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Remarks:
Claim .11... is deemed to be abandoned due to non-payment of the claims fee (Rule 31 (2) EPC).

(54) A ring binder

(57) A ring binder (100, 200, 300) adapted to be secured to a cover (112, 212, 312) is disclosed as comprising a substantially rigid upper plate member (102, 202, 302) supporting two pivotable lower plates (104a, 104b, 204a, 204b, 304a, 304b) to which a plurality of rings (106, 206, 306) are mounted, and at least a set of claws (108, 208, 308) integrally formed with the ring binder (100, 200, 300) and adapted to secure the ring binder (100, 200, 300) to the cover (112, 212, 312).

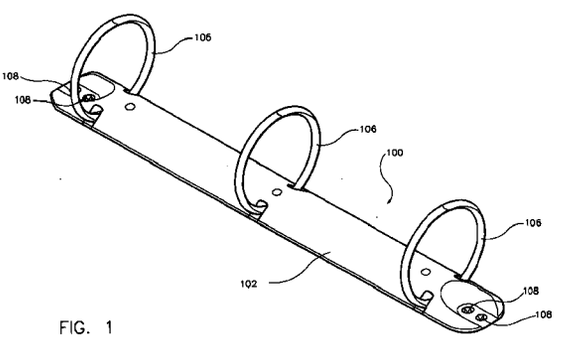

FIG. 1

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Description

This invention relates to a ring binder, and in particular a ring binder adapted to be secured by at least one securing means to a cover.

Conventionally, a ring binder is securable to a cover by at least one rivet having a head portion for engagement with the cover and a tail portion which is deformable to engage a recess in the upper part of the ring binder.

A disadvantage associated with such an arrangement is that it is necessary to manufacture and provide the assemblers with both the ring binders and correspondingly shaped and sized rivets suitable for securing the ring binder to the cover. Rivets of a wrong size or shape may be erroneously provided to the assemblers. The assembling process is also laborious and prone to error. In particular, if the riveting action is not properly carried out, the ring binder and/or the cover may be damaged.

It is therefore an object of the present invention to provide a ring binder in which the aforesaid shortcomings are obviated.

According to the present invention, there is provided a ring binder adapted to be secured to a base member, which ring binder comprises a substantially rigid upper structure supporting a pivotable lower structure to which a plurality of ring members are mounted, characterized in that the ring binder comprises at least one securing means integrally formed with the ring binder and adapted to secure the ring binder to the base member.

Advantageously, the securing means may be integrally formed with the upper structure.

The upper structure may conveniently slope downward at each end.

The securing means may advantageously be deformable to secure the ring binder to the base member.

Conveniently, the securing means may comprise a plurality of deformable securing members, each comprising a pointed element pointing downward from the upper structure.

Advantageously, the pointed elements may depend downward from the periphery of an opening in the upper structure and point outward from the central longitudinal axis of the opening, which may be substantially circular or hexagonal.

The invention will now be described by way of example with reference to the accompanying drawings wherein:-

Fig. 1 shows a top perspective view of a first embodiment of a ring binder according to the present invention;

Fig. 2 shows a bottom perspective view of the ring binder shown in Fig. 1;

Fig. 3 shows a top view of the ring binder shown in Fig. 1 with the rings removed;

Fig. 4 shows the sectional view along the line A-A' of the ring binder shown in Fig. 3;

Fig. 5 shows the sectional view along the line A-A" of the ring binder shown in Fig. 3 with rings and as secured to a base member;

Fig. 6 shows a partial bottom perspective view of the upper structure of the ring binder shown in Fig. 1;

Fig. 7 shows a top perspective view of a second embodiment of a ring binder according to the present invention;

Fig. 8 shows a bottom perspective view of the ring binder shown in Fig. 7;

Fig. 9 shows an end view of the ring binder shown in Fig. 7;

Fig. 10 shows a partial bottom perspective view of the upper structure of the ring binder shown in Fig. 7;

Fig. 11 shows a top view of the ring binder shown in Fig. 7 with the rings removed;

Fig. 12 shows a sectional view along the line B-B of the ring binder shown in Fig. 11 with rings and as secured to a base member;

Fig. 13 shows a top perspective view of a third embodiment of a ring binder according to the present invention;

Fig. 14 shows a bottom perspective view of the ring binder shown in Fig. 13;

Fig. 15 shows a top view of the ring binder shown in Fig. 13 with the rings removed;

Fig. 16 shows a sectional view along the line C-C of the ring binder shown in Fig. 15;

Fig. 17 shows a partial bottom perspective view of the upper structure of the ring binder shown in Fig 13; and

Fig. 18 shows a sectional view along the line D-D of the ring binder shown in Fig. 15 with rings and as secured to a base member.

As shown in Figs. 1 and 2, a ring binder according to the present invention generally designated as 100 includes a substantially rigid upper plate member 102

supporting a pair of pivotable lower plates 104a and 104b. The lower plates 104a and 104b are pivotably movable relative to each other to enable rings 106 to be selectively opened or closed in the conventional manner.

At each end of the ring binder 100 are two sets of claws 108. As shown more clearly in Figs. 3 to 6, the claws 108 are integrally formed with the upper plate member 102. The claws 108 are pushed out from the upper plate member 102 and apertures 110, shown in Fig. 3 as substantially hexagonal, are formed. The claws 108 extend downward from the upper plate member 102 and outward from the longitudinal axis of the aperture 110. The claws 108 are shown in Fig. 5 as pressed into a, e.g., cardboard cover 112. As the claws 108 are splayed out in the pressing process, the connection between the ring binder 100 and the cover 112 is further enhanced.

Turning to Figs. 7 and 8, a second embodiment of a ring binder according to the present invention is shown as generally designated as 200. Similar to the first embodiment described above, the ring binder 200 includes a substantially rigid upper plate member 202 supporting a pair of pivotable lower plates 204a and 204b. The lower plates 204a and 204b are pivotably movable relative to each other to enable rings 206 to be selectively opened or closed in the conventional manner.

