

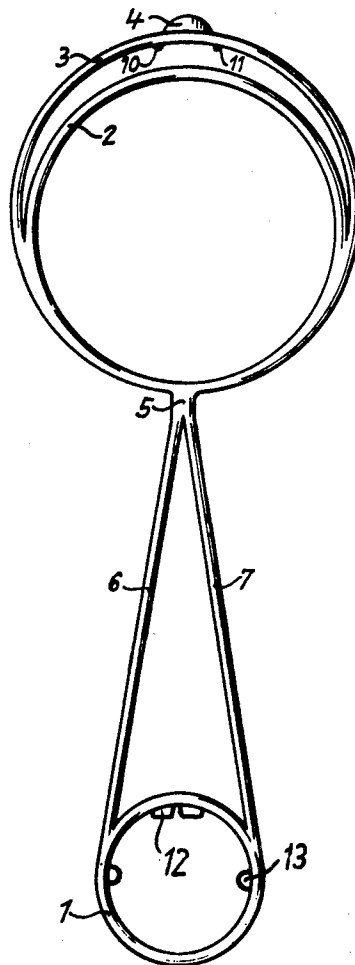
[72] Inventor **Reinhard Stadler**
 Wormserstrasse 3, Karlsruhe, Germany
 [21] Appl. No. **52,815**
 [22] Filed **July 7, 1970**
 [45] Patented **Dec. 28, 1971**
 [32] Priority **Mar. 17, 1970**
 [33] **Germany**
 [31] **P 20 12 501.3**

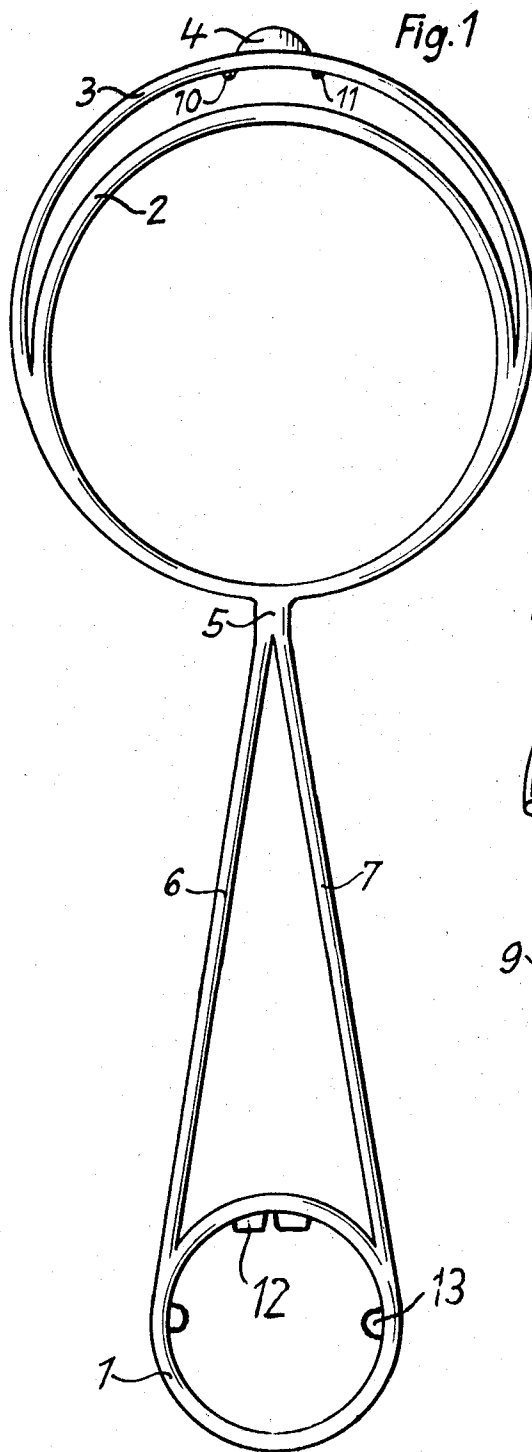
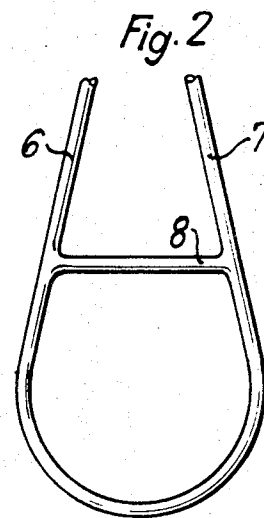
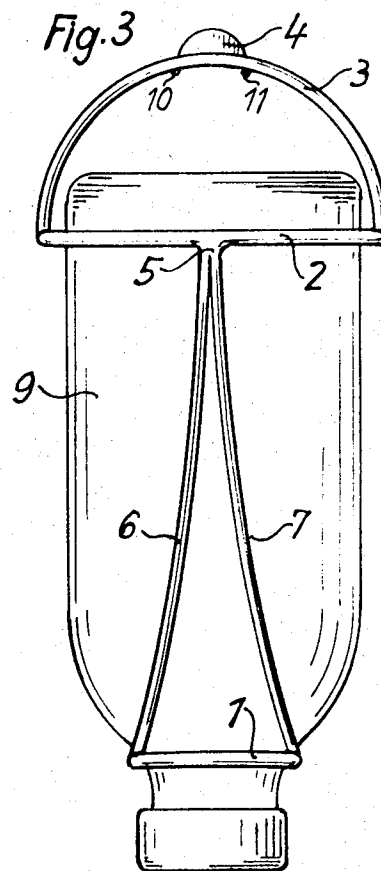
[56] **References Cited**
UNITED STATES PATENTS
 1,082,808 12/1913 Hubbard 248/107 X
 3,366,360 1/1968 Burke 248/318
 3,395,882 8/1968 Marshall 248/318
 Primary Examiner—William H. Schultz
 Attorney—Wenderoth, Lind & Ponack

