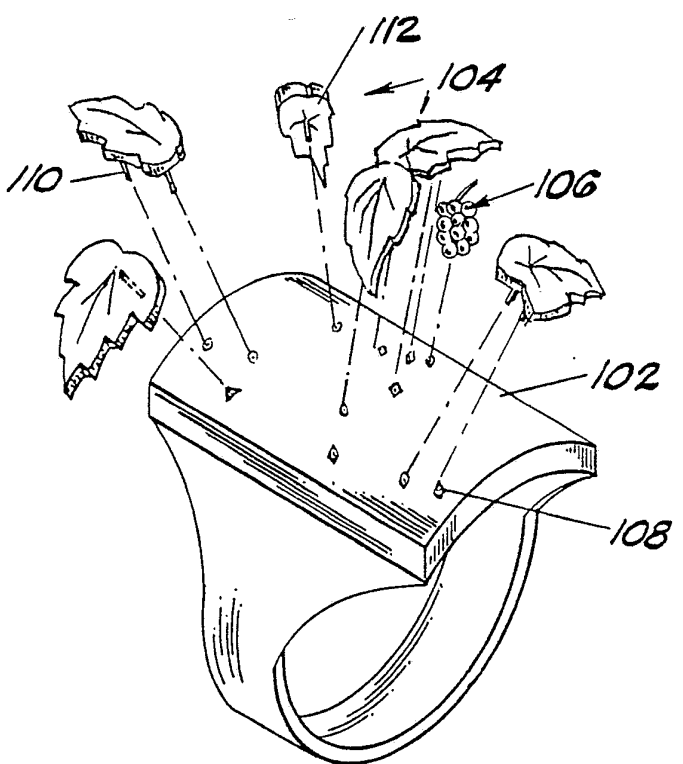




INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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<p>(54) Title: COSTUME JEWELRY</p>		
<p>(57) Abstract</p> <p>The present invention relates to a method of making a costume jewelry equivalent of jewelry bearing colored leaves (104) and grapes (106) on its surface. The method involves the forming of a brass base (100) and ornaments both being formed with connecting parts for easy assemblage. The connecting parts comprise studs (110) and corresponding openings (108). The base (100) is plated in gold. The ornaments are etched and plated in a gold alloy, and the ornaments and base (100) are then connected together.</p>  <p>The drawing shows a perspective view of a costume jewelry piece, likely a ring or bracelet, with a curved base (100). Several ornamental components are attached to the base. These include leaves (104) and a cluster of grapes (106). The components are connected to the base via studs (110) and openings (108). A central part of the base is labeled 102, and a curved section at the bottom is labeled 108.</p>		

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COSTUME JEWELRYBackground

Black Hills Gold jewelry is believed to have first been made more than 100 years ago when prospectors came to the Black Hills of South Dakota.

5 The jewelry was and is comprised of a base of gold which is connected to leaves and grapes made from an alloy of gold. The alloying of these ornamental pieces causes them to be pink, yellow and green in color.

10 To create the ornamental leaves and grapes, twenty-four karat gold is used and combined with a special formulation of other metals to create alloys having distinctive colors. The alloy is flattened into a sheet and the sheets stamped out into leaves, 15 grape clusters, and ring shanks. Some of the designs require the use of a process known as "lost wax" casting. For each piece of jewelry to be cast, a model is made to exact specifications. A rubber mold is then created from the model and hot wax is 20 injected into the mold. The wax patterns are mounted on a rubber base and surrounded by a stainless steel cylinder. A plaster-like material then called an "investment" is poured around the wax patterns. The cylinder is next placed into an oven and baked long 25 enough to melt the wax and create a cavity that is the exact duplicate of the original pattern. The cavity is then injected with molten gold.

When all the parts for a piece of jewelry are ready, a trained craftsperson solders them together 30 with a gold solder. The solder must be carefully placed to secure the parts together without

detracting from the design of the jewelry.

After soldering, the piece of jewelry is electroplated and the alloyed gold, which is generally pink, or green is textured to give it a frosty appearance. The texturing step removes the
5 twenty-four karat yellow gold plating from the pink and green leaves allowing the true colors to come through.