At each end of the ring binder 200 are two sets of claws 208. As shown more clearly in Figs. 9 to 12, the claws 208 are integrally formed with the upper plate member 202. The claws 208 are pushed out from the upper plate member 202 and apertures 210, shown in Fig. 11 as substantially circular, are formed. The claws 208 extend downward from the upper plate member 202 and outward from the longitudinal axis of the aperture 210. The claws 208 are shown in Fig. 12 as pressed into a, e.g., cardboard cover 212. As the claws 208 are splayed out in the pressing process, the connection between the ring binder 200 and the cover 212 is further enhanced.

Figs. 13 and 14 show a third embodiment of a ring binder according to the present invention generally designated as 300. Similar to the two embodiments described above, the ring binder 300 includes a substantially rigid upper plate member 302 supporting a pair of pivotable lower plates 304a and 304b. The lower plates 304a and 304b are pivotably movable relative to each other to enable rings 306 to be selectively opened or closed in the conventional manner.

At each end of the ring binder 300 are two sets of claws 308. As shown more clearly in Figs. 15 to 18, the claws 308 are integrally formed with the upper plate member 302. The claws 308 are pushed out from the upper plate member 302 and apertures 310 are formed. The claws 308 extend downward from the upper plate member 302 and outward from the longitudinal axis of the aperture 310. The claws 308 are shown in Fig. 18 as pressed into a, e.g., cardboard cover 312. As the claws 308 are splayed out in the pressing process, the connection between the ring binder 300 and the cover 312 is further enhanced.

It is clear from the foregoing that this invention dispenses with the use of any rivet, which necessitates a separate riveting step in the assembling process. The existence of rivets may also hurt workers and/or users. The absence of any rivet on the outer surface of the cover also helps improve the appearance of the cover. It is also found that such an arrangement can withstand a pulling force of 80 lbs. before the ring binder is detached from the cover.

It should be understood that the above only illustrates, by way of examples, ways in which this invention may be performed and that modifications may be made thereto without departing from the spirit of the invention. For example, each end of the ring binder may comprise one or three sets of claws, as different circumstances may require.

Claims

1. A ring binder adapted to be secured to a base member, which ring binder comprises a substantially rigid upper structure supporting a pivotable lower structure to which a plurality of ring members are mounted CHARACTERIZED IN THAT the ring binder comprises at least one securing means integrally formed with the ring binder and adapted to secure the ring binder to the base member.

2. A ring binder according to Claim 1 further characterized in that the securing means is integrally formed with the upper structure.

3. A ring binder according to Claim 1 or 2 further characterized in that the upper structure slopes downward at each end.

4. A ring binder according to Claim 1, 2 or 3 further characterized in that the securing means is deformable to secure the ring binder to the base member.

5. A ring binder according to any of the preceding claims further characterized in that the securing means comprises a plurality of deformable securing members.

6. A ring binder according to Claim 5 further characterized in that the securing member comprises a pointed element pointing downward from the upper structure.

7. A ring binder according to Claim 6 further characterized in that the pointed elements depend downward from the periphery of an opening in the upper structure.

8. A ring binder according to Claim 7 further charac-

terized in that the pointed elements point outward from the central longitudinal axis of the opening.

