No. 859,696. PATENTED JULY 9, 1907.

M. SCHMIDT.

ADJUSTABLE OPERATING TABLE.

APPLICATION FILED MAR. 6, 1906.

3 SHEETS—SHEET 1.

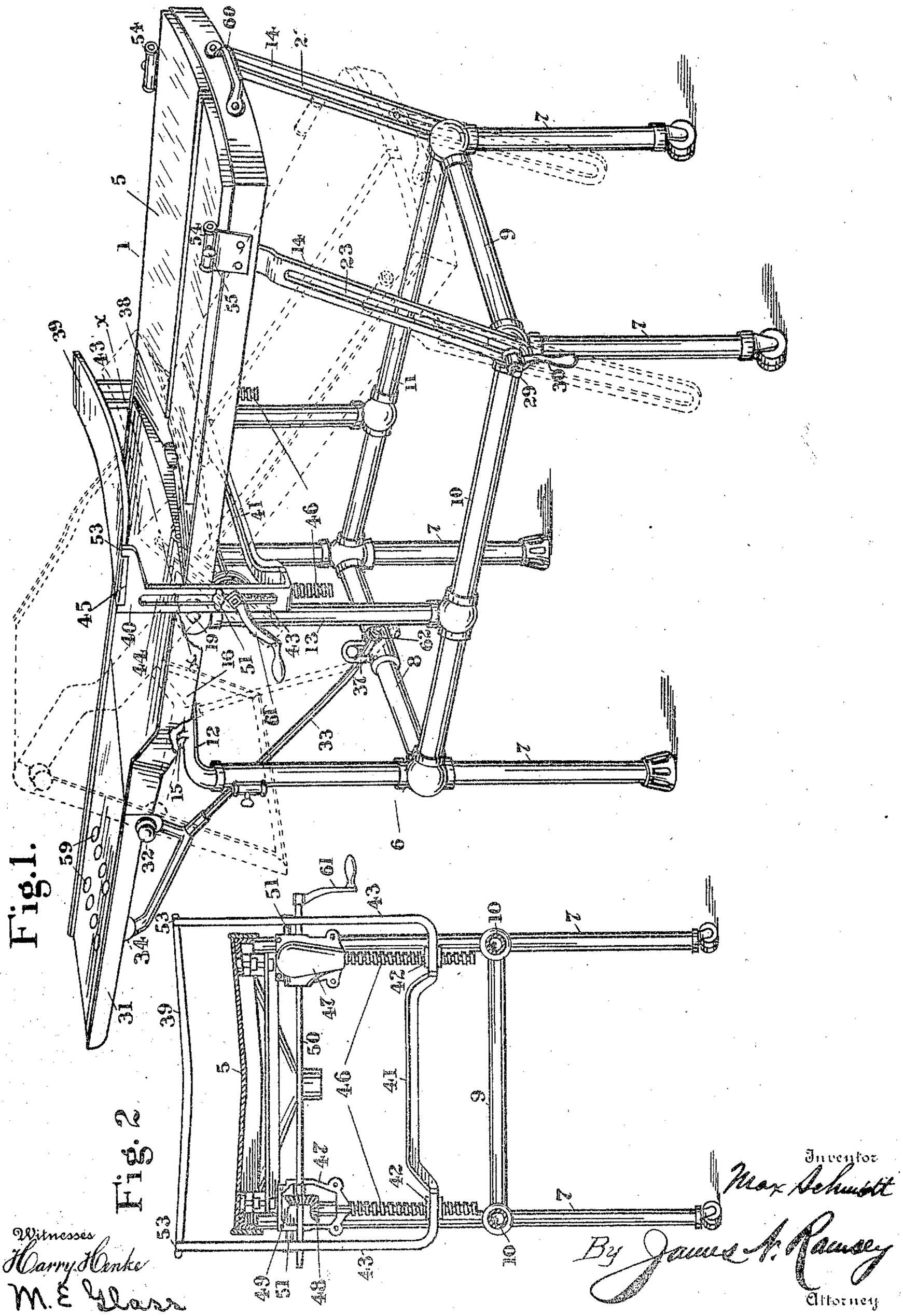

Fig. 1.

