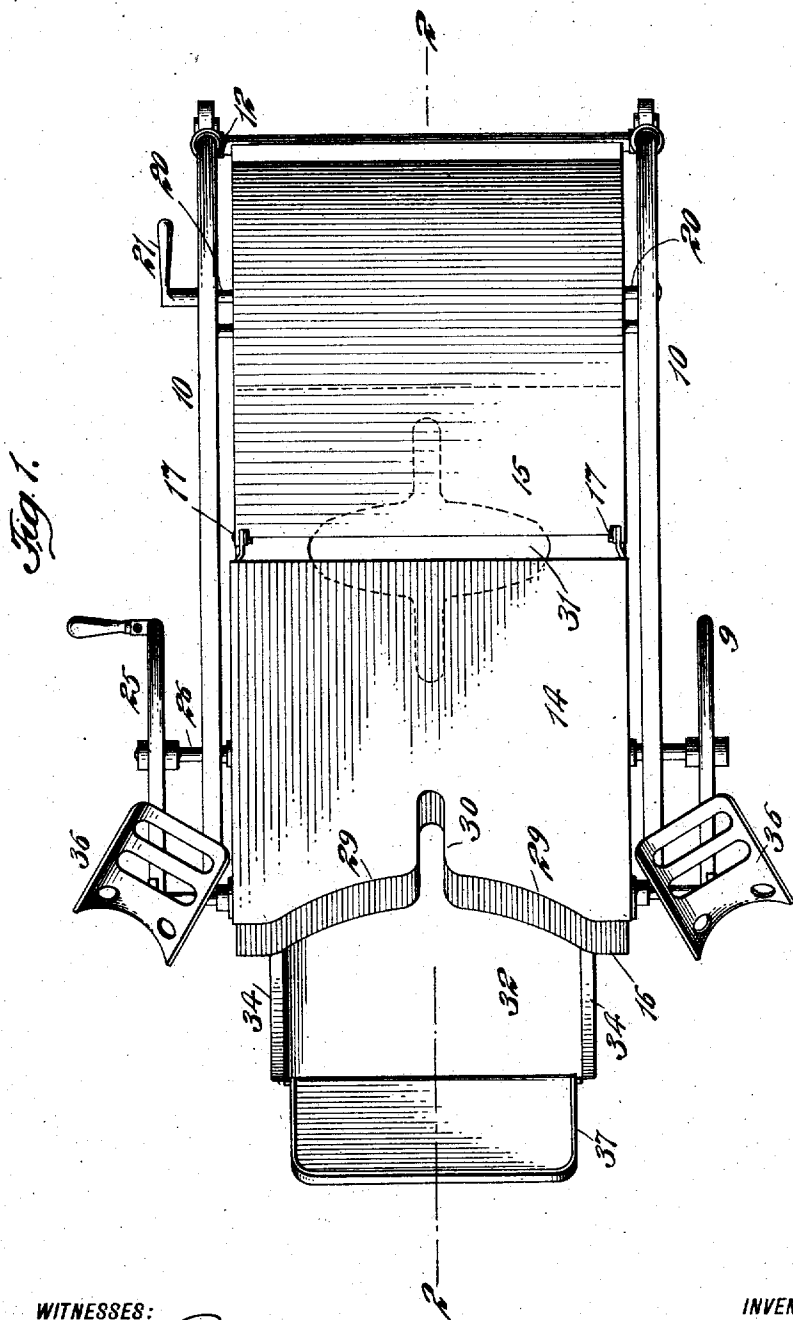


B. D. THORNER.
 OPERATING TABLE FOR USE OF PHYSICIANS AND SURGEONS.
 APPLICATION FILED OCT. 5, 1909.

987,189.

Patented Mar. 21, 1911.

