No. 863,994. PATENTED AUG. 20, 1907.

C. INZIRILLI.

EXTENSION TABLE.

APPLICATION FILED OCT. 18, 1906.

4 SHEETS—SHEET 1.

Fig. 1.

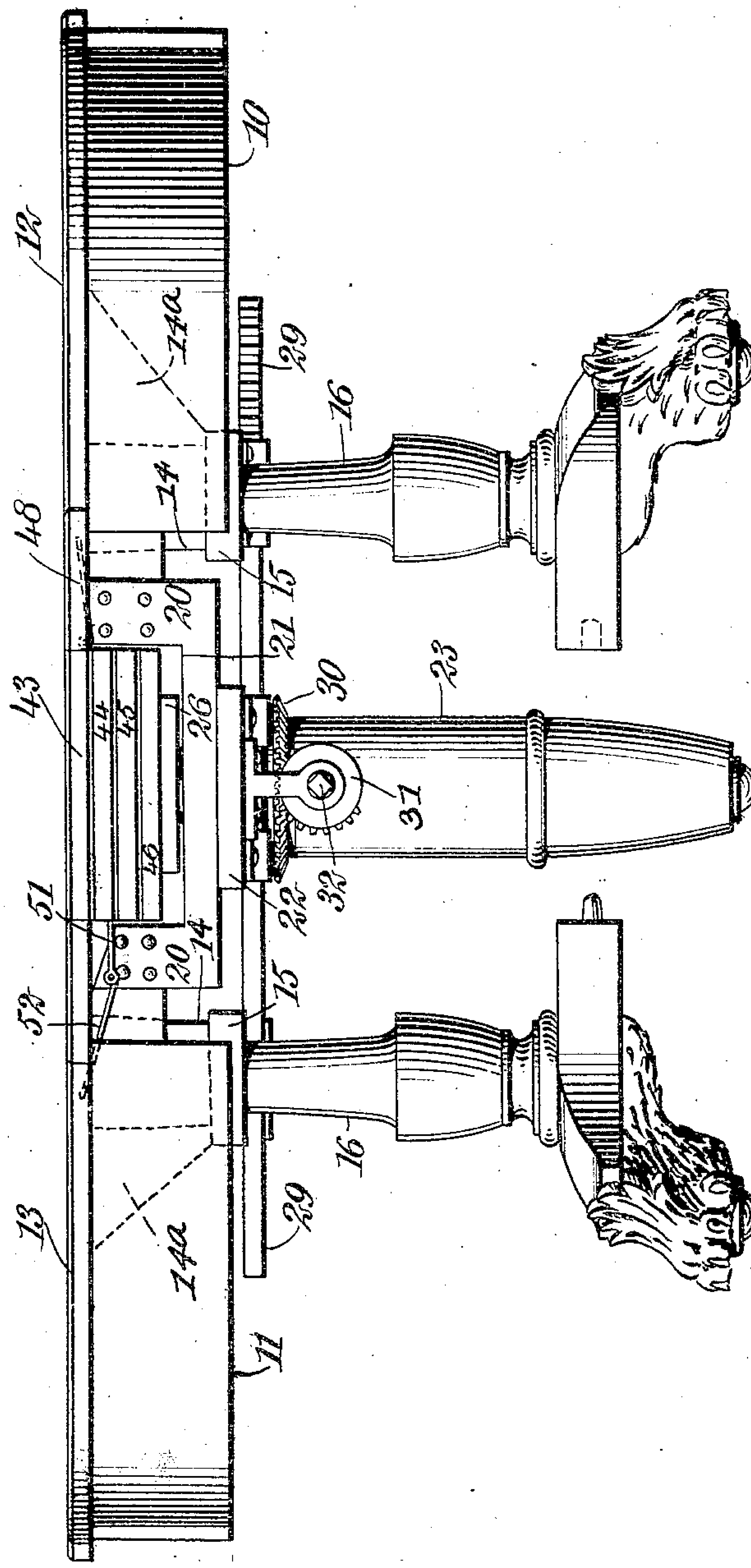
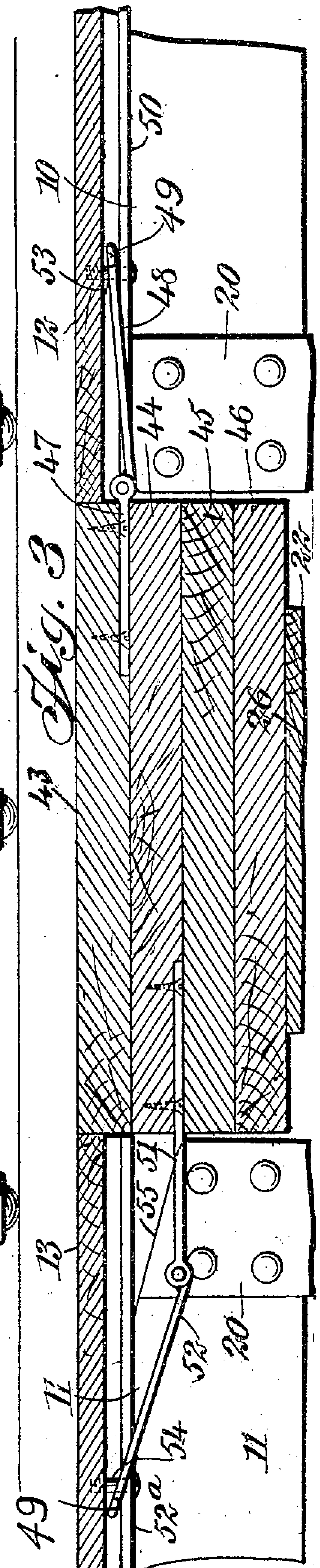


