Sept. 5, 1933. C. E. WILENT 1,925,425

X-RAY OPERATING TABLE

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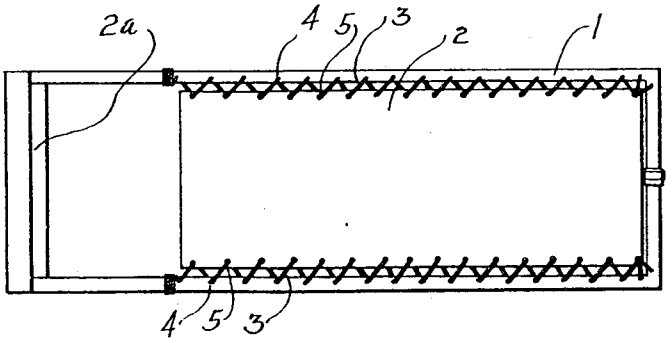


FIG 1

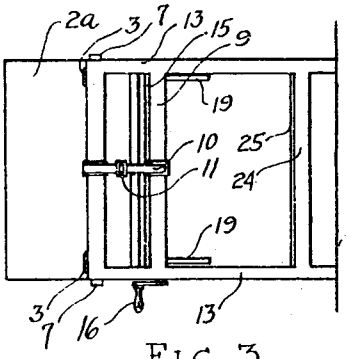


FIG 3



FIG 2

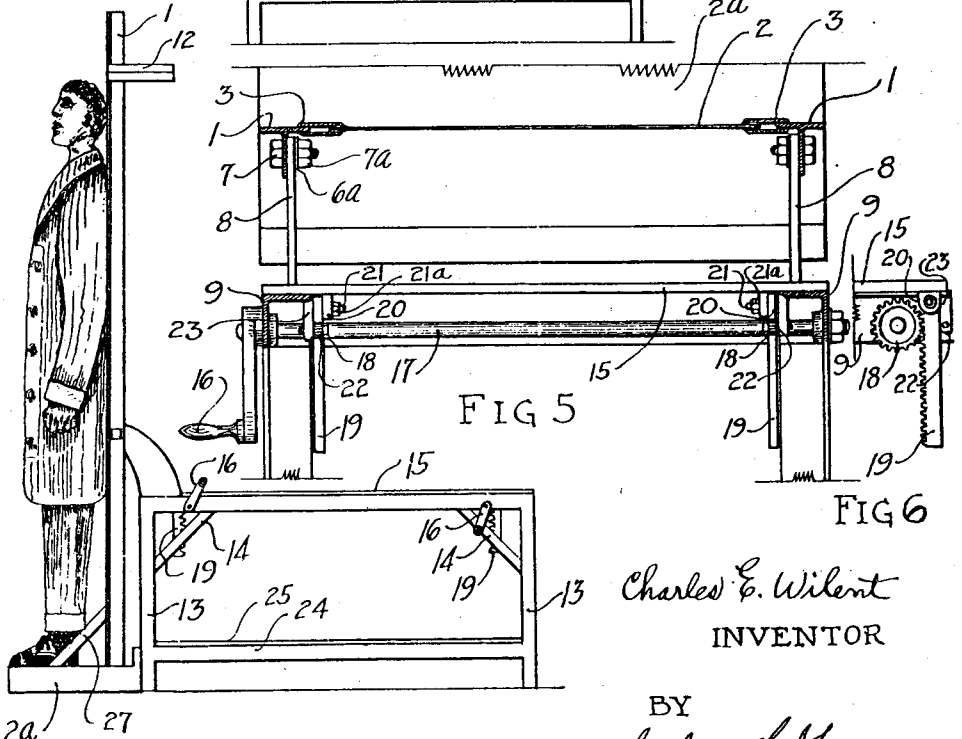


FIG 5

FIG 6

FIG 4

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X-RAY OPERATING TABLE

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7 Claims. (Cl. 250—34)

The invention relates particularly to an X-ray operating table and more especially to the class of tables used in making X-ray photographs of the vertebræ of the spinal column with the vertebræ in their normal contracted position.

The object of my invention is to provide a device of a character described which is easily constructed, easily handled and manipulated, and that will provide an effective device for supporting the human body in a prone position for X-raying the spinal column or other bones of the body, as well as a device in which the cost of manufacture is reduced to the minimum.

The construction of the device is very simple, making it simple to manufacture, and at the same time providing a very accurate device for accomplishing the purpose for which it is intended. From the description which follows, it will be seen that this device provides a valuable operating table for accomplishing the work for which it is intended.

Other advantages together with methods of operation and construction will be apprehended and fully understood from the detailed description and mode of using the same to be hereinafter described.

The invention consists of structural characteristics and relative arrangement of elements which will be hereinafter more fully described and particularly pointed out in the appointed claims.

In the drawing in which similar reference characters indicate the same parts of several views.

