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(54) **Protection cover having pockets for containing flat articles**

(57) The envelope (10) comprises one or more pockets (11) for holding flat articles (12); close to at least one side edge the pocket (11) comprises an intermediate welding line (19, 19', 19'', 19''') provided with clamping means (20, 20', 20'') for frictionally retaining an article (12), by stretching the pocket between side welds; guide means (19, 19', 19'', 19''') in the form of a slanted welding are provided on at least one side of the pocket (11) to guide the article (12) from the open side of the same pocket towards the article clamping means (20, 20', 20'').

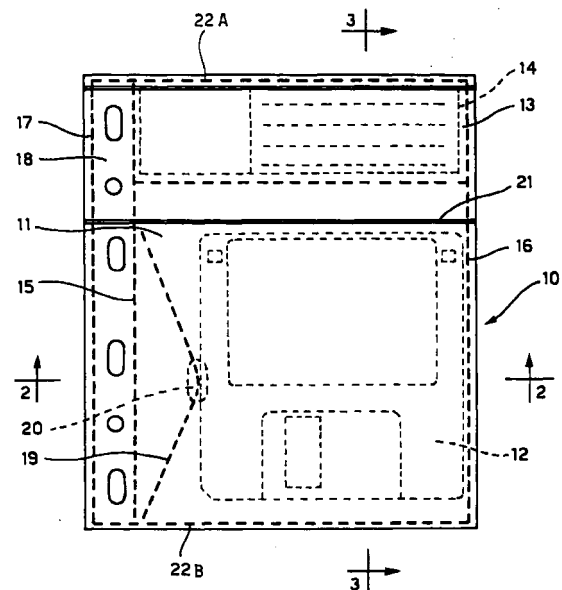


FIG. 1

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DescriptionFIELD OF THE INVENTION

[0001] The present invention relates to an envelope in plastic material, provided with one or more pockets for the retention of flat articles, whether of a square, rectangular, circular or any other suitable flat shape, for example for containing magnetic disks such as floppy disks, CD-ROMs and the like, credit cards, small mounts for slides, coins or any other document or article having a substantially flat body, which has to be collected, catalogued and/or stored in a holder.

STATE OF THE ART

[0002] The envelopes in transparent plastic material currently in use, are provided with one or more pockets and are varyingly used for the retention of magnetic disks and the like; the envelope comprises front-side and back-side in plastic sheet material which are joined together by longitudinal and cross welding lines to form at least one pocket to retain an article of substantially flat shape; the pocket has longitudinal and cross dimensions by far greater than the articles, to retain articles having different sizes.

[0003] These envelopes are in general provided with a set of holes on a side edge for the insertion in a ring type holder, or they can be provided with a self-adhering layer for application on an appropriate substrate.

[0004] Envelopes of this kind usually are manufactured from a continuous band of polypropylene or another suitable plastic material, appropriately treated with a non-slip substance in order to provide a sufficient frictional force for retaining a flat article into the pocket, preventing its from accidental withdrawal or fall out.

[0005] The main disadvantage of these envelopes resides in the excessively high costs for carrying out the non-slip treatment of the plastic material.

[0006] In order to reduce the manufacturing costs, non-treated plastic material is presently used with the result that articles having substantially smaller dimensions than the pockets, tend to slide and to fall down from the envelope.

[0007] Therefore the need for envelopes of the type mentioned above for retaining flat articles preventing their fall down, which are economical to manufacture and of improved properties, still exists.

BRIEF DESCRIPTION OF THE INVENTION

[0008] This and other objects are achieved by means of an envelope according to claim 1.

[0009] More specifically, according to a first aspect of the present invention, an envelope of plastic material for the retention of flat shaped articles has been provided, the envelope comprising: front-side and back-

side of plastic sheet material joined by longitudinal and cross welding lines to form at least one pocket at the front side; each pocket comprising a top open edge, a welded bottom edge, and welded side edges extending between said top and bottom edges, characterized in that in the proximity of at least one welded side edge the pocket comprises an intermediate welding line having at least one article clamping means to frictionally retain the article by pressure forces caused by said article clamping means into the pocket stretched between opposite weldings lines; and in that guide means are provided for slidably guide the article towards said article clamping means.

[0010] The intermediate welding line, at one or both side edges of the pocket, can have any configuration and/or extension, provided they are suitable for providing the guiding and the clamping action for the retention an article fitted into the pocket.

