

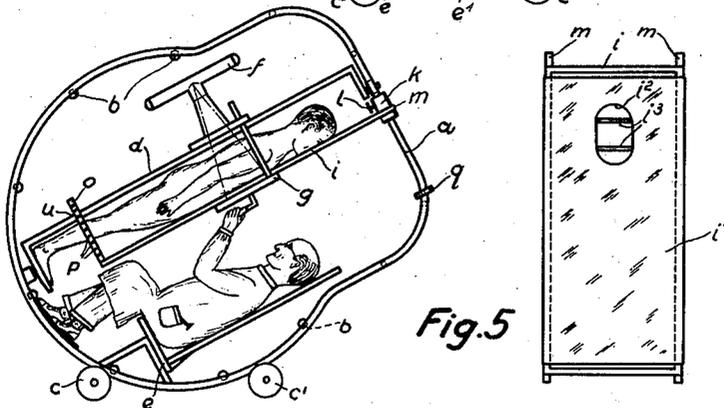
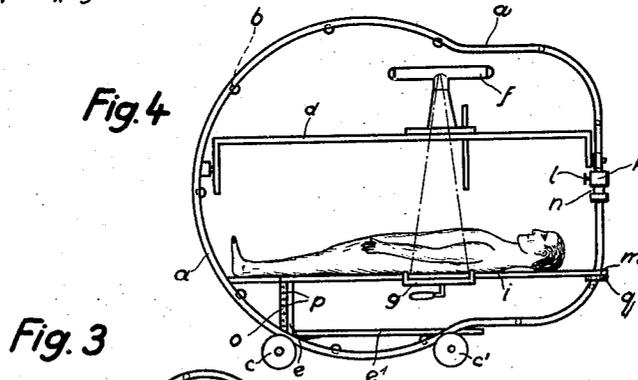
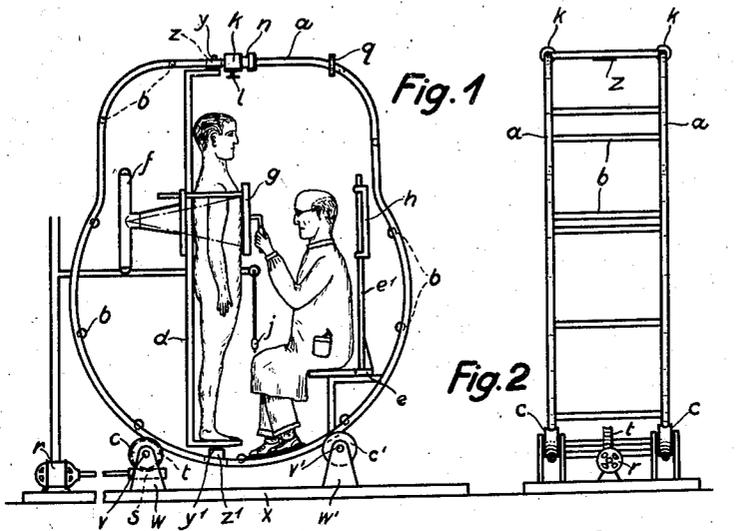
Dec. 28, 1937.

E. POHL

2,103,693

RADIOGRAPHIC COUCH

Filed Oct. 5, 1934



Inventor:
E. Pohl

By: *Glascok Downing & Seebold*
1937

UNITED STATES PATENT OFFICE

2,103,693

RADIOGRAPHIC COUCH

Ernst Pohl, Kiel, Germany

Application October 5, 1934, Serial No. 747,100
In Germany February 12, 1934

8 Claims. (Cl. 250—34)

With the known radiographic couches a mirror must be employed for inspecting the screen image if the patient is transradiated with the X-ray tube above and the screen below the couch.

5 This necessity is overcome according to the invention by means of a couch which can be swung backwards and forwards, and which has two supporting surfaces for the patient and a seat for the radiologist movable with the couch.

10 The accompanying drawing illustrates a constructional example of the invention.

Figure 1 shows the couch with one patient support only in place in side elevation in use for a stomach examination.

15 Figure 2 is an elevation from the right, the parts built into the frame-work being omitted.

Figure 3 shows the couch with both supports in place in side elevation when inclined forwardly with the patient lying face downwards.

20 Figure 4 shows the couch turned right over the front when used for distance exposures with the patient lying face upwards.

Figure 5 shows the removable second support for the patient.

25 The new couch has a tilting frame consisting of two parallel annular members *a* formed from metal tubes and connected by transverse struts *b*. The frame is in its lower part made approximately circular, rests on pairs of rollers *c*, *c'*

30 and can be tilted by driving one of the rollers or one pair of rollers by means of an electric motor *r* and a worm drive *s*, *t*. The rollers *c'* are mounted with pivots *v'* in bearings *w'* supported by a base plate *x*, whereas the rollers *c* are fixed

35 upon a shaft *v* which is mounted in supports *w* also supported by the base plate *x*. The motor *r* too is mounted upon the base plate.