9. A ring binder according to Claim 7 or 8 further characterized in that the opening is substantially circular.

10. A ring binder according to Claim 7 or 8 further characterized in that the opening is substantially hexagonal.

11. A ring binder substantially as herein described and with reference to the accompanying drawings.

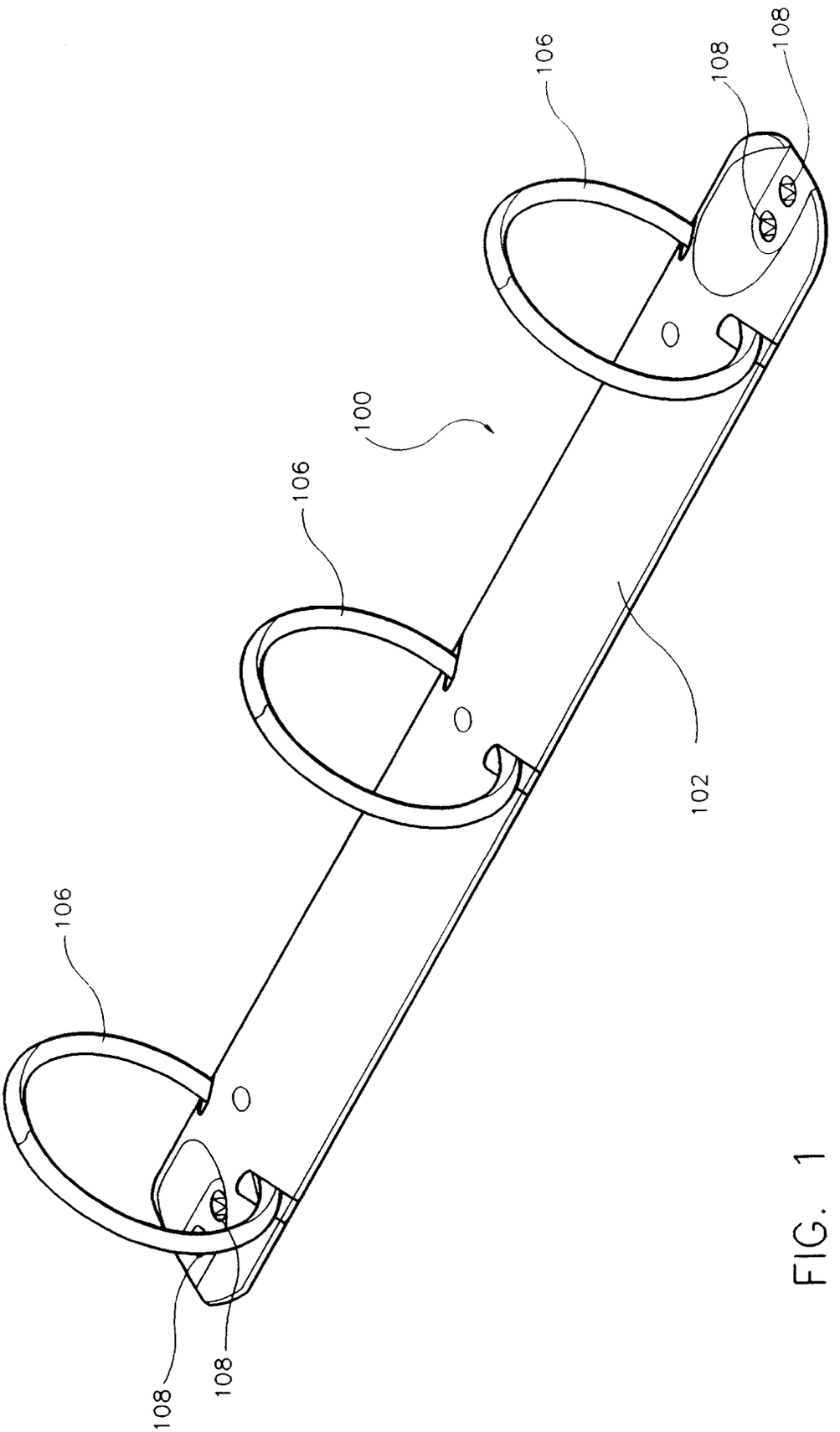

FIG. 1

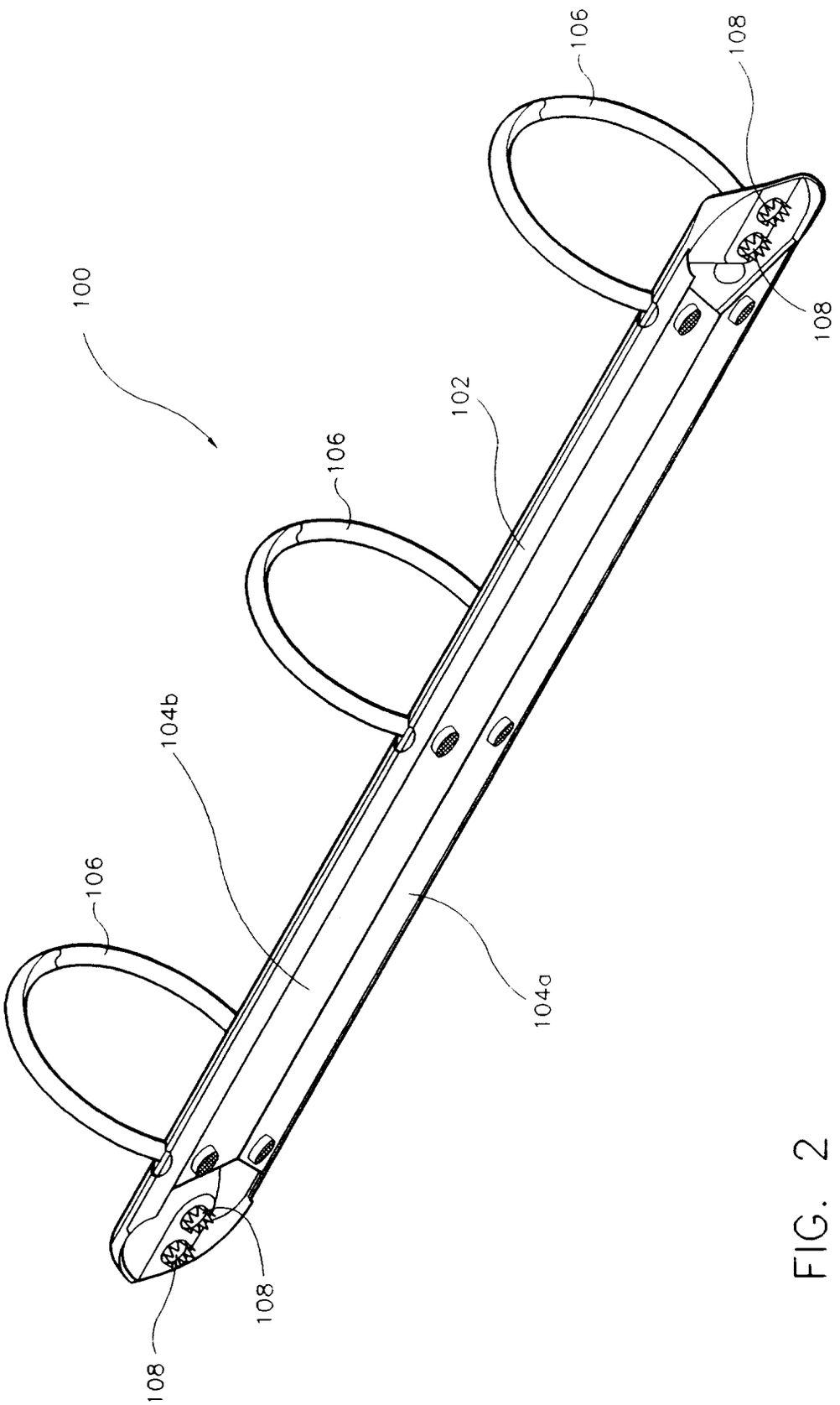

FIG. 2

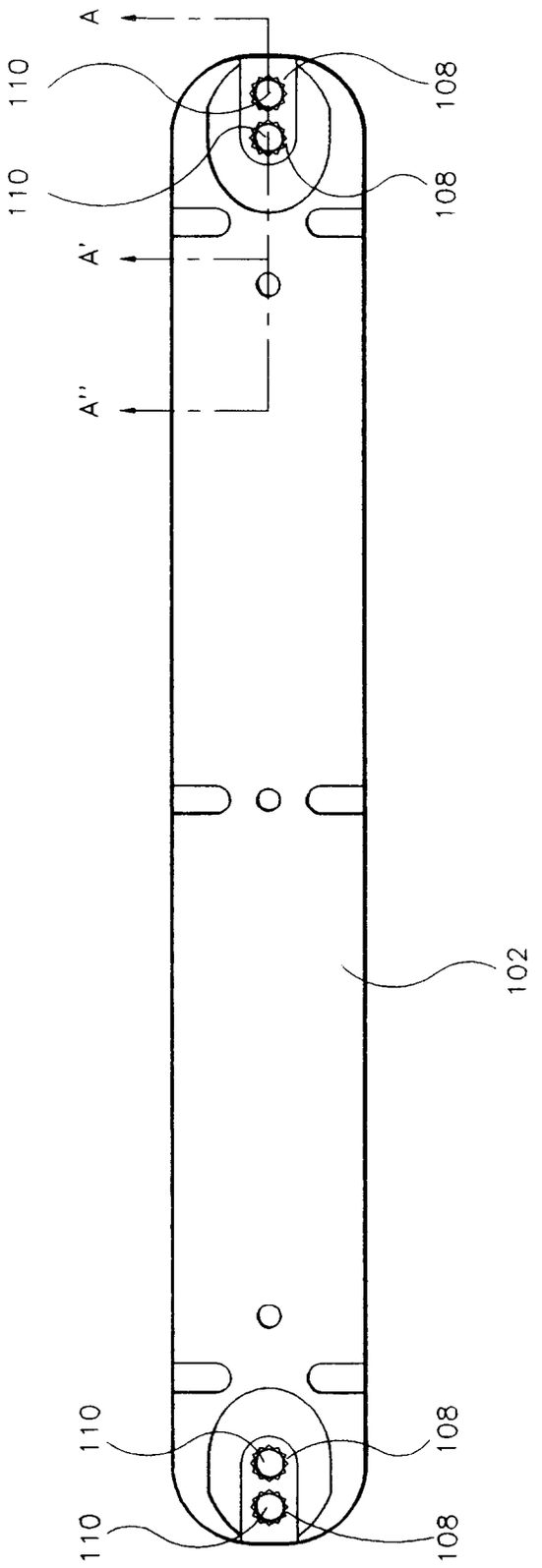

FIG. 3

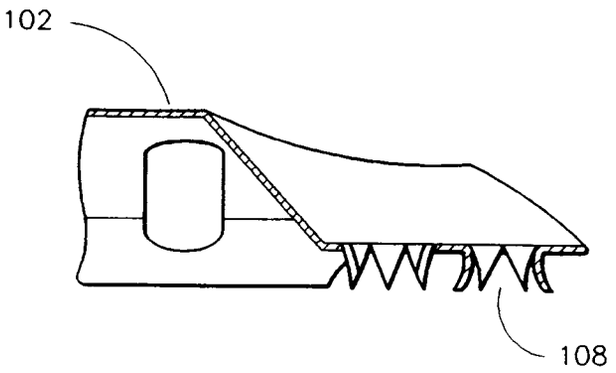

FIG. 4

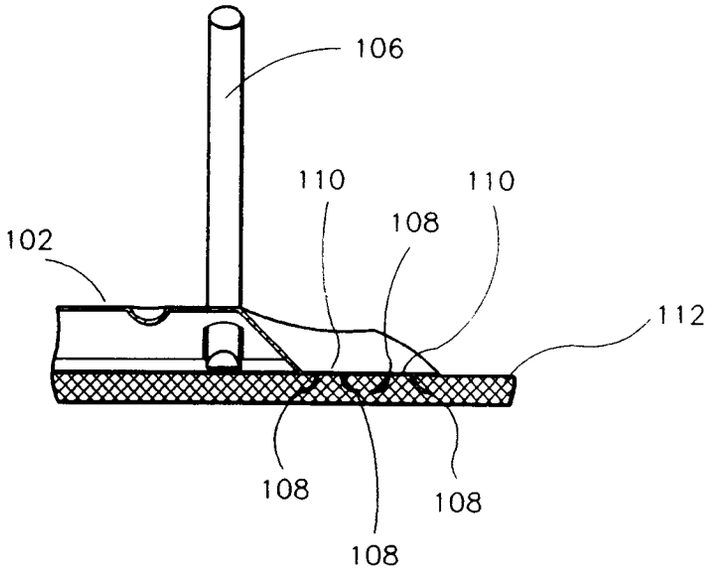

FIG. 5

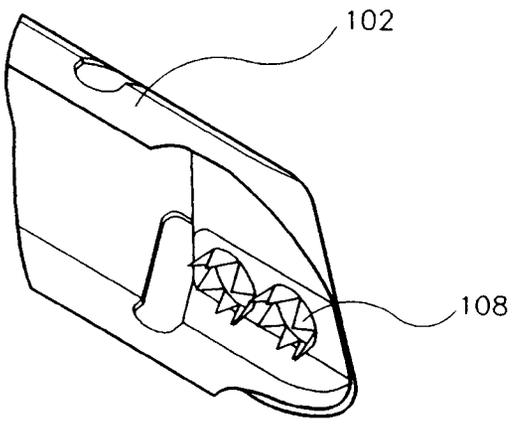

FIG. 6

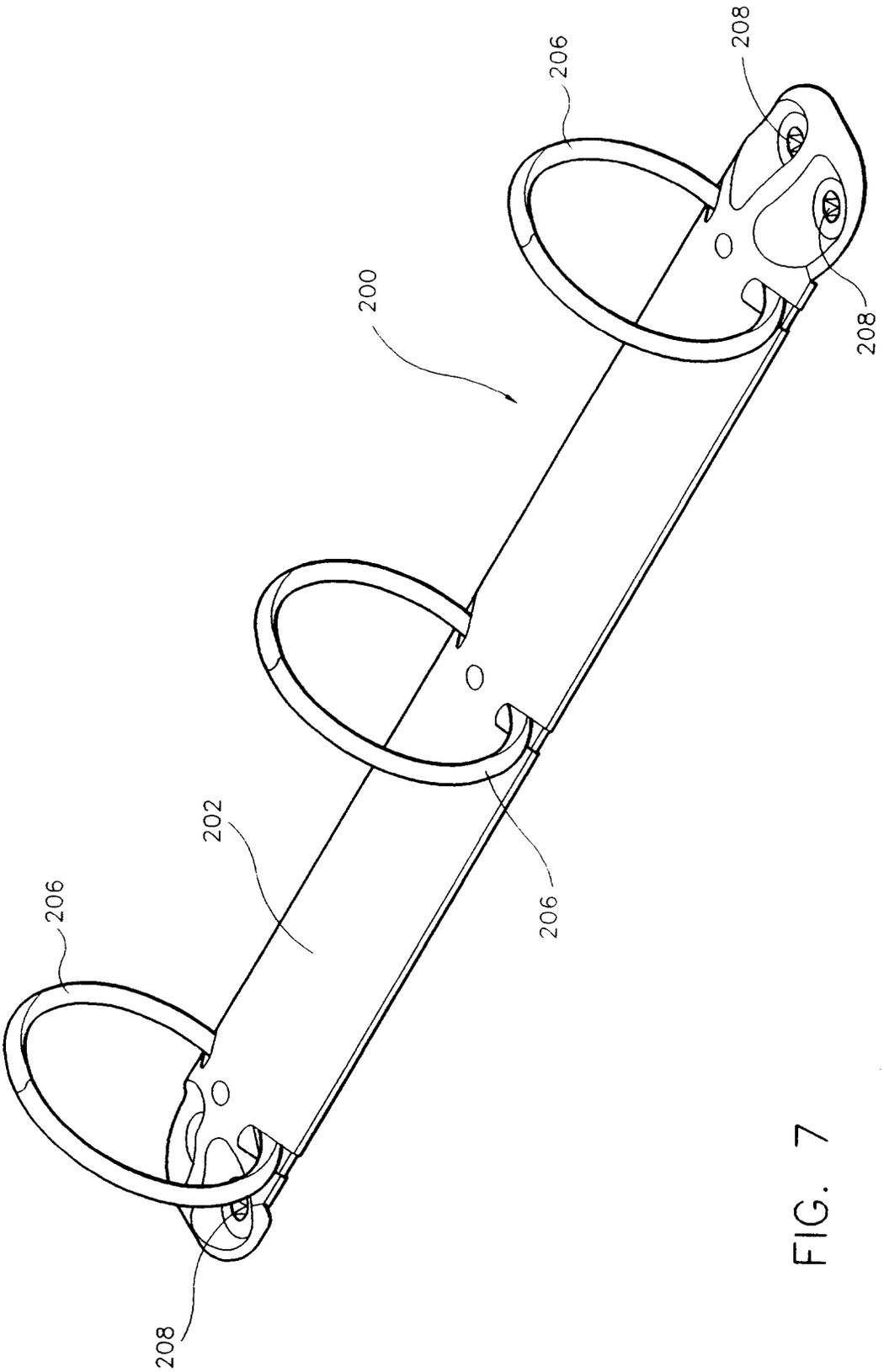

