

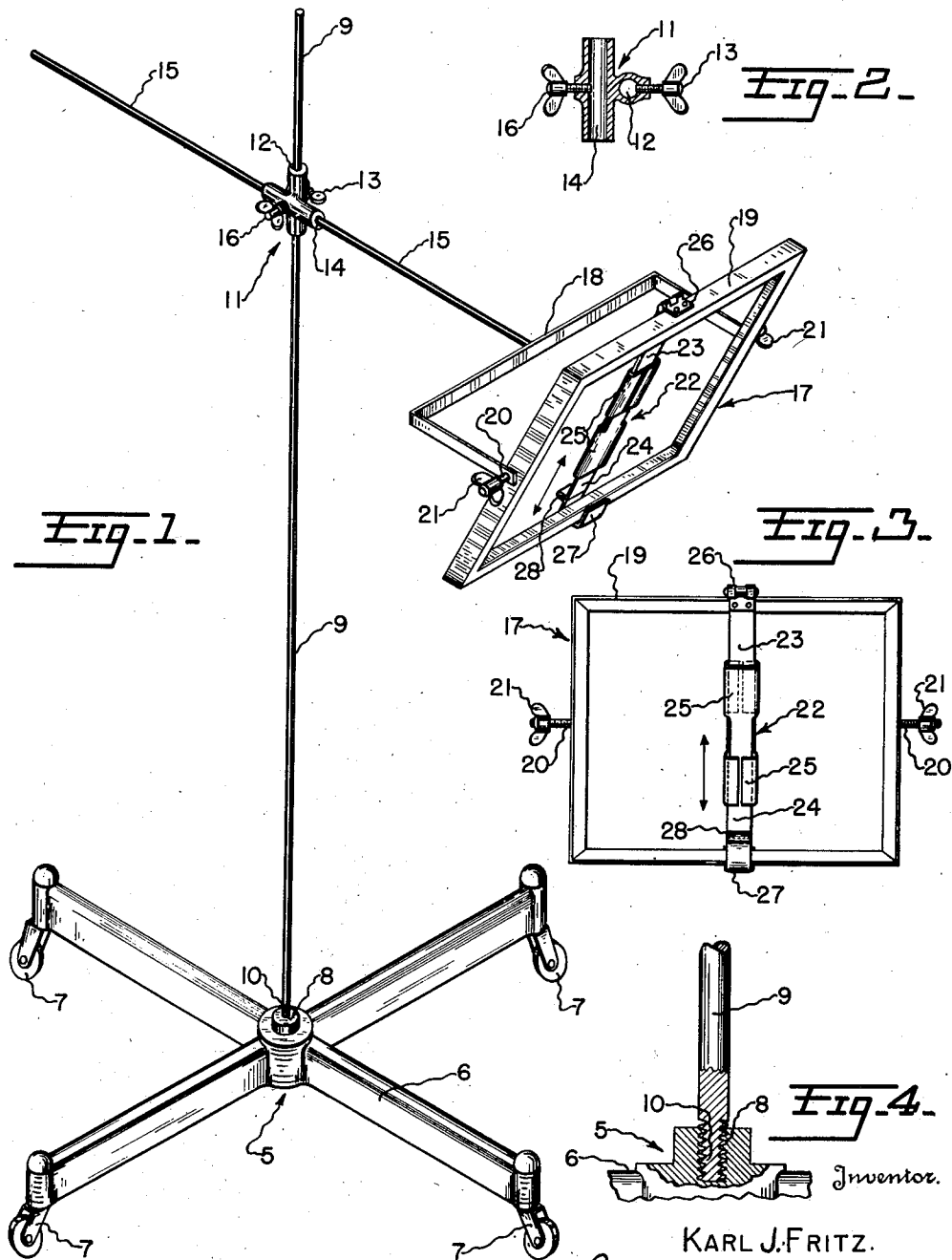
May 27, 1952

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2,598,529

UNIVERSALLY ADJUSTABLE SUPPORT FOR X-RAY CASSETTES

Filed Dec. 7, 1948



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UNITED STATES PATENT OFFICE

2,598,529

UNIVERSALLY ADJUSTABLE SUPPORT FOR
X-RAY CASSETTES

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Application December 7, 1948, Serial No. 63,884

1 Claim. (Cl. 250-68)

1

This invention is a universally adjustable support for holding the cassettes used in taking X-ray photographs.

The procedure involved in taking X-ray pictures calls for placement of the cassettes or film holder in many different positions, and requires that the film holder be held steady and firm during the exposure, otherwise unsatisfactory results are obtained.

During the process of taking X-ray photographs of the thyroid and other pictures with the patient either in bed or sitting on a chair, the common practice is for either the patient or the physician to manually support the cassette in the desired position. Several types of support have, however, now been designed for attachment to a chair or other member for supporting the X-ray cassette in position with respect to a patient while a picture is being taken. While these supports are desirable especially since they tend to eliminate the danger to the attendant resulting from exposure to the direct X-ray their use has not been altogether satisfactory for several reasons. Among these may be mentioned the objectionable feature of requiring the support to be mounted on the chair upon which the patient is seated, and of requiring the patient to remain in an unnatural and uncomfortable position during the exposure.

The principal object of the present invention is to provide a support for rigidly supporting the X-ray cassette independently of the bed or chair used by the patient and in any desired position with respect to the patient so that the patient is comfortable during the entire exposure period.

In accordance with this invention there is provided a mobile support capable of maximum adjustment and for holding the X-ray cassette at any desired position of adjustment regardless of whether the patient is bedridden or is seated in a chair, and which at the same time will hold the cassette in a rigid position, and in such position as will insure against requiring the attendant to be exposed to the X-ray.

