

J. R. KELLEY.
TUNNEL AND PLATE HOLDER SLIDE FOR X-RAY PICTURES.
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992,205.

Patented May 16, 1911.

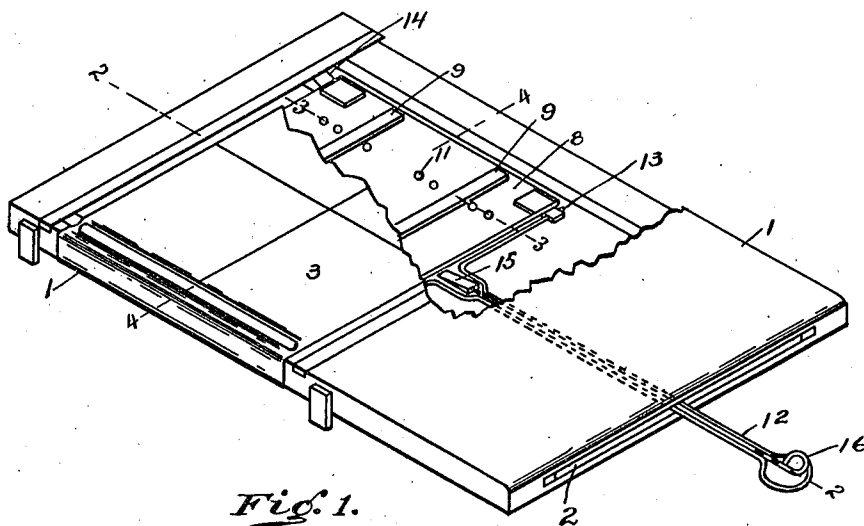


Fig. 1.

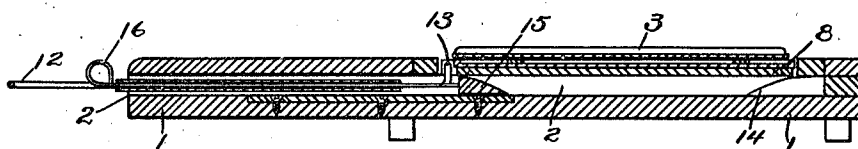


Fig. 2.



Fig. 3.

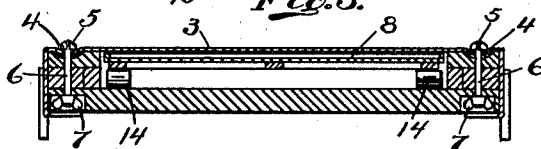


Fig. 4.

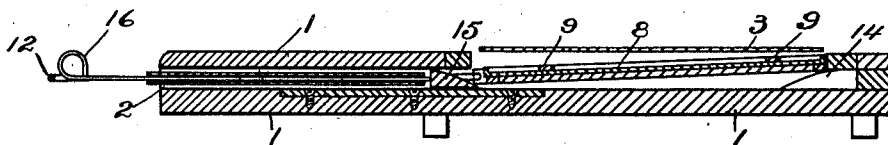


Fig. 5.

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TUNNEL AND PLATE-HOLDER SLIDE FOR X-RAY PICTURES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOHN ROBERT KELLEY, a citizen of the United States, and resident of Cincinnati, county of Hamilton, and State of Ohio, have invented a certain new and useful Improvement in Tunnel and Plate-Holder Slides for X-Ray Pictures, of which the following is a specification.

My invention is designed more particularly for use in producing plates for stereoscopic pictures, but it will be found useful in all work where accurate positioning of the plate relatively to the object is required.

The primary object of my invention is to provide simple apparatus whereby plates may be exchanged and the second plate given the exact position relatively to the patient, or other object, which was occupied by the preceding plate, and the invention consists in the parts and combination and arrangement of parts hereinafter described and claimed.

In the drawings Figure 1 is a perspective view of my tunnel and plate holder-slide a portion of the upper surface being broken away to disclose the interior construction; Fig. 2 a sectional view on the line 2-2 of Fig. 1; Fig. 3 a sectional view on the line 3-3 of Fig. 1; Fig. 4 a sectional view on the line 4-4 of Fig. 1; and Fig. 5 a sectional view on the same line as Fig. 2 but showing the parts in a different position.