[0011] Therefore the guide means and the article clamping means can be provided for example by a triangular or arch-shaped welding line, which extends along the entire height of the pocket, or part thereof, maintaining a slanted disposition on one side of the same weld, for example from the open edge of the pocket to an vertex point to facilitate guiding and the insertion of a flat shaped article to be retained.

[0012] According to needs or circumstances, the backside sheet of the envelope can be appropriately made self-adhering along an edge to allow application of the same envelope on a card or substrate, inside a holder. The same envelope can have, along one of its edges, a conventional perforation, to allow the insertion in a ring type holder.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] The general features and some preferred embodiments of envelopes with pockets for retaining flat articles, according to the invention, will be made clearer by the following description with reference to the accompanying drawings, in which:

Fig. 1 shows a top view of first embodiment of an envelope with a single pocket, according to the invention;

Fig. 2 shows a cross sectional view, slightly enlarged, along line 2-2 of Fig. 1;

Fig. 3 shows a longitudinal sectional view, slightly enlarged, along line 3-3 of Fig. 1;

Fig. 4 shows an enlarged detail of Figure 2;

Fig. 5 shows a second embodiment of the envelope;

Fig. 6 shows a third embodiment of the envelope;

Fig. 7 shows a further embodiment of an envelope with four pockets.

DETAILED DESCRIPTION OF THE INVENTION

[0014] Figure 1 shows a first embodiment of an envelope according to the invention, denoted overall by reference 10, provided with one pocket 11 for retaining a flat shaped article, for example a floppy disk 12, schematically shown by a dotted line in the same Figure 1.

[0015] The envelope 10 can be manufactured in various ways, for example from a band of plastic material which is folded along a longitudinal line and welded for a continuous manufacture of the envelopes, or by superimposing two sheets which are cut and welded longitudinally and transversely to form the finished envelope.

[0016] More precisely, the envelope 10 comprises a first sheet A defining the front side, and a second sheet B defining a back side, which are welded together along the welding lines 22A, 22B, 16 and 17 at the top, bottom and side edges respectively.

[0017] A welding line 15 is spaced apart and parallel to the welding line 17, to define a side band 18 provided with holes or perforations for the insertion of the envelope in a ring type holder, as shown.

[0018] In the example in Figure 1, the envelope 10 comprises a large square pocket 11 for containing a flat article such as a floppy disk 12, and a second rectangular pocket 13, above the pocket 11, transversely extending to the envelope 10 for containing a paper strip 14, a label or the like on it is possible to write, for example an identification code and/or a brief description of the article 12 retained in the pocket 11.

[0019] The two pockets 11, 13 extend transversely between the longitudinal weld 15 at the left side and the weld 16 of write side.

[0020] As referred previously, the envelope 10 can be manufactured for example by folding a plastic film or a sheet of adequate width, or through the superimposition of two sheets A and B of non-treated plastic material, that is to say not subjected to a non-slip treatment, by means of a conventional cutting and welding machine.

[0021] In order to provide an improved retaining action for an article 12 inside the pocket 11, or each pocket 11 of the envelope 10, according to the present invention each article 12 is removably fitted and retained into a pocket 11, by providing the latter with at least one article clamping means 20 near one or both the longitudinal welding lines 15 and 16, to frictionally retain the article 12 by pressure clamping the same on opposite side edges.

[0022] More precisely, as explained further on and shown in figure 1, the clamping means 20 will act on a small frictional area against a side edge of the article 12, to locally produce a pressure force caused by the stretching of both walls A and B of the pocket 11, at the introduction slightly forced of the article 12 into the pocket 11.

[0023] According to another feature of the inven-

tion, guide means are provided inside the pocket, for example in the form of an inwardly slanted welding line, extending from the open edge to the clamping area 20 of the pocket, to slidably guide the article 20 during the introduction.

[0024] In the example of figure 1, the article clamping means 20 and the article guide means are provided by a weld 19 of a triangular shape, defining an intermediate small clamping area 20 at the rounded vertex of the triangle, facing towards the opposite side weld 16.

[0025] The triangular weld 19 in the case of Figure 1 extends inside from the open edge 21 of the pocket 11 towards the weld 22 at the bottom edge of the pocket.