3 SHEETS—SHEET 1.



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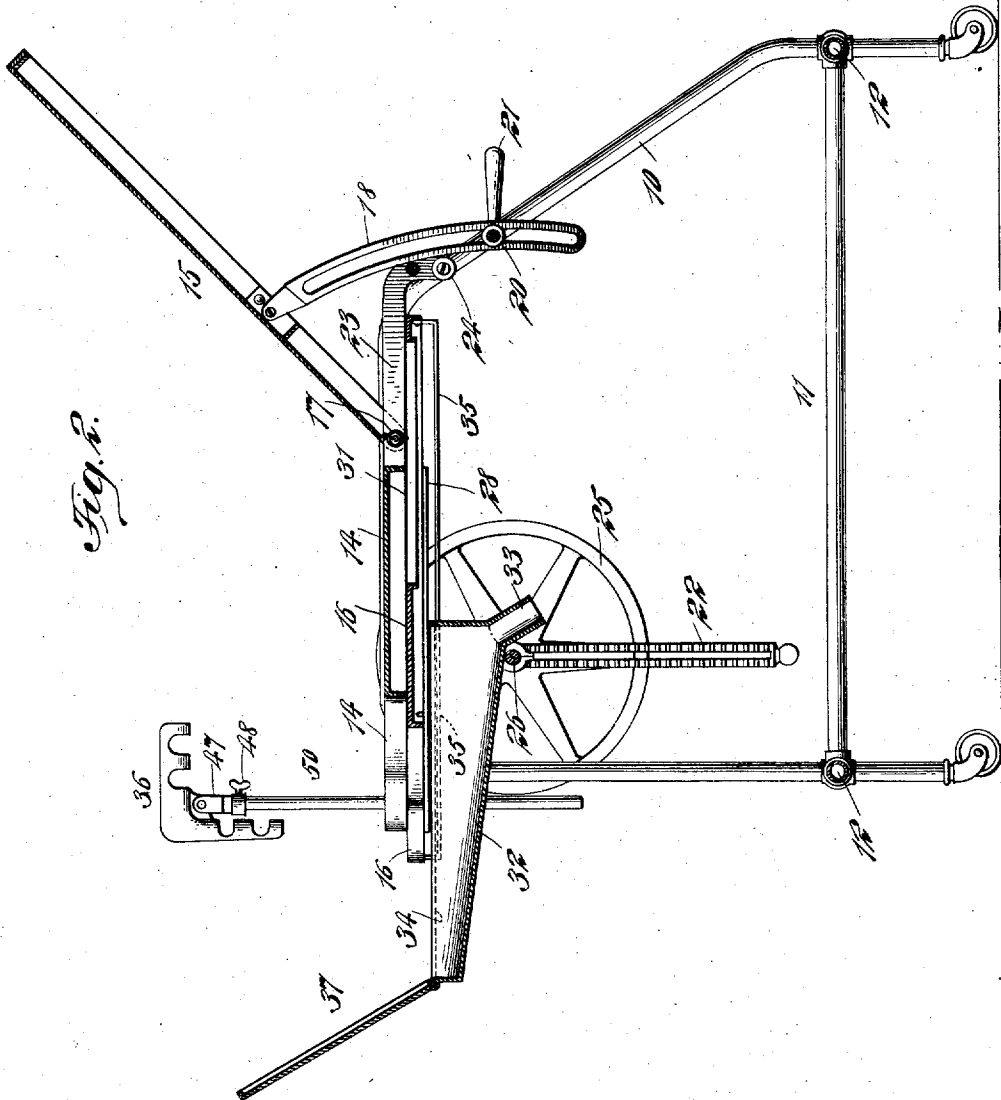


Fig. 2.

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3 SHEETS—SHEET 3.

Fig. 3.