Fig. 3



WITNESSES

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4 SHEETS—SHEET 2.

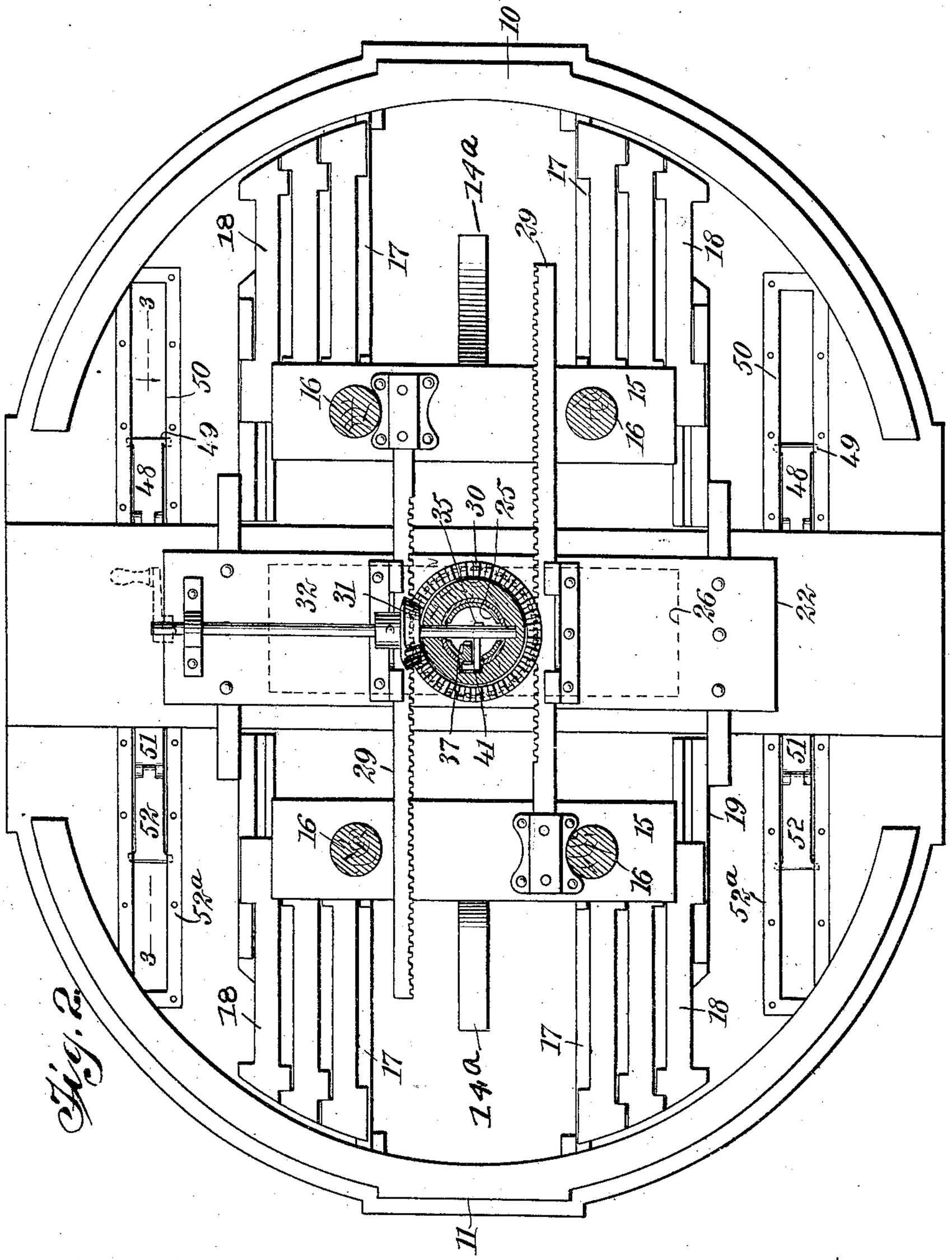

