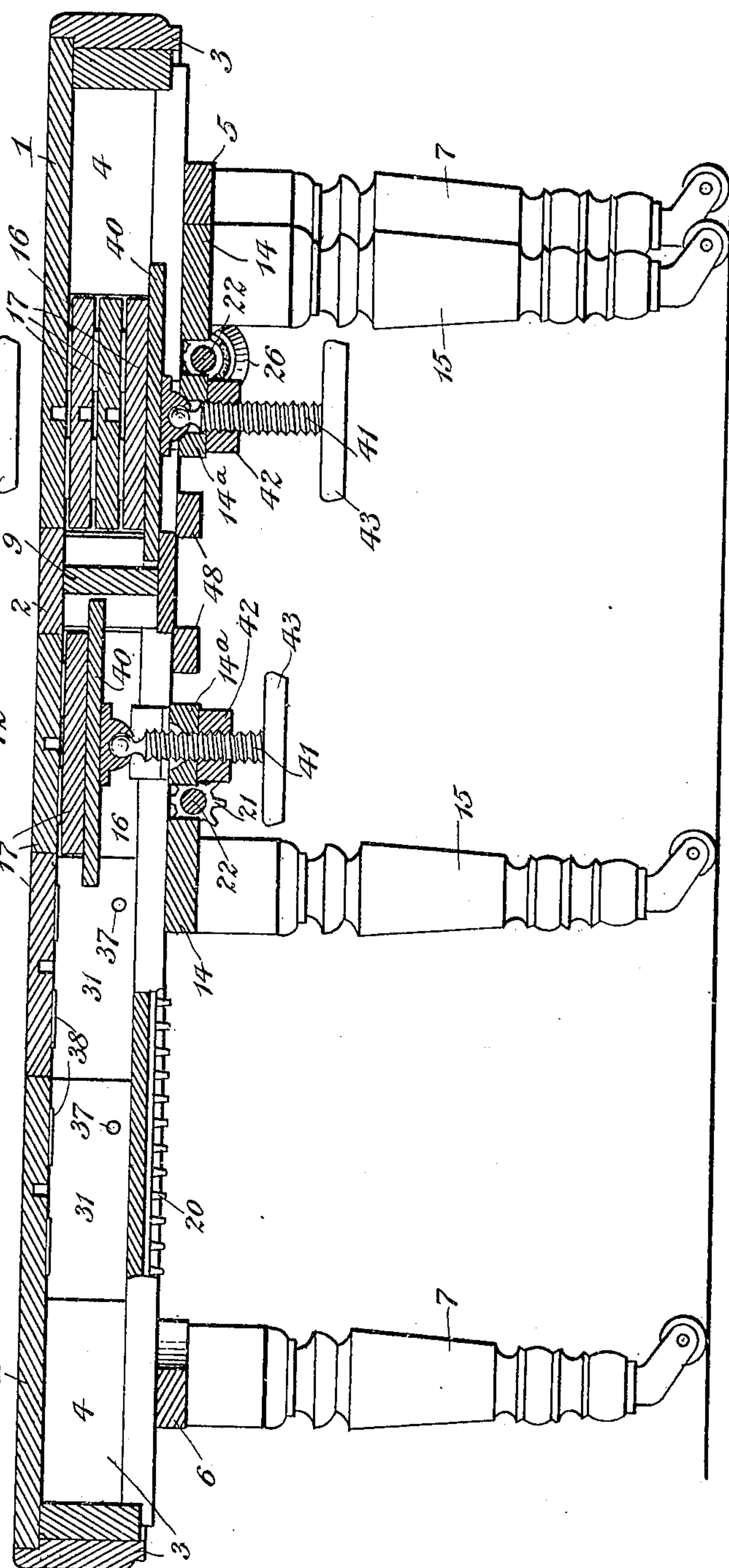


Fig:2.