Witnesses
Harry Henke
M. E Glass

Inventor
Max Schmidt
By James A. Ramsey
Attorney

No. 859,696 PATENTED JULY 9, 1907.

M. SCHMIDT.

ADJUSTABLE OPERATING TABLE.

APPLICATION FILED MAR. 6, 1906.

3 SHEETS—SHEET 2.

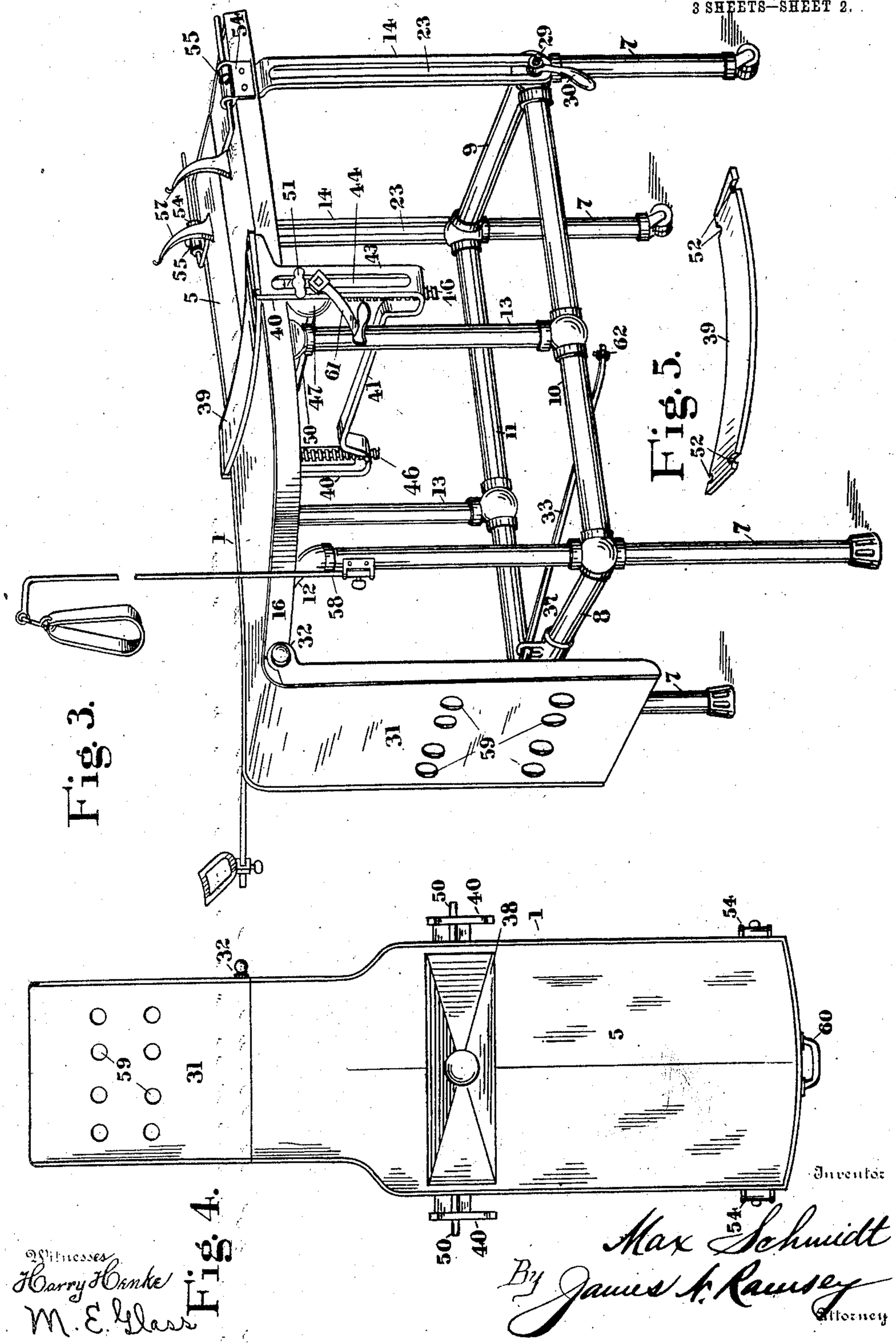

Fig. 3.

Fig. 4.

