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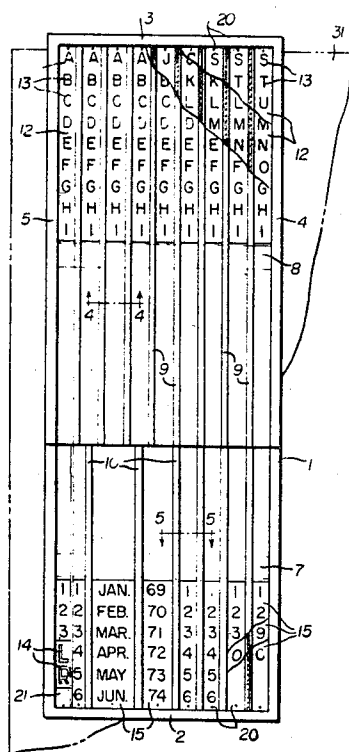
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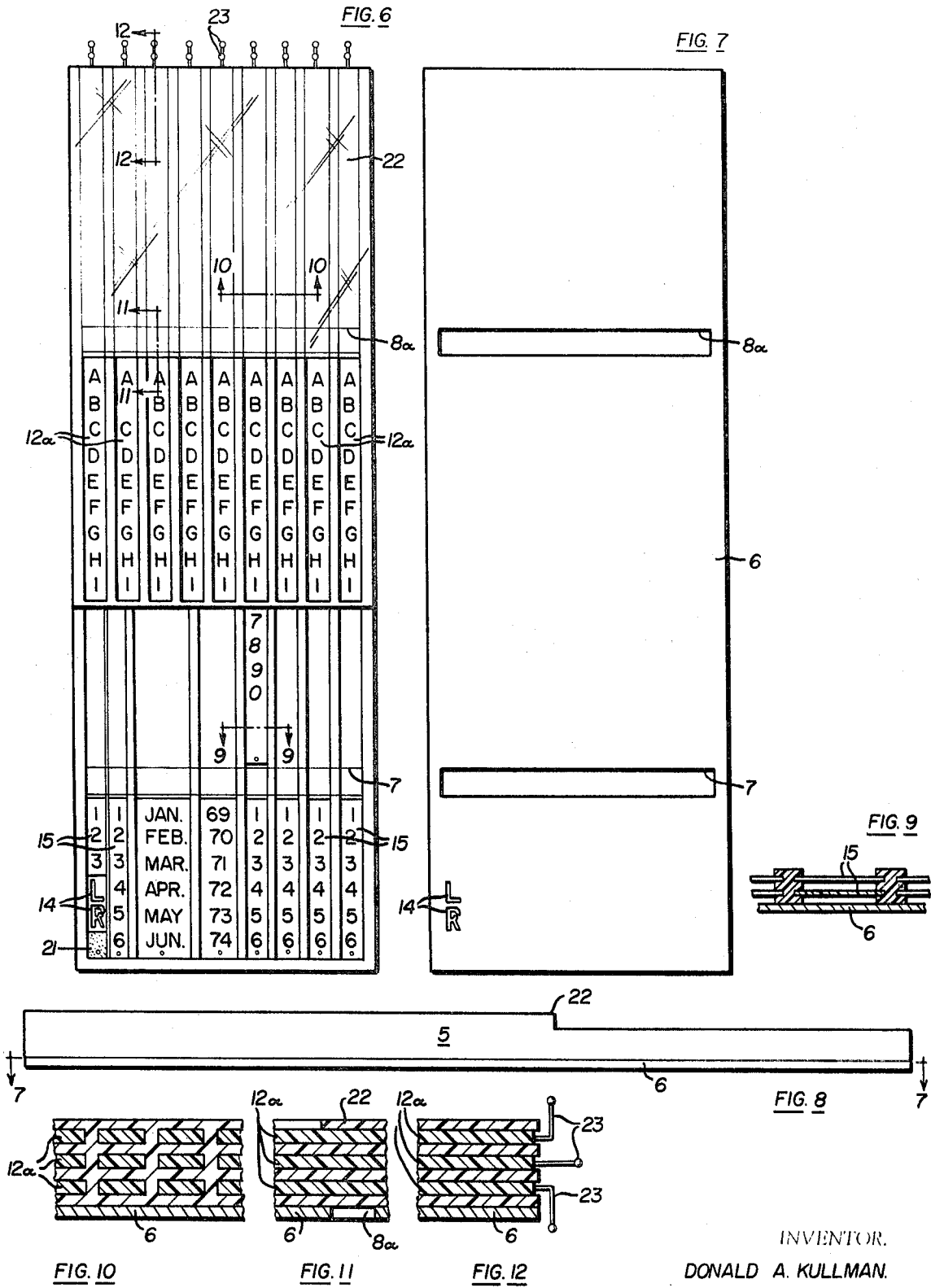
[54] **MARKER FOR X-RAY FILMS**
 4 Claims, 16 Drawing Figs.

