

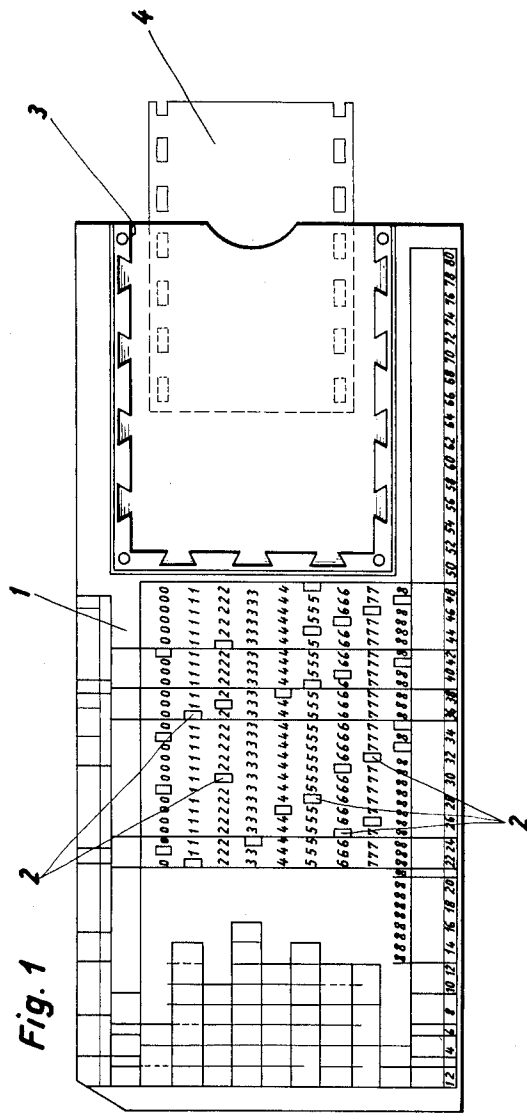
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E. WITTE ETAL
PERFORATED FILM CARD

3,197,905

Filed July 23, 1963

4 Sheets-Sheet 1



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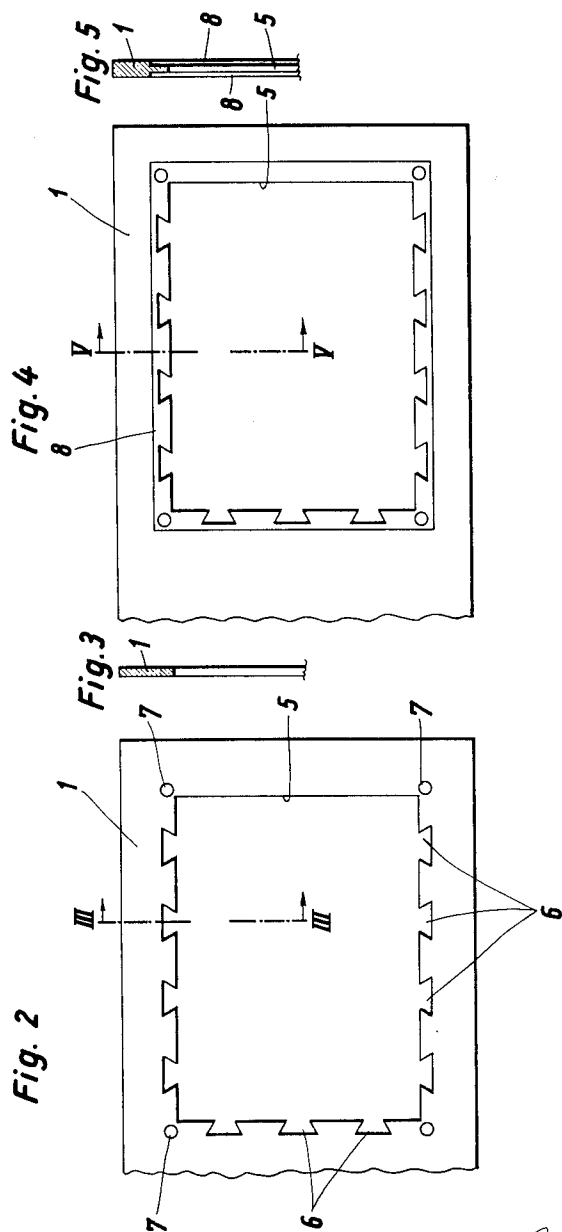
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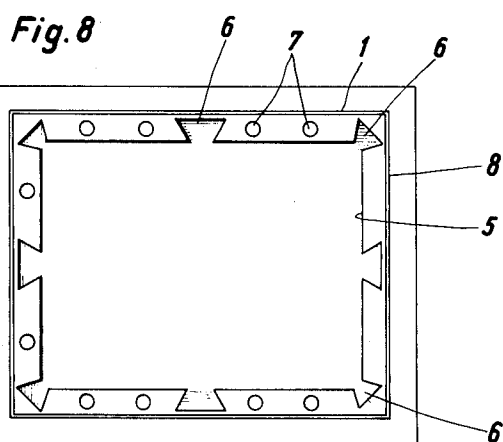
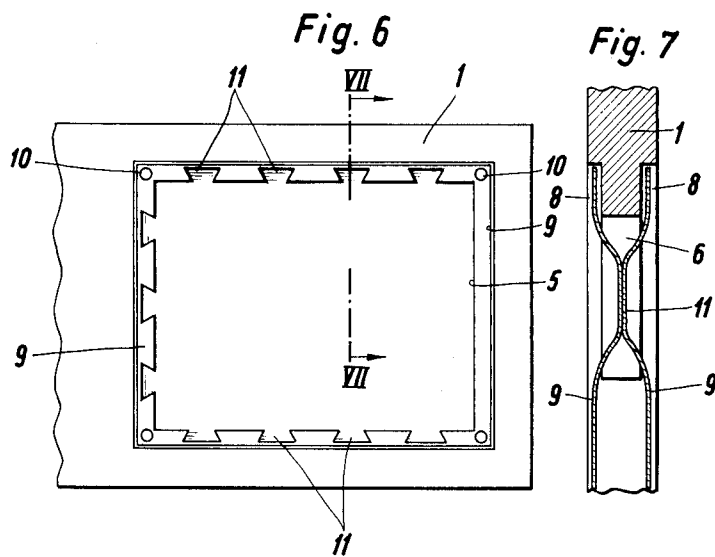
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Fig. 9