The reference numeral represents the frame, or casing, of the tunnel, preferably of wood, and illustrated as of rectangular form. The top and bottom of the casing are arranged to form a tunnel or slide-pocket 2, open at one end, and a part of the top is cut away to receive a plate 3 of material which is transparent to X-rays, preferably aluminum. This plate is designed to support the patient or other object to be photographed, and is secured to each side of the casing. In the preferred form it takes over grooves 4 in the frame, and is placed under strain by means of bars 5 placed over the plate 3 above the grooves and secured by bolts 6, taking through the frame, and held by thumb-nuts 7 by means of which the bars 5 may be drawn into the grooves thereby stretching the plate 3 to any desired degree.

8 represents a plate holder adapted to slide in the pocket 2 and to be accurately guided therein by the frame sides. The plate holder is preferably adapted to re-

ceive plates of different sizes. In the form shown I employ bars 9 provided with pins 10 adapted to take into alined holes 11, in two series of such holes, in the plate holder, spaced to adapt the bars to receive and hold plates of any desired size.

The plate holder is provided with a hand bar 12 extending through the open end of the casing, preferably two armed and hinged at 13, 13 to permit it to drop when the plate holder is withdrawn. Each side of the casing is provided, at the closed end, with an inclined plane element 14 adapted to force the rear end of the plate holder upward, and into juxtaposition with the supporting plate 3, when pushed into operative position. Another inclined plane element 15, adapted to engage with and elevate the front end of the plate holder, is carried by a hand bar 16 slidably mounted in hand bar 12.

The tunnel is preferably used in connection with an operating table and a tube holder adjustable in two or more directions. The plate holder is self centering but for convenience in adjusting the tube relatively to the plate, the supporting plate is provided with visual center lines *a-a* and *b-b*.

For use the casing is placed upon an operating table and the patient placed with the part to be photographed over the supporting plate 3, a plate of the desired size is centrally fixed in the plate holder and the latter pushed into the pocket until it reaches its inner limit of movement, its rear end being forced upward as indicated in Fig. 5. The hand bar 16 is then pushed inward and the inclined plane 15 forces the front end of the holding plate upward to the position shown in Fig. 2, so that the plate is in close juxtaposition to the supporting plate 3. The tube holder being placed in the desired position, the exposure is made, the plate holder withdrawn, the plate removed, another plate substituted and the holder again pushed into operative position. If a duplicate picture is required the tube holder is retained in position. If a picture at another angle is required, the tube holder is shifted to the desired angle and the exposure then made.

By covering one half the plate with a sheet of lead, or other opaque material, an exposure may be made from one angle, and by transferring the opaque sheet to the other half of the plate, an exposure may be made, with the same plate, from another angle.

I claim as my invention:

1. The combination of a hollow frame open at one end; a plate holder adapted to slide therein; a supporting plate substantially transparent to X-rays; inclined plane elements at the closed end of the frame adapted to force one end of the plate holder into juxtaposition with the supporting plate; and a movable inclined plane element adapted to force the other end of the plate holder into juxtaposition with the supporting plate.
2. The combination of a hollow frame open at one end; a plate holder adapted to slide therein; a supporting plate substantially transparent to X-rays; inclined plane elements at the closed end of the frame adapted to force one end of the plate holder into juxtaposition with the supporting plate; a hand bar connected with the plate holder; a hand bar carried by and slidable relatively thereto; and an inclined plane element carried by the second hand bar and adapted to force the other end of the plate holder into juxtaposition with the supporting plate.
3. The combination of a hollow frame open at one end; a plate holder adapted to slide therein; a supporting plate substantially transparent to X-rays; inclined plane elements at the closed end of the frame adapted to force one end of the plate holder into juxtaposition with the supporting plate; a hand bar hinged to the plate holder; a hand bar carried by and slidable relatively thereto; and an inclined plane element carried by the second hand bar and adapted to force the other end of the plate holder into juxtaposition with the supporting plate.

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Witnesses:

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