Fig. 2.

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4 SHEETS—SHEET 3.

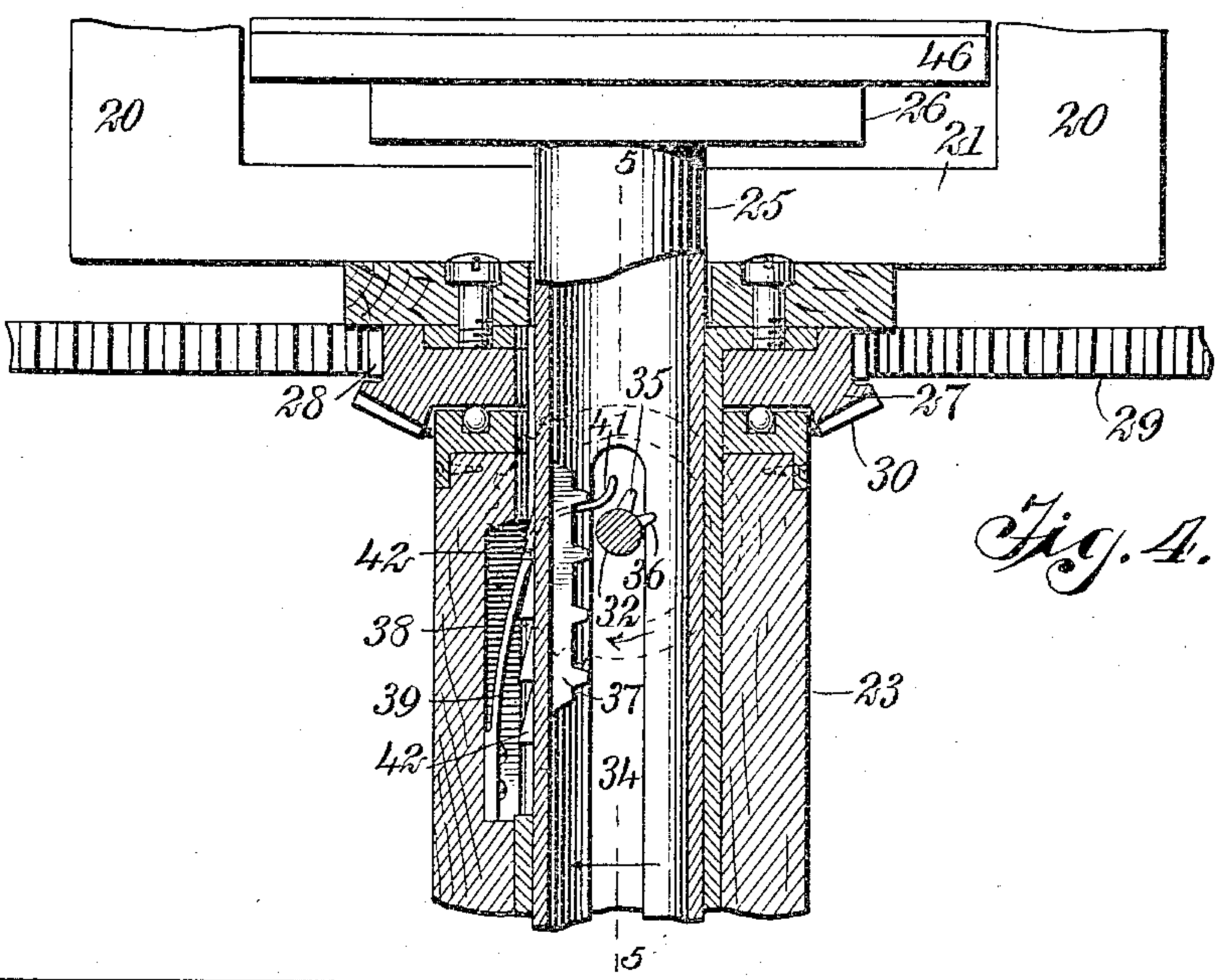

Fig. 4.