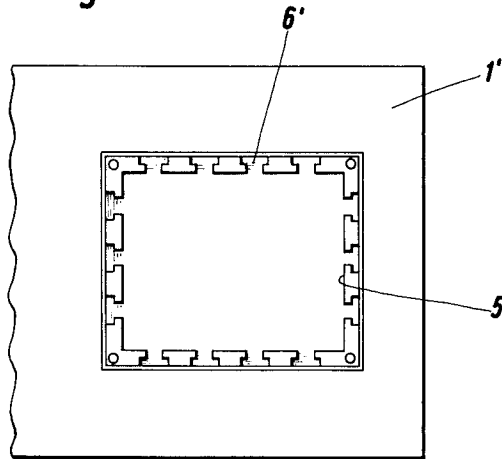
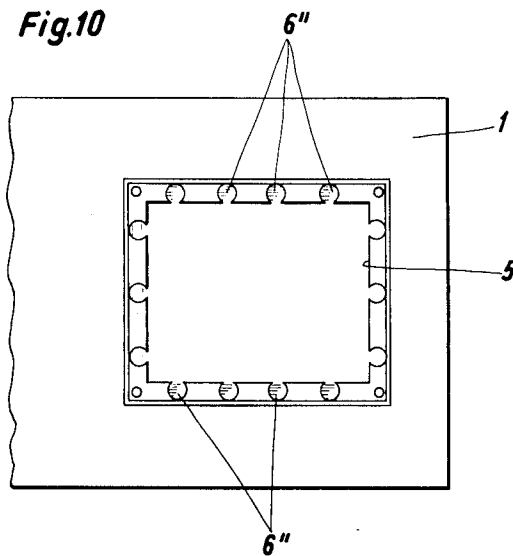


Fig. 10



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3,197,905

PERFORATED FILM CARD

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11 Claims. (Cl. 40—158)

The present invention relates to a perforated card for card indexes, automatic accounting etc. with a rectangular aperture for receiving microfilms etc. Such cards are being used to keep and file microfilms with data on them.

Commonly these cards have a rectangular aperture which is covered at both sides each by a thin transparent plastic foil. These two foils are connected to three sides in order to form a pocket whereas at the fourth side a slot remains for insertion of the film. Because of the thickness of the material of the foils the thickness of such cards increase, thus causing disadvantages when piling up the cards or in operation in perforated card machines. For this reason suggestions were made to decrease the thickness of those cards caused by the thickness of the foils through grinding and compressing where they were connected with the foils. However, this method proved ineffectual, as the edge which borders the aperture elongated under pressure. Ripples came forward which made the handling of the card even more difficult.

It is one object of the present invention to provide a perforated card which avoids the drawbacks of the known cards.

It is another object of the present invention to provide a perforated card, wherein the aperture is on both sides bordered by a wider edge which corresponds in size and thickness to the transparent foil which is to be fixed thereover. The edge is provided with notches toward the aperture, through which the two transparent foils are connected. It is possible thereby to glue or weld the two foils more effectively. The notches, which are interposed in the edge, narrow toward the aperture, so that the welding points of the foils cannot slip out of the notches. The notches can be of dove-tail shape, T-shape or have the shape of a circular hole of which the larger part lies within the edge of the aperture.

It is still another object of the present invention to provide a perforated card, wherein, if necessary the notches can be provided only in the corners of the aperture. But they can be spread also over the length and width of the edge.

Notches can be provided at the side of the aperture, where the slot for insertion is provided.

With these and other objects in view which will become apparent in the following detailed description, the present invention will be clearly understood in connection with the accompanying drawings, in which:

FIGURE 1 is a top plan view of an embodiment of a perforated card according to the present invention;

FIG. 2 is a top plan view of a portion of a perforated card after punching out of the perforations;

FIG. 3 is a section along the lines III—III of FIG. 2.