[52] U.S. Cl. 250/67,
 40/65
 [51] Int. Cl. G03b 41/16
 [50] Field of Search 250/67;
 40/65

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ABSTRACT: A marking device for x-ray films which comprises a holder or tray having a radio-opaque wall or floor formed with one or more apertures or slot openings, the holder containing a plurality of marker strips bearing radio-opaque indicia such as letters and numerals, and which strips are slidably movable to locate predetermined parts of them in registry with the exposure openings to thereby produce names, dates or other information directly upon the film by the subjection of the selected parts of the marker strips to x-rays at the exposure openings.





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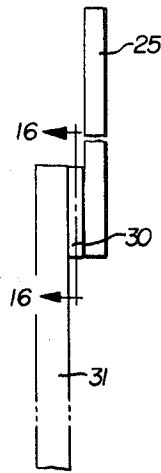


FIG. 13

FIG. 14

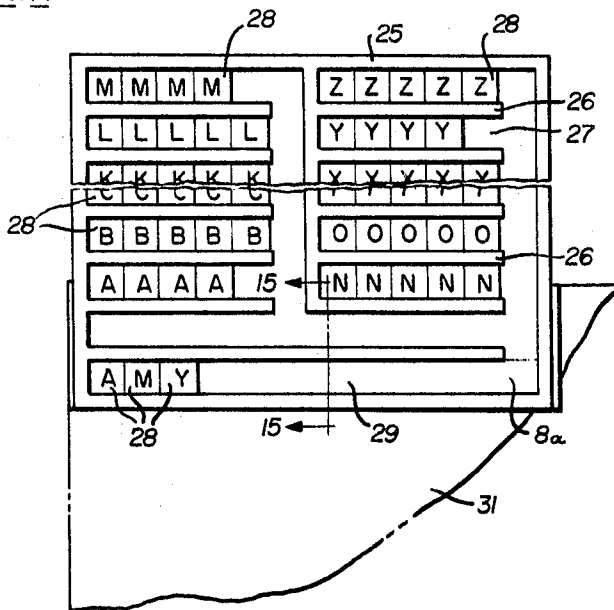


FIG. 15

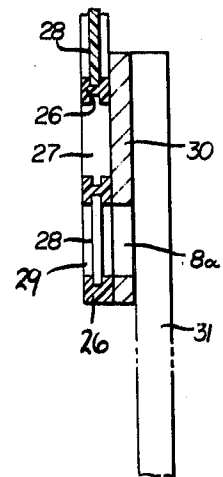
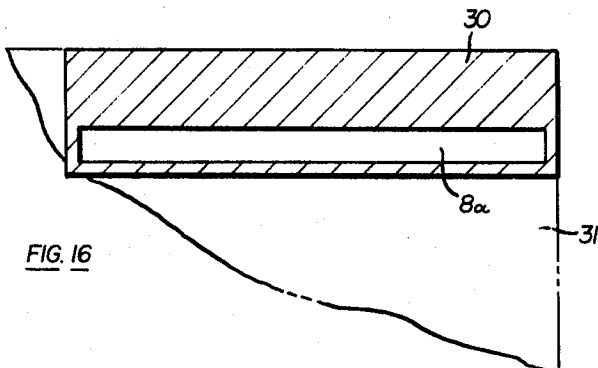


FIG. 16

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MARKER FOR X-RAY FILMS

It is an object of the invention to provide a relatively simple and efficient device by which information regarding an x-ray film can be easily produced on the film and in such a manner that each film will have an individual and separate identification number, date, name of the patient being x-rayed and also an indication by which the side of the subjected photographed corresponds to the film side being viewed when the radiograph is developed. It is also possible, by the use of this device, to produce other data directly upon the film.