Witnesses
Harry Hanke
M. E. Glass

Inventor
Max Schmidt
By James A. Ramsey
Attorney

No. 859,696. PATENTED JULY 9, 1907.

M. SCHMIDT.

ADJUSTABLE OPERATING TABLE.

APPLICATION FILED MAR. 6, 1906.

3 SHEETS—SHEET 3.

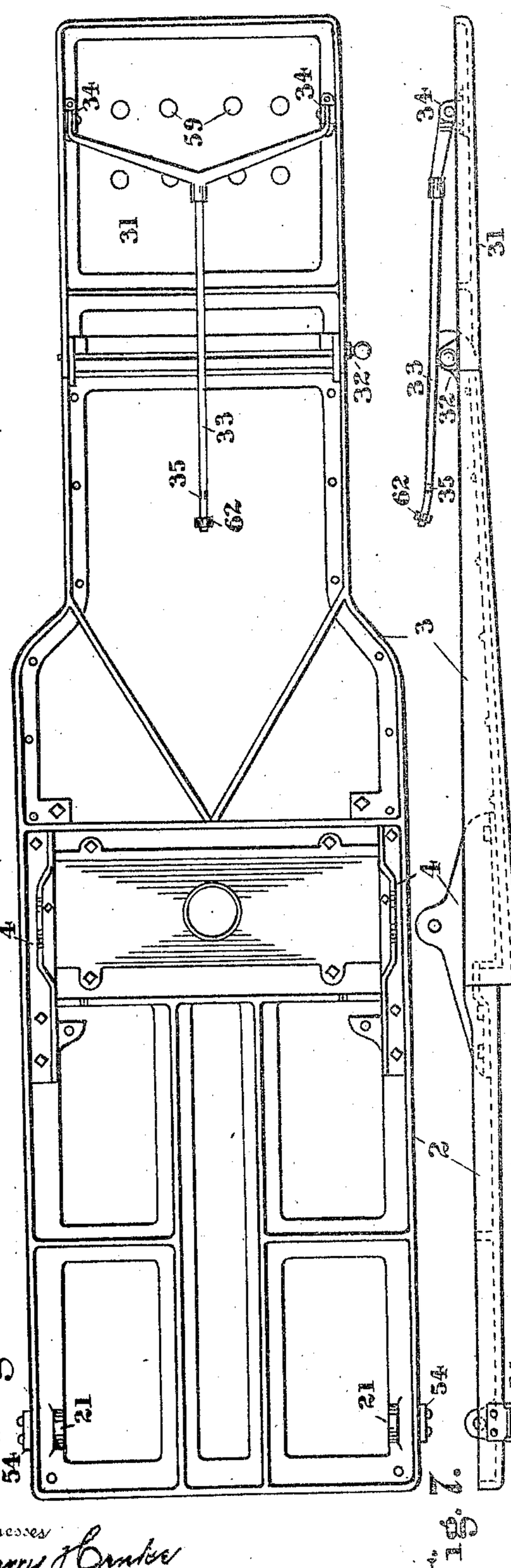

Fig. 6.

Fig. 7.