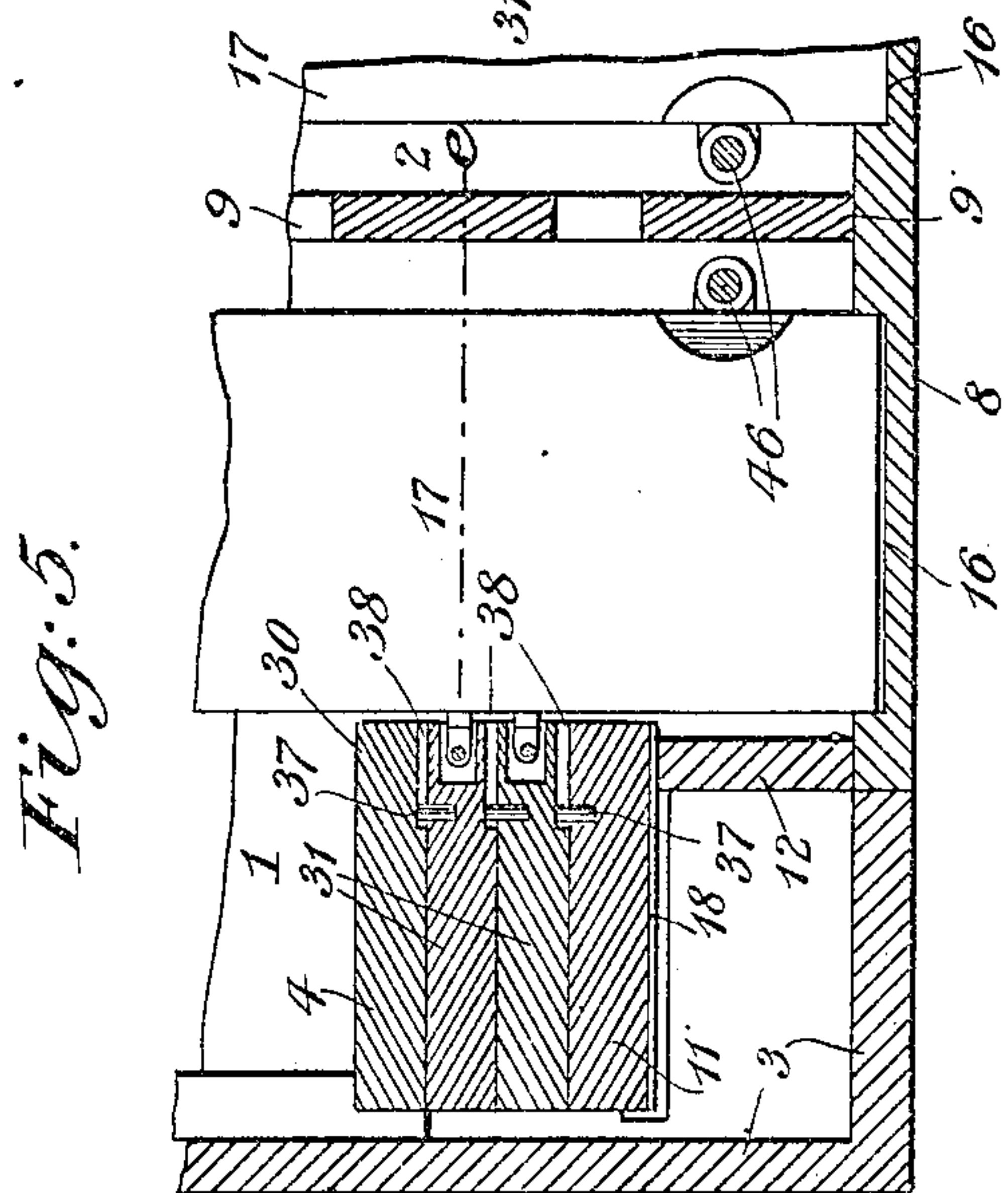
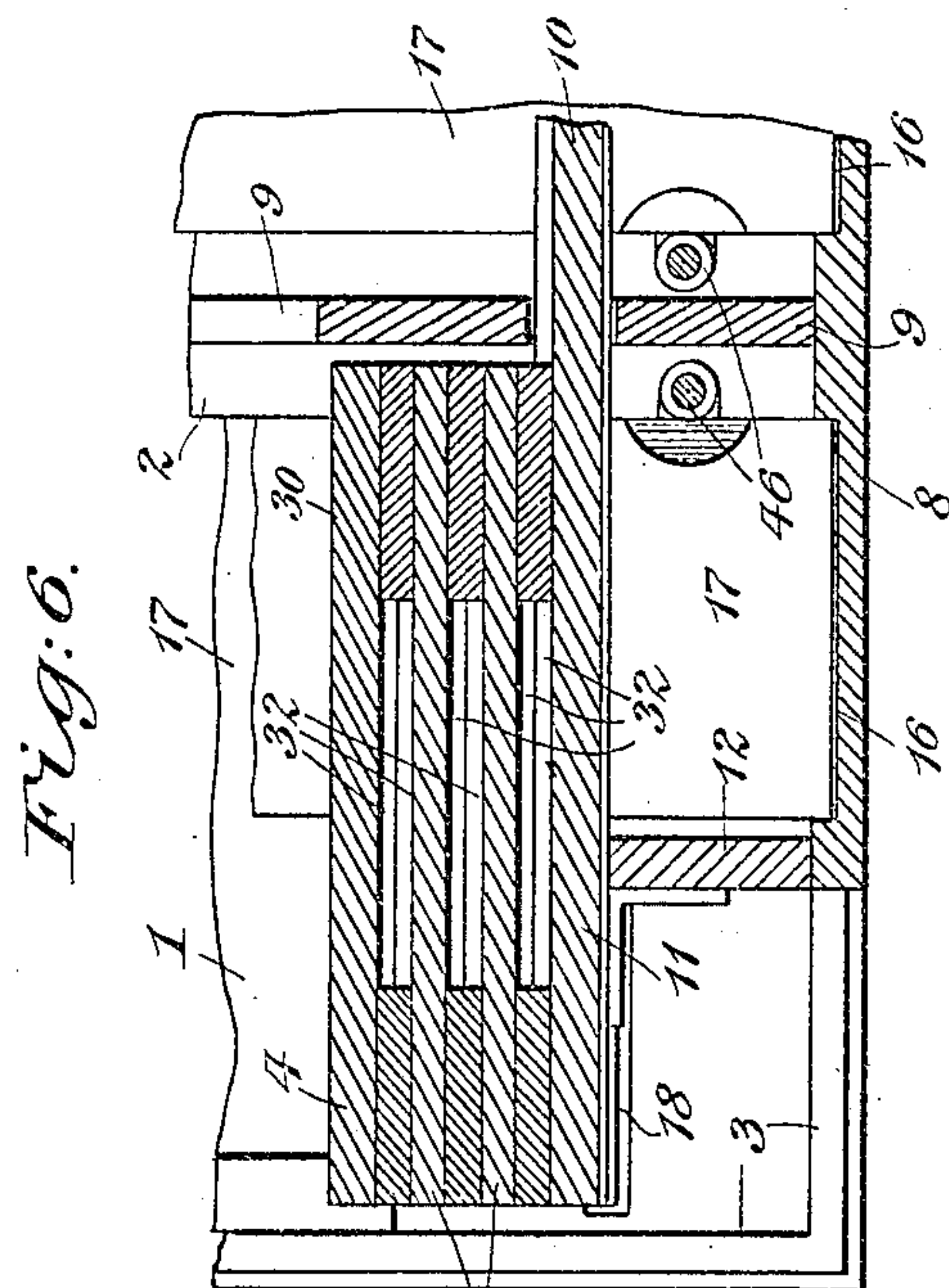
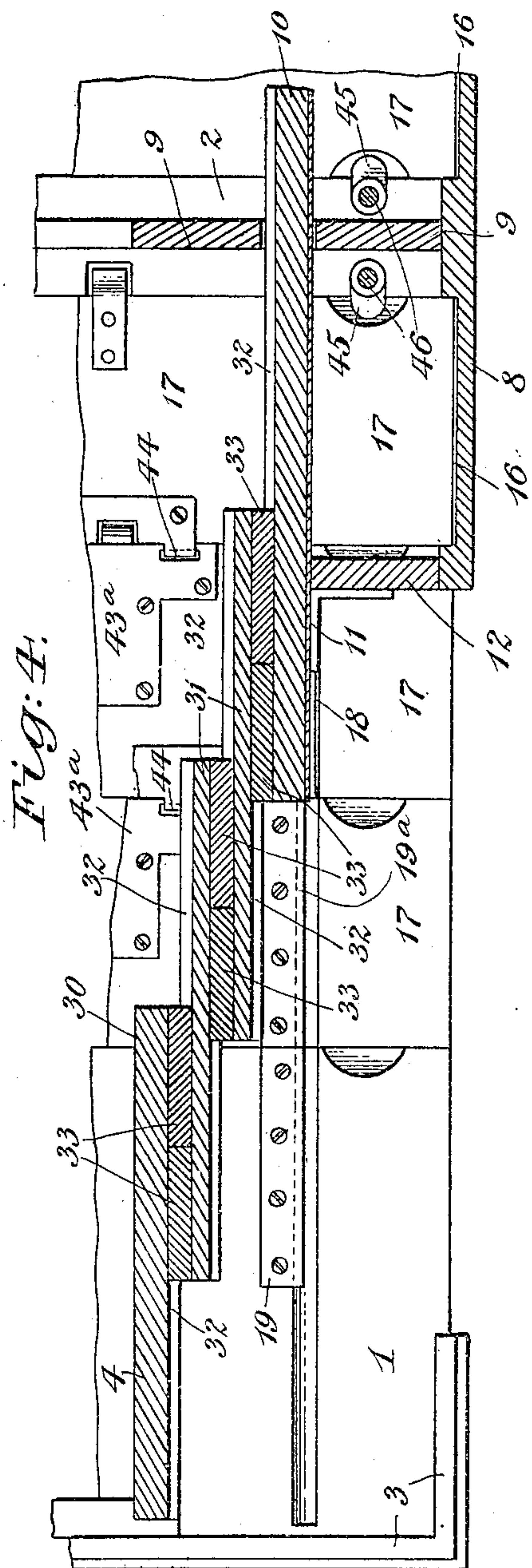
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927,782.

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5 SHEETS—SHEET 3.