FIG. 4 is a similar top plan view as disclosed in FIG. 2, after the edge, which borders the aperture, has been impressed;

FIG. 5 is a section along the lines V—V of FIG. 4;

FIG. 6 is a similar top plan view as disclosed in FIGS. 2 and 4 after securing thereto the transparent foils;

FIG. 7 is a largely scaled section along the line VII—VII of FIG. 6; and

FIGS. 8 to 10 are top plan views similar to those disclosed in FIG. 6 with a different embodiment of the edge and of the notches.

Referring now to the drawings, and in particular to FIG. 1, the perforated card 1 consists commonly of a card-

board and is provided with a suitable imprint as well as with perforations 2. At the right side of the card 1 there is a portion 3 open toward the edge which forms a pocket to receive a microfilm 4 or a backing for the data as will be described below. In comparison to the cards disclosed in the additional figures, the perforated card 1 according to FIG. 1 differs from the other embodiments, since its aperture is open at the edge, whereas the perforated cards according to FIGS. 2-10 are each provided with a rectangular aperture 5, that is within the confines of the card 1.

The fixing of the transparent foil and the configuration of the edge of the aperture are the same, so that it will suffice to disclose FIGS. 2-10 in this connection more clearly.

Referring now again to the drawings, and in particular to FIG. 2 the card 1 consists of a material that is absolutely even. At the time the aperture 5 is punched out, dove-tail shaped notches 6 and the bore-holes 7 are punched out simultaneously.

As can be ascertained from FIG. 3, the thickness of the card is throughout the same.

After punching out the card 1, it is fed to a stamping device (not shown). An edge 8 is forced in around the aperture 5, which is in its external dimensions slightly larger than the foils which are to be fixed later on thereto. In any case, the edge 8 includes the notches 6 and the bore-holes 7. In FIG. 5 the position and dimensions of the forced in edge 8 are clearly recognizable. Since the notches 6 are within the edge 8, the material of the card cannot extend or ripple in the forced in area. Any extensions are being absorbed by the notches 6.

The aperture 5 of the card 1 which is prepared according to FIG. 4 is covered by two transparent foils, which are welded together through the notches 6 and the bore-holes 7 at the areas 10 and 11. The card 1 forms now in the area of the aperture 5 a pocket, which is open at one edge of the card 1, since the foils are not welded at that edge. The foils are thin such that they can be inserted exactly in the forced in edge 8, without increasing the thickness of the card 1.

The cards 1 according to FIGS. 8-10 are different from the card described above in the other embodiments, because the aperture 5, which forms the pocket is placed within the card 1, whereas the arrangement of the notches 6 and of the bore-holes 7 in the wider edge are the same. Thus, for instance, FIG. 8 shows a card which has only a few notches 6, especially at the corners of the aperture 5; there are also notches provided at that side of the aperture 5 which is left open for the purpose of forming a pocket. The embodiment of the card 1 according to FIG. 9 is provided with notches 6' of T-shape. It is clearly recognizable that the wide sides of the notches 6' are always turned outwardly.

The embodiment of the card according to FIG. 10 is provided with circular notches 6''. The welding of the transparent foils is performed by means of the notches 6' or 6'', which are indicated on all three sides, whereas the fourth side of the aperture 5 is provided with notches 60 which, however, are not used for welding together the foils.

While I have disclosed several embodiments of the present invention, it is to be understood that these embodiments are given by example only and not in a limiting sense, the scope of the present invention being determined by the objects and the claims.

We claim:

1. A perforated card for card indexes comprising a card having a rectangular aperture, said card having impressions surrounding said rectangular aperture and forming a rectangular frame of lesser thickness than that of said card,

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rectangular transparent foils of a size complementary to said frame, engaging the opposing faces of said impressions and covering said aperture, said rectangular frame having a plurality of notches open towards said apertures, said opposing foils being joined together through said notches on three sides thereof and open at the fourth side to form a pocket adapted to receive a film, and said impressions jointly with said foils having a total thickness not greater than the thickness of said card.

2. The card, as set forth in claim 1, wherein said impressions jointly with said foils are of a total thickness equal with the thickness of said card.

3. The card, as set forth in claim 1, wherein said foils are bonded together through said notches.

4. The card, as set forth in claim 1, wherein said foils are glued together through said notches.

5. The card, as set forth in claim 1, wherein said notches are narrowed down toward said aperture.

6. The card, as set forth in claim 1, wherein said notches are disposed in the corners of said apertures.

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7. The card, as set forth in claim 1, wherein said notches are distributed along the length and the width of said frame.

8. The card, as set forth in claim 1, wherein said notches are disposed on four sides of said frame.

9. The card, as set forth in claim 1, wherein said notches are of substantially dove-tail configuration.

10. The card, as set forth in claim 1, wherein said notches are of substantially T-configuration.

11. The card, as set forth in claim 1, wherein said notches are of substantially circular configuration and overlap the inner margin of said frame.

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