[54] **BOTTLE SUSPENSION HARNESS**
 11 Claims, 3 Drawing Figs.

[52] U.S. Cl. 248/318
 [51] Int. Cl. A61b 19/00
 [50] Field of Search 248/102,
 103, 104, 105, 106, 107, 311, 312, 318

ABSTRACT: The invention is concerned with a flat-molded flexible harness of plastics material for supporting bottles, particularly transfusion bottles, in an inverted position in which two interconnected portions are provided for supporting the neck and body of the bottle and a hanger is molded integrally with the body-supporting portion.





Reinhard Stadler, Inventor:

*By Wenduth, Lind & Ponack,
Attorneys*

BOTTLE SUSPENSION HARNESS

The invention relates to a harness for the suspension of a bottle, particularly an infusion or transfusion bottle.

When in use, such bottles are suspended with their necks downwards and for this purpose, various forms of construction of harness are conventionally used. One such harness comprises an integral plastic molding having two ring-shaped holders for the neck and body of the bottle which are connected together by spacing arms formed integrally therewith.

In order to suspend the harness, another integral part of the molding is formed as a hanger which merges directly into the two spacing arms between the holders. In this arrangement, the spacing arms, together with the hanger form a vertical loop across which the holder for the bottle neck extends.

However, this construction is not satisfactory in that the body of the bottle is not securely held. Also, in manufacturing the harness, the available working surfaces of the injection mold are not optimally utilized.

It is among the objects of the invention to provide an improved harness for the suspension of bottles which overcomes the above-mentioned difficulties.

The invention therefore provides a harness for the suspension of a bottle in an inverted position, the harness being formed as a single flat flexible plastics molding, comprising a first holder portion adapted to engage around a body portion of the bottle, a hanger portion extending around one part of the first holder portion and having ends merging therewith, a second holder portion adapted to engage around a neck portion of the bottle, and spacer means extending between the other part of the first holder portion and the second holder portion.

Preferably, the first holder portion is formed as a circular ring and the hanger portion formed as a sector of a circle having a diameter approximately 10 percent greater than the diameter of the first holder portion. Since the hanger merges directly into the external periphery of the first holder portion, the bottle is suspended from this portion with the result that the spacer means are in tension due to the weight of the bottle and the body portion of the bottle is securely held.

The spacer means preferably comprises two spacer arms which diverge from a single junction with the first holder portion and merge at their ends to form a semicircular loop, the arms being further interconnected by a crosspiece to form said second holder portion. The second holder portion may be in the form of a circular ring or substantially D-shaped.