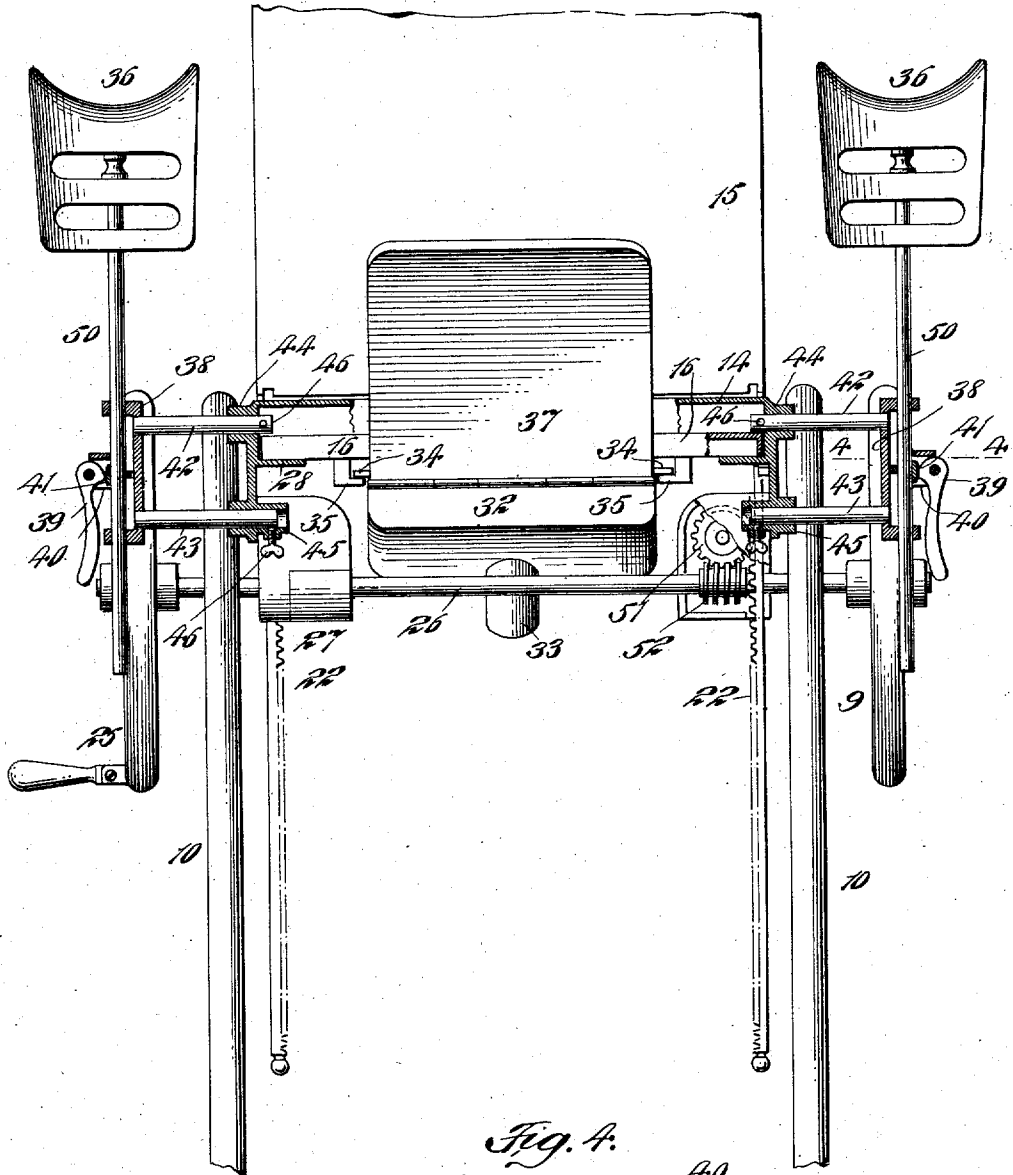
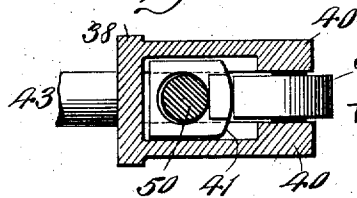


Fig. 4.



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UNITED STATES PATENT OFFICE.

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OPERATING-TABLE FOR USE OF PHYSICIANS AND SURGEONS.

987,189.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed October 5, 1909. Serial No. 521,114.

To all whom it may concern:

Be it known that I, BERNARD D. THORNER, a citizen of the United States, and a resident of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Operating-Tables for the Use of Physicians and Surgeons, of which the following is a specification.

The invention relates to improvements in operating tables, and it consists in the novel features and structure hereinafter described and particularly pointed out in the claims.

The object of the invention is to provide a more convenient and effective table for the use of physicians and surgeons and especially those engaged in gynecological, rectal and genitourinary work.