Finally, a skilled engraver details the leaves and grapes with hand engraving tools. The result is a beautiful piece of jewelry that has taken a great deal of time to produce and which as a result, is relatively expensive to purchase. The present invention discloses a method of producing a piece of
10 jewelry that is as attractive as that described above, but which omits the necessity of employing a skilled craftsperson to attach the ornaments to the jewelry. It also discloses a process by which the jewelry base and leaves are formed of brass. The
15 base is plated with yellow gold, the ornamental leaves are etched and plated in green or rose alloy. Then the ornaments are attached to the jewelry base. This process is less time consuming and less costly resulting in a less expensive product. The present
20 invention yields a piece of jewelry that is the costume jewelry equivalent of the "Black Hill's Gold Creations. (Black Hills Gold Creations is a registered trademark.)

It is notable that ornaments have been
30 attached to jewelry by means of threaded studs or swedging. While these techniques also eliminate the need of a skilled craftsperson for the soldering of the ornaments to the jewelry base, they result in a poor, nondurable means of attachment. The threaded
35 studs, through time, turn their way free of the

jewelry base as the jewelry is exposed to natural jarring and mishandling during wear or storage. The swedged attachment similarly fails, as the widened stud wears free due again to frictional movement of the ornaments with respect to the jewelry base. These failings are not evident in the attachment means disclosed herein.

Summary of the Invention

The present invention includes the method of forming a piece of jewelry comprising the steps of: forming a brass base defining at least one opening, the opening having a cross sectional shape; forming at least one brass ornament defining at least one connecting means in its surface, the connecting means having a cross sectional shape corresponding to the cross sectional shape of the opening for tight engagement therewith; etching at least the ornaments; plating with a gold alloy at least the brass ornament; plating with gold the brass base; inserting the connecting means in the opening to connect the ornament to the base; and connecting the connecting means within the opening.

Description of the Drawings

Figure 1 is a perspective view of a piece of costume jewelry.

Figure 2 is a cross-section of Figure 1 showing a first embodiment of the means of connecting the jewelry base to the top ornamentation.

Figure 3 is an exploded view of Figure 1.

Figure 4 is a second embodiment of a cross-sectional view of Figure 1 taken along line 2-2 disclosing the means of connecting the jewelry base to the top ornamentation.

Figure 5 is an exploded view of Figure 1 showing a third embodiment for connecting the jewelry base to the top ornamentation.

Figure 6 is a perspective view of the underside of one of the ornaments shown in Figure 5.

Detailed Description

Referring to Figure 1, a piece of costume jewelry is shown which has been made in accordance with the present invention. This piece of costume jewelry consists of three parts. The first part is the base 100. Base 100 is a ring made of brass that is preferably cast to have a standard circumferential inner surface 101 for fitting around one's finger, an outer surface 103, and a top support section 102 formed in outer surface 103, for carrying ornamental leaves 104 and grapes 106. After being cast, it is polished and plated in gold.

Top support 102, as better seen in Figures 2, 3, and 4, is formed with a plurality of openings 108. As shown in Figure 2, openings 108 may extend completely through top support 102 to inner surface 101, or as shown in Figure 4, a second embodiment, openings 108 may extend only partially through top support 102. Further, and as shown by way of example only in Figure 3, openings 108 may be circular, oblong, hexagonal, square, round, or any other shape. Figure 3 discloses but a few shapes available. The choice of shape will facilitate the solid attachment of the ornaments to the jewelry base as is discussed in more detail further on herein.

The second major portion of Figure 1 consists of ornamental leaves 104 and grapes 106 each having faces 109, sides 111, and undersides 112. These decorative pieces are cast of brass, hand cut in

design, and then plated in a gold alloy to give them their distinctive green, or pink color or plated in gold for a yellow color. Preferably, leaves 104 and grapes 106 are formed with studs 110 on undersides 112. As shown in Figures 3 and 4, each leaf or grape underside 112 may be formed with one and preferably with two or more studs 110, the studs 110 conforming in cross section to the cross section of openings 108 for fitting engagement therewith. If only one stud is used, it is preferable that it be noncircular in cross section to facilitate its gripping engagement with an opening 108 of corresponding shape.

Studs 110 comprise the third major portion of the present invention. By being formed as a part of leaves 104 and grapes 106, they are strongly connected thereto. The cross section of studs 110 correspond with the shape of openings 108 for tight engagement therewith and are of sufficient length to enter and form a good connecting relationship with opening 108. These features can be seen clearly in Figures 2 and 4.

