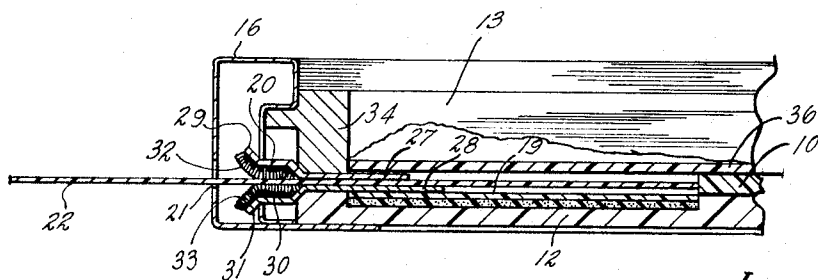
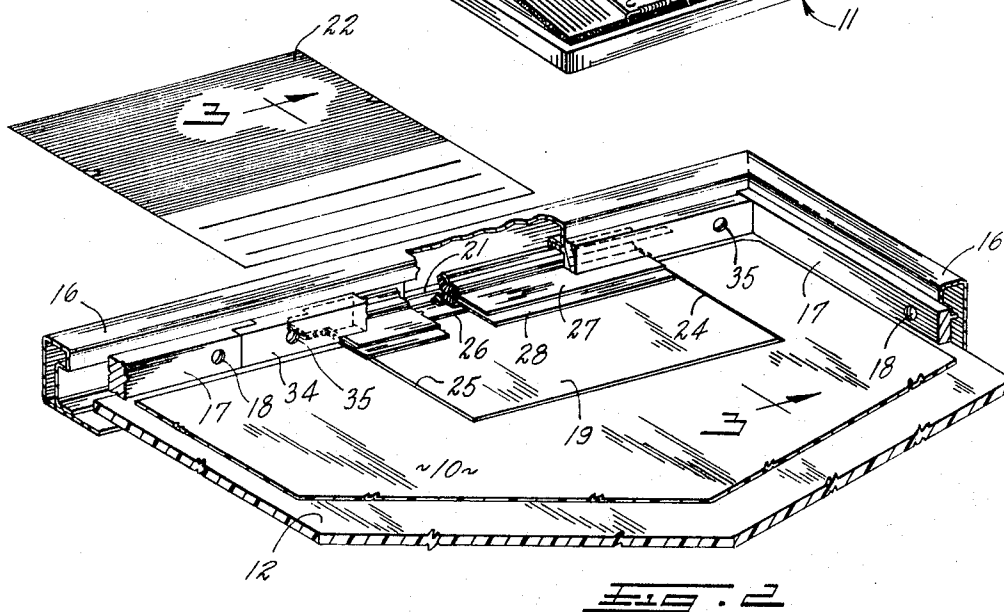
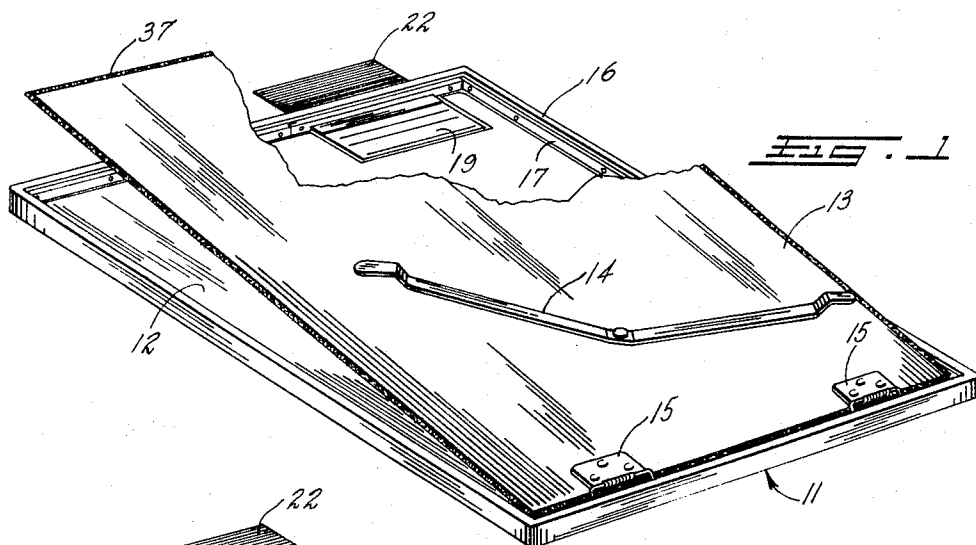


Jan. 3, 1967

I. MESCHAN
SLIT IDENTIFICATION X-RAY CASSETTE HAVING
A PAIR OF REMOVABLE LIPS DISPOSED
WITHIN THE CASSETTE
Filed Feb. 11, 1964

3,296,437



INVENTOR

BY ISADORE MESCHAN

Schramm, Hamer & Sturges
attorneys

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SLIT IDENTIFICATION X-RAY CASSETTE HAVING A PAIR OF REMOVABLE LIPS DISPOSED WITHIN THE CASSETTE

Isadore Meschan, Winston-Salem, N.C., assignor to Rachel M. F. Meschan, Winston-Salem, N.C.