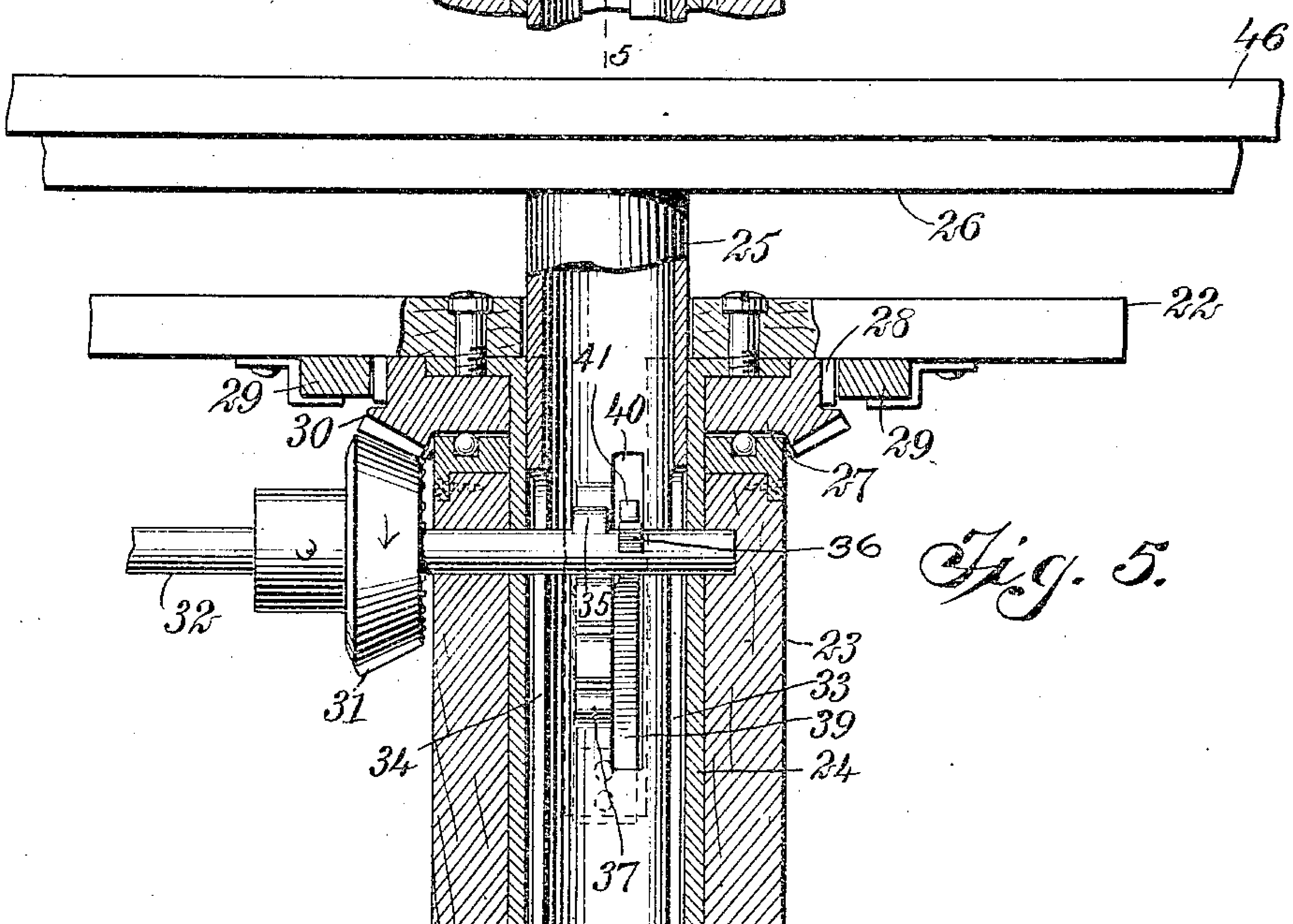

Fig. 5.

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4 SHEETS—SHEET 4.

Fig. 6.