There are several advantageous features embodied in the table of my invention, and one relates to the slidable foot-section of the top of the table, another to the adequate drainage facilities the table provides, another to the improved means for supporting the leg-holding stirrups and permitting their direct adjustment toward and from the sides of the table, and another to the arrangement of suitable mechanism near the foot of the table operable by a wheel within convenient reach of the surgeon for raising and lowering the table-top.

The table-top or table proper is composed of a middle-section, a head-section at one end thereof and a foot-section adapted to be positioned at the other end thereof or slid under said middle-section, as the occasion may require. Below the foot-section and supported therefrom is slidably arranged a drainage-pan. The slidable foot-section is of very great convenience and utility, since it may be quickly adjusted to the wants of the surgeon and patient or dispensed with entirely and gotten out of the way, with the least loss of time and energy. The leg-holding stirrups are held by supports which are directly adjustable toward and from the sides of the front end of the middle-section of the top of the table, so as to widen or narrow the space between said stirrups. The stirrups mounted in accordance with my invention may be very conveniently adjusted along straight lines without discomfort to the patient, and they dispense entirely with the usual stirrups having crank-movement

adjustments which have long been recognized as unsatisfactory.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which:

Figure 1 is a top view of an operating table constructed in accordance with and embodying the invention; Fig. 2 is a vertical longitudinal section of the same on the dotted line 2—2 of Fig. 1; Fig. 3 is a front elevation, partly broken away and partly in section, of the same, and Fig. 4 is a horizontal section through a portion of the same on the dotted line 4—4 of Fig. 3.

In the drawings, 10 designates suitable side supporting frames for the table, and these frames are suitably connected and braced by longitudinal rods 11 and transverse rods 12 and equipped at their lower leg-ends with casters, as usual.

The top of the table comprises three main sections 14, 15, 16 the section 14 being a hinged but otherwise stationary middle section, that numbered 15 a hinged head-frame, and the section 16 a foot-frame which is slidable beneath and frontwardly from under the middle section 14.

The section 15 or head-frame is of usual outline and construction, and said frame is hinged at its lower end, as at 17, and provided at its inner side edges with hinged slotted bars 18 by which, in connection with the customary clamp rod 20 and operating handle 21, said frame may be adjusted to any suitable inclination or allowed to take a horizontal position, at will. The head frame 15, bars 18, rod 20 and handle 21 are of well-known construction and not sought to be claimed herein, nor is the present invention limited to the employment of the slotted bars 18 and rod 20 as means for adjusting the head-frame to the various positions that may be desired for it.

The middle-section 14 of the top of the table is preferably formed of metal and is supported at its front portion on the upper ends of the rack bars 22, while at its rear end said section 14 has secured to its opposite edges bars 23 (Fig. 2), which extend rearwardly and then turn downwardly to a limited extent and are pivotally secured at their rear ends, as at 24, to the side frames 10. The lower front end of the head-frame

15 is hinged on said bars 23. The bars 23, pivoted or hinged at 24, enable the table-section 14 to be inclined upwardly at its front end.

5 The means for elevating the front end of the table-section 14 comprise an operating or crank-wheel 25 (Fig. 3), and an operating shaft 26 on the end of which said wheel 25 is secured and which carries within boxes 10 27 suitable worms 52 in mesh with gear wheels 51 engaging the teeth of the rack-bars 22. The bars 22 are adapted to slide vertically through the boxes 27 and the shaft 26 finds a bearing in said boxes. When the 15 crank-wheel 25 is rotating in one direction, its connected mechanism will, through the rack-bars 22, elevate the front end of the table-section 14, the latter turning upwardly on the pivots 24 as hinges, and when said 20 crank-wheel 25 is turned in a reverse direction, it will through the same mechanism, effect the lowering of the front end of the table-section 14. The wheel 25 is on one end of the shaft 26, and the other end of said 25 shaft may be provided with a corresponding wheel 9 so that said shaft may be operated from either side of the table. The wheels 25 and 9 are near the front end of the table where they are in convenient reach of the 30 surgeon or attendant.