FIG. 7

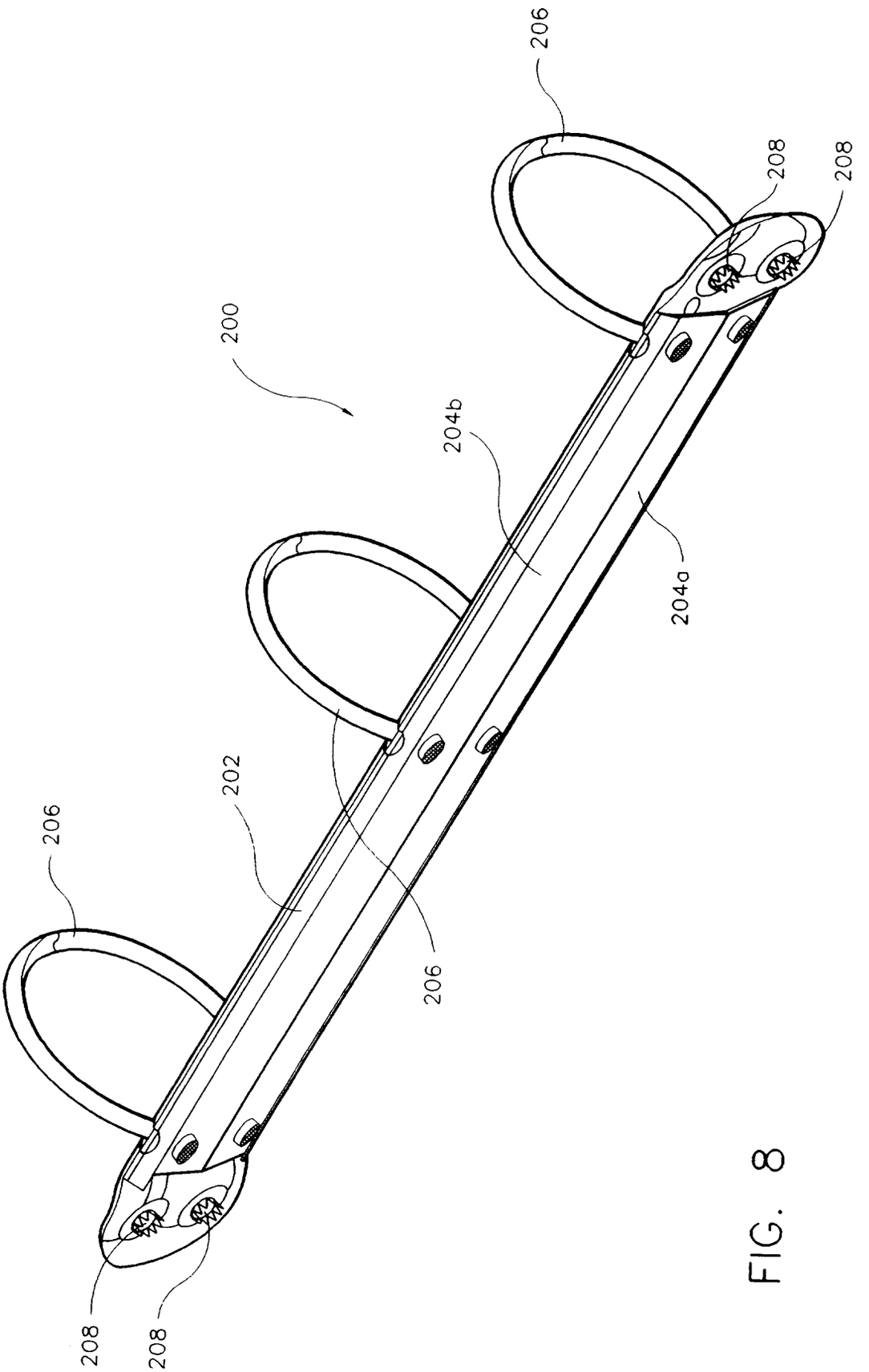

FIG. 8

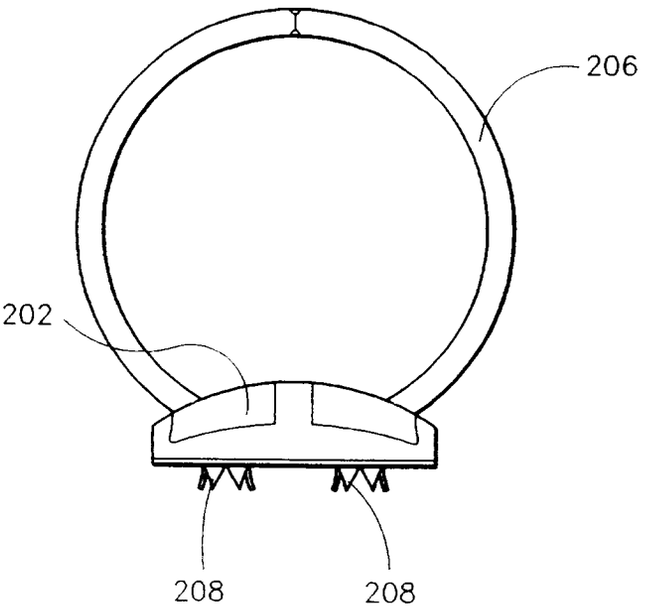

FIG. 9

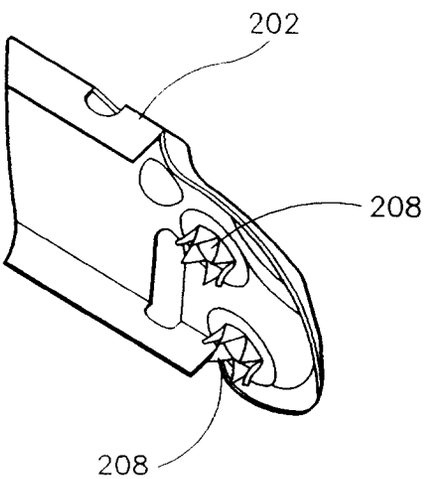

FIG. 10

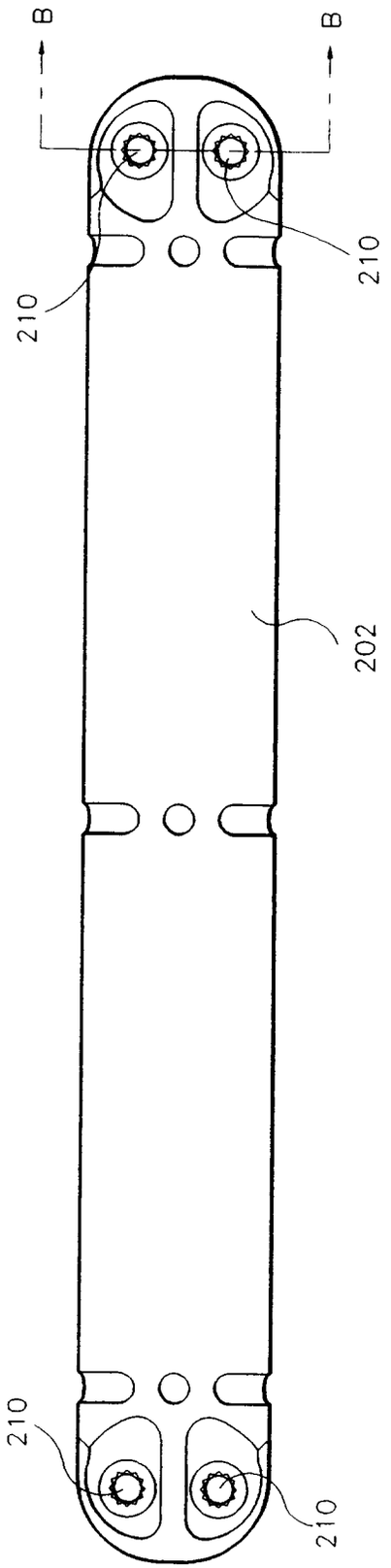

FIG. 11

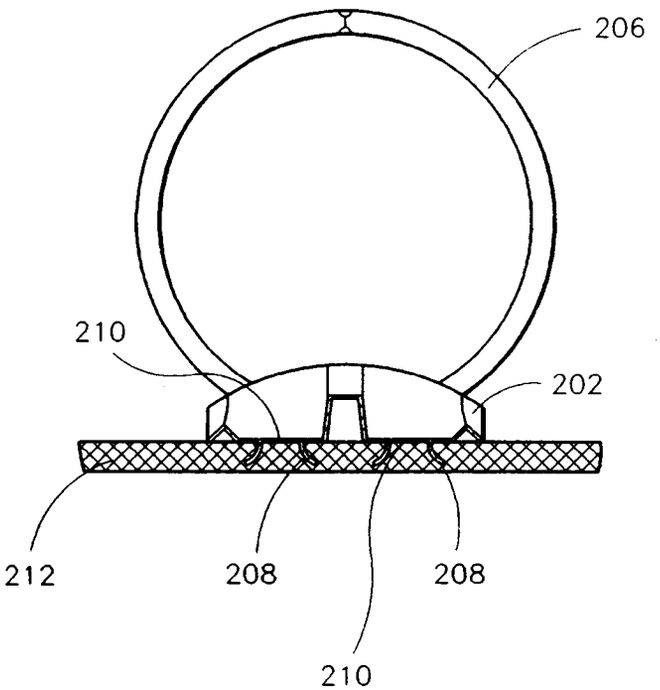

FIG. 12

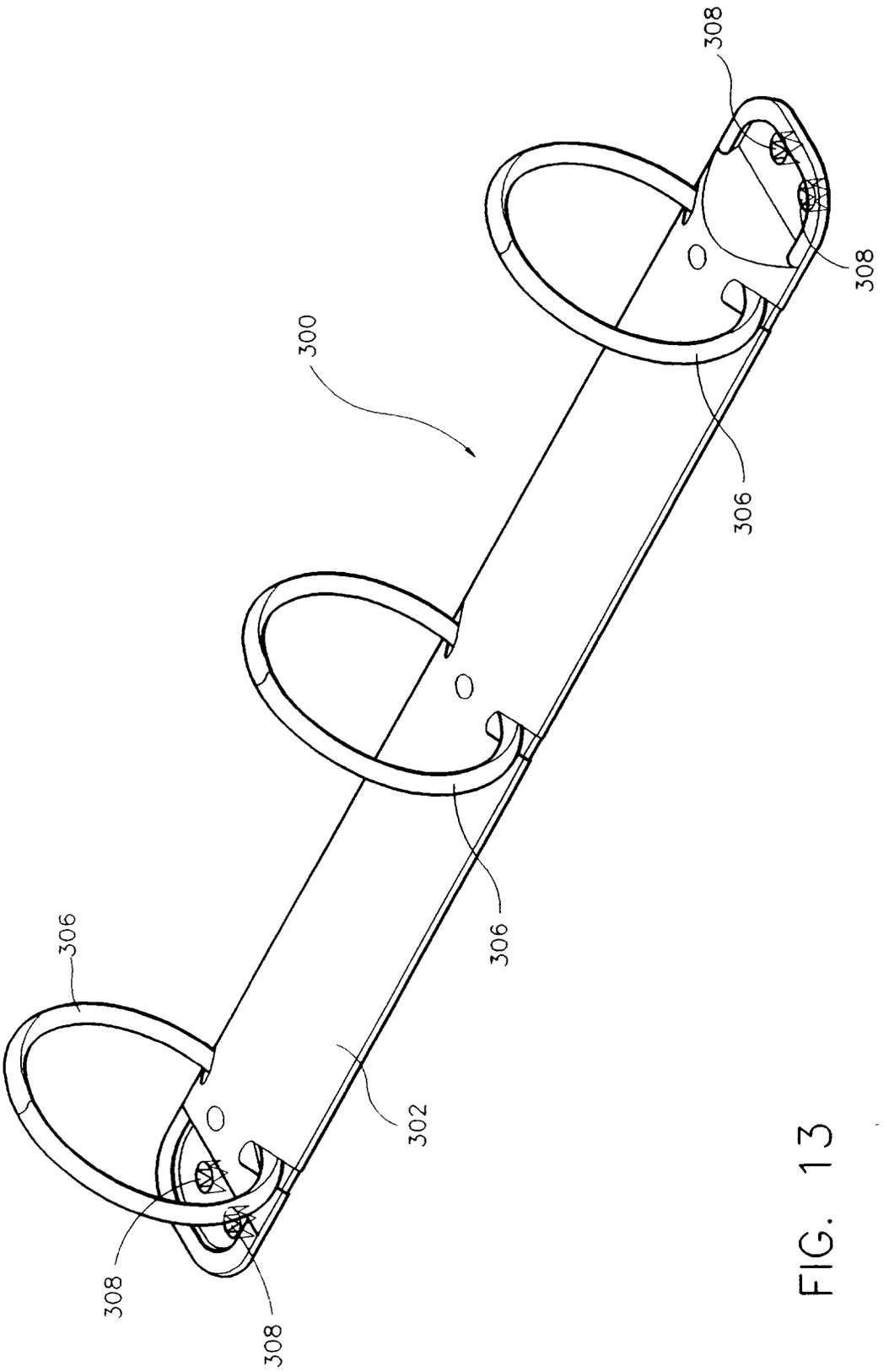

FIG. 13