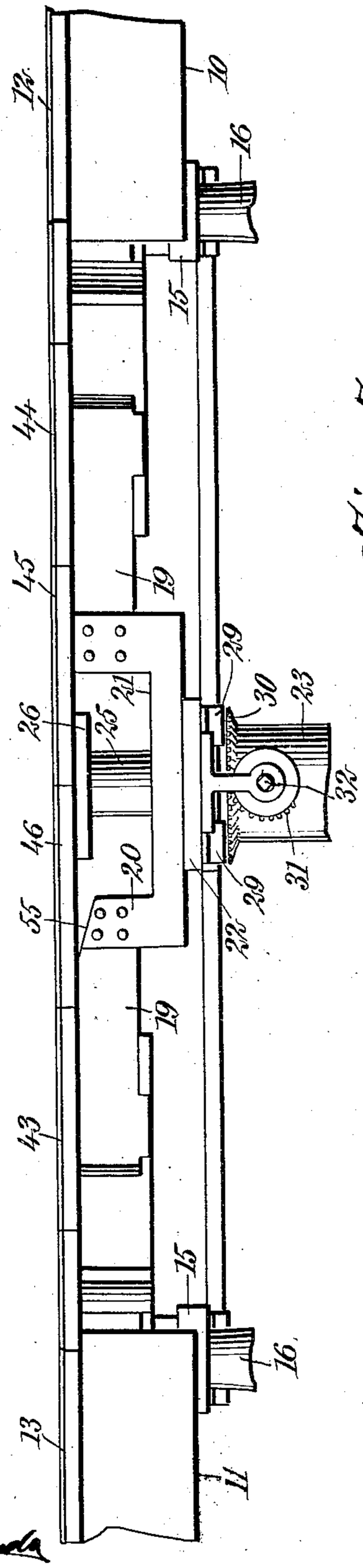
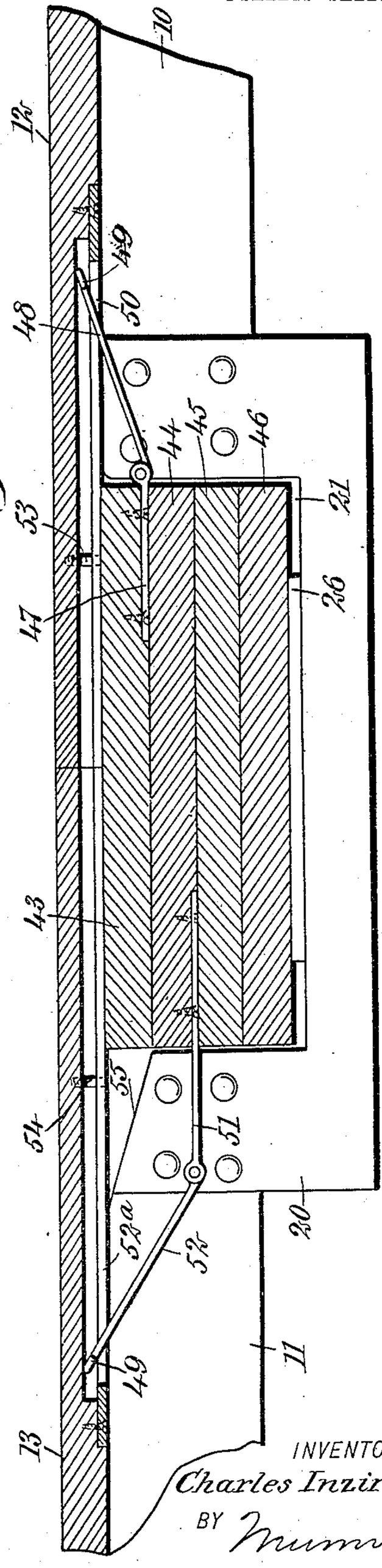


Fig. 7.



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UNITED STATES PATENT OFFICE.

CHARLES INZIRILLI, OF NEW YORK, N. Y.

EXTENSION-TABLE.

No. 863,994. Specification of Letters Patent. Patented Aug. 20, 1907.

Application filed October 18, 1906. Serial No. 339,487.

To all whom it may concern:

Be it known that I, CHARLES INZIRILLI, a citizen of the United States, and a resident of the city of New York, (borough of Manhattan,) in the county and State of New York, have invented a new and Improved Extension-Table, of which the following is a full, clear, and exact description.

This invention relates to improvements in extension tables, and has for its primary object to provide means simple in construction and effective in operation, for raising the extension leaves into position or lowering the same, the several leaves being at all times in connection with the table.