To attach leaves 104 and grapes 106 to top support 102, studs 110 are inserted into opening 108. Prior to this insertion step, a small amount of glue, solder or other adhesive material is preferably used to secure openings 108 and studs 110 together. Undersides 112 then face generally top support 102. This manner of attachment is much less time consuming than the method of gold soldering used in traditional jewelry of this nature in that it avoids the necessity of finding a skilled craftsman to solder leaves 104 or grapes 106 to top support 102 so that the aesthetic appearance of the jewelry is not marred. Because of this simple means of attachment, the piece of jewelry can be mass produced and sold at

a substantially lesser price.

Figure 5 discloses a third embodiment of the present invention. Here, base 100 is preferably molded such that tip support 102 includes studs 110. Shown in Figure 5 by way of example only, studs 110 may take on various configurations. In Figure 5 and as better seen in Figure 6, underside 112 of leaf 104 is cast with at least one and preferably two or more openings 108 for receipt of a corresponding number of studs 110. Again, openings 108 correspond in cross section to studs 110 for solid engagement therewith. To connect leaf 108 to top support 102, the stud 110 is inserted into opening 108. Preferably glue, solder or other adhesive material is first placed on the stud or in the opening to secure opening 108 and stud 110 together.

As discussed with regard to Figures 1 through 4, the jewelry shown in Figures 5 and 6 is initially cast of brass. The base is then polished and plated in yellow gold. The leaves and grapes are etched after casting and then plated in green or rose gold.

The foregoing description and drawings are meant for example only. The present invention contemplates the formation of other pieces of jewelry, such as earrings, necklaces, pendants, pins, cuff links and the like. It also contemplates other decorative pieces being attached to top support 102. Some examples might be stones, gems and various other shaped metal alloys, such as flowers, butterflies, and appealing aesthetic designs. As noted earlier herein, while it is preferable to form the aesthetic attachments, such as leaves 104 and grapes 106 with studs 110 or support 102 with studs 110, it is equally in the contemplation of the present invention that studs 110 be formed separately and then attached

to these pieces. Also as mentioned earlier, various cross sectional shapes of the studs and openings may be used to better facilitate the firm and long lasting connection between top support 102 and decorative ornaments 104 and 106. Further, while it is shown to form the grapes separately of the base, the base can be cast to include the grapes so that they need not be separately attached. In such a case, the grapes are plated with gold along with the base. Finally, etching the base before plating it with gold is also contemplated within this invention.

The following is claimed:

CLAIMS

1. A piece of jewelry comprised of:
a base defining at least one opening in its
surface, said opening having a cross sectional shape;
at least one ornament for attachment to said
5 base; and
connecting means, said connecting means being
integral of said ornament and having a cross section
corresponding to that of said opening such that upon
insertion of said connecting means into said opening
10 said ornament is attached to said base.
2. The piece of jewelry of claim 1 further
including solder for permanently securing said
connecting means within said opening.
3. The piece of jewelry of claim 1 further
15 including adhesive means for permanently securing
said connecting means within said opening.
4. The piece of jewelry of claim 1 wherein
said connecting means is one stud.
5. The piece of jewelry of claim 4 wherein
20 said connecting means is noncircular in cross
section.
6. The piece of jewelry of claim 1 wherein
said opening is noncircular in cross section.
7. The piece of jewelry of claim 1 wherein
25 said base includes a first surface and a second

opposing surface, said openings being defined in said first surface and extending through to said second surface.

8. The piece of jewelry of claim 7 wherein
5 said connecting means extends from said first surface to said second surface through said openings.

9. The piece of jewelry of claim 8 further including solder to secure said connecting means within said openings.

10 10. The piece of jewelry of claim 8 further including adhesive means to secure said connecting means within said openings.

11. The piece of jewelry of claim 1 wherein said base is gold plated brass and wherein said
15 ornaments are gold alloy plated brass.

12. A piece of jewelry comprised of:
a base defining at least connecting means in its surface, said connecting means having a cross sectional shape; and
20 at least one ornament for attachment to said base, said ornament defining in its surface at least one opening for receiving said connecting means, said opening having a cross sectional shape corresponding to that of said connecting means for tight engagement
25 therewith;

such that upon insertion of said connecting means into said opening, said ornament is attached to said base.

13. The piece of jewelry of claim 11 further
30 including adhesive means for permanently securing

said connecting means within said opening.