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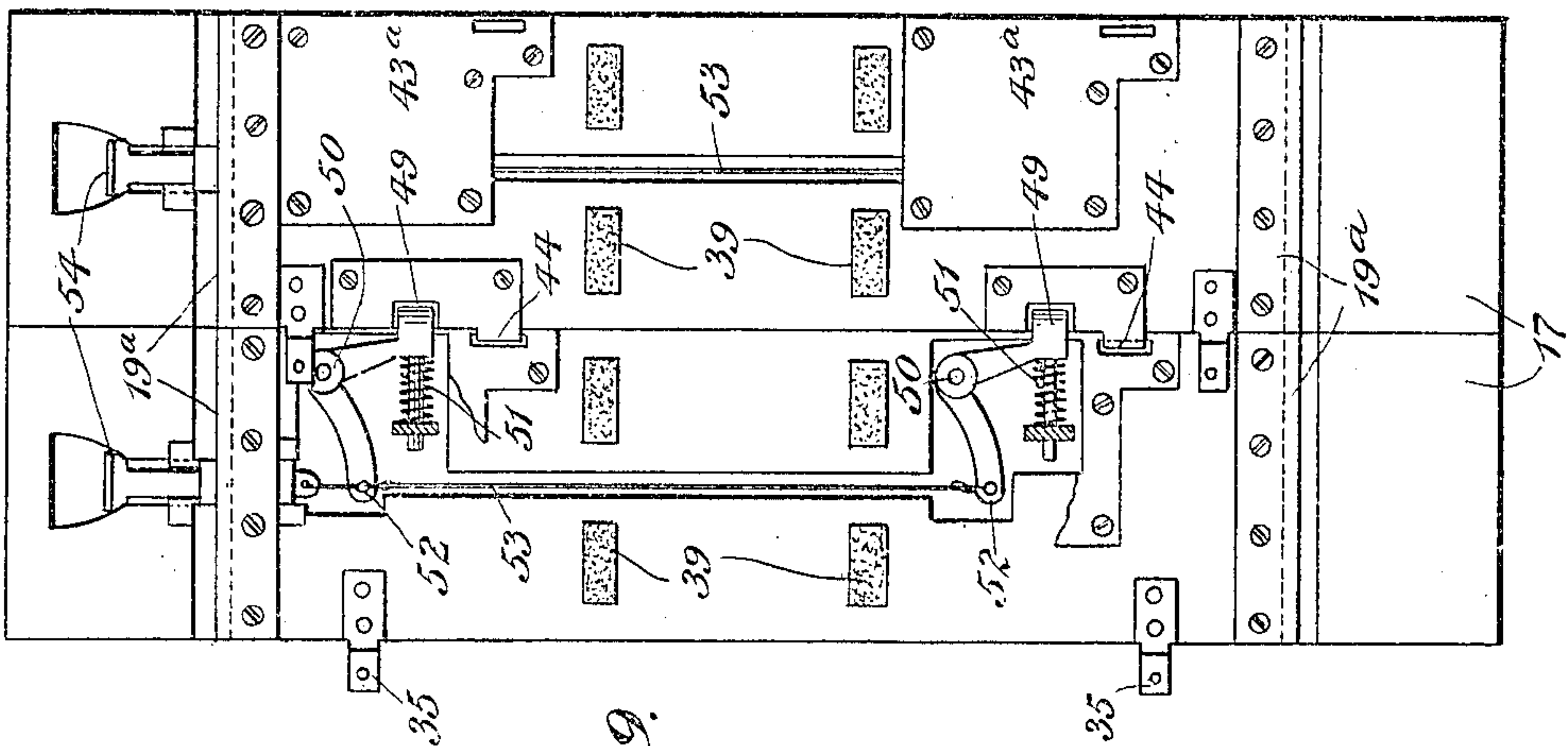
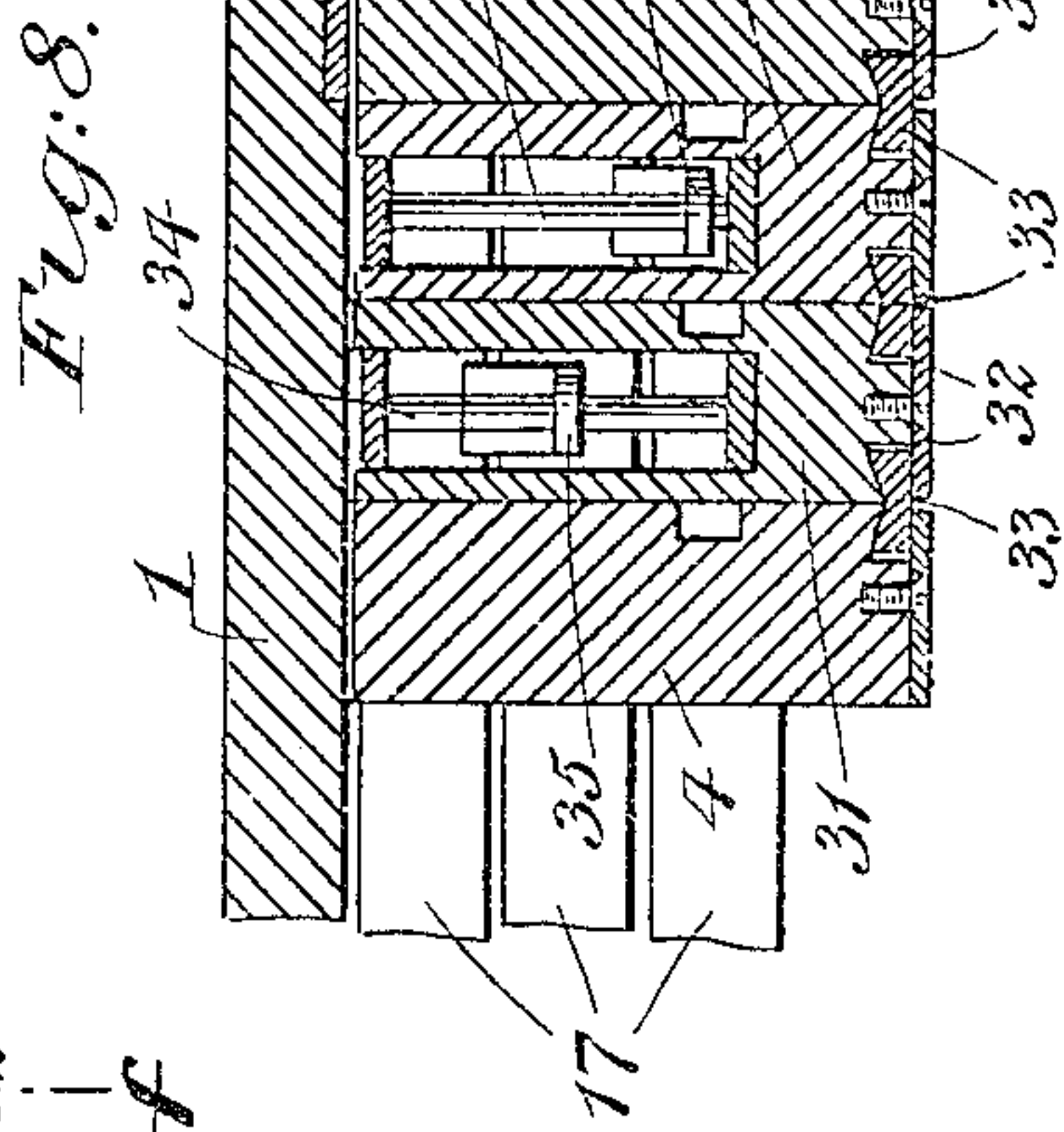
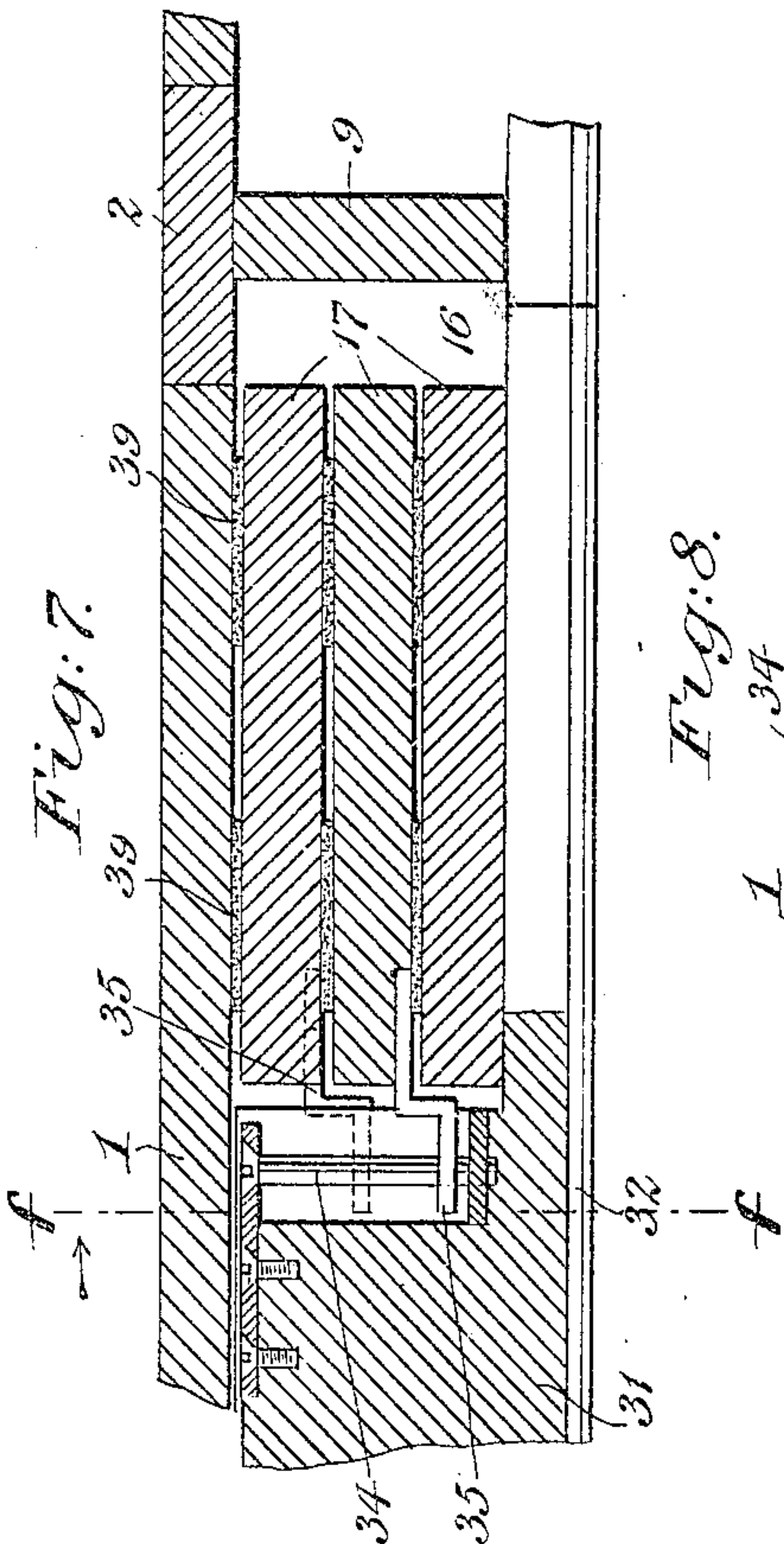
M. FINHOLM.
EXTENSION TABLE.