In the accompanying drawings, wherein illustrative embodiments of the invention are disclosed,

FIG. 1 is a top plan view of a marking device for x-ray films constructed in accordance with the invention;

FIG. 2 is a side elevational view of the same;

FIG. 3 is a view taken substantially on the line 3-3 of FIG. 2, looking in the direction of the arrows;

FIG. 4 is a sectional view taken on the line 4-4 of FIG. 1, looking in the direction of the arrows;

FIG. 5 is a sectional view taken on the line 5-5 of FIG. 1, looking in the direction of the arrows;

FIG. 6 is a plan view of another embodiment of the invention;

FIG. 7 is a face view of the lead bottom or base of the casing or tray, the view being taken substantially on the line 7-7 of FIG. 8;

FIG. 8 is a side elevational view of the structure shown in FIG. 6;

FIG. 9 is a sectional view taken on the line 9-9 of FIG. 6, looking in the direction of the arrows;

FIG. 10 is a sectional view taken substantially on the line 10-10 of FIG. 6, looking in the direction of the arrows;

FIG. 11 is a sectional view taken substantially on the line 11-11 of FIG. 6, looking in the direction of the arrows;

FIG. 12 is a sectional view taken substantially on the line 12-12 of FIG. 6, looking in the direction of the arrows;

FIG. 13 is an end view of another modified structure;

FIG. 14 is a plan view of the structure of FIG. 13;

FIG. 15 is a sectional view taken substantially on the line 15-15 of FIG. 14, looking in the direction of the arrows; and

FIG. 16 is a sectional view taken substantially on the line 16-16 of FIG. 13, looking in the direction of the arrows.

Referring to the structure shown in FIGS. 1 to 5, the improved marking device includes a holder or casing 1 in the form of a relatively shallow tray that includes end walls 2 and 3, sidewalls 4 and 5 and a bottom wall or base 6. The bottom wall 6 is composed of radio-opaque material such as lead, and is provided in spaced-apart relation with two slotlike openings or windows 7 and 8 each of which extends transversely of the lead sheet 6. The elements for the production of the desired markings or indicia on the x-ray films are arranged to be disposed at these openings as will be presently explained.

Adjacent to one end of the lead sheet or base 6 and as indicated at 14, are the letters L and R indicating left and right and these letters are cutouts or in stencil form and permit the penetration of x-rays to thereby mark the film with either of these designations as required. These designations indicate to the viewer of the radiograph the side of the subject that corresponds to the film side being viewed.

Mounted on the interior of the tray 1 is a plurality of spaced-apart longitudinally arranged partition strips 9 and 10, the cross-sectional shape of these partitions being clearly shown in FIGS. 4 and 5 wherein it will be seen that each of them is provided in its sides with a plurality of continuous longitudinal grooves which receive slidably adjustable marker strips 12. These strips 12, as well as the partitions 9 and 10, may be composed of radio-translucent material such as a suitable plastic and each of the marker strips bears indicia or lettering 13, said lettering being composed of radio-opaque material such as lead. The strips 12 are normally located in the retracted position shown in FIG. 1 and are thus located away from the opening 8 in the lead sheet 6.

In use the selected strips 12 are slid forwardly to thereby bring the selected and required letters borne by them and spelling out the name of the patient, into registry with the opening 8 to thereby cause the x-rays passing through the strips and through the opening 8 to reproduce the exposed lettering on the film.

The marker strips 12 in the group at the top of FIG. 1 are arranged in groups of three, each strip bearing a certain number of the letters of the alphabet, so that each three strips contains all of the letters of the alphabet or possibly additional indicia that may be useful. The strips 12 are arranged in the stacked formation mentioned in order to shorten the length of the strips yet provide all of the letters of the alphabet.

When it is desired to mark the film with the name of a patient being x-rayed, the selected strips 12 are slid forwardly in the required arrangement to spell out the name of the patient and cause it to appear at the aperture 8.