Filed Feb. 11, 1964, Ser. No. 344,064

2 Claims. (Cl. 250-67)

This invention relates to improvements in X-ray cassettes for taking and identifying X-ray films, and more particularly to improvements in an X-ray cassette which is constructed in such a manner that X-ray films may be simply and effectively identified with the patient's name and all other pertinent data simultaneously with the X-ray exposure.

More particularly, this invention is an improvement on the structure shown in our Patent No. 2,505,562 dated April 25, 1950.

In the past, light proof slit means have been used to provide access for identification means to the interior of an X-ray cassette. However, repeated use of the slit means has caused wear of the light proofing material, which because of the relatively inaccessibility of the parts thereof, could not easily be repaired. The present invention provides a structure for a slit type identification X-ray cassette which maintains a barrier to light and provides accessibility for replacing the light proofing elements. Still further, in prior devices, the slip guiding lips were externally permanently secured and protruded from one corner making stacking and handling difficult. The present invention encloses the lips and provides for ready removal and replacement.

To the accomplishment of the foregoing and related ends, said invention then consists of the means herein-after fully described and particularly pointed out in the appended claims, the following description and annexed drawings setting forth in detail certain illustrative embodiments of the invention such disclosed means constituting, however, but a few of the various forms in which the principle of this invention may be employed.

In the annexed drawings:

FIG. 1 is an isometric view of the cassette.

FIG. 2 is a fragmentary perspective view of a cassette embodying the present invention.

FIG. 3 is a cross-sectional view taken in the plane indicated by the line 3-3 of FIG. 2 showing the outer and inner frame portions, the identification receiving recess and the light proofing means.

Briefly stated, the present invention is an improvement in an X-ray film holding cassette having an outer marginal frame operatively supporting a front plate, an inner frame adapted to secure the front plate against the outer marginal frame, an intensifying screen in spaced relation from a separable back plate to define a closed light impervious chamber for receiving X-ray film therein, an elongated slit, along one outer marginal frame edge, providing access to a limited portion of the interior of the chamber, and adapted to receive an X-ray identification slip. In accordance therewith there is provided a removable inner frame portion adjacent said elongated slit so adapted and constructed as to be separately secured to the outer marginal frame. A pair of removable, flexible lips, adapted to be disposed in superimposed relation adjacent the elongated slit, is removably retained by the removable inner frame portion. The flexible lips have at their confronting marginal portions, light proofing means to prevent the access of light to the interior of the chamber.

Referring more particularly to FIGS. 1-3 of the drawings, cassette 11 as shown in FIG. 1 has a front plate 12 made of Bakelite, or other suitable material, which is opaque to light but permeable to X-rays. Fastened to

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the inner surface of front plate 12 is an intensifying screen 10. The back 13 of cassette 11 is provided with conventional locking levers 14 and hinges 15, so as to provide access to the cassette for loading with film. Any suitable locking or hinging means may be used in place of that specifically illustrated. Cassette 11 has an outer peripheral frame portion 16 and an inner peripheral frame portion 17 as best shown in FIGS. 2 and 3. Inner frame portion 17 is fastened to the outer frame portion 16 by suitable fastening means, e.g., screws 18. Inner frame 17 is adapted to lock front plate 12 against outer frame 16. Front plate 12 is provided with an identification receiving recess 19 in one corner. Although the recess is shown in one corner of the cassette, where it is most conveniently located, it should be understood that the recess may be located anywhere in the face of the cassette adjacent an edge. A slit 21, adapted to receive identification slip 22, is provided along one edge of outer frame 16 and extends therethrough communicating with recess 19. Recess 19, located partially in intensifying screen 10 and partially in front plate 12, is defined at its marginal edges by identification recess guide edges 24 and 25. The depth of recess 19 from its outer edge 26 is correlated to the height of said identification slip 22 which in turn is correlated to the amount of identification data required on the identification slip 22. Removable transparent slip 22 is inserted through slot 21 into recess 19. Identification data or indicia can be placed on slip 22 by means of any writing or printing, such as pencil, laundry marker, typewriting ink, India ink, or modified India ink in which the opacity thereof has been intensified by the addition of barium salt, e.g. barium sulphate or the like. Slip 22 may be made of any desired transparent or translucent material, such as, regenerated cellulose, or the like.