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927,782.

Patented July 13, 1909.

6 SHEETS—SHEET 4.



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Fig. 9.

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M. FINHOLM.
EXTENSION TABLE.
APPLICATION FILED FEB. 29, 1908.

927,782.

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5 SHEETS—SHEET 5.

Fig. 11.

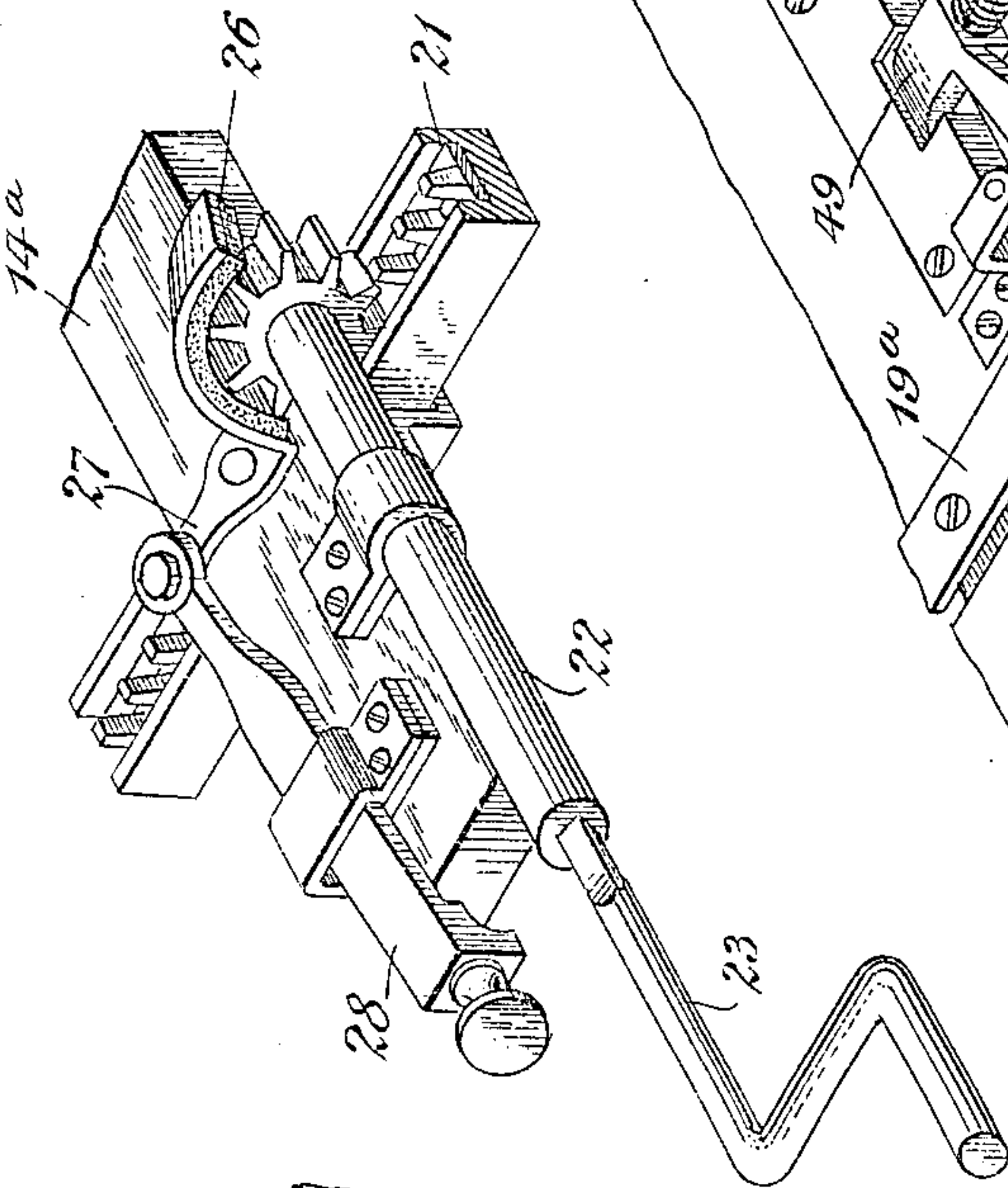


Fig. 12.

