Dec. 31, 1940. W. W. McCAW 2,226,570

COLLAPSIBLE SUPPORT FOR FLUOROSCOPIC UNITS

Filed April 5, 1938

Fig. 1.

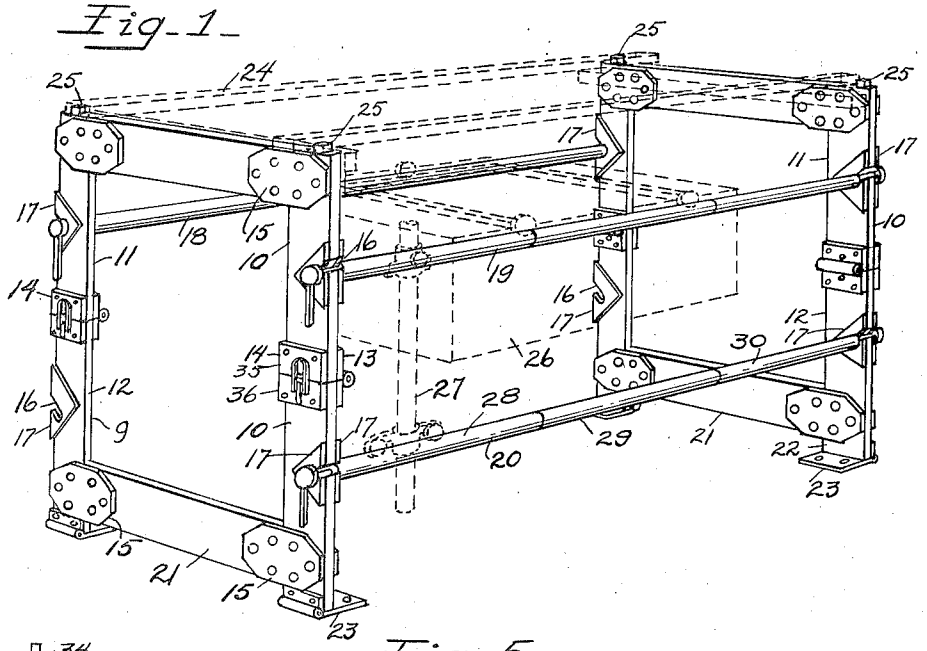


Fig. 5.

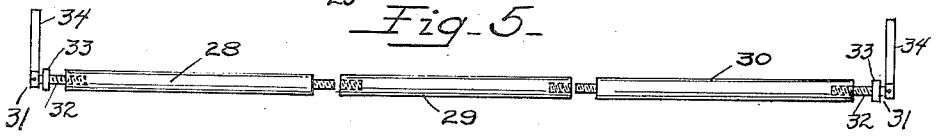


Fig. 4.

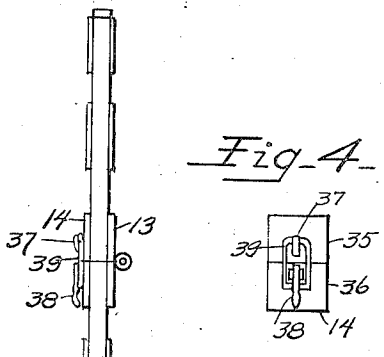


Fig. 3.

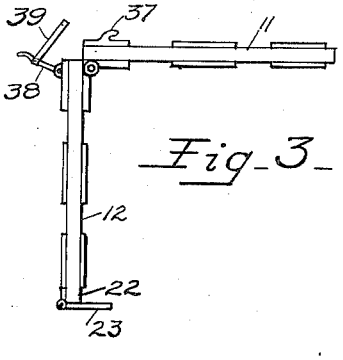


Fig. 2.

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UNITED STATES PATENT OFFICE

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COLLAPSIBLE SUPPORT FOR FLUOROSCOPIC UNITS

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Application April 5, 1938, Serial No. 200,111

4 Claims. (Cl. 211—177)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

The invention described herein may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

This invention relates generally to supports, but more particularly to a collapsible supporting frame for use in making fluoroscopic examinations.

One object of the invention is to provide a collapsible support adaptable for general use in the Army field hospitals.

Another object of the invention is to provide a support of the class described comprising a collapsible frame that may be easily stored and transported, and one which may be used primarily as a litter support and mounting for a fluoroscopic unit.

Another object of the invention is to provide a collapsible support of the class described which is durable, rigid, of economical construction, and adapted, when folded, to fit within a standard field chest.

Other and further objects and advantages of the invention will be understood from the following detailed description of the preferred embodiment thereof, reference being had to the accompanying drawing, in which—

Fig. 1 is a perspective view of the support in assembled position, showing the tube box, lower portion of screen carrier, and litter in dotted outline;

Fig. 2 is a side elevation of one of the end members;

Fig. 3 is a side elevation of an end member, showing the manner of folding the same;

Fig. 4 is a front elevation of the latch adapted to retain the end members in extended position; and

Fig. 5 is a longitudinal elevation of one of the side rails.