Slip guides or lips 27 and 28 are adapted to fit into the identification receiving recess 19. These lips are disposed within the recess 19 to guide the identification slip into position with respect to the film. Each of said lips have along one marginal edge a diverging edge, e.g. diverging edges 29 and 31 respectively. Light proofing receiving recesses 20 and 30, adjacent said edges 29 and 31 respectively, are struck out of the plane of lips 27 and 28 respectively. Diverging edges 29 and 31 are struck from the planes of light proofing receiving recesses 20 and 30 respectively, to form a V-portion which is adapted to be disposed adjacent slit 21. The confronting faces of the V-portion, i.e., the diverging edges 29 and 31, and recesses 20 and 30 respectively, are provided with felts 32 and 33 adhesively secured to lips 27 and 28, and recesses 20 and 30 respectively, and coacting thereat to prevent the passage of light through the slit into the interior of the cassette. Lip portions 27 and 28 are held in resiliently separable relationship with respect to each other and slit 21 by removable inner frame portion 34. Lip portions 27 and 28 are wider than the inner frame portion and are normally in contacting relationship and adapted to be forced apart by the passage of identification slip 22 therebetween. Inner frame portion 34 is held to the outer frame portion by fastening means, e.g. screws 35. The inner frame portion 34 is thus easily removed to facilitate quick and easy replacement of the lip portions 27 and 28. Diverging edges 29 and 31 and recesses 20 and 30 extend beyond the extremities of lip portions 27 and 28, and slit 21, to keep light from leaking into the cassette along identification recess guide marginal edges 24 and 25.

As previously indicated, the inner surface or front plate 12 is covered by an intensifying screen 10. The inner surface of back plate 13 is covered by a similar intensifying surface 36 as seen in FIG. 3. The X-ray film is placed between these two intensifying surfaces. Although identification of the individual X-rays may be made using front and back intensifying screens, it has

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been found that by cutting out a portion of the intensifying screen 36 on the back plate 13 opposite the identification slip recess 19, or covering said portion with an opaque material, a much clearer identification of said X-rays may be made. Felt liners, e.g. felt liner 37, located along the marginal edges of back plate 13, are adapted to coact between the inner marginal frame 17 and the back plate 13 to prevent light from entering into the cassette from around the periphery of back plate 13. Back plate 13 may be made of any material such as plastic, for example Bakelite, metal, or the like. This material must be opaque to visible light.

There has thus been provided an improved slit type identification X-ray cassette in which the light proofing components are readily accessible and may be replaced so that the entire cassette assembly has a much longer, useful life.

Other modes of applying the principles of this invention may be employed instead of those specifically set forth above, changes being made as regard the details herein disclosed provided the elements set forth in any of the following claims, or the equivalent of such be employed.

It is, therefore, particularly pointed out and distinctly claimed as the invention:

1. In an X-ray film holding cassette having an outer frame, an inner frame, an X-ray permeable front plate secured in said outer frame by said inner frame, an intensifying screen, a removable back, a slit extending through said outer frame, and an internal recess disposed in the cassette between the front and back plate and adjacent the slit for receiving an X-ray identification slip externally insertable through the slit, the improvement which comprises:

(a) a pair of oppositely disposed removable, flexible lips having diverging marginal edges adjacent the slit

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and disposed in the recess on either side of the slit, the lips being at least coextensive with the slit and designed to receive between them an X-ray identification slip inserted through the slit in the outer frame, said lips being disposed wholly interiorly of the outer frame and within the cassette, the innermost marginal edges of said lips being disposed wholly within the recess;

(b) means disposed on the lips adjacent the slot for preventing light entering through the slit in the outer frame from reaching the recess; and

(c) means coacting between the outer frame and the lips for holding the lips in the recess adjacent the slit and including a portion of the inner frame adjacent said slit which is separately removable and which is at least coextensive with the lips and which upon removal permits removal of the lips.

2. The improvement of claim 1, wherein the means for preventing light from entering the recess includes a black felted fabric adhesively secured to the diverging marginal edge of each lip adjacent the slit, the black felted fabrics designed to compressively engage an X-ray identification slip disposed between the lips.

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RALPH G. NILSON, *Primary Examiner.*

ARCHIE R. BORCHELT, *Examiner.*

A. L. BIRCH, *Assistant Examiner.*