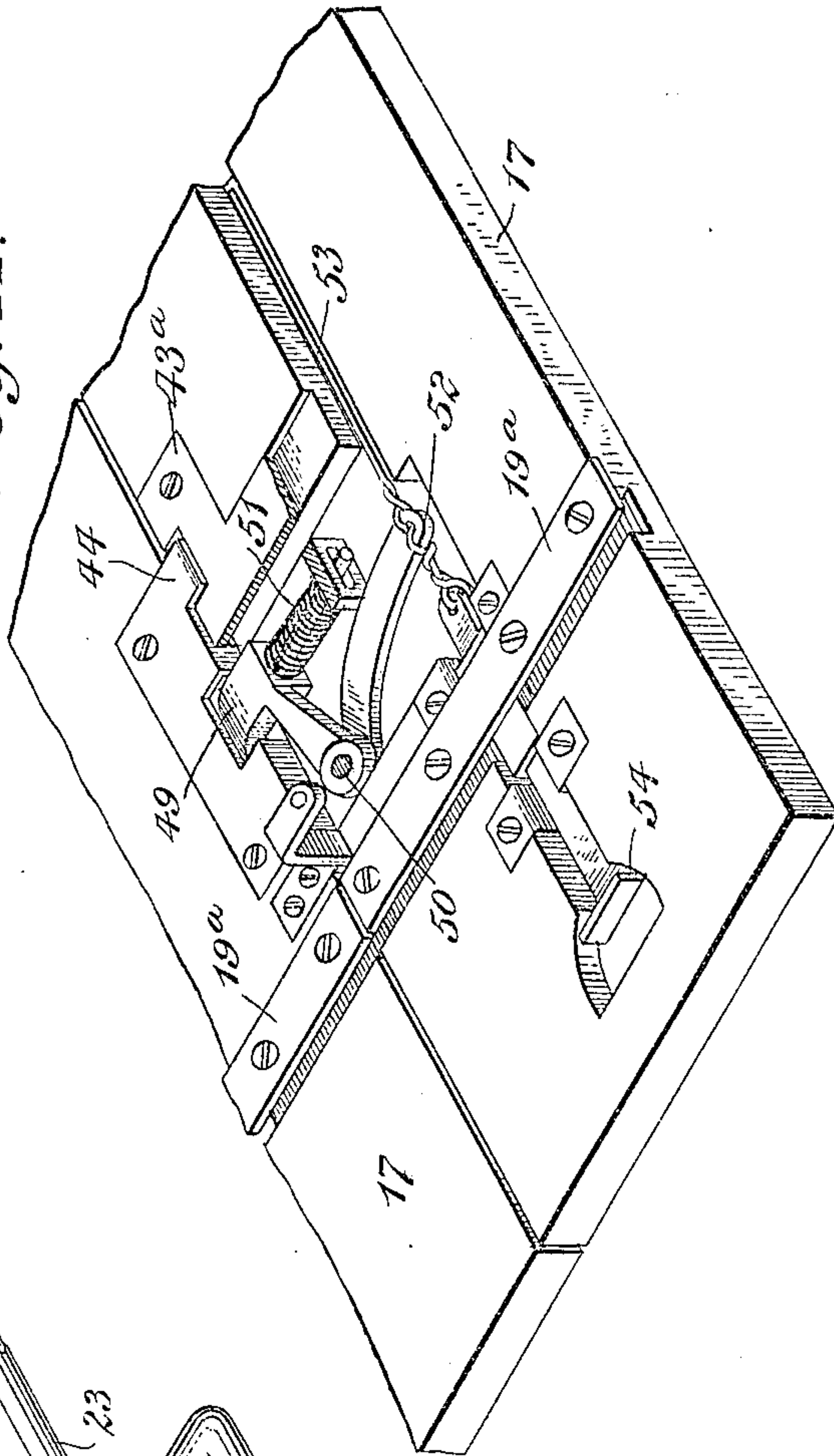
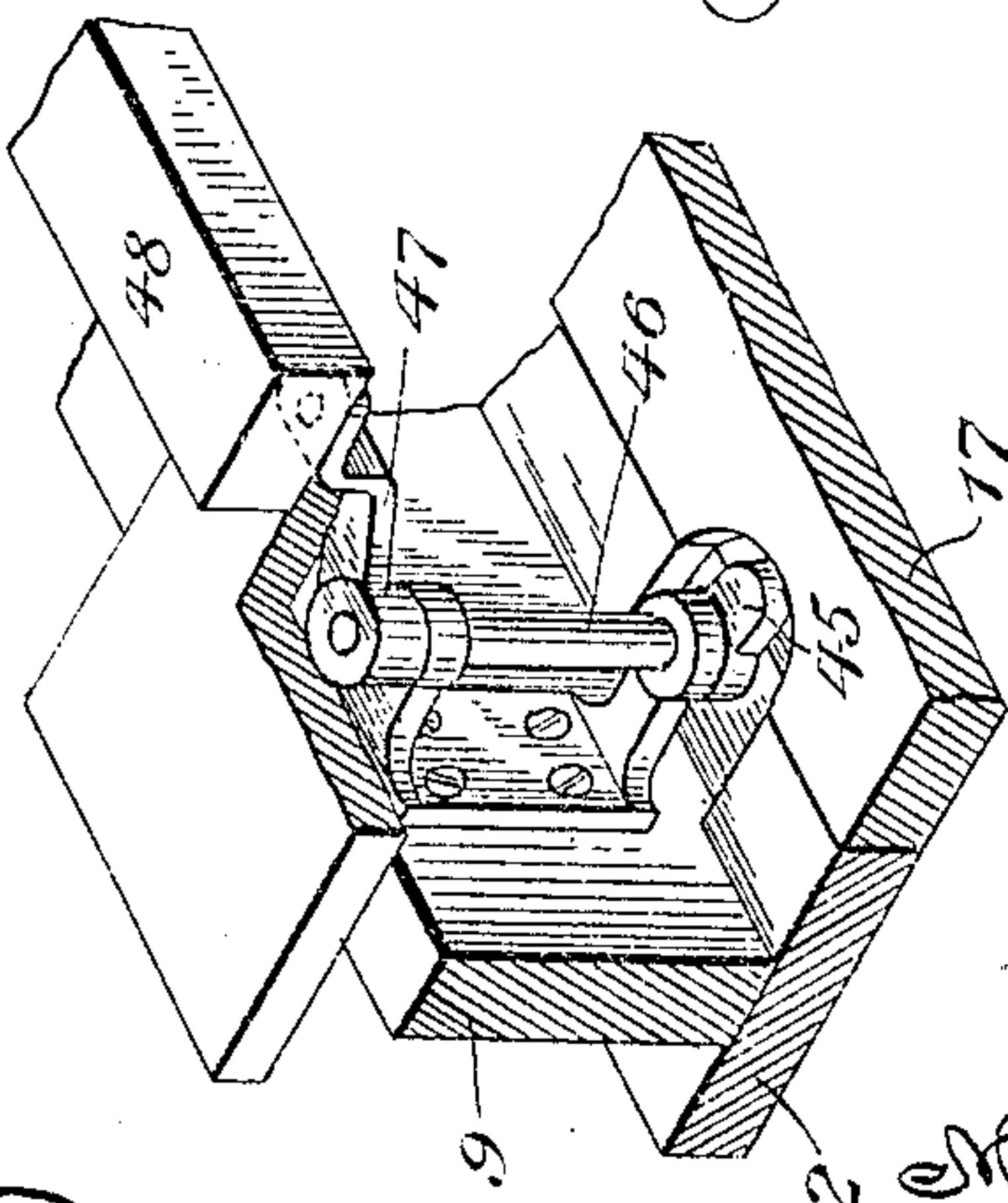


Fig. 10.