Briefly stated, the support comprises two hingeably foldable rectangular end members, each of which are provided with diagonally inclined retaining slots adapted to engage longitudinally disposed spacing members to provide a frame.

Referring now to the drawing, it will be noted that the two rectangular end members or frames, designated by the numeral 10, are composed of upper and lower V-shaped units 11 and 12, respectively, which are united centrally by the hinges 13 and latch 14.

The upper and lower units comprising these end members 10 which are of identical construction, may be formed of wooden frames reinforced at the corners by metallic plates 15, as illustrated in Fig. 1, or frames constructed of any suitable material may be used. The sides of the upper and lower units are provided with diagonally slotted openings 16, reinforced on either side by triangular plates 17, having correspondingly cut openings which register with the slotted openings 16, said reinforced slotted openings being adapted to form seats to retain the ends of the laterally disposed longitudinal spacing members 18, 19, and 20.

The side members 9 of the lower units 12 are continued below the transverse member 21 to provide extended supports or feet 22 for the attachment of the hinges 23, to thus furnish an anchoring means for the end frames which may be screwed to the floor when the support is in use and may be folded back out of the way when the end frames are in collapsed position for storage or shipping.

On the upper edges of the end frames 10 which support the litter frame 24, shown in dotted outline, are provided stops 25 to prevent lateral slipping of the litter. The spacing members 18, 19 and 20 also function as longitudinal tracks on which are movably mounted tube box 26 and screen carrier, the lower portion of which is shown in dotted outline and indicated by the numeral 27.

The longitudinal spacing members 18, 19 and 20 may be made up of a plurality of threadably connected sections 28, 29 and 30 and provided with a screw clamp 31 at each end. The clamps comprise an engaging screw 32, a clamping head 33 and an operating handle 34. The screw clamps are adapted to retain the longitudinal spacing members within the slotted openings 16 in the end members 10.

As stated above, the upper and lower units 11 and 12 of the end members 10 are hingeably connected so that they may be folded. In order to retain these members 10 in extended position a latch 14 is provided which comprises upper and lower attaching plates 35 and 36 respectively, which are fastened to the upper and lower units 11 and 12, a hook member 37 formed integral with said upper plate 35, an operating lever 38 pivotally connected to said lower plate 36 and a link 39 pivotally connected to the lever and adapted to engage the hook. This type of latch which is used on trunks and suitcases is especially well adapted for the purpose set forth.

The support is made up entirely of interlocking and foldable members which are united to form a rigid frame adapted to support a litter and patient, the X-ray tube box and fluoroscopic screen support.

Although in the foregoing certain elements have been described as best adapted to perform the functions allotted to them, nevertheless it is to be understood that certain changes may be resorted to within the scope of the appended claims without departing from or sacrificing any of the principles of this invention.

Having described my invention, what I claim as new and wish to secure by Letters Patent is:

1. A support comprising vertically disposed foldable end frames, provided with slotted openings, latches adapted to retain said end frames in extended position, and longitudinal spacing members formed of threadably connected sections, and means for locking the opposite ends of said spacing members within the slots of the end frames.

2. A foldable support comprising vertically disposed rectangular end frames formed of hingeably connected sections, said end frames being provided with slotted openings disposed diagonally downward to the upright members of said end sections, latching means for retaining the end frames in extended position, longitudinal spacing members, formed of a plurality of sections in threaded engagement with each other, and means, in threaded engagement with said spacing members, fitted within said slotted openings to clamp the same to said end frames.

3. A support of the class described, comprising a pair of rectangular spaced end frames, having diagonally extending seats formed in the outer edges thereof, each end frame including an upper and a lower U-shaped unit, the ends of the legs of the units being hingeably united, whereby the said two units are foldable one upon the other, and latching means in connection with the respective units for normally retaining the latter in extended position, spacing members extending between the end frames, and means fitted within the seats formed in the outer edges of said end frames for clampingly connecting the ends of said spacing members to said end frames.

4. A support of the class described, comprising a pair of rectangular spaced end frames, having diagonally extending seats formed in the outer edges thereof, each end frame including an upper and a lower U-shaped unit, the ends of the legs of the units being hingeably united, whereby the said two units are foldable one upon the other, latching means in connection with the respective units for normally retaining the latter in extended position, spacing members composed of detachable sections, the extremities of the outermost sections being internally threaded, clamps provided with a threaded stem, said stems being fitted within the seats in said end frames and engaged with the internal threads of said outermost sections to connect the spacing members to said end frames.

WILLIAM W. McCAW.