[0026] As previously stated, the triangular shape of the weld 19 and the slanting towards clamping area 20 inside the pocket, have proved to be suitable for guiding and providing the required retention of the article 12, by exerting a small frictional action and a simple pressure forces on a side edge of the article 12, as shown by the arrows F1 and F2 in Figure 4. In this respect it is suitable for the minimum space, measured parallel to the bottom weld 22, between the clamping area 20 at the vertex of the triangular weld 19, and the weld 16 on the opposite edge, to be slightly greater than the corresponding width dimension of the article 12, by a few millimetres so that on the longitudinal edges of the latter, pressure forces F1 and F2 are exerted for the light stretching of the front and rear faces of the pocket, which in this way restrains the article 12 preventing it from sliding and falling out.

[0027] Figure 5 of the accompanying drawings shows a second embodiment relating again to an envelope with one single pocket. In this figure the same reference numbers as in the previous figure 1 have been used to denote similar or equivalent parts.

[0028] The solution of Figure 5 differs from that of Figure 1 in that there are now two opposite clamping areas 20 at the vertex of the two triangular welds 19' and 19" close to the longitudinal weld 15 and longitudinal weld 16 respectively, to restrain an article 23 having a square shape, for example a small mount for a photographic slide, or another suitable article. Otherwise the envelope of Figure 5 corresponds identically to that of Figure 1. It is however clear that, by changing the shapes and/or dimensions of the welds or by providing one or more intermediate clamping areas which are opposite one to the other, it is possible to modify the dimensions of the useful space of the pocket 11, maintaining the overall dimensions of the envelope substantially unchanged.

[0029] A further embodiment is shown in Figure 6 where use is again made of a single pocket and a single intermediate weld 19"', comprising two clamping areas 20' and 20" suitably spaced apart, to retain a flat article 24 having a circular shape, for example a CD-ROM or the like. Otherwise the envelope of Figure 6 again corresponds substantially to the envelopes of Figure 1 and of Figure 5.

[0030] Figure 7 of the drawings shows a further embodiment of an envelope 10 having four pockets 11A, 11B, 11C and 11D, side by side arranged, each of which has substantially the same features as the pocket 15 of Figure 1.

[0031] Also in the case of Figure 7, reference numbers identical to those of Figure 1 have been used to denote similar or equivalent parts.

[0032] The advantages which can be obtained with an envelope having pockets for containing flat articles according to the invention, have briefly been found to be the following:

a) the envelope can be manufactured rapidly and at low cost by a continuous welding process performed by existing conventional machines, starting from a plastic film, for example of polypropylene or polyethylene;

b) the envelope does not require the use of treated plastic material, and can be indifferently provided with one or more pockets;

c) the useful dimensions of the pocket or pockets can be modified by varying the position and shape of the intermediate welds defining the article clamping areas;

d) the envelope can indifferently be supplied with a self-adhering rear side, or provided with holes for a ring type holder;

e) the intermediate article clamping areas which define the improved frictional action for retaining flat articles into the individual pockets, can on each occasion be changed by differently shaping or positioning the same for the individual pockets.

[0033] What has been said and shown with reference to the accompanying drawings has been given purely by way of an example of the general features of the invention, and some of its preferred embodiments; therefore changes or modifications may be performed without thereby departing from the invention.

Claims

1. An envelope (10) of plastic material for the retention of flat shaped articles (12), the envelope (10) comprising: front-side (A) and back-side (B) of plastic sheet material joined by longitudinal and cross welding lines (15, 16, 17, 22A, 22B) to form at least one pocket (11) at the front side; each pocket (11) comprising a top open edge (21), a welded bottom edge (22B), and welded side edges (15, 16) extending between said top and bottom edges (21, 22B), characterized in that in the proximity of at least one welded side edge (15) the pocket (11)

comprises an intermediate welding line (19, 19', 19'', 19''') having at least one article clamping means (20) to frictionally retain the article (12) by pressure forces caused by said article clamping means (20) into the pocket stretched between opposite welding lines (16, 19; 19', 19''; 16, 19'''); and in that guide means (19, 19', 19'', 19''') are provided for slidably guide the article (12) towards said article clamping means (20).