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UNITED STATES PATENT OFFICE.

MATTS FINHOLM, OF HOBOKEN, NEW JERSEY.

EXTENSION-TABLE.

No. 927,782.

Specification of Letters Patent.

Patented July 13, 1909.

Application filed February 29, 1908. Serial No. 418,464.

To all whom it may concern:

Be it known that I, MATTS FINHOLM, a citizen of the United States, and a resident of Hoboken, Hudson county, New Jersey, have invented certain new and useful Improvements in Extension-Tables, of which the following is a specification.

This invention relates to certain improvements in extension tables, and has for its object to provide a table of this general character of a simple and comparatively inexpensive nature and of a compact, strong and durable construction not liable to become readily broken or deranged during use and provided with an improved arrangement of leaf supporting mechanism whereby the insertion of additional leaves is facilitated and the operations of extending and compacting the table are simplified and made capable of being readily and conveniently accomplished.

The invention consists in certain novel features of the construction, and combinations and arrangements of the several parts of the improved extension table, whereby certain important advantages are attained, and the device is rendered simpler and less expensive and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings which serve to illustrate the invention—Figure 1 is an underside plan view of a table embodying my improvements, the devices at opposite ends thereof being differently adjusted, those at one end to extend, and those at the opposite end to compact the table; Fig. 2 is a vertical sectional view taken centrally and longitudinally through the improved table in the plane indicated by the line *b—b* in Fig. 1; Fig. 3 is a sectional view similar to Fig. 2, but taken in the plane indicated by line *a—a* along one of the lateral sides of the improved table; Fig. 4 is a horizontal section taken lengthwise through the upper part of the table in the plane indicated by the line *e—e* in Fig. 3, the table being shown in extended adjustment; Fig. 5 is a sectional view somewhat similar to Fig. 4, but taken in the plane indicated by line *d—d* in Fig. 3, and showing table compacted; Fig. 6 is a sectional view similar to and taken in the same plane as Fig. 4, but showing the improved table in compacted adjustment; Fig. 7 is a

fragmentary section, a view taken in the plane indicated by the line *e—e* in Fig. 5, and showing certain features of the leaf actuating devices; Fig. 8 is a fragmentary sectional view taken transversely through the leaf actuating devices in the plane indicated by line *f—f* in Fig. 7. Fig. 9 is an underside plan view showing two adjacent leaves of the table detached and in extended adjustment; Fig. 10 is a fragmentary perspective detail view showing certain features of the leaf supporting devices which will be hereinafter described; Fig. 11 is a fragmentary perspective detail view showing certain features of the means for extending and compacting the table, and Fig. 12 is a fragmentary perspective view showing certain features of the leaf supporting devices which will be hereinafter referred to.

As shown in these views the table top is formed with two end sections or members 1, 1 similar to each other and a central section or member 2 toward and from which said end sections or members are adjustable when the table is extended or compacted. The end members or sections 1, 1 are provided with skirt portions 3, 3 and with blocks 4, 4 secured to and pendent below their undersides. There are two of the blocks 4, 4 secured upon the underside of each end section or member 1, a cross piece 5 being extended between and secured to the undersides of such blocks 4, 4 beneath each end section 1, 1, the ends of said cross pieces projecting outside the blocks 4, 4 as seen at 6, 6 in the drawings, and serving for the attachment of the upper ends of the corner legs 7, 7 of the table. The central section or member 2 of the table top is also provided at its ends with pendent skirt portions 8, 8 secured to and pendent beneath it, the extremities of said skirt portions being arranged to project at opposite sides of the central member or section 2 of the table top, in position to be engaged, when the table is compacted, beneath the adjacent parts of the end members or sections 1, 1 of the table top, and 9 represents a brace bar or member which is extended beneath the central section or member and has its ends secured to the central parts of the pendent skirt portions 8, 8.

10, 10 represent guide bars or members held at their central parts upon the underside of the central member or section 2 of the table top, inside of and spaced away from

the skirt portions 8, 8 with which said guide bars or members are parallel, the said guide bars or members being of greater lengths than said skirt portions 8, 8 so that their 5 extremities are caused to project beyond the same as shown at 11, 11 in position to engage beneath the end sections or members 1, 1 of the table top when the improved table is compacted.

10 12, 12 represent stops in the form of wooden blocks extended from the extremities of the skirt portions 8, 8 inwardly for connection with the guide members 10, 10 being parallel with the central brace bar or mem- 15 ber 9.

14, 14 represent brace bars secured at their ends to the undersides of the guide bars or members 10, 10 being extended transversely of the table parallel with and at opposite 20 sides of the central brace bar or member 9 and serving for the connection of the upper ends of the center legs 15, 15 of the table which are designed to afford effective support to the central part of the table in a 25 well known way when the same is extended.

By this arrangement it will be seen that a rectangular frame is produced beneath the central section or member of the table, there being two chambers or compartments 16, 16 30 produced in said frame to receive and house the table leaves 17, 17 when the table is compacted, the upper parts of the guide bars or members 10, 10 being cut away or notched out as clearly shown in Fig. 3 to permit the 35 descent of said leaves within said chambers or compartments.

The projecting end portions 11, 11 of the guide bars or members 10 have angular plates 18, 18 secured to their upper parts and 40 adapted to be engaged over guide plates 19, 19 secured upon the underside of the end members or sections 1, 1 of the table top, said angular plates 18 being adapted to play along the guide plates 19 when the table is 45 extended or compacted in order to hold the sections 1, 2 and 1 of the table top securely in relation.

20, 20 represent rack bars arranged in pairs, there being a pair of said rack bars 50 secured at their one ends to each of the end sections or members 1, 1 of the table top with their opposite ends guided for movement across the top surfaces of the bars 14, 14 which support the center legs of the table, 55 the free ends of said rack bars having their rack surfaces arranged for engagement with gears 21, 21 upon shafts 22, 22 of which there are two in the construction herein shown, said shafts 22, 22 being extended 60 parallel with each other along the inner edges of the brace bars 14, 14 and being journaled in brackets carried by auxiliary brace bars 14^a and having, at opposite sides of the table, end portions with which crank 65 handles 23, 23 are adapted for detachable

engagement. Said crank handles, when engaged with the respective shafts 22, 22 permit said shafts to be turned in such a manner as to permit of moving the end sections 1, 1 toward or away from the central section 70 or member 2 of the table top, in the extension or compacting of the table, and when said crank handles are detached from shafts 22, 22 they may be supported in position for convenient access at opposite sides of the 75 table, there being provided for this purpose sockets 24, 24 and clips 25, 25 upon the opposite sides of the frame of the central member or section 2 of the table top.