At the opposite end of the tray 1 is located a group of marker strips 15 which are constructed similarly to those shown at 12 and are slidably adjustable in grooves 17 provided in the partition strips 10. The marker strips 15 bear the names of the months as well as numerals for the indication of the days upon which the x-ray pictures are taken. The marker slides 15 are arranged in groups of two to provide the names of all of the months as well as the date numbers, on relatively short strips to enable any particular date to be reproduced on the film.

The aperture 7 in the lead sheet 6 of the tray 1 is intended to receive the date designation and this is done by sliding the required marker strips 15 toward the aperture 7 to register the required month, day and year designation at the aperture. Numeral designations to apply a number to each film are also provided. To facilitate the sliding of the required marker strips 12 and 15 into position at the respective apertures 7 and 8, the marker strips may be each provided at one end with a small hole 20 that can be engaged by a stylus or other pointed implement.

In addition to the marker strips 12 and 15 there is also provided adjacent to the letters L and R a small slidable opaque square 21 which can be moved to cover either the letter L or the letter R.

From the foregoing, the operation of the marking device will be apparent. In use the marker is attached by means of a clip, tape or magnet to the film-containing cassette and in such a position that the x-rays taking the picture will pass through the slots or apertures 7 and 8 and through the parts of the marker strips disposed at such openings and will cause the reproduction on the film of the letters and numerals that are arranged at these apertures. The placement of the required indicia at the openings and the selection of the letter L or R for exposure is merely a matter of sliding the required marking strips into exposure position at the several openings in the lead sheet.

The structure shown in FIGS. 6 thru 12 inclusive is generally similar to that shown in FIGS. 1 thru 5 except that the name-designating marker strips 12a when in their normal or retracted position are approximately at the center of the tray. In this arrangement, when the strips 12a are projected into exposure position at the aperture 8a, they are moved into a transparent slotted housing 22. Handles or finger pieces 23 are connected to the marker strips 12a for moving the selected strips to and from exposure position. The date-indicating and numeral-designating strips 15a are similar to those shown at 15 in FIG. 1 and they are operated similarly.

In the embodiment shown in FIGS. 13 to 16 a holder 25 is provided with grooved strips 26 defining channels 27 between them. Separate plastic squares 28, each bearing a letter, numeral or other indicia are slidable into or out of the channels as required to position them in the channel shown at 29 that is located over the aperture 8a in the lead sheet 30 that attaches to the cassette 31.

In the several embodiments the procedure is substantially the same and involves only the selective movement of the

marker elements into exposure position at the several windows or openings in the radio-opaque sheets so that the radio-opaque lettering on the marker elements will be reproduced on the film.

While I have herein described the marking elements on the strips as being suitable for the production of names, dates and numerals, it will be apparent that other designating indicia may be used.

What I claim is:

1. A marking device for x-ray films comprising,
 - a thin, flat holder for attachment to a film cassette and having no substantial transverse projections extending away from the plane of said flat holder,
 - said holder including a wall of radio-opaque material having first and second elongated openings parallel to each other where characters may be positioned to be marked on the film by x-ray exposure,
 - said holder further having a plurality of partitions defining a plurality of channels parallel to each other and to said radio-opaque wall and perpendicular to said elongated openings,
 - said channels being arranged in first and second spaced groups, each of which leads to a corresponding one of said openings,
 - marker strips located in each of said channels between the partitions and slidably mounted therein,

each said strip being composed of radio-translucent material carrying a plurality of radio-opaque characters on it, a plurality of said strips being superposed over each other in each of said channels, with the strips being slidable to or from the openings to enable selected characters of the strip to be positioned at the openings,

the superposed strips in said first group of channels being located adjacent to the first opening with the strips in each channel in such group bearing a complete alphabet divided between said strips to formulate the name of a subject at the first opening, and

the superposed strips in said second group of channels being located adjacent to the second opening with the strips in such group bearing a series of characters divided between said strips by which dates may be formulated at the second opening.

2. A marking device according to claim 1 wherein the bottom wall of the holder has a stencil opening defining left and right, and a radio-opaque slide is provided to cover either of said designations.

3. A marking device according to claim 1 in which said partitions are made of plastic.

4. A marking device as claimed in claim 1 in which each of said partitions has grooves therein receiving the strips.

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