In the tilting frame there is provided a support *d* for the patient and a seat *e* for the radiologist. On the support *d* the carriage carrying the X-ray tube *f* and the screen *g* is guided in the usual manner. The seat *e* is adjustable at least backwardly and forwardly and is preferably foldable. Its back rest *e¹* may, as shown in Figure 1,

40 carry a holder *h* for a cassette so that distance exposures, for example of the lungs, can be made with the patient standing. The desired distance from the tube is obtained by displacing the seat *e*.

As a second support for the patient there is provided a frame *i* (Figures 3 and 5) preferably covered with fabric *i¹*. This frame is preferably intended to receive the patient face downwards, and with this object in view it has an aperture *i²* provided with cross bands *i³* forming supports for

55 the forehead and the chin of the patient so that

the patient may have in his face downwards position free sight and free respiration and notwithstanding have the head firmly resting on the support. The band for the chin could eventually be dispensed with. This frame can be inserted

5 in the tilting frame and can be adjustably secured by means of the following arrangement. The tilting frame is provided on the horizontal

straight upper part of each metal tube with an adjustable sleeve *k* which can be fixed in any desired position by means of a clamp screw *l*. The

10 frame *i* can be inserted with upwardly projecting parts *m* in grooves *n* of the sleeves. At the lower end the frame *i* has at each side a bar *o* directed

towards the support *d* and having a series of holes *p*. The bars *o* can each be connected with the support *b* by means of a pin *u*. Frame

15 *i* can thus be adjusted at any desired distance from the support. It can be adjusted with inclination in the longitudinal direction as well as in

the transverse direction at an angle with relation to the support *d*. The support *d* is in a known

20 manner pivotally mounted in the frame *a* by means of pivots *y*, *y¹* rotatably mounted in bearings *z*, *z¹* which are secured to the frame *a*.

25

The radiologist after having occupied the seat *e* can move the arrangement by means of a contact *j* which controls the electric motor *r* in such a manner that the patient, as shown in Figure 3

30 comes to lie face downwards while the radiologist himself lies upwards so that he can conveniently directly observe the screen while the rays pass through the patient from above. If the couch

35 is to be used as a trochoscope the radiologist takes up a position beside the couch and by means of the motor control he can turn the couch in a known manner so that the patient lies face upwards with the tube *f* below and the fluorescent

40 screen *g* above.

According to Figure 4 the frame *i* can also be used as a support for the patient for distance exposures in all positions from the vertical to the horizontal position. The frame *i* is then disconnected from the sleeve *k* and the support

45 *d* and rests with the upper extensions *m* on supports *q* attached to the frame tubes *a* and with the lower end on the seat *e*.

The tube *f* is arranged vertically in the device according to the drawing but can also be swung into another position and is preferably so mounted that it may be withdrawn laterally from the arrangement in order for example to be used

50 for dental exposures outside the device.

I claim:

1. A radiographic couch comprising a base, a

55

frame tiltably mounted on said base, and two supports for practically the whole length of the body of the patient capable of being mounted in said frame in opposition to each other for receiving the patient between them, the distance between said supports being variable depending on the thickness of the patient.

2. A radiographic couch comprising a base, a frame tiltably mounted on said base, two supports for practically the whole length of the body of the patient capable of being mounted in said frame in opposition to each other for receiving the patient between them, the distance between said supports being variable depending on the thickness of the patient, and means for tilting the frame backwards and forwards from a middle position.

3. A radiographic couch as claimed in claim 1, further comprising means for positioning the supports obliquely to one another.

4. A radiographic couch comprising a base, a frame tiltably mounted thereon, and two supports for practically the whole length of the body of the patient capable of being mounted in said frame in opposition to each other for receiving the patient between them, the distance between said supports being variable depending on the thickness of the patient, one of said supports being adapted to support the patient stretched out in face upwards position and the other being adapted to support the patient stretched out in face down-

wards position according to the inclination of the tiltable frame, the face downwards support having an aperture for the face of the patient, said aperture being provided with supporting cross bands.

5. A radiographic couch comprising a base, a tiltable frame on said base, a support mounted in said frame for carrying the patient stretched out in face upwards position, a support for carrying the patient stretched out in face downwards position, and a seat for the radiologist combined with said tiltable frame for common movement therewith.

6. A radiographic couch as claimed in claim 5, further comprising a mechanism for imparting a tilting movement to the said frame, and electric means for controlling said mechanism, said electric means being adapted to be operated by the radiologist when occupying his seat.

7. A radiographic couch as claimed in claim 5, having the seat for the radiologist arranged opposite one of the patient supports.

8. A radiographic couch, comprising a base, a tiltable frame on said base, a main support adapted to receive the body of the patient in stretched out position, said support being permanently combined with said frame, a separate second support for the stretched out body of the patient and means for removably mounting said second support in the frame.

ERNST POHL.