Other objects relating to the specific construction and special arrangement of the several parts of my invention will be fully understood from the accompanying drawings and accompanying description, in which drawings

Figure 1 is a side elevation of an extension table embodying my invention; Fig. 2 is a bottom plan thereof; Fig. 3 is a vertical section taken on the line 3—3 of Fig. 2; Fig. 4 is a sectional elevation showing the leaf mechanism; Fig. 5 is a vertical section taken on the line 5—5 of Fig. 4; Fig. 6 is a side elevation of the table shown in Fig. 1 fully extended; and Fig. 7 is a sectional elevation of the part shown in Fig. 3, when fully closed in position.

The main frame of the table comprises similar sections which may be of ordinary construction and provided with curved transverse flanges 10 and 11 respectively, to which are affixed the table top members 12 and 13.

Secured to the under sides of the main frame are transverse beams 14 and braces 14^a, to the under side of which beams cross plates 15 are attached, and to these cross plates 15 are secured the usual legs 16. The sections of the main frame are also provided with slide connections 18 of substantially the usual form, the outer members of which are connected with an auxiliary frame having guide bars 19 fixedly attached to hangers 20 which have depending central portions forming pockets 21 adapted to receive the extension leaves of a table. The hangers 20, oppositely disposed to each other, are connected by a cross plate 22 to the center of which is secured a tubular pedestal 23 which forms the central leg of the table. The pedestal 23 preferably has a metal sleeve 24 in which a tubular standard 25 is movably mounted and provided with a carrying plate 26. A gear 27 is mounted to rotate on the upper end of the pedestal 23, and is provided with straight teeth 28 for engaging racks 29, one rack being secured to one section of the main frame, while the other rack is secured to the opposite section of said frame. The gear 27 is also provided with bevel teeth 30 for engaging the teeth of a segmental pinion 31, this pinion being mounted on a shaft 32 which extends outward near one side of the table where it may be engaged by any suitable turning device, such for instance, as a crank key or hand wheel. The shaft 32 passes through the pedestal 23 and through opposite longitudinal slots 33 and 34 formed in the standard 25. Within the standard 25 the shaft 32 is provided with a long tooth 35 designed to engage with the teeth of a rack 37 secured to the inner side of the standard 25. The inner side of the pedestal 23 has a chamber 38 for receiving a latch spring 39, the lower end of which spring being secured to the pedestal while the upper end is curved inward and passes through a slot 40 formed in the standard 25 opposite to a short tooth 36 attached to the shaft 32. The teeth 35 and 36 are off-set from each other, the long tooth 35 in line with the rack 37, and the short tooth 36 in line with the free end 41 of the latch spring 39. The inwardly curved free end 41 of the latch spring 39, as clearly shown in Fig. 2, is lateral to the body portion of the spring so that the upper end of the spring proper forms a pawl for engaging ratchet teeth 42 formed on the outer side of the standard 25. Extension leaves 43 and 44 are hinged to the sections of the main frame and the extension leaf 43 provided on its under side with plates 47 having a hinged connection with links 48 provided on their outer ends with lugs 49 which engage guide ways 50 secured to the under side of one of the sections of the main frame of the table. The leaf 44 also has attached to its under side hinge plates 51 pivotally connected with links 52 which are provided on their free ends with laterally extending lugs for engaging guide ways 52^a attached to the opposite section of the main frame of the table.

The hinge plates 51 attached to the extension leaf 44, it will be noted, are somewhat longer than the corresponding plates 47 attached to the extension leaf 43, and that in the guides 50 stops 53 are arranged for engaging with the lugs on the links 48 to hold the leaf 43 in proper position relatively to the carrying plate 26. The guides 52^a are provided with similar stops 54 for the same purpose. The hinge plates 51 attached to the extension leaf 44 are made longer than the corresponding hinge plates 47 of the extension leaf 43, and the pivotal connections of the hinge plates 51 with the links 52 are further removed from the edge of the extension leaf than the corresponding pivotal connections between the hinge plates 47 and the links 48 so as to enable the extension leaf 44 to drop in advance of the leaf 43 when the sections of the table are being closed together, thereby enabling the extension leaf 43 to be arranged over the leaf 44, as shown in Fig. 3, and also to permit the extension leaf 43 to be arranged in advance of the leaf 44 when the table is being opened. Auxiliary leaves 45 and 46 are supported on the carrying plate 26 and arranged below the extension leaves 43 and 44 when the table is fully closed, as shown in Fig. 7.