14. The piece of jewelry of claim 11 wherein said connecting means is one stud.

5 15. The piece of jewelry of claim 14 wherein said connecting means is noncircular in cross section.

16. The piece of jewelry of claim 11 wherein said opening is noncircular in cross section.

10 17. The piece of jewelry of claim 11 further including adhesive to secure said connecting means within said openings.

18. The piece of jewelry of claim 11 further including solder to secure said connecting means within said openings.

15 19. The piece of jewelry of claim 15 further including solder to secure said connecting means within said openings.

20 20. The piece of jewelry of claim 15 further including adhesive means to secure said connecting means within said openings.

21. The piece of jewelry of claim 11 wherein said base is gold plated brass and said ornament is gold alloy plated brass.

25 22. The method of forming a piece of jewelry comprising the steps of:

forming a brass base defining at least one opening in its surface, said opening having a cross

sectional shape;

forming at least one brass ornament defining
at least one connecting means in its surface, said
connecting means having a cross sectional shape
5 corresponding to that of said cross sectional shape
of said opening for tight engagement therewith;

etching at least said ornaments;

plating with a gold alloy at least said brass
ornament;

10 plating with gold at least said base; and
inserting said connecting means in said
opening to connect said ornament to said base.

23. The method of forming a piece of jewelry
comprising the steps of:

15 forming a brass base defining at least
one opening in its surface said opening having a
cross sectional shape;

forming at least one brass ornament defining
at least one connecting means in its surface, said
20 connecting means having a cross sectional shape
corresponding to that of said cross sectional shape
of said opening for the tight engagement therewith;
and

25 inserting said connecting means in said
opening to connect said ornament to said base.

24. The method of claim 22 further including
the step of soldering said connecting means within
said opening.

25. The method of claim 22 further including
30 the step of using an adhesive to secure said
connecting means within said opening.

26. The method of claim 23 further including the step of soldering said connecting means within said opening.

27. The method of claim 23 further including
5 the step of using an adhesive to secure said connecting means within said opening.

28. The method of claim 23 wherein in said
step of forming said base, said base is cast and
wherein in said step of forming said ornaments said
10 ornaments are cast.