The table-section 14 is provided at its lower side edges with inwardly projecting flanges 28 which constitute seats and guides for the outer edges of the foot-frame or section 16, the latter being slidable rearwardly 35 beneath and forwardly from under the middle table-section 14. The foot-frame or section 16 is nearly the same in width as the section 14 and fits snugly, though freely, between the sides of said section 14 and rests 40 upon the flanges 28. The section 16 is shown in Figs. 1 and 2 as only slightly withdrawn forwardly from below the middle section 14, but said section 16 may be slid forwardly to any extent desired, or pushed 45 completely beneath said section 14. The section 16 is somewhat longer than the section 14 and when pushed to its extreme inward position projects at its rear portion beyond 50 said section. The front edge of the section 14 curves inwardly as at 29 (Fig. 1) and at the center of its front edge is formed with the recess 30. The front edge of the table section 16 corresponds in outline with the 55 front edge of the section 14, and hence when the section 16 is moved fully beneath the section 14, the front edges of said sections will be in vertical alinement with each other. The rear portion of the foot-frame 16 is 60 formed with an opening 31, whose rear edge, when the frame 16 is pulled forwardly, passes into a position on a vertical plane with the front edge of the table section 14, and whose front edge extends forwardly 65 beyond the table-section 14 so as to expose

the opening 31 for the use of the patient and surgeon. The outline of the opening 31 is indicated by dotted lines in Fig. 1.

Below the foot-frame 16 is slidably mounted a pan 32 which inclines downwardly and 70 rearwardly to a drain or outlet 33 and has at its edges suitable flanges 34 resting on guiding and supporting flanges 35 secured to the lower side of the table-section 16. The pan 32 will preferably be made of sheet- 75 metal and it may be slid rearwardly or forwardly as the occasion may require. The pan 32 serves to receive liquid matter and direct it to the outlet 33 through which the same will pass to a suitably placed recep- 80 tacle, as usual. In Figs. 1 and 2 I illustrate the pan 32 as partly withdrawn frontwardly from below the table-section 16, but said pan may be drawn forwardly to any desired extent and may be pushed inwardly entirely 85 out of the way. When the pan 32 is not in use it will be concealed below the table section 16, being at that time pushed inwardly along the flanges 35 until the rear end of the pan is below the rear end of the section 90 16. When the foot-section 16 is pulled frontwardly until the opening 31 therein is exposed at the front of the middle section 14, the pan 32 will be below said opening, the pan then being in its rear normal position 95 with relation to the section 16. There are times, however, when the table will be used with the foot-frame 16 pushed inwardly wholly beneath the middle table-section 14 and on some of these occasions 100 the pan 32 will be pulled frontwardly to about the position shown in Fig. 1 for the reception of matter which may be discharged by a patient, whose legs will be supported in the stirrups 36, and at times it 105 will be necessary, or at least desirable, to prevent the matter from being discharged over the front end of the pan 32, and to attain this result I provide the front edge of said pan with a hinged leaf 37, which may 110 be turned upwardly and held in such position, shown in Figs. 1 and 2, by an attendant or the surgeon during the period such leaf would be of advantage. Any matter ejected 115 beyond the range of the pan 32 would strike the leaf 37 and be directed to the pan. When the pan and leaf 37 are not in use or when the pan is in use and it is not necessary to use the leaf 37, the latter hangs down 120 from the front end of the pan. When the pan 32 is pushed entirely below the table-section 16 and the latter is fully below the table-section 14, the leaf 37 hangs downwardly just in front of the shaft 26.

A very important feature of the invention, as thus far described, resides in the provision of the slidable frame 16 and slidable pan 32. Operating tables have heretofore had foot-frames, but said frames have 130 been either hinged and not at all times out

of the way when not in use, or detachable and required special means for their application and detachment. My invention by providing the slidable foot-frame 16 simplifies the mechanism of the entire table, since it removes all of the mechanism heretofore employed in connection with hinged foot-frames and detachable foot-frames, and it also renders the use of the table very much more convenient in that the foot-frame 16 may be slid inwardly or pulled frontwardly with ease and without manipulating adjusting devices, which in my table are absent. My invention also avoids the inconvenience of entirely removing the foot-frame when the latter is not wanted. The slidable pan 32 is also a desirable feature of my invention, since it may be used to advantage when the foot-frame section 16 is entirely below the middle section 14 and also when said section 16 is drawn frontwardly until the rear opening 31 therein is exposed at the front edge of the section 14.