The cross sections of the first and second holder portions, the hanger portion and the spacer arms are preferably circular but other cross section, for example, polygonal or elliptical cross sections may also be appropriate for some application. The harness preferably comprises a single flat flexible thermoplastics molding, low-pressure polyethylene being particularly suitable as a molding material. However, other materials having similar strength and elastic properties, such as natural or synthetic rubber, could also be used. The invention will now be described with reference to the accompanying drawings in which:

FIG. 1 is a plan view of a flat molded harness according to the invention for suspending a bottle,

FIG. 2 is a detail showing an alternative conformation for one portion of the harness of FIG. 1, and

FIG. 3 is a side elevation of an infusion bottle suspended in a bottle harness according to the invention.

FIG. 1 shows a harness for the suspension of a 500 ml. capacity infusion bottle. The harness comprises a holder 1 for engagement around the neck of the bottle and a holder 2 for engagement around the body of the bottle, the holders 1 and 2 being formed as circular rings. A hanger 3 formed as a sector

of a circular ring extends round part of the periphery of the holder 2 and merges therewith at its ends approximately on a diameter of the holder. The hanger 3 has a lug 4 on its outer periphery and two lugs 10 and 11 on its inner periphery for locating the hanger on a support.

Two divergent spacing arms 6 and 7 extend from a junction 5 on the opposite side of the holder 2 and merge at their ends into the holder 1.

A pair of inwardly and oppositely directed lugs 13 extend from the inner periphery of the holder 1 and lie on a diameter perpendicular to the line bisecting the angle of the arms 6 and 7. Also, a pair of closely adjacent inwardly directed arms extend from the portion of the holder 1 lying closest to the holder 2. The lugs 13 and arms 12 serve to locate the holder 1 securely around the neck portion of the bottle and prevent distortion when the bottle is supported in the harness as shown in FIG. 3.

FIG. 2 shows an alternative arrangement in which the portion of the holder 1 lying between the arms 6 and 7 is replaced by a crossbar 8 so that the holder 1 has an approximately D-shaped conformation. It will be understood that the lugs 13 and arms 12 may also be provided in the arrangement of FIG. 2, the arms 12 in this case being formed integrally with the crossbar 8.

FIG. 3 shows an infusion bottle 9 suspended for use in a harness according to the invention. It will be seen that the bottle is disposed in an inverted position with the bottle neck embraced by the holder 1. The holder 1 is supported by the spacing arms 6 and 7 from the holder 2 and the entire harness is suspended from the hanger 3 on the holder 2.

I claim:

1. A harness for the suspension of a bottle in an inverted position, the harness being formed as a single flat flexible plastics molding, comprising a first holder portion adapted to engage around a body portion of the bottle, a hanger portion extending around one part of the first holder portion and having ends merging therewith, a second holder portion adapted to engage around a neck portion of the bottle, and spacer means extending between the other part of the first holder portion and the second holder portion.

2. A harness as claimed in claim 1 wherein first holder portion is formed as a circular ring.

3. A harness as claimed in claim 2 wherein the hanger portion is formed as a sector of a circle.

4. A harness as claimed in claim 3, wherein the diameter of the hanger portion is approximately 10 percent greater than the diameter of the first holder portion.

5. A harness as claimed in claim 4, wherein a pair of symmetrically spaced projections extend form the internal periphery of the hanger for locating the hanger on a support.

6. A harness as claimed in claim 1, wherein the spacer means comprise a pair of spacer arms diverging from a single junction with said first holder portion.

7. A harness as claimed in claim 6, wherein the spacer arms merge at their ends remote from the first holder portion to form a semicircular loop and are further interconnected by a crosspiece to form said second holder portion.

8. A harness as claimed in claim 7, wherein said second holder portion is formed as a circular ring.

9. A harness as claimed in claim 7, wherein said second holder portion is substantially D-shaped.

10. A harness as claimed in claim 7, wherein the second holder portion comprises a pair of inwardly and oppositely directed lugs.

11. A harness as claimed in claim 7, wherein the second holder portion comprises a pair of closely adjacent inwardly directed arms extending from said crosspiece.

* * * * *