29. The method of claim 23 wherein in said
step of forming said base, said base includes at
least one ornament.

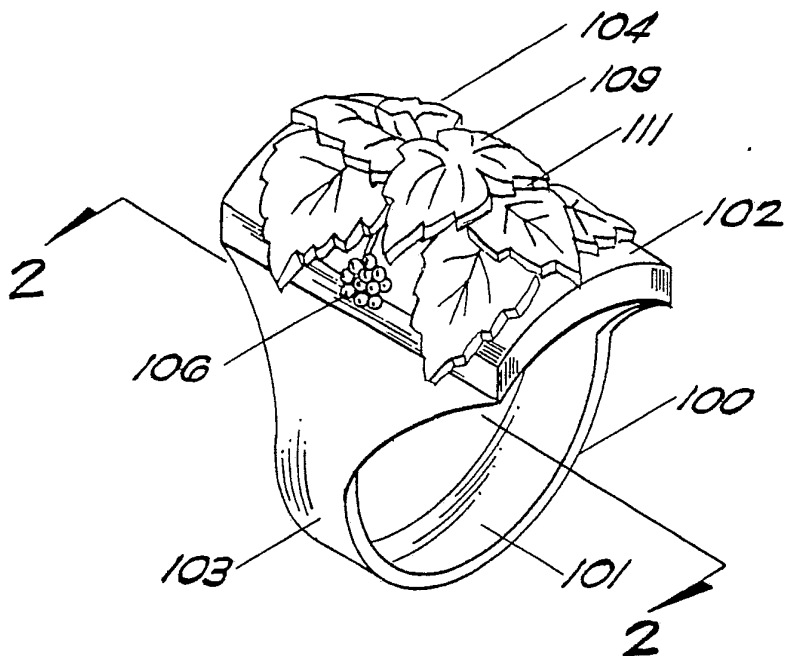


FIG. 1

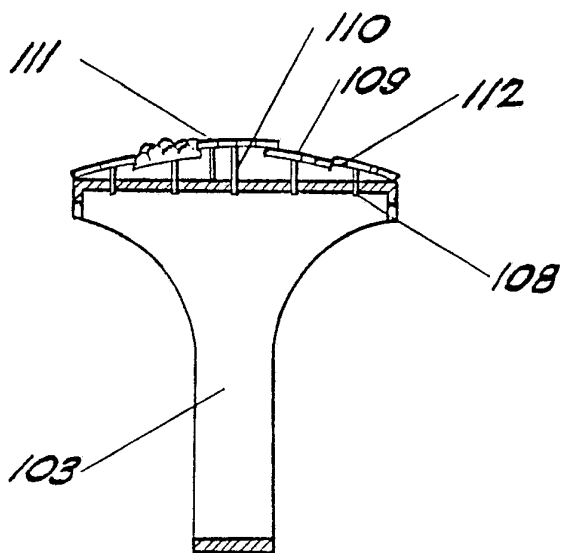


FIG. 2

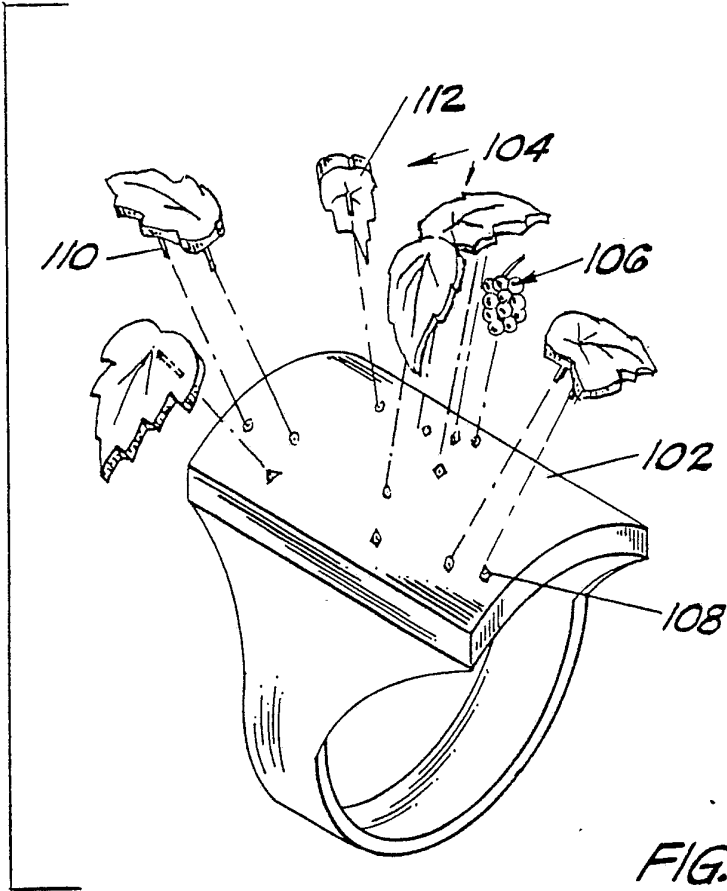


FIG. 3

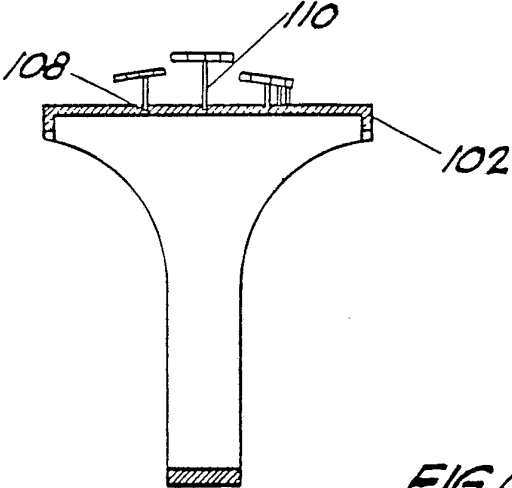


FIG. 4

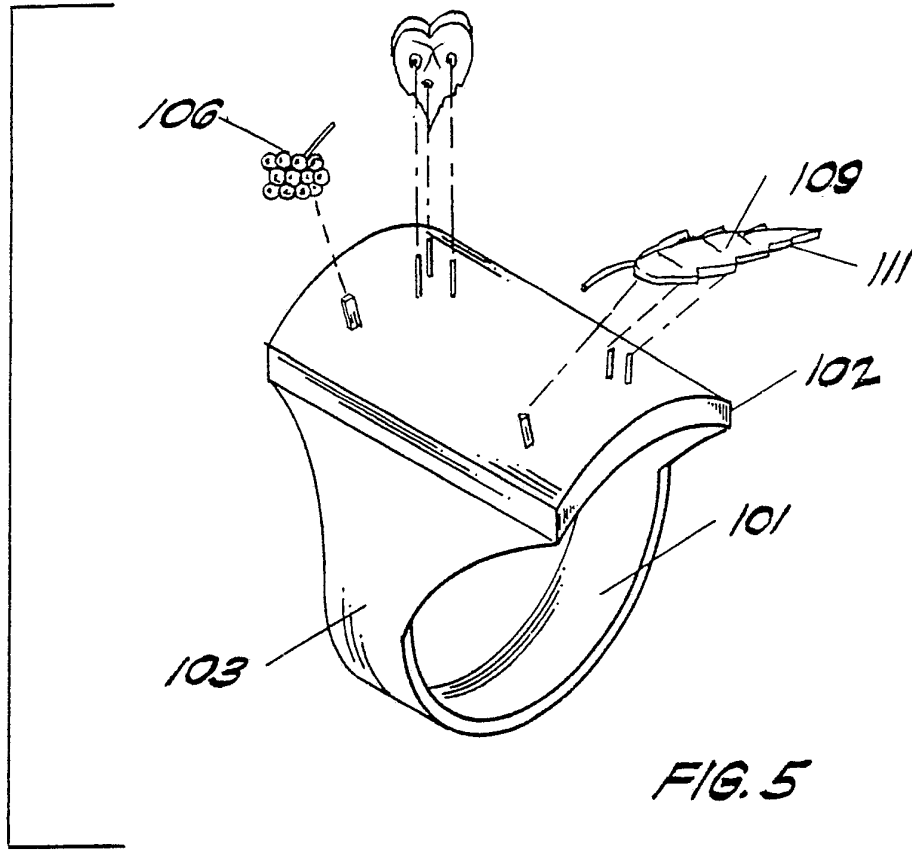


FIG. 5

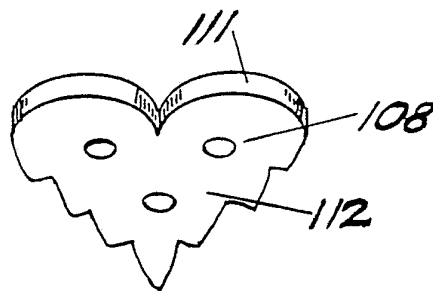
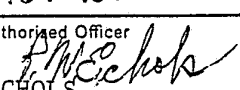


FIG. 6

INTERNATIONAL SEARCH REPORT

International Application No. PCT/US88/02077

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ⁶		
According to International Patent Classification (IPC) or to both National Classification and IPC IPC (4): B21F 43/00 US Cl. 63/2 A44C 25/00, 9/00, 17/02		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁷		
Classification System	Classification Symbols	
U.S.	29/160.6 63/2, 15, 29.1	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁸		
III. DOCUMENTS CONSIDERED TO BE RELEVANT ⁹		
Category *	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
<u>X</u>	US,A, 3,605,438 (Chalson) 20 September 1971.	<u>1,4</u>
Y	See entire document.	23, 28, 29
<u>X</u>	US,A, 442,757 (Schlosstein) 16 December 1890.	<u>1,4-8</u>
Y	See entire document.	15, 16
X	US,A, 1,851,128 (Rabinowitz) 29 March 1932. Page 2, lines 44-63.	1, 2, 7-9
X	US,A, 3,509,734 (Lederer) 05 May 1970 col. 4, lines 5-72.	1, 4-6
Y	US,A, 460,103 (Banghart) 29 September 1891. See entire document.	12-14, 17, 20, 25-27
Y	US,A, 4,311,026 (Ochoa) 19 January 1982. See entire document.	2, 3, 9, 10, 17- 20
Y	US,A, 4,495,254 (Hoffman) 22 January 1985. Col. 3, lines 61-66.	11, 21, 23
Y	US,A, 3,959,527 (Droege) 25 May 1976. See entire document.	11, 21, 23
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>* Special categories of cited documents: ¹⁰</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"&" document member of the same patent family</p> </div> </div>		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search	Date of Mailing of this International Search Report	
24 AUGUST 1988	09 NOV 1988	
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