The stirrups 36 are of right-angular formation, as shown in Fig. 2, and pivoted to the upper ends of rods 50, which extend downwardly through openings in the upper and lower ends of vertical bars 38 (Fig. 3) and are adapted to be secured in vertical adjustment by means of eccentrics 39 pivotally secured between ears 40 (Figs. 3 and 4) forming a part of said bars and adapted when turned to their locking position, shown in Fig. 3, to press small followers 41 against the rods 50 for binding them in position. The bars 38, one being at each side of the table, are secured to two rods 42, 43, which extend inwardly through bearings 44, 45, formed on or secured to the sides of the front end of the table-section 14. The rods 42, 43 enable the bars 38 to be adjusted inwardly toward the sides of the table or outwardly in a direction from said sides, and in the drawings I illustrate the bars 38 in their outer position. When the bars 38 are adjusted outwardly to the position desired, they may be secured by set-screws 46 (Fig. 3), and said bars 38 when quickly withdrawn to their outer position will be prevented from entirely leaving the bearings 44, 45 by the presence of small stop-pins 46 on the rods 42. The purpose of the adjustable bars or supports 38 for the stirrups 36, is to enable the surgeon to secure a proper spread of the legs of the patient without causing the patient unnecessary inconvenience or discomfort. Some operations require a greater spread of the legs than others, and some patients are so constructed that the legs may require either an inner or an outer adjustment of the stirrups 36. The necessity of adjusting the stirrups is recognized, but has heretofore been provided for only by giving the rods 50 the form of cranks and turning said rods

in their bearings, so that by reason of the crank-form of the rods the stirrups may be swung on the arc of a circle, either inwardly toward the table or outwardly therefrom. The means heretofore provided for adjusting the stirrups 36 have not been satisfactory for reasons commonly understood. My invention has in part for its object to provide supports for the stirrup-rods adapted to be adjusted in a direct line toward and from the table and to thereby dispense with stirrups whose rods are of crank formation and intended to be turned or rotated for the adjustment. In adjusting the stirrups with the use of my invention, the stirrup rods may be and preferably are perfectly straight and they do not require to be released at their securing means during their adjustment toward and from the table, but may be held perfectly secure by means of the eccentrics 39 during their adjustment. The stirrups 36 on the upper ends of the rods 50 are not only hinged to said rods, but swiveled thereon as well, the upper ends of the rods having swiveled sections 47, which may be secured against rotation by means of set screws 48.

The invention will be fully understood from the foregoing description, from which it will be noticed that the more essential features of novelty reside in the slidable foot-frame or section 16 and the slidable drainage pan 32 preferably having a hinged front leaf 37.

What I claim as my invention and desire to secure by Letters Patent, is:

1. An operating-table having a top composed of a middle-section recessed inwardly at its front edge, a hinged head-section, a foot-section slidable below said middle section and at its front edge conformed to the front edge thereof and in its rear portion having an opening (31) whose rear edge substantially conforms to the front edge of said middle-section, and a drainage pan slidable below and carried by said foot-section so as to be slidable outwardly therewith and independently thereof and also independently slidable for proper location with respect to the front edge of said middle section; substantially as set forth.

2. An operating-table having a top composed of a middle-section hinged at its rear end, a hinged head-section and a foot-section carried by and slidable below said middle section, said middle section having guides supporting said foot-section parallel therewith, combined with means for adjusting said foot-section in inclined position, means for adjusting the inclination of said head-section, and a drainage pan carried by and slidable below said foot-section, said foot-section having guides supporting said pan parallel therewith and said foot-section having at its rear portion an opening to

become exposed at the front edge of said middle-section when said foot-section is pulled outwardly for that purpose; substantially as set forth.

- 5 3. An operating-table having below its top a slidable drainage pan provided at its front end with a leaf which may be turned upwardly; substantially as set forth.

Signed at New York city, in the county of New York, and State of New York, this 10 4th day of October A. D. 1909.

BERNARD D. THORNER.

Witnesses:

CHAS. C. GILL,
ARTHUR MARION.

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