Figure 1 is a plan view of the device;

Figure 2 is a side view of the device with the table in a horizontal position;

Figure 3 is an end view of the device;

Figure 4 is a side view of the device with the table in a vertical position;

Figure 5 is an enlarged part sectional view of the device and

Figure 6 is a part section of the device.

Referring to the drawing, Figure 1 is a table top frame supporting the flexible table top 2. The flexible table top 2 is fastened to the table top frame 1 by means of the flexible lacing 3, woven through the plurality of holes 4 in the table top frame, and the eyelets 5 in the flexible table top.

The table top frame 1 has a fulcrum at point 6 which is constructed of a pin 7, washer 6*a* and screw nut 7*a*. The above assembly is supported on the bracket 8, which is fastened to the table top frame support 9. The table top frame 1 is held in a horizontal position when in use by the strap 10 and locking buckle 11. The spacing bar 12 secured to the table top frame 1 supports it at the end when the table top frame is set in a horizontal position by resting on the table top frame support 9. The bar 12 suitably rests upon the frame 9 in such a way so as not to interfere with the adjustment of a negative table top 15. The table top 15 may be provided with side notches (not shown) so as to clear the bars 12 when adjustment is necessary.

The table top frame support 9 has supporting brackets 8 for the support of the table top frame 1. The legs 13 braced by the leg braces 14 carry and support the table top support 9. The X-ray negative table top 15 is provided with vertical adjustment which may be in a horizontal plane or an inclined plane. This adjustment is accomplished by means of the crank 16 turning the shaft 17, which turns the spur gearing 18 in mesh with the gear racks 19, the latter being fastened to the negative table top 15 by the lugs 20, pins 21, and the screw nut 21*a*. The gear racks 19 are held in mesh with the spur gears 18 by the thrust rollers 22 supported by the brackets 23.

The table braces 24 form a support for the shelf 25.

The table top frame 1, has fastened at one end a platform 2*a* with platform braces 27. The patient takes his position on this platform as shown on the drawing when the device is being used.

In the present form of X-ray tables which have the flat solid tops in taking X-ray photographs, particularly of the spinal column, it will be found in practice that photographs taken of the spinal column will not show the exact condition or position of the vertebræ but will generally show an abnormal condition to an extent which will vary in different patients, this is due to the position of the patient on the present solid flat top table now in use, and also to the twisting and effort required of the patient in mounting the present tables now in general use. In my device a normal condition of the patient is maintained, which allows the vertebræ of the spinal column to be photographed in their normal natural position without any distortion whatever.

In the operation of this device the patient stands on the platform 2*a*, the table top frame being in a vertical position as illustrated in Figure 4. The spinal column then is in its normal contracted position due to the weight of the patient's body on the spinal column. The table top frame 1 and the patient are then swung to a horizontal position in which position the pa-

tient is lying in a prone position on his back. It will thus be seen that no exertion or twisting is required on the part of the patient in mounting the table top and the flexible table top 2 gives a support to the patient's body which allows the spinal column to assume its natural curve and contour as well any abnormal condition or curvatures of the spinal column which may be present.

From the foregoing it is evident that these results are not only true in theory, but in practice, the application of this device in actual practice having fully substantiated its usefulness in the art to which it appertains.

In the placing of the X-ray negatives, it will be generally found that certain vertical adjustments are necessary, which will place the negatives either in a perfectly horizontal plane or any inclined plane. In this device I have provided for this adjustment by the system of gearing hereinbefore described, and which provides a quick and positive means of adjusting the X-ray negatives to meet the case.

I do not confine myself to any particular method of construction or the use of any certain materials, as these may be changed without in any way detracting from the spirit or scope of the principal of the invention.

What I claim is:

1. In an operating table of the character described, a frame, an X-ray negative top carried by said frame, upwardly extending brackets mounted on said frame, a patient supporting top pivoted to said brackets, supporting bars carried by said top, and a platform carried by the patient supporting top at one of its extremities, said platform being adapted to contact with a flooring when the top is vertically disposed.

2. In an operating table of the class described a frame, an adjustable X-ray negative table top arranged in said frame, a patient supporting top pivotally supported over said X-ray negative top, a platform carried by said second top at one of its extremities and adapted to contact with a floor when the top is vertically disposed, and locking means for fastening the second top in horizontal position over the X-ray table top.

3. In an operating table of the class described, a frame, an adjustable X-ray negative table top operated in said frame, gear mechanism for adjustment of the X-ray negative top, a patient supporting top pivotally disposed over said X-ray negative table top and a platform disposed at one of the ends of the patient supporting top.

4. In an operating table of the class described, a frame, an X-ray negative top arranged in said frame, a patient supporting top pivotally arranged over said X-ray negative top, and a platform carried by said second top at one end of its extremities.

5. The structure of claim 4, characterized by said X-ray negative top being adjustable.

6. The structure of claim 4, characterized by said patient supporting top being flexible.

7. The structure of claim 4 and means for locking the patient supporting top in a horizontal position.

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