Sept. 12, 1939. E. S. AUER 2,172,528

X-RAY MARKING DEVICE

Filed Jan. 19, 1939

Fig. 1.

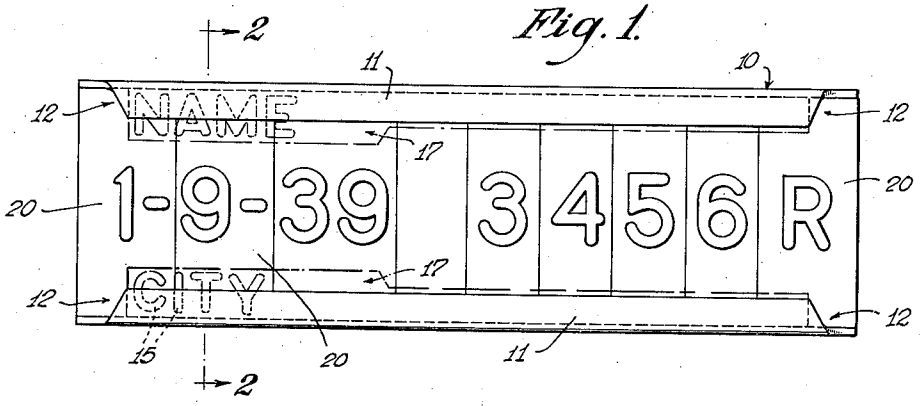



Fig. 2.

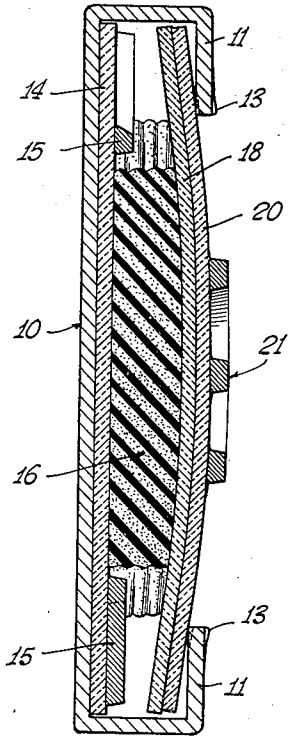



Fig. 3.

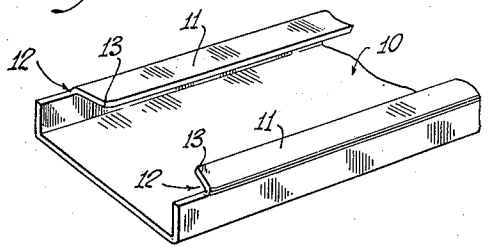



Fig. 4.

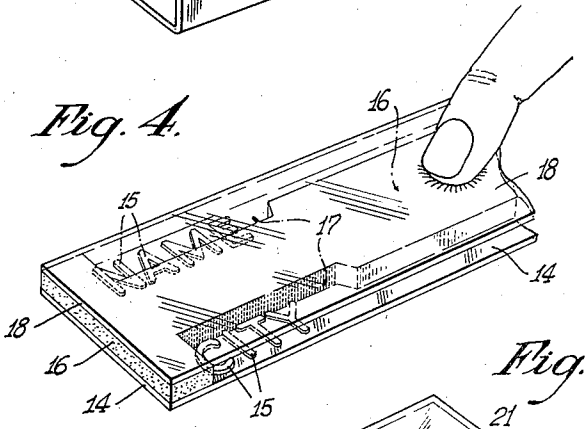
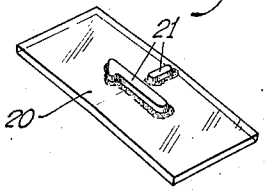



Fig. 5.




Edward S. Auer
INVENTOR.

BY Clarence E. Threedy
HIS ATTORNEY.

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# UNITED STATES PATENT OFFICE

2,172,528

## X-RAY MARKING DEVICE

Edward S. Auer, Chicago, Ill.

Application January 19, 1939, Serial No. 251,766

7 Claims. (Cl. 250—67)

This invention relates to improvements in X-ray marking devices and has as its principal object the provision of a device of this class including a frame or carrier and means for mounting several layers of letter or legend bearing strips one above another, there being resilient means provided between layers and adapted to secure the outermost letter strips firmly in position while at the same time permitting easy removal and insertion of the same.