The invention together with its objects and advantages will be best understood when the following detailed description thereof is read with reference to the accompanying drawing in which is illustrated what is presently considered a preferred embodiment of the invention, and wherein:

Figure 1 is a perspective view of an X-ray cassette support embodying the features of this invention;

Figure 2 is a horizontal sectional view through a bracket forming part of the invention;

2

Figure 3 is a plan view of an X-ray cassette holder, and

Figure 4 is a fragmentary detail view, partially in section and partially in elevation, and showing the manner of securing the standard to the base in accordance with this invention.

Referring now more in detail to the drawing it will be seen that in general the support of this invention comprises a base 5 from which rises a post or standard 9, a bracket 11 that is adapted to be secured at different positions of vertical adjustment on the post 9, a rod 15 that is engaged with the bracket 11 and adapted to be secured thereby at different positions of adjustment longitudinally of the rod 15 and laterally with respect to the post 9, and an X-ray cassette holder 17 that is pivotally mounted at one end of the rod 15 for holding the X-ray cassette at any desired position of angular adjustment, with the bracket 11 being also rotatable about the standard or post 9 as an axis and secured thereon at the desired position of rotated adjustment to correspondingly position the cassette holder 17. It will thus be seen that the support of this invention may be readily moved from place to place and that the X-ray cassette mounted thereon may be secured at practically any position of adjustment within reason and with respect to the patient.

As shown to advantage in Figures 1 and 4 the base 5 is somewhat of cruciform construction having radial arms 6 provided at their outer ends with casters 7. At the hub or center thereof the base 5 is provided with an internally threaded socket 8 to complement the threaded terminal 10 of the post 9 whereby the latter may be quickly and rigidly secured in position on the base 5.

As shown to advantage in Figures 1 and 2 the bracket 11 is also of cruciform construction and is provided with a vertical bore 12 in which is accommodated the post 9. Bracket 11 is also equipped with wing nut 13 to bind against the post 9 for securing the bracket 11 at the desired position of longitudinal and rotated adjustment on the post. The bracket 11 is also provided with horizontal bore 14 in which is slidably fitted the rod 15 that is secured at the desired position of lateral adjustment with respect to the post 9 by a wing nut 16 with which the bracket 11 is also equipped.

On one end thereof the rod 15 is equipped with a U-shaped frame 18 for accommodating the cassette holder 17. The holder 17 comprises a frame 19 opposite sides of which are equipped with pintles 20 that are journaled in apertures provided therefor in the opposite end members or legs of

frame 18. Wing nuts 21 are threadedly engaged with the pintles 20 to bind against the proximate sides of frame 18 for securing the holder 17 at any desired position of adjustment with respect to the frame 18.

The frame 19 of the cassette holder 17 has the members thereof preferably of angular construction in cross section so as to support therein the X-ray cassette (not shown). Also, for releasably holding the cassette within the frame 19 there is provided at the back of the frame a longitudinally extensionable and retractable strap 22 comprising a pair of sections 23, 24 each of which is formed at one end to provide a sleeve 25 embracing the other strap section. One of the strap sections, in the present instance strap section 23, is hinged to one of the longitudinal members of the frame 19 as at 26 while the other of the strap sections, strap section 24, is formed at its free end with a hook 27 adapted to engage the other of the longitudinal members of frame 19 when the strap is retracted to thereby hold the strap in bridging position on the frame of holder 17. Strap section 24 is also equipped at the hook end 27 thereof with a finger piece 28 adapted to be engaged by the fingers in a manner believed to be apparent for extending and retracting the strap incidental to positioning the strap in, and removing the strap from, a bridging or cassette-retaining position with respect to the frame 19 of the cassette holder 17.

The manner of using and the operation of the device are believed to be clearly apparent, but may be briefly described as follows:

The support is readily wheeled into position for use. The X-ray cassette is placed within the frame 19 of holder 17 and secured in position by placing the strap 22 across the frame 19 at the back of the cassette and then securing the strap in position. The strap thus cooperates with the flanges of the frame 19 to secure the cassette against displacement within the holder and permits movement of the holder to any desired position of adjustment without fear of the X-ray cassette being displaced therefrom. With the cassette thus secured in the frame 19 of the holder, bracket 11 may be moved to any position lengthwise of the post 9 so as to secure the cassette at the desired height, and the rod 15 moved to the desired lateral adjustment with respect to the bracket 9 and post 11 to position the cassette at the desired distance with respect to the patient, the attendant and the X-ray device. Thus as

will be appreciated all adjustments may be readily and quickly made and the cassette held firmly in the desired position so that the exposure may be made without requiring the patient to assume an uncomfortable or awkward position.

It will also be seen from the foregoing that the support of this invention may be conveniently taken apart for storage and/or transportation purposes.

It will likewise be apparent from the foregoing that with the use of a support embodying the features of this invention X-ray exposure may be made with most satisfactory results and with maximum safety to the attendant.

While the invention has been described in detail in its presently preferred embodiment, it will, of course, be understood that such has been done for purposes of illustration only and not by way of limitation, and therefore only such limitations are to be imposed thereon as may reasonably come within the scope of the appended claim.

What I claim is:

A support for X-ray cassettes comprising a mobile base, a standard rising from said base, a bracket mounted on the base and equipped to be secured thereon at different positions of adjustment lengthwise of the standard, a rod slidably fitting the bracket for adjustment relative thereto and laterally with respect to the standard, a frame on one end of the rod, and a cassette support pivotally mounted within the frame and adapted to be secured at desired positions of angular adjustment with respect thereto.

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