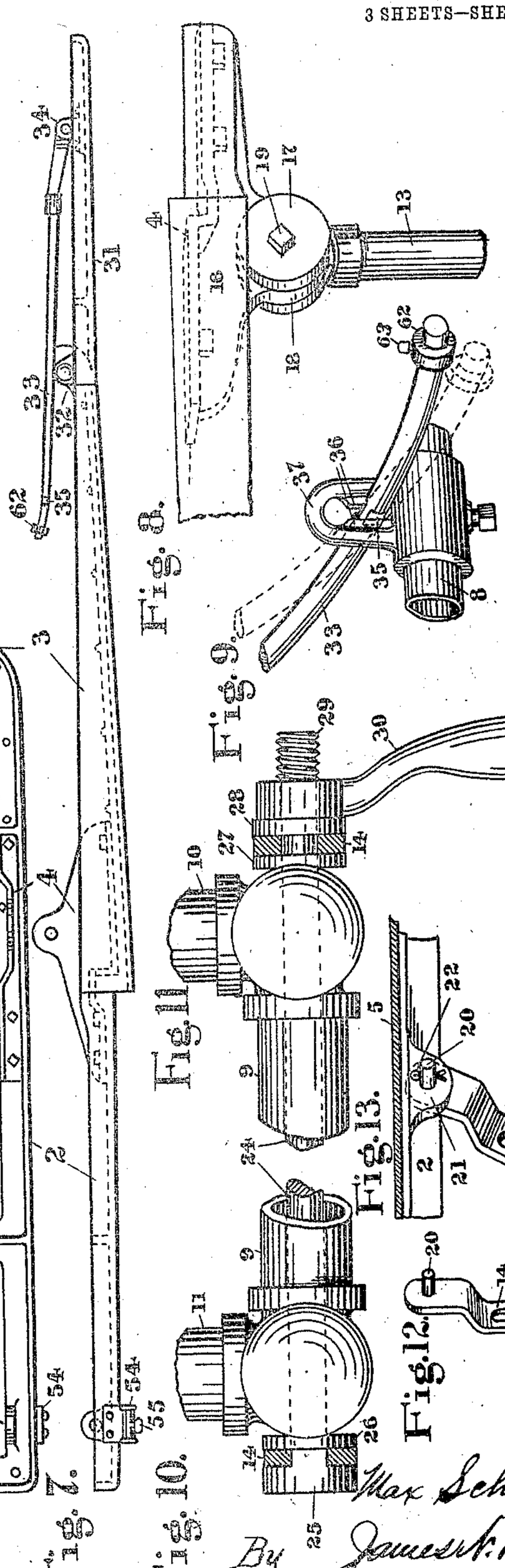

Fig. 8.

Fig. 9.

Fig. 11.

Fig. 13.

Fig. 12.

Fig. 10.

Witnesses
Harry Hunter
M. E. Glass.

Inventor
Max Schmidt
By James A. Ramsey
Attorney

UNITED STATES PATENT OFFICE.

MAX SCHMIDT, OF CINCINNATI, OHIO.

ADJUSTABLE OPERATING-TABLE.

No. 859,696. Specification of Letters Patent. Patented July 9, 1907.

Application filed March 5, 1906. Serial No. 304,173.

To all whom it may concern:

Be it known that I, MAX SCHMIDT, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Adjustable Operating-Tables, of which the following is a specification.

My invention relates to improvements in operating tables for surgical use.

The object of my invention is to provide a table of this character that will combine simplicity, compactness and efficiency and enable the surgeon or nurse to adjust said table in any position required without effort on the part of the nurse or surgeon and without jarring the patient, thus making it more convenient for both surgeon and nurse and to obtain other advantages and results as set forth.

My invention consists in the improvements in operating tables, as herein set forth and claimed.

