Nov. 21, 1933. H. F. WAITE 1,936,342

DAYLIGHT FLUOROSCOPE

Filed June 22, 1932

Fig. 1.

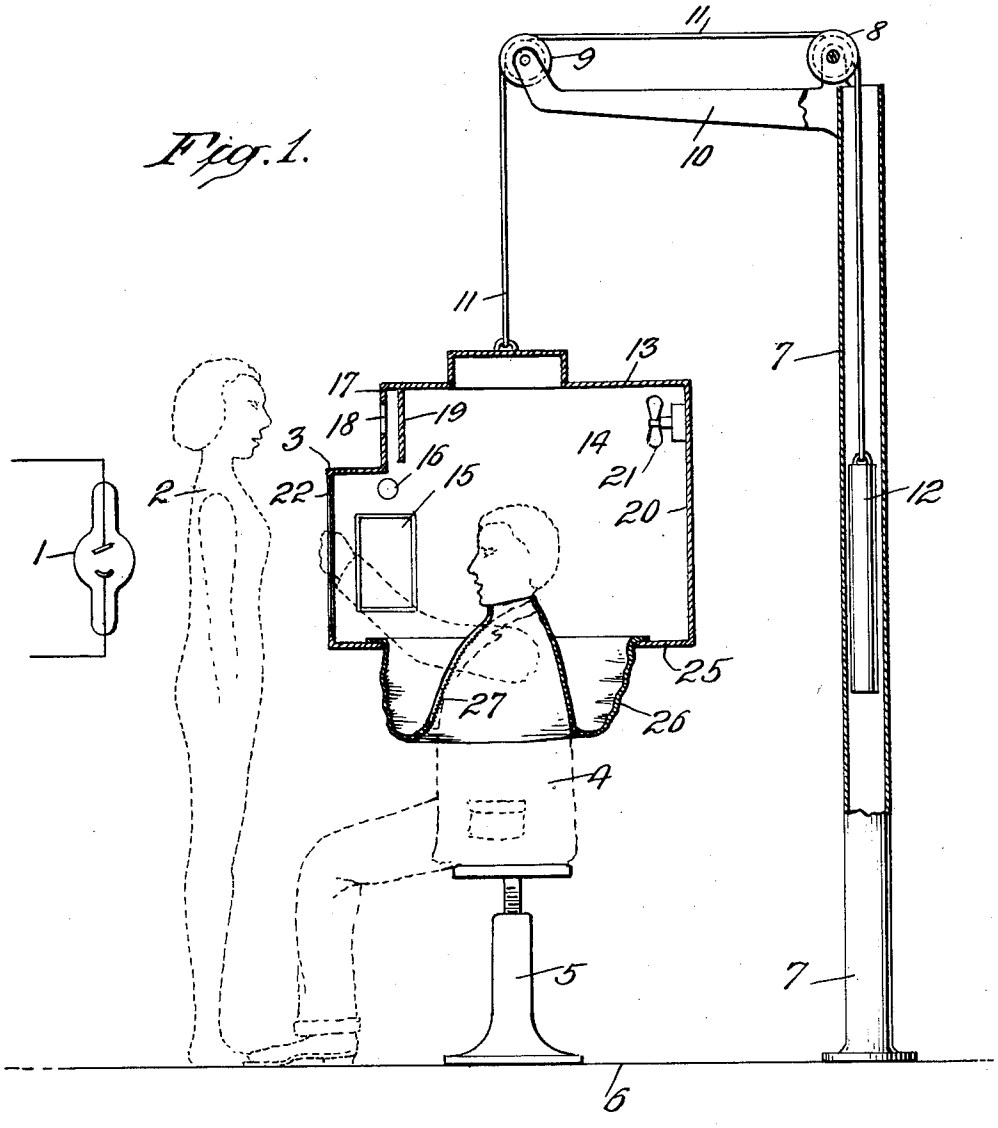
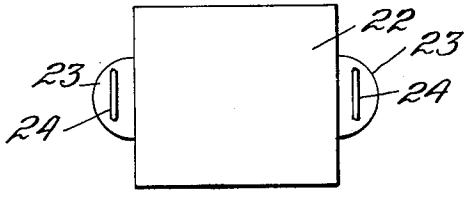


Fig. 2.



INVENTOR
HARRY F. WAITE
BY
O. Clay Edwards
ATTORNEY

Patented Nov. 21, 1933

1,936,342

UNITED STATES PATENT OFFICE

1,936,342

DAYLIGHT FLUOROSCOPE

Harry F. Waite, New York, N. Y.