When the device is in use and it is desired to insert

one or more of the auxiliary leaves into the table, the shaft 32 is turned half way around by means of a crank or handle, the toothed portion of the pinion 31 thereby rotates the gear 27, the straight teeth 28 of which engage the racks 29 attached to the sections of the main frame of the table and thereby separate the edges of the top of the table far enough apart to make room for the extension leaf 43. As the rotation of the shaft 32 is continued in the same direction, the pinion 31 will not operate during the next half turn of the shaft 32 because of its being free of teeth at that portion which passes opposite to the teeth of the gear 27. The fingers 35 and 36 are arranged on the shaft 32 in line with the plain portion of the pinion 32, and consequently operate alternately with the toothed portion of the pinion. The long tooth 35 of the shaft 32 engages the rack 37 of the standard 25 and raises said standard, thereby bringing the extension leaf 43 on a level with the tops 12 and 13 of the main frames of the table. The next half turn of the shaft 32 in the same direction brings the toothed portion of the pinion 31 in engagement with the gear 27 which in turn engages the racks 29, and again spreads the sections of the main frame of the table apart and makes room for the extension leaf 44 between the top section 13 of the table and the free end of the extension leaf 43. Another half turn of the shaft 32 in the same direction will again cause the finger 35 to engage one of the teeth of the rack 37 and raise the standard 25 so as to bring the extension leaf 44 flush with the top sections of the table, and the auxiliary leaf 43. The upper ends of the hangers 20 are cut away making inclined edges 55, which permit the extension leaf 44 to be moved bodily transversely of its length and raised into the position before described. And so the next half turn of the shaft 32 will again bring the toothed portion of the gear 31 into engagement with the gear 27 and operate the racks 29 and spread the sections of the table further apart, and if the shaft 32 is rotated another half turn in the same direction the finger 35 will again come in contact with one of the teeth of the rack 37 and raise the auxiliary leaf 45 into the plane of the top sections of the table and the extension leaves 43 and 44. By repeating such operation, the leaf 46 is arranged in a similar manner. After all the leaves have been raised and brought into the same plane, the sections are pressed toward the central portion of the table so as to take up any space between the edges of the several leaves and the top of the table. The several parts of the table will then be in the position indicated in Fig. 6 of the drawing. The extension leaves are removed and the sections of the table folded together by reversing the operation already described. A half turn of the shaft 32 brings the long finger 35 in engagement with the rack 37 of the standard 25 and the short finger 36 in contact with the free end 41 of the latch spring 39. The long finger 35 travels in advance of the short finger 36, and is in engagement with the rack 37 before the short finger 36 comes in contact with the free end 41 of the latch spring, and releases said spring from engagement with the ratchet 42 of the standard 25, thereby enabling said standard to descend and lower the extension leaf 46 which is mounted on the carrying plate 26. A further half turn of the shaft 32 in the same direction brings the toothed portion of the pinion 31 in engagement with the gear 27 thereby operating the racks 29 attached to the sections of the main frame of the table and drawing said sections toward each other, closing the space formerly occupied by the leaf 46. This operation when repeated removes the extension leaf 45 from the table and places it upon the leaf 46, the standard 25 being lowered sufficiently for that purpose, and by continuing such operation the leaf 44 is removed in advance of the leaf 43, and the leaf 43 lowered in the same manner, when all of the leaves of the frame will be supported in the hangers and the sections of the main frame may be closed together into the position indicated in Fig. 7.

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

1. A table comprising a main frame having separable sections, a plurality of extension leaves, a central auxiliary frame, racks attached to the sections of the main frame, a gear mounted on the auxiliary frame engaging said racks, a segmental pinion engaging said gear intermittently, and means adapted to be operated alternately with the toothed portion of said pinion to raise and lower said leaves.

2. An extension table comprising a main frame composed of separable sections, a central auxiliary frame connected thereto and provided with a pedestal, a tubular standard mounted on said pedestal to move into various positions of vertical adjustment, a plurality of extension leaves carried by said standard, racks attached to the sections of the main frame, a gear wheel on the auxiliary frame engaging said racks, a segmental pinion mounted on a shaft journaled in said pedestal engaging said gear wheel, and means within said standard adapted to be operated alternately with the toothed portion of said pinion to raise and lower the same.