In the accompanying drawings which serve to illustrate my invention: Figure 1 is a perspective view of the operating table, having an elevator and an adjustable hinged leg extension, both shown in raised position, part of table being broken away to show means for pivoting same to the frame to allow of said table being tilted in a Trendelenburg position as indicated by the dotted lines. Fig. 2 is a cross section on the line *x*—*x* showing the mechanism of the elevator. Fig. 3 is a perspective view of the operating table with the various attachments adjusted thereon and the adjustable hinge leg extension and elevator lowered. Fig. 4 is a plan view of the operating table. Fig. 5 is a perspective view of the removable saddle on the elevator, detached. Fig. 6 is a bottom view of the top of the table. Fig. 7 is a side view of same. Fig. 8 is an enlarged detail view showing the pivotal connection of the table with one of the supports. Fig. 9 is a perspective view showing the means of guiding and holding the sliding support for the adjustable hinged leg extension. Figs. 10 and 11 are enlarged top views showing the means for clamping the slotted sliding supports to adjust the top of the table to the different positions. Fig. 12 is a detailed perspective view of the top of one of the sliding supports. Fig. 13 is a similar view of the same when pivoted to the table top from the lower inside.

My adjustable operating table is preferably constructed substantially as follows: An elongated main top 1 preferably made of two castings 2 and 3 riveted together in a suitable manner and bolted to pivot castings 4 and preferably provided with a covering 5 consisting of sheet iron, brass or glass, is mounted upon a supporting frame 6 comprising legs 7 cross supports 8, 9, 10 and 11, bridge 12, pivotal supports 13 and adjustable supports 14. The bridge 12 is provided with upright lugs 15 adapted to engage the inner sides of the downwardly extending flanges 16 of the top 1 to hold the top firmly against lateral movement thereof while the bridge 12 provides a support to hold the top firmly in horizontal position when so adjusted. Each pivotal support 13 is provided at its upper end with a yoke bearing 17 adapted to receive the ears 18 integral with the main top 1, and be pivotally secured thereto by pintle 19 whereby the main top 1 is adapted to be given a tilting movement. Each adjustable support 14 is provided near its upper end with a journal 20 adapted to engage a bearing 21 upon casting 2, and be secured thereto by spring cotter 22 whereby a pivotal connection is formed between the main top 1 and the adjustable supports 14. The adjustable supports 14 are provided with longitudinal slots 23 which are adapted to receive a screw rod 24 provided upon one end with a head 25 and washer 26 adapted to engage one of the adjustable supports and upon its other end with washers 27 and 28 adapted to engage the other adjustable support 14 and with threads 29 adapted to receive a hand nut 30 to loosen the washers to permit the rods 14 to be adjusted and to tighten the washers against said rods 14 to hold the top 1 in any adjustable position desired. The main top 1 is also provided with an adjustable leg extension 31 secured thereto by hinge 32 and adapted to be held in horizontal position by sliding support 33 connected thereto at its upper end by pivots 34 and having notches 35 near its lower end adapted to engage catches 36 within the keeper 37 secured to the cross support 8.

A drain depression 38 is provided near the center of the top and a saddle 39 detachably mounted upon an elevator 40 is adapted to extend over said depression to elevate the body of the patient for the purpose of bandaging or for aiding the operator during kidney or gall stone operations. The elevator 40 is constructed with a frame having a cross bar 41 provided with screw bearings 42, and having standards 43 provided with slots 44 and recesses 45. The cross bar 41 holds the standards 43 in fixed position relative to each other and thereby prevents any binding of the elevating mechanism due to the weight of a patient upon the saddle 39.

Adjusting screws 46 are mounted at their lower ends in the screw bearings 42 and at their upper ends they are secured within housings 47 fixed by suitable means to the under side of the main top 1 and are provided upon their upper ends with bevel gears 48 adapted to engage bevel gears 49 within said housings upon a crank shaft 50 adapted to be rotated in either direction and from either side of the table to raise or lower said elevator. The elevator is maintained in a vertical position by means of the adjusting screws 46 and by the ends of the crank shaft 50 and guides 51 which extend through the slots 44 of the standards 43. The upper surface of the saddle 39 is preferably formed with a slight down-

ward curve and is provided near its ends with notches 52 to receive lugs 53 of the standards 43 to hold said saddle firmly in place and yet permit of its ready detachment.