By means of the crank handles 23, it will 80 be seen that the table can be extended or compacted by a person standing at either side of the table, and when the table shall have been adjusted to the desired length, the parts may be securely held against accidental 85 movement by means of brake shoes 26, carried upon levers 27 pivoted upon the auxiliary brace bars 14^a and connected with slide rods 28 extended toward opposite sides of the table. There is provided a brake shoe of 90 this character for each shaft 22, such shoe being adapted, by endwise movement of the corresponding rod 28, to be engaged upon one of the gear wheels 21 of such shaft in such a way as to lock said shaft and the 95 connected parts securely against accidental movement.

The blocks 4, 4 of the respective end sections or members of the table top are provided with extended guide portions 30, 30, 100 projecting from their lower parts inside of and spaced away from the guide bars or members 10, 10 and adapted, in the movement of said end sections or members 1, 1 toward the center section or member 2, to 105 play across the brace bars 14, 14^a of the frame of said center member, and between each of said guide portions 30, and the adjacent guide bar or member 10 are arranged leaf guides 31, 31, which are herein shown at 110 each side of each end section or member 1 of the table top. By this arrangement it will be seen that there are produced four sets of guides beneath the improved table each set comprising four guide members 30, 31, 31 115 and 10, and four members of said sets are adapted to be slid lengthwise relative to each other when the table is extended or compacted, said members of each set having longitudinal grooves 32, 32 produced in the 120 lower parts of their side surfaces and being provided with dovetailed stops 33, fitted to slide in said grooves for insuring rectilinear movement of the members one along the other and for holding the leaf guides 31, 31 125 securely in relation between the guides 30 and 10.

The stops 33 are so arranged upon the adjacent members of each set of guides as to come into contact with each other as shown 130

in Fig. 4 when the members are slid lengthwise upon each other in the extension table, so as to prevent excessive movement of the guide members such as might otherwise derange the parts of the table, and to prevent excessive movement of the guide members relative to each other in a reverse direction, the members 10, 31, 31 have other stops in the form of pins 37 which are adapted, when the table is compacted, as seen in Fig. 5, to engage against the ends of slotted openings 38 produced in the adjacent members 31, 31 and 30 in such a way as to limit the sliding movement of the members upon each other when the table is compacted.

As herein shown the improved table has three leaves 17, adapted to be held, when the table is compacted in each of the compartments 16, 16 at opposite sides of the center member or section 2 of the table top, and said leaves are adapted, by engagement against the stop members 12, 12 at the outer sides of said compartments, to be held against removal therefrom when the table is extended, but beneath each chamber 16 is provided a lifting device comprising a centrally arranged plate 40 which is adapted to bear upon the lower surface of the lowermost leaf 17 in such chamber 16, a screw 41 being colared upon the underside of each such plate 40 and being engaged with a nut 42 carried by the corresponding auxiliary brace bar 14^a, the lower end of each such screw 41 being extended below said nut and provided with a hand wheel 42 by means of which the screw may be turned from time to time, as the table is extended, in such a way as to lift the leaves 17, 17 successively into position to permit them to be passed over the stops 12, 12 in alinement with the sections or members 1, 1 and 2 of the table top.

The two uppermost leaves 17, 17 in each chamber have angular plates 35, 35 secured to and extended from their opposite end portions at their lateral edges, as shown in Figs. 7, 8 and 9, and said plates are perforated as shown in Fig. 9 for vertical sliding engagement upon pins 36 carried at the ends of the leaf guides, the construction being such that as each end member or section is moved away from the center member 2 of the table top to uncover the uppermost leaf 17 in the corresponding chamber 16, the stops 33, 33 carried by the guides 30, 30 of such end section 1 will be drawn outwardly along the dovetailed grooves 32, 32 of the adjacent leaf guides 31, 31 and into contact with the corresponding stops 33, 33 so that the movement of the said end section or member 1 will thereafter be communicated to the said adjacent leaf guides 31, 31. But while the leaf 17 connected with said adjacent leaf guides 31, 31 is in its lowered position in its chamber 16, its lateral edge portion will, by engagement with the stops 12, 12

at the side of said chamber 16, act to prevent further movement of the end member or section 1 away from the outer member or section 2 until said uppermost leaf 17 shall have been elevated to clear said stops 12, 12 by the action of the screw 41, whereupon the extending movement of the table may be continued, the movement of the leaf guides 31, 31 adjacent to the member or section 1 being communicated to the said leaf 17 to draw the same edgewise over the stops 12, to uncover the next adjacent leaf 17 in chamber 16, the edges of said leaves, in the extension of the table, fitting closely against each other and against the edges of the sections or members 1 and 2 of the table top in such a manner as to prevent the leaving of cracks in the table top when the table is extended.

The two upper leaves 17, 17 in each chamber 16 have plates 19^a corresponding in position and arrangement with the plates 19 upon the end members or sections 1 of the table top and adapted, when the table is extended, to form continuations or extensions thereof for the passage of the bent plates 18, 18 which serve to support the ends of the guide members or bars 10, 10 of the frame of the center section or member 2 of the table top.

At each joint between the sections or members 1 of the table top and the leaves 17 thereof, I provide devices adapted for automatic engagement when the leaves are lifted to hold the parts closely adjacent to each other so as to avoid the presence of cracks between said parts, and these devices comprise plates 43 at one side of each such joint and which are provided with apertures wherein are adapted to be engaged hook like projections 44 upon plates carried by the edge portions of the leaves 17, the arrangement being such that when the leaves 17 are in position over the chambers wherein they are received in the compacting of the table, the said hook like projections 44 are capable of being moved in and out of engagement with the apertures of said plates 43 by the vertical movement imparted to said leaves from screws 41. The leaves are also provided on their underside with spacing devices 39, preferably of felt or other soft material so that when said leaves are lowered into chambers 16, the polished top surfaces of the underlying leaves will not be marred by contact with the under surfaces of the superposed leaves when the latter are lowered in position within said chambers. Devices are also employed at the joints between the member and leaves 17 of the table top for holding said parts in relation, there being two different forms of said devices herein shown, one form being arranged at opposite sides of the central member or section 2 and comprising dogs 45 held upon stems 46 pivoted in bearing plates 47 secured upon