3. An extension table comprising a main frame, composed of separable sections, a central auxiliary frame connected thereto and provided with a pedestal, a tubular standard mounted to move vertically on said pedestal, and provided on its inside with a vertical rack and on its outside, with a vertical series of ratchet teeth, a pawl mounted on said pedestal in position to engage with said teeth and projecting into the interior of said standard, racks attached to the sections of the main frame, a gear wheel mounted on the auxiliary frame engaging said racks, a segmental gear also engaging said gear wheel and mounted on a shaft which is journaled in said pedestal, and extends into the interior of said standard, and teeth on said shaft within said standard in position to engage and operate said rack and pawl alternately with the engagement of the segmental pinion with the gear wheel.

4. An extension table comprising a main frame having separable sections, a central auxiliary frame provided with a tubular pedestal, a vertically adjustable standard mounted in the said pedestal, a plurality of extension leaves carried by said standard, sliding guide bars connecting the sections of the main frame and the auxiliary frame, racks attached to the sections of the main frame, a gear mounted on the auxiliary frame engaging said racks, a segmental pinion mounted on said auxiliary frame engaging said gear intermittently, and means adapted to be operated alternately with the toothed portion of said pinion to raise and lower said standard.

5. An extension table comprising a main frame having separable sections, an auxiliary frame provided with a tubular pedestal, sliding guide bars connecting the sections of the main frame with the auxiliary frame, racks fixedly attached to the sections of the main frame, a double gear mounted on the auxiliary frame and provided with beveled teeth, and with straight teeth engaging said racks, a vertically adjustable standard mounted in the pedestal of the auxiliary frame and provided with a rack and ratchet teeth, a pawl attached to said pedestal and adapted to engage said ratchet teeth, a plurality of extension leaves supported on said standard, a segmental pinion adapted to engage the beveled teeth of said gear intermittently and mounted on a shaft which is journaled on said pedestal, and provided with fingers in position to operate

alternately with the segmental pinion and engage said rack and ratchet.

6. An extension table comprising a main frame composed of separable sections, a central auxiliary frame connected thereto and provided with a pedestal and with oppositely disposed hangers forming pockets adapted to contain a number of extension leaves, sliding guide bars connecting the sections of the main frame with the auxiliary frame, a tubular standard mounted to move vertically on said pedestal and provided on its top with a carrying plate in position to support said leaves in said pocket, and in its sides with longitudinal slots, and with a vertical rack on its inside, a vertical series of ratchet teeth on its outside, a pawl mounted on said pedestal in position to engage with said teeth, racks attached to sections of the main frame, a gear wheel mounted on the auxiliary frame engaging said racks, a segmental gear also engaging said gear wheel and mounted on a shaft which is journaled in said pedestal and extends into the interior of said standard through said longitudinal slots, and teeth on said shaft on the side opposite said segmental gear adapted to engage said rack and pawl.

7. An extension table comprising a main frame composed of separable sections, a central auxiliary frame connected thereto and provided with a pedestal, sliding guide bars connecting the sections of the main frame with the auxiliary frame, a vertically adjustable standard mounted to move vertically on said pedestal and provided with a carrying plate, extension leaves resting on said plate, said standard being also provided with longitudinal slots, and provided on its inside with a vertical rack and on its outside with a vertical series of ratchet teeth, a spring pawl mounted on said pedestal in position to engage with said teeth and having its free end projecting into the interior of said standard through one of said slots, racks attached to the sections of the main frame, a gear wheel mounted on the auxiliary frame engaging said racks, a segmental gear also engaging said gear wheel and mounted on a shaft which is journaled in said pedestal, and extends into the interior of said standard through the other of said slots, and teeth off-set from each other mounted on said shaft on the side opposite said segmental gear adapted to engage the rack in the interior of said standard and the free end of said spring pawl.

8. An extension table comprising a main frame having separable sections, a central auxiliary frame connected thereto and provided with a pedestal, sliding guide bars connecting the auxiliary frame with the sections of the main frame, a tubular standard mounted to move vertically on said pedestal and provided with a series of longitudinally extending ratchet teeth on its outer surface, a longitudinal rack on its inner surface and a longitudinal slot, a series of extension leaves carried on said standard, a spring pawl attached to the auxiliary frame engaging said ratchet teeth and having its end extending through said slot into the interior of the standard, a shaft journaled in said pedestal extending into the interior of the standard through a longitudinal slot therein, and provided with a finger within said standard in position to release said pawl from engagement with said ratchet teeth, and a finger adapted to travel in advance of the last named finger to engage the teeth of said rack and lower said standard.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES INZIRILLI.

Witnesses:
JNO. M. RITTER,
C. R. FERGUSON.