Viewed from another aspect, it is an object of the invention to provide an X-ray marking device or "stencil" including a frame with opposite longitudinal grooves, a bottom legend bearing strip slidable endwise into the grooves, a resilient pad member on the bottom legend strip, and a top strip on the resilient member or strip; the bottom legend strip, the resilient pad, and the top strip preferably being secured together so that they may be slid as a unit into and out of the frame, and one or more outer legend bearing strips arranged to slide on the top strip into the grooves so that the letters on the outer strip may be aligned suitably with respect to the legend characters on the bottom strip.

Additional objects, advantages and novel aspects of the invention relate to certain details of construction of the preferred embodiment illustrated hereinafter in view of the annexed drawing, in which:

Fig. 1 is a top plan view of the improved marker completely assembled;

Fig. 2 is a vertical transverse section drawn to enlarged scale and viewed in the direction of line 2—2 of Fig. 1;

Fig. 3 is a fragmentary perspective of one end of the frame or carrier;

Fig. 4 is a fragmentary perspective view of the identification strip assembly; while

Fig. 5 is a perspective view of one of the letter strips or pieces.

In a preferred form of construction, the improved marking device consists of a frame of material which is pervious to X-rays, such for example as aluminum, such a frame 10 being shown in Figs. 1 and 3 and being of elongated form with flanges 11 struck up along opposite longitudinal edges thereof to provide grooves or tracks for inserts. At the opposite ends of the grooves, top portions of the flanges 11 are notched or cut away to provide leading spaces 12 facilitating the sliding of the inserts into the grooves, and as illustrated more particularly in Fig. 3, the outermost corner portions 13 of the groove flanges 11 adjacent the notches 12 are turned up slightly to further facilitate the insertion of the strips and letter pieces.

One of the inserts is an identification strip, so called because it is less frequently changed than the number strips and because it more frequently designates or identifies the hospital, laboratory or operator making the negative and is likely to be left in the frame from time to time. The identification strip consists preferably of an elongated strip 14 of ray pervious material such as Celluloid (Figs. 2 and 4 particularly) dimensioned to slide readily into the grooves of the frame and having secured thereto by any suitable means, such as glue or the like, identification means or indicia elements in the form of letters 15 which are made of a material relatively impervious to X-rays, for example, lead. This indicia may designate the name of the patient, but more frequently designates the hospital or laboratory, as heretofore pointed out.

A resilient pad 16 of material such as sponge rubber is laid upon the base strip 14 and preferably has portions 17 cut away to expose the indicia 15 so that the same may readily be viewed in the frame. A top strip 18, constituting a sliding as well as a supporting surface for the interchangeable letter strips, is laid on the resilient pad or strip 16; and the several strips 14, 16 and 18 are preferably secured together for unitary movement by gluing or like means, the combination of the several strips being readily insertable endwise into the frame, as shown in Figs. 2 and 4.

The more frequently changed identification numbers and letters 20, one of which is illustrated particularly in Fig. 5, comprise smaller mounting strips of transparent material, such as Celluloid or the like, upon which the ray-impervious numerals 21 are mounted by gluing or other suitable means. These smaller numeral and letter strips are mounted in the frame by sliding movement endwise beneath the groove flanges 11 into the notch formations 12 and beneath the ears 13 from either end of the frame, a plurality of such letter strips being employed in most instances, as illustrated in Fig. 1.

Where the marking device is to be used in a manner which will require frequent removal or change of the bottom identification strip 14, and where, therefore, it will be advantageous to be able to read the indicia on this bottom strip without moving the same on the frame, it will be apparent that the frame and strips may be dimensioned appropriately without departing from the invention, so that the same may be read

fully when the stencil is made up with the several strips in place as seen in Fig. 1. Otherwise the arrangement shown in Fig. 1 is preferable for purposes of conserving space.

In addition to its simple and inexpensive construction, the improved marking device is exceptionally easy to handle and the numerals or letters may be changed quickly without the necessity of dismantling the whole marker. The sectional view of Fig. 2 illustrates particularly the manner in which the outer letter strips **20** are securely wedged in place against accidental dislodgment by the action of the resilient or springy pad **16**, and this view further illustrates the manner in which the strip **18** provides a smooth gliding surface facilitating easy sliding movement of the letters into and out of the frame.