Application June 22, 1932. Serial No. 618,688

4 Claims. (Cl. 250—34)

Heretofore fluoroscopic examinations have been common and successful, but they have to be conducted in darkened rooms. For many reasons, this is often undesirable, as when children are to be examined, because they are inclined to become frightened or mischievous or playful, and this is especially true where they are examined in groups. It is essential that they should be examined, and examined quickly so that incipient tuberculosis and other diseases may be determined whenever they exist in a child and prompt measures of relief applied before it is too late. Because of the difficulties incidental to such examinations, they have not been had. The daylight fluoroscope, which forms the subject matter in this case, overcomes all difficulties in a manner which will now be set forth.

For a more particular description of this invention, reference is to be had to the accompanying drawing, forming a part hereof in which

Figure 1 is a sectional view showing one embodiment of my invention; and

Figure 2 shows a protecting screen.

Throughout the various views of the drawing, similar reference characters designate similar parts.

1 indicates an X-ray tube of the conventional kind, and energized in the usual manner by means not shown. 2 represents a person undergoing examination. 3 shows the daylight fluoroscope, 4 the person making the examination, and 5 the stool on which he sits when functioning. This stool rests on a floor 6 which also supports a vertical tube 7, which is secured thereto in any suitable way, and at the top of this tube are pulleys 8 and 9, the latter being carried by a laterally extending arm 10. These pulleys carry a chain or cable 11, at one end of which is secured a counterbalance weight 12, which rises or falls, or remains stationary in the tube 7, and the other end of which carries the daylight fluoroscope 3. This fluoroscope will now be described.

It is preferably in the form of a box with a suitable top 13 to which the cable 11 is attached in any suitable manner. The side walls 14 carry a window of red glass 15 through which the operator may look into the room where the apparatus is placed, and also a radium painted dial 16 which the operator looks at until he can see it distinctly, and then he knows his eyes have become accustomed to the conditions inside the fluoroscope.

At the top front is a wall 17 with a perforation 18, and back of the perforation is a black baffle partition 19, which prevents light from coming into the inner chamber in any substantial amount, but permits air to come in. On the rear wall 20 and at the top is an exhaust fan 21 connected to any suitable source of power, and this takes air out of the apparatus, so that there is an inflow through the opening 18 and an outflow at the fan 21. The front wall 17 also carries a fluoroscopic screen 22 of leaded glass on the inside, which is impervious to X-rays and made in the conventional manner, and at each end are protecting plates of metal 23, which carry handles 24 which may be manipulated by the operator, so as to raise or lower the fluoroscope 3 to get it at the right level.

The bottom 25 has a large cloth or leather closure 26, which is impervious to light, and this is closed at the front by means of a zipper 27, or other suitable means, which can be operated from the outside so that when the operator 4 sits on the stool 5, he puts his head through an opening in this closure 26, and uses the zipper 27 to close the bottom about his neck, his hands being always outside the fluoroscope. He has plenty of air for breathing purposes, and he can be heard when he speaks through the opening 18 without raising his voice. Once he is ready to begin his examination, the children or other patients stand in front of the screen 22, as directed by him, and are examined one after another, and all of them are examined in an ordinary room with plenty of daylight.

It will be noted that the apparatus receives the head of the operator free from all encumbrances, which would interfere with his work and his hands are also free for any manipulation that may be required.

While I have shown and described one embodiment of my invention, it is obvious that it is not restricted thereto, but that it is broad enough to cover all structures that come within the scope of the annexed claims.

Having thus described my invention, what I claim is:

1. A daylight fluoroscope comprising, a chamber in the form of a box-like member adapted to be raised or lowered, means for holding the box-like member at any desired level, a fluoroscopic screen mounted at the front of the box-like member, and a flexible light-excluding means at the bottom of the box-like member through which the head of an operator may be passed to enter the box-like member.

2. A daylight fluoroscope comprising, a box-like member adapted to be raised or lowered, means for holding the box-like member at any de-

sired level, a fluoroscopic screen mounted at the front of the box-like member, the box-like member being provided with an opening covered with a flexible material, said flexible material having an opening through which the head of an operator may be inserted to enter within the box-like member, and means for contracting the opening about the neck of the operator.

3. A daylight fluoroscope comprising, a tubular standard having an arm at its upper end, pulleys mounted thereon, a box-like member, a cable connected to said member and extending over the pulleys, a weight attached to the cable and vertically movable within the standard to hold the box-like member in any desired position of raised or lowered adjustment, an opening in the box-like member, a flexible light-excluding member inserted in the opening, said member having an opening through which the head of an operator may be inserted to reach the interior of the box-like member, and a fluoroscopic screen mounted at the front of the box-like member.

4. A daylight fluoroscope comprising, a box-like member adapted to be raised or lowered, means for holding the box-like member at any desired level, a fluoroscopic screen mounted at the front of the box-like member, a flexible light-excluding means attached to the bottom of the box-like member through which the head of an operator may be passed, the box-like member having a ventilating opening, and a fan within the box-like member for cooperating with the opening to ventilate the interior of the box-like member.

HARRY F. WAITE.