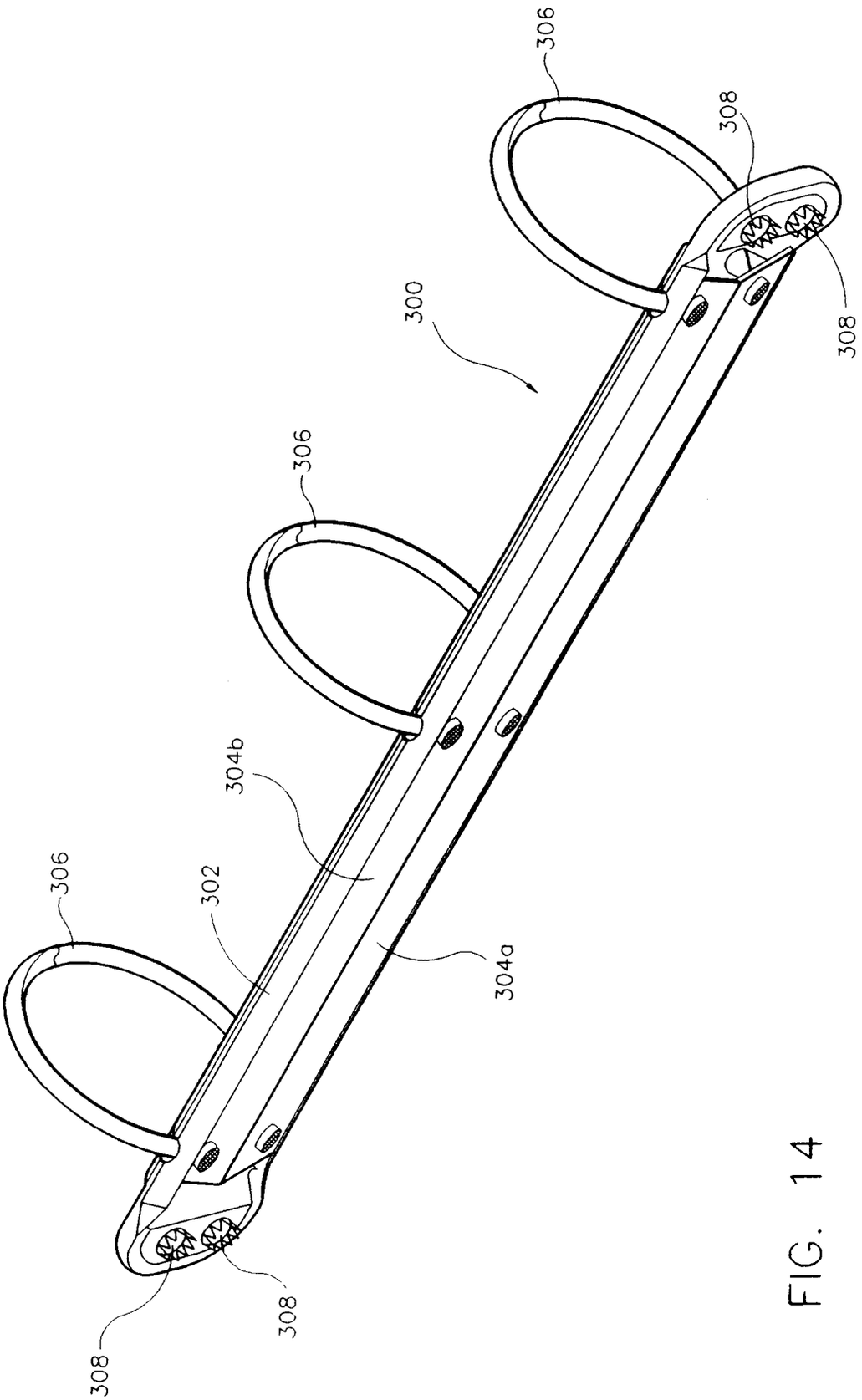

FIG. 14

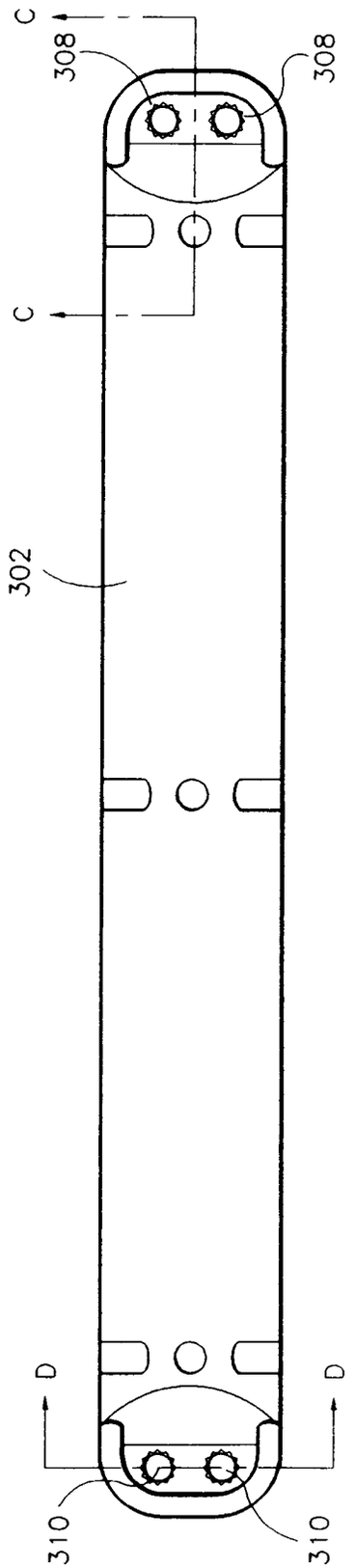

FIG. 15

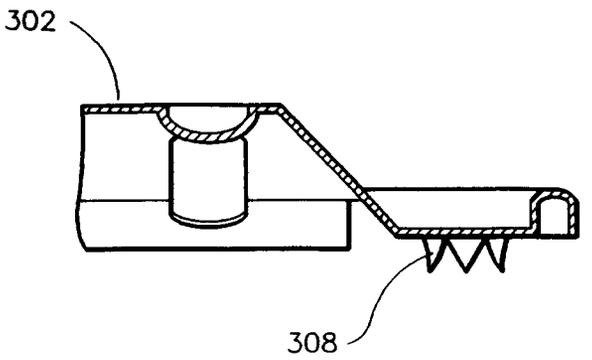

FIG. 16

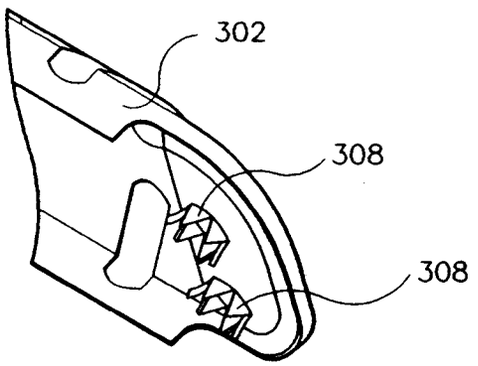

FIG. 17

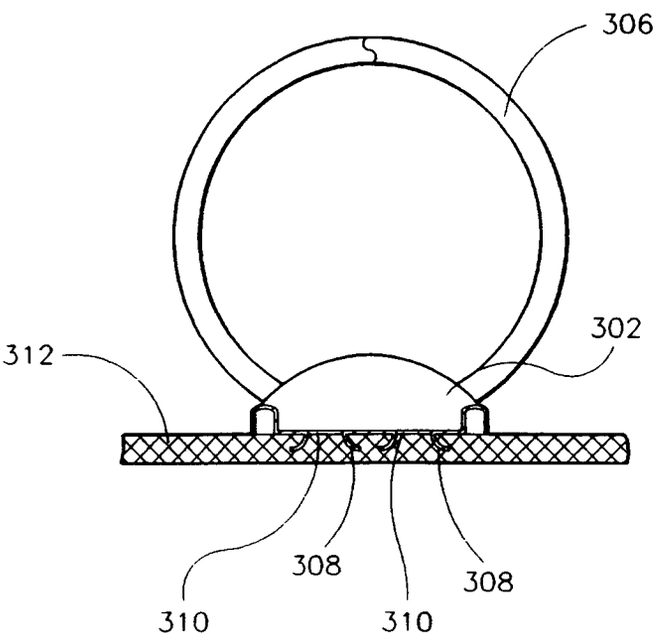

FIG. 18

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 95 30 6659

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
A	EP-A-0 226 297 (MAJESTIC INDUSTRIES) * page 9, line 6 - line 16; figures 1-7 *	1,3,5,6	B42F13/26
A	US-A-5 160 209 (ROBERT F. SCHLUESSLER) * column 6, line 65 - column 7, line 35; figures 1-3 *	1,4-9	
A	FR-A-1 059 589 (HERTSCHUH) * the whole document *	1	
A	GB-A-105 206 (BEESON) * the whole document *	1	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)
B42F

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	23 April 1996	Loncke, J

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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L : document cited for other reasons

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