The objects and advantages of the invention may be realized by other forms of construction, and the appended claims are intended to include all modifications, rearrangements and reconstructions fairly coming within their scope.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. An X-ray marking device including a frame having opposite grooves, an identification strip bearing ray-impervious indicia matter seated in said grooves, a resilient member arranged on said identification strip, a top strip arranged on said resilient member, and an outer indicia strip slidably fitted into said frame grooves on said top strip.

2. An X-ray stencil including an elongated frame having opposite longitudinally extensive grooves opening into an end of the frame, a base strip having ray-impervious indicia thereon slidably fitted into said frame in the grooves thereof, a resilient strip arranged on the base strip, an outer strip having a substantially smooth sliding surface arranged on said resilient strip and having portions extending into said grooves, and a letter strip slidably inserted into the grooves of said frame from said end thereof on said outer sliding strip, said letter strip being constructed of a material having a substantially smooth inner surface adapted for sliding movement on the outer surface of said outer strip.

3. An X-ray marker including a frame of ray-pervious material having opposite longitudinal edge portions turned up to form parallel grooves opening into an end of the frame, parts of both said groove-forming portions being cut away at said end of the frame to provide an enlarged entrance into the grooves to facilitate insertion of indicia strips therein, and indicia means including a base strip and a top strip secured to an intermediate strip of resilient material and slidably fitted into the open end portions of said grooves as a unit, said top strip constituting a sliding support for letter strips insertable into said grooves through the open ends thereof.

4. A device of the class described including an open-ended frame of ray-pervious material, a base strip of ray-pervious material fitted into the open end of said frame and having mounted thereon identification characters of ray-impervious material, resilient means of ray-pervious material arranged in unobstructing position relative to the identification characters on the base strip, a top strip of transparent ray-pervious material arranged on said resilient means in said frame, and a letter strip of transparent ray-pervious material carrying ray-impervious indicia thereon slidably supported on said top strip by insertion through the open end of said frame.

5. An X-ray marker comprising an identification strip including in assembly an elongated base strip of ray-pervious material, an elongated strip of ray-pervious resilient material secured to the base strip, and an elongated top strip of ray-pervious material secured to the resilient strip, a frame of ray-pervious material having opposite longitudinally extensive groove channels opening into an end of the frame, said identification assembly being fitted into said groove channels of the frame through the open ends thereof, and said resilient strip being arranged and constructed to yieldingly urge the top strip toward and against overlying portions of the groove channels, and a letter strip of a width adapted to fit into said grooves and of a length less than that of said frame, said letter strip being of ray-pervious material and having ray-impervious indicia thereon and being adapted to be slid into the open ends of said groove channels on said top strip, said top strip and resilient strip yielding to permit introduction of the letter strip into the channels and to permit sliding said strip into a desired position in which it will be secured against accidental displacement by bearing action of the resilient and top strips as aforesaid.

6. In an X-ray marker of the type employing a ray-pervious frame having opposite slide grooves in which changeable letter characters are arranged, an identification base strip assembly comprising a bottom strip of a size adapted to slide into said frame, a strip of resilient material secured to the bottom strip, and a top strip secured to the resilient strip, said assembly of bottom, resilient and top strips being slidable as a unit into and out of the frame grooves, said letter characters being slidable into and out of the frame grooves on said top strip, the latter yielding cooperably with the resilient strip to permit ready sliding movement of the letter characters into and out of the frame and being effective by action of said resilient strip to press said letter characters securely in desired positions in the frame.

7. A changeable letter carrier including a frame having opposite elongated grooves opening into an end of the frame for insertion of letter characters therein and means providing a resilient supporting base for the letter characters and including a bottom strip and a top strip joined to a central strip of springy material in superposed relation for movement as a unit into and out of said grooves, said central strip of springy material normally urging said top strip into pressing engagement with confronting portions of said grooves, said top strip being yieldable to pressure cooperably with said central strip to permit introduction of said letter characters into said open ends of the grooves for adjustable sliding movement of said characters in said frame on said top strip, said top strip coacting with said central strip of springy material to urge said letter characters against parts of said grooves, whereby the characters are secured in adjusted positions in the frame.

EDWARD S. AUER.