the central brace bar 9, and adapted to be engaged beneath the edge portion of one or another of the leaves 17 in the adjacent chamber 16 of the frame of said central member or section 2 when such leaf is raised as shown in the inverted view Fig. 10. Such dogs 45, 45 are arranged at opposite ends of each lateral edge of the central member or section 2, the two dogs on each side of said member having crank arms 47, 47 extended from the lower ends of their stems 46, and connected with slide bars 48, of which one is extended at each side of said central member or section 2. The slide bars 48, 48 are adapted to be operated, respectively, from opposite sides of the table, and when one of said slide bars is moved endwise, its movement is imparted to the two dogs 45, 45 at that side of the center member or section 2 in such a way as to cause the extremities of said dogs to be projected beyond or moved beneath the lateral edge portion of said center member or section 2 of the table top. When the dogs are adjusted to overhang the chambers 16, their free ends are caused to engage the upper faces of the leaves 17 in said chambers so that the said leaves cannot be elevated by means of screws 41 to clear them from engagement with the stops 12, 12 and permit extension of the table until the slide bars 48 shall have been first actuated to draw the free ends of the dogs beneath the edge portion of the central member or section 2 of the table top. When the table has been extended to the desired degree and the leaves uncovered in such extension have been lifted to join in the table top, the slide bars 48 are reversely moved to throw the extremities of the dogs outwardly from the edge portions of the center member or section 2 so as to engage beneath the edges of the adjacent leaves 17 so as to securely support said edges of the leaves as will be readily understood. The other form of holding device is employed at the joints between the several leaves 17 and between the outermost leaves and the end members or sections 1, 1 of the table top, and comprises dogs 49, 49 pivoted at one side of each joint upon pin 50, 50 and normally pressed by springs 51, 51 in such a way as to project beyond the parts wherein they are pivoted in position for engagement with the leaves 17 at the opposite sides of the joints in the table top. These dogs 49, 49 have arms 52, 52 connected by wires 53 in pairs, each pair being connected with a slide 54 so arranged beneath the table top as to be adapted, when drawn outwardly, to pivotally move the dogs 49, 49 for retracting their ends from engagement with the leaves opposite to which they are pivoted to permit said leaves to be lowered when positioned over the chambers 16. The dogs 49, 49 have beveled under surfaces which permit the edge portions of leaves 17

to be lifted in line with the members 1, 1 and 2 of the table top without moving slides 54.

From the above description of my improvements it will be seen that the improved table constructed according to my invention is of an extremely simple and inexpensive nature and is particularly well adapted for use by reason of the convenience with which it may be extended and compacted and it will also be obvious from the above description that the device is susceptible of considerable modification without material departure from the principles and spirit of the invention, and for this reason I do not desire to be understood as limiting myself to the precise form and arrangement of the several parts herein set forth in carrying out my invention in practice.

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

1. An extension table having relatively movable sections, a plurality of guide members capable of relative movement, means for successively moving the guide members, a plurality of leaves each capable of vertical movement in and out of alinement with said relatively movable sections, and connections for moving each leaf in unison with one of the respective guide members, each leaf being arranged, when moved in unison with one guide member, to be supported upon another guide member.

2. An extension table having relatively movable sections, a plurality of guide members capable of relative movement, means for successively moving the guide members, one of the relatively movable sections having a leaf compartment, a plurality of leaves capable of vertical movement, said leaves being adapted to be contained in the leaf compartment when lowered, and being adapted, when elevated, to stand in alinement with the relatively movable sections, connections for moving each leaf in unison with one of the respective guide members, each leaf being arranged, when so moved in unison with one guide member, to be supported upon another guide member, means for elevating the leaves and means at the leaf compartment and independent of said elevating means, for holding the leaves in raised position.

3. An extension table having relatively movable sections, a plurality of guide members capable of relative movement, means for successively moving the guide members, a plurality of leaves each capable of vertical movement in and out of alinement with the relatively movable sections, supporting means engageable with the leaves when elevated, and connections for moving each leaf in unison with one of the respective guide members, each leaf being arranged, when so moved in unison with one guide member, to be supported upon another guide member.

4. An extension table having relatively movable sections, a plurality of guide members capable of relative movement, means for successively moving the guide members, a plurality of leaves each capable of vertical movement in and out of alinement with the relatively movable sections, supporting means movable in and out of engagement with the leaves when elevated, and connections for moving each leaf in unison with one of the respective guide members, each leaf being arranged, when so moved in unison with one guide member, to be supported upon another guide member.

5. An extension table having relatively movable sections, a plurality of guide members capable of relative movement, means for successively moving the guide members, a plurality of leaves each capable of vertical movement in and out of alinement with the relatively movable sections, connections for moving each leaf in unison with one of the respective guide members, each leaf being arranged, when so moved in unison with one guide member, to be supported upon another guide member, and means for holding the leaves in raised position when elevated and comprising devices movable in and out of engagement with opposite edges of the respective leaves.

6. An extension table having relatively movable sections, a plurality of guide members capable of relative movement, means for successively moving the guide members, a plurality of leaves each capable of vertical movement in and out of alinement with the relatively movable sections, connections for moving each leaf in unison with one of the respective guide members, each leaf being arranged, when so moved in unison with one guide member, to be supported upon another guide member, means for elevating the leaves, and means for holding the leaves in raised position and comprising spring actuated devices movable in and out of engagement with the respective leaves.

7. An extension table having relatively movable sections, a plurality of guide members capable of relative movement, means for successively moving the guide members, one of the relatively movable sections having a leaf compartment, a plurality of leaves superposed one upon the other within the leaf compartment, when lowered, and being adapted, when elevated, to stand in alinement with the relatively movable sections, connections for moving each leaf in unison with one of the respective guide members, each leaf being arranged, when so moved in unison with one guide member, to be supported upon another guide member, a supporting device arranged at the upper part of the leaf compartment and adapted, when the leaves are elevated, to successively engage the several leaves, and means for elevating

the leaves to bring them successively in position for engagement with said supporting device.

8. An extension table having relatively movable sections, a plurality of guide members capable of relative movement, means for successively moving the guide members, a plurality of leaves each capable of vertical movement in and out of alinement with the relatively movable sections, connections for moving each leaf in unison with one of the respective guide members, each leaf being arranged, when moved in unison with one guide member, to be supported upon another guide member, and a stop with which said leaves are engageable when lowered to prevent movement of the leaves in unison with said guide members when the leaves are lowered.

9. An extension table having relatively movable sections, a plurality of guide members capable of relative movement, means for successively moving the guide members, a stop, a plurality of leaves each capable of vertical movement and adapted, when lowered, to stand in position for engagement with said stop, and when raised, to stand in alinement with the relatively movable sections and out of position for engagement with said stop, connections for moving each leaf in unison with one of the respective guide members, each leaf being arranged, when moved in unison with one guide member, to be supported upon another guide member, and means for elevating the leaves.

10. An extension table having relatively movable sections, a plurality of guide members capable of relative movement, and provided with vertically extended parts, a plurality of leaves each having a part engaged for vertical sliding movement along the vertically extended part of one of the guide members, and affording a connection between such leaf and guide member to compel movement of said leaf in unison with said guide member, and each leaf being adapted, when moved in unison with one guide member, to be supported upon another guide member.

11. An extension table having relatively movable sections and provided with a leaf compartment, a plurality of leaves adapted to be housed in the leaf compartment when lowered, and capable of vertical movement to a position in alinement with said relatively movable sections, a plurality of devices movable at the top of the leaf compartment and engageable with the leaves to support the same when raised, and a bar mounted for endwise movement and connected with said supporting devices to operate the same.

12. An extension table having relatively movable sections and provided with a leaf compartment, a plurality of guide members capable of relative movement, means for

successively moving the guide members, a plurality of leaves adapted to be housed in the leaf compartment when in lowered position, and capable of vertical movement to a
5 position in alinement with said relatively movable sections, connections for moving each leaf in unison with one of the respective guide members, each leaf being arranged, when moved in unison with one
10 guide member, to be supported upon another guide member, a plurality of devices movable at the top of the leaf compartment and

engageable with the leaves to support the same when raised, and a bar mounted for endwise movement and connected with said 15 supporting devices to operate the same.

In witness whereof I have hereunto signed my name this 18th day of February 1908, in the presence of two subscribing witnesses.

MATTS FINHOLM.

Witnesses:

J. D. CAPLINGERN,
F. W. WIMAN.