2. An envelope according to claim 1, characterised in that the article guide means (19, 19', 19'', 19''') extends from the open edge (21) of the pocket (11) to the article clamping means (20).
3. An envelope according to claim 1, characterised in that the minimum space between said opposite welding lines (16, 19; 19', 19''; 16, 19''') measured parallel to the cross weld (22A, 22B), is slightly greater than the corresponding width dimension of the article (12) to be clamped.
4. An envelope according to claim 1, characterised in that said article clamping means comprises a small welding area (20, 20', 20'') of a welding line (19, 19', 19'', 19''') having a slanted portion from the open side of the pocket (11) and on at least one side edge.
5. An envelope according to claim 4, characterised in that said welding lines (19, 19', 19'', 19''') comprise a triangular or arched shape.
6. An envelope according to claim 1, characterised by comprising at least a first and a second pockets arranged side by side.
7. An envelope according to any one of the previous claims, characterised by comprising perforations along a side edge (18).
8. An envelope according to claim 1, characterised by comprising a self-adhesive material on the rear face.

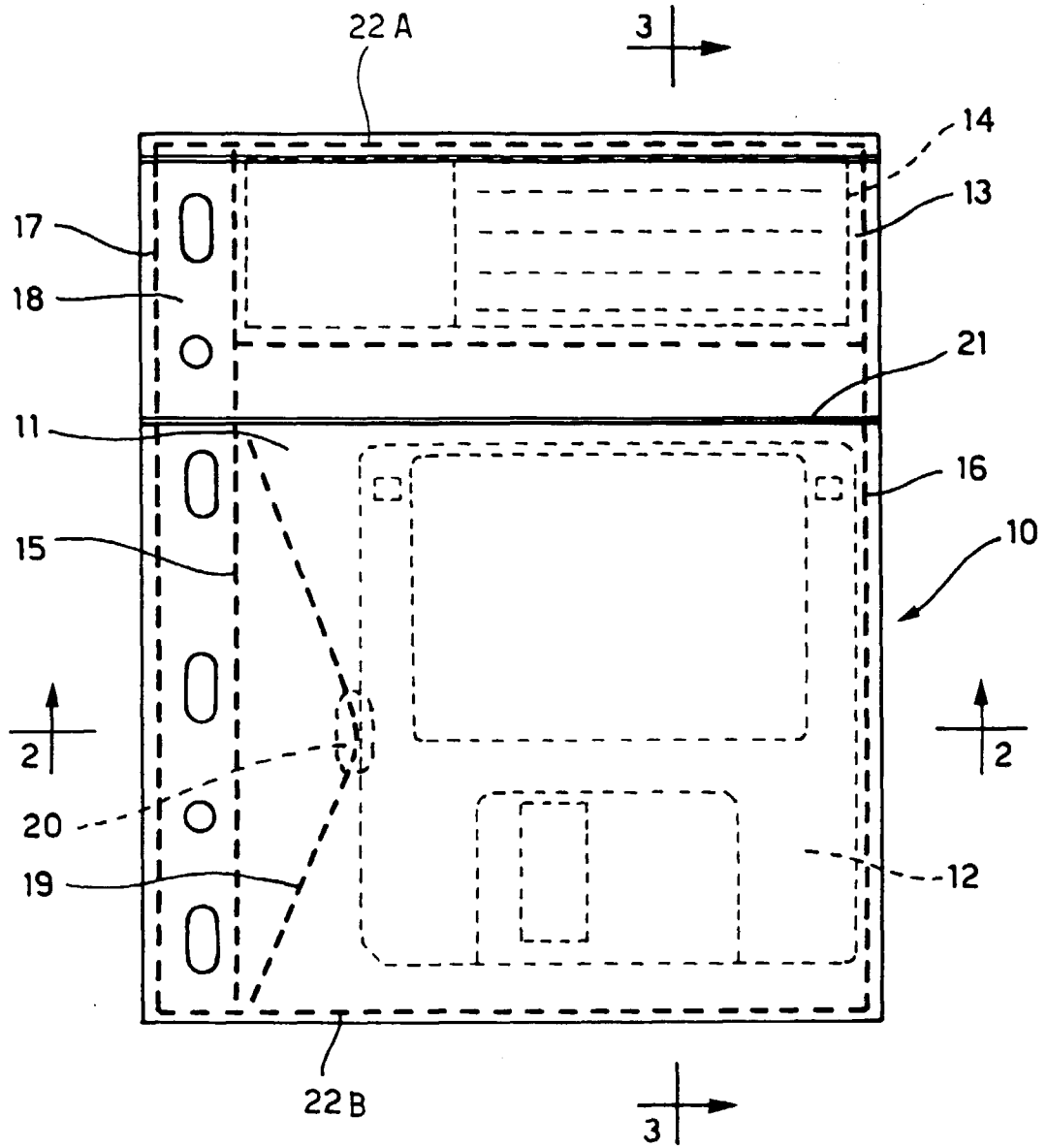


FIG. 1

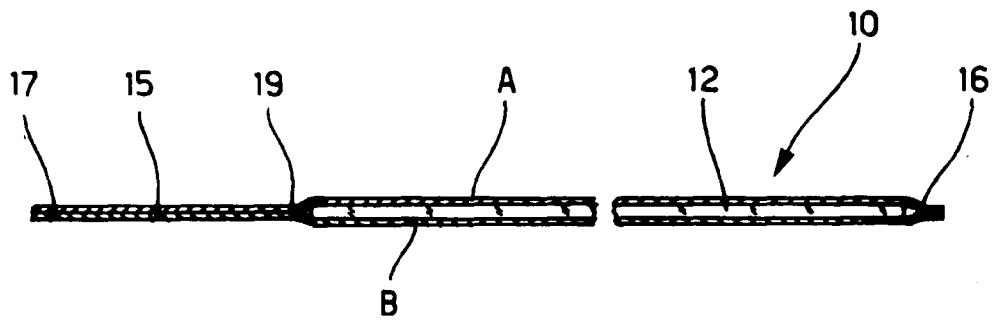


FIG. 2

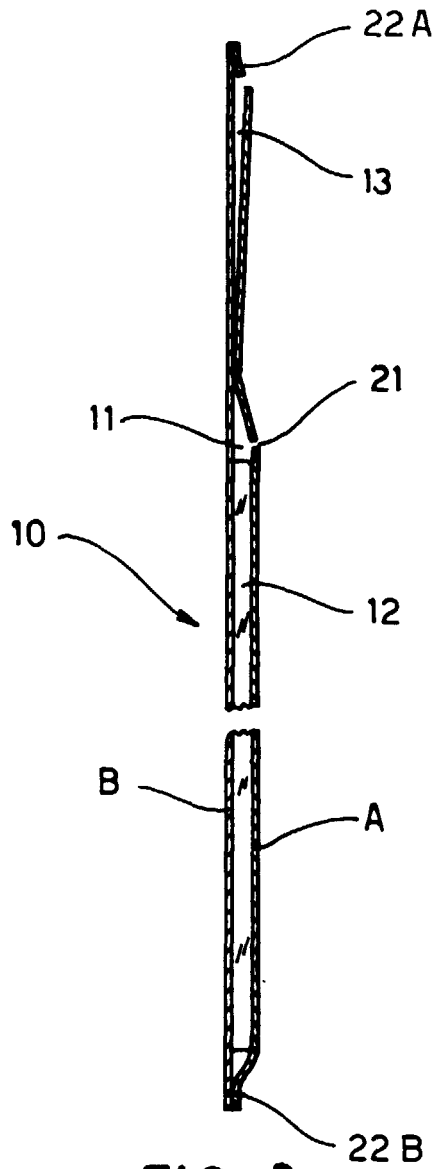


FIG. 3

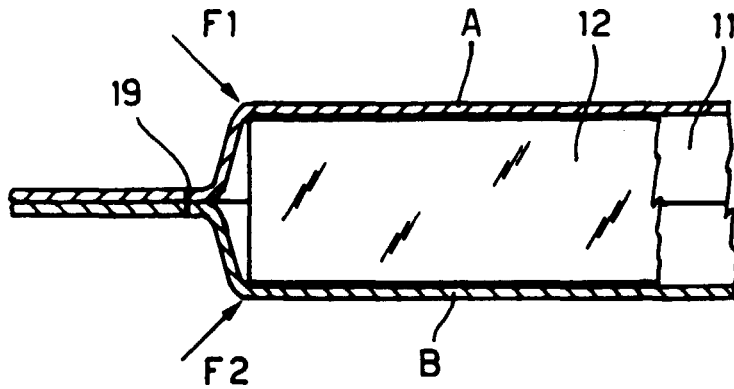


FIG. 4

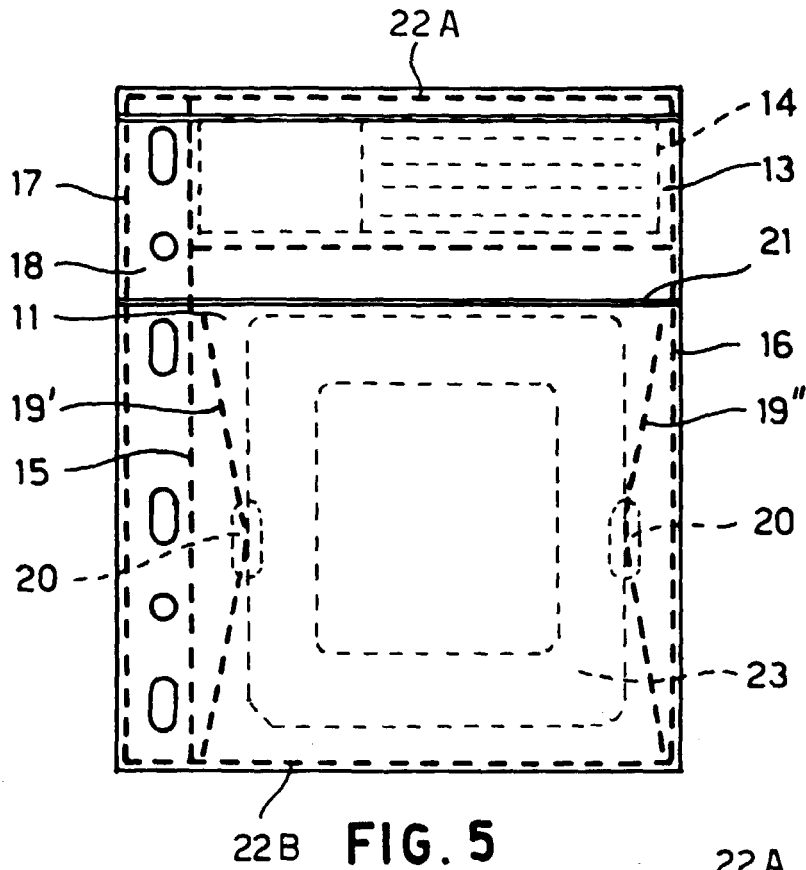


FIG. 5

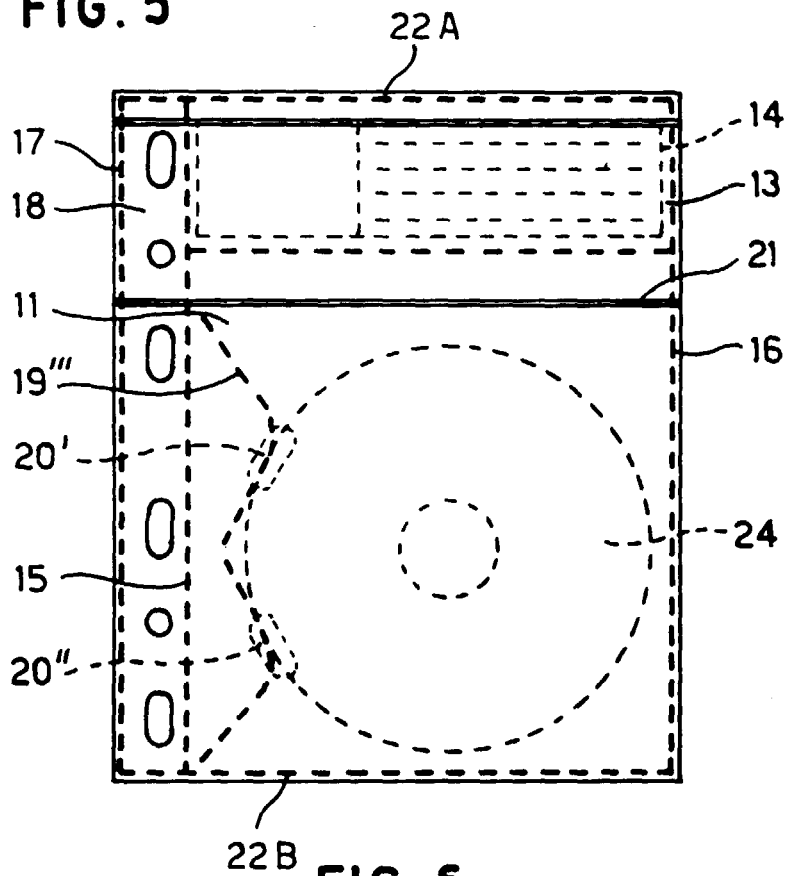


FIG. 6

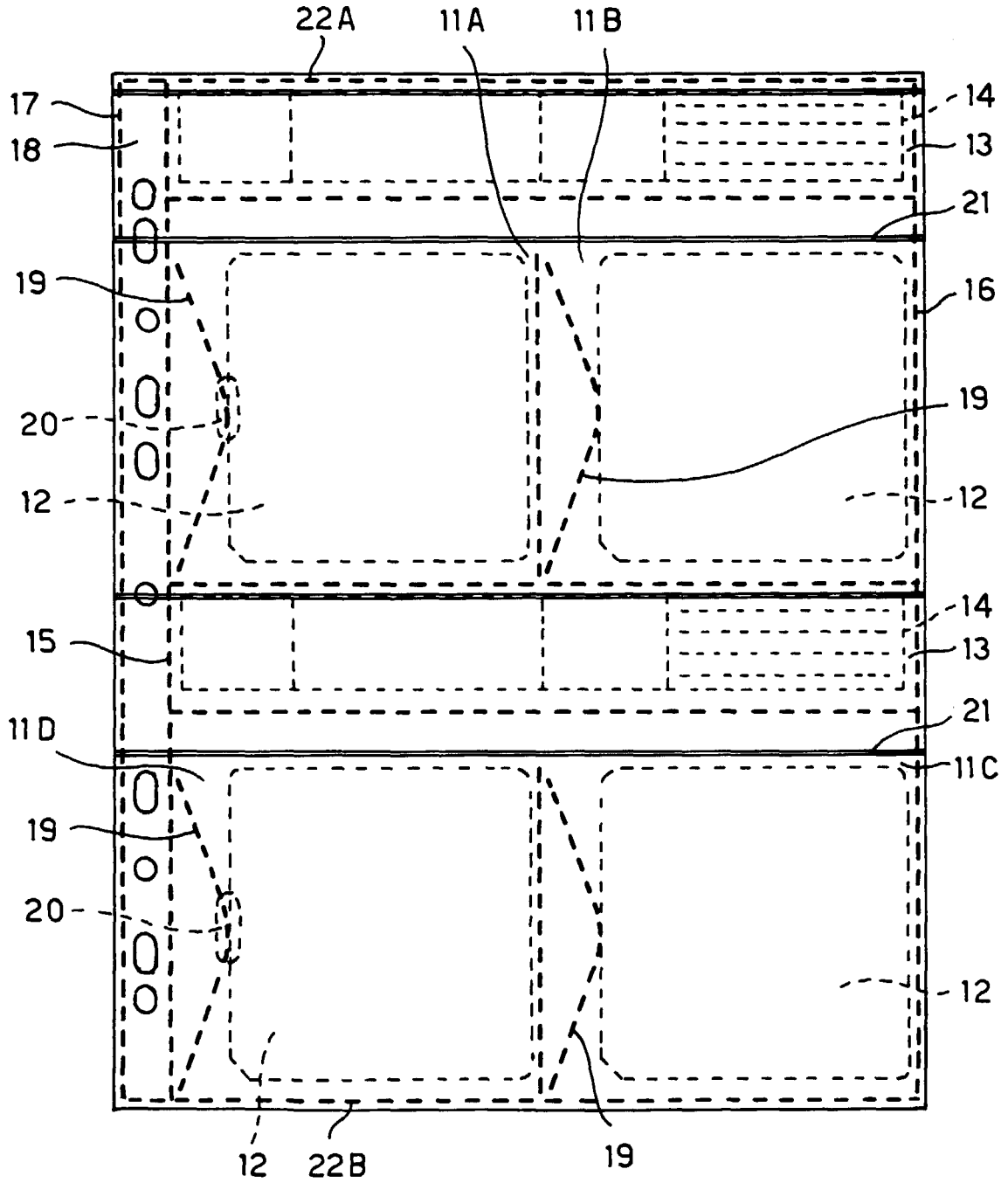


FIG. 7