My improved adjustable table is preferably provided with ears 54 each having a thumb screw 55 to receive and hold suitable shoulder braces 57. It is also provided with adjustable leg supports 58.

The top of my improved adjustable table is of peculiar form being oblong in shape and reduced in size at the end near the adjustable leg extension and of the same width as said extension. This construction effects a saving in material, produces a neater design and style of top and renders the table more convenient since it permits the operator and nurse to obtain a nearer approach to the patient in their work and this is often of importance while difficult surgical operations are being performed. The leg extension is provided with the usual openings 59 to afford convenient means for strapping the legs of the patient thereto with gauze.

A suitable handle 60 is preferably provided upon the end of the main top by which to tilt the table to the position desired when the washers engaging the adjustable supports 14 have been loosened by the hand nut 30.

An adjustable collar 62 held by set screw 63 is secured to the lower end of the sliding support 33 to limit its upward movement.

The operation of my improved adjustable operating table is as follows: To secure the top in the horizontal position shown in Fig. 1 draw the main top 1 by the handle 60 upwardly until its flanges 16 engage the bridge 12 and lugs 15, then screw the hand nut 30 tightly against the adjacent washer 28 which will secure it firmly in said position. If the leg extension 31 is in the position shown in Fig. 3 simply draw it upwardly upon its hinge 32 to the position shown in Fig. 1 when the notches 35 will by gravity engage the catches 36 and hold it in that position until released by raising said sliding arm upwardly within the keeper 37 to bring the notches 35 out of the catches 36 when it will assume by gravity the position shown in Fig. 3. When the sliding support 33 of the adjustable leg extension 31 is in pivotal engagement with the keeper 37, any movement of the main top 1 will cause said adjustable leg extension to be moved simultaneously and automatically therewith and especially will a simple movement by a slight pressure of the hand downwardly upon the handle 60, when the adjustable supports 14 have been released, cause the top to be tilted to a Trendelenburg position, as indicated by dotted lines in Fig. 1. To raise or lower the elevator 40 simply turn the handle 61 of the crank shaft 50 while the saddle 39 may be adjusted to the position shown in Figs. 1 or 3 or any other position desired or it may be readily detached when not required for use.

My improved adjustable operating table is constructed with as few parts as possible and in such a manner as to render it perfectly sanitary. It is especially designed for convenience of adjustment from a single point as at the handle 60 to almost any position which it is desired to have the main top and leg extension assume and at the same time said main top and leg extension may be adjusted independently of each other if so desired. The elevator and main top may also be adjusted simultaneously or separately as desired. The entire construction and arrangement is such as to make a strong, compact and convenient adjustable table for the purposes desired.

While I have shown and described a particular construction and arrangement of parts and means for securing them in their several relations I do not wish to be understood as limiting my invention thereto, but

What I claim and desire to secure by Letters Patent is:

1. In an adjustable operating table, a supporting frame, a top pivotally and adjustably mounted thereon, adjustable supports for said top having sliding engagement with said supporting frame, a bridge on one end of said supporting frame at a distance from the point of pivotal support of said top and on which said top is adapted to rest when in normal position, and a lug on top of said bridge at each side thereof adapted to engage and steady said top against lateral movement.

2. In an adjustable operating table, a supporting frame, a main top mounted thereon, a crank shaft supported by said main top, bevel gears on said crank shaft, vertical adjusting screws supported by said main top, a bevel gear on each adjustable screw in mesh with a bevel gear on said crank shaft, an elevator having screw bearings adapted to receive said vertical adjusting screws and having standards adapted to receive and support a saddle at the top and having a cross bar at their lower ends whereby said standards are connected together and braced in fixed relation to each other, substantially as set forth.

MAX SCHMIDT.

Witnesses:
JAMES N. RAMSEY
JOHN WACHS.