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(11) **EP 1 142 782 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
10.10.2001 Bulletin 2001/41

(51) Int Cl.7: **B63B 22/16**, B63B 22/18,
B63B 22/20

(21) Application number: **01302015.1**

(22) Date of filing: **06.03.2001**

(84) Designated Contracting States:
**AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE TR**
Designated Extension States:
AL LT LV MK RO SI

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(30) Priority: **08.04.2000 GB 0008635**

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(54) **Buoyant marker**

(57) A messenger buoy (10) is designed for floating in water to provide a visual message. The buoyant marker (10) includes a message portion (12) which protrudes in use from the water and which bears the message,

and a stabiliser portion (14) for locating in the water, the stabiliser portion including an opening for receiving a ballast material (36). The messenger buoy may be used to display a message in an area of water such as a lake or gravel pit on in coastal areas.

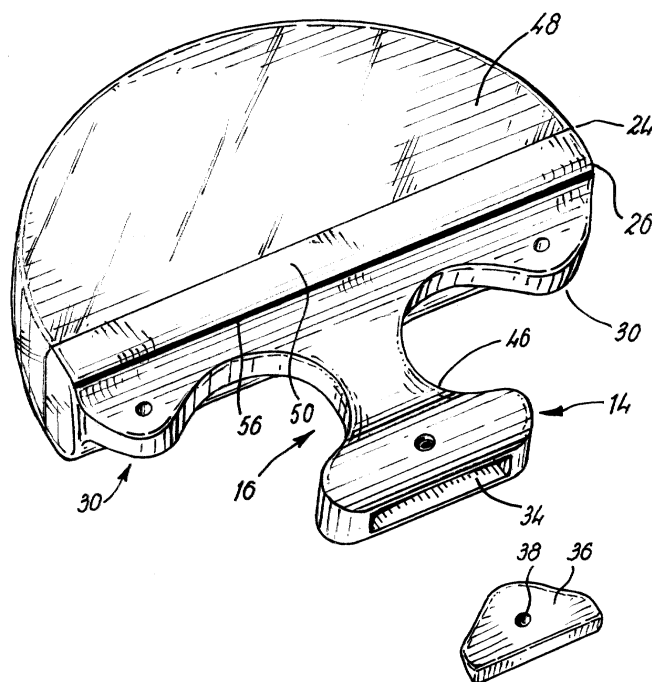


FIG. 2

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Description

[0001] The invention relates to a buoyant marker for providing warnings or other messages.

[0002] In coastal areas and at lakes, gravel pits or other inland areas of water, it is often necessary to provide messages to the public. Such messages may warn that an area of water is particularly deep, has strong currents, strong winds, etc. or may mark off a particular area for swimming. Such messages are conventionally provided on the banks or shore of the area of water in question.

[0003] According to the invention, there is provided a buoyant marker for floating in water to provide a visual message, the buoyant marker including a message portion for protruding in use from the water and bearing the message and a stabiliser portion for locating in the water, the stabiliser portion including means for receiving a ballast material.

[0004] Preferably the buoyant marker is metastable when floated in water with the message portion protruding from the water and the stabiliser portion located in the water.

[0005] Preferably the message portion and the stabiliser portion are joined by a neck portion which is narrower than the message portion. Preferably the neck portion is also narrower than the stabiliser portion.

[0006] Preferably the message portion includes in use a substantially smooth, curved upper surface. Preferably the message portion is substantially hollow. The message portion may include two or more generally planar sides. The two sides may be generally parallel or may converge towards an upper region of the message portion remote from the water in use. Each generally planar side may be approximately semi-circular in shape and may include substantially semi-circular upper edges. The substantially smooth, curved upper surface may extend between the generally planar sides, and preferably extends between the upper edges of the generally planar sides. The message portion may include a base part located generally below the planar sides in use. The base part may be located substantially in the water in use.

[0007] The message portion may be made from a sheet plastics material. Preferably the message portion is rotationally moulded from a polymer powder material. The plastics material may comprise polyethylene having a thickness of between 5mm and 10mm and preferably about 8mm.

[0008] A part or substantially the whole of the message portion may protrude from the water in use. Substantially the whole of the message portion may protrude from the water when the water is salt water.

[0009] A message may be provided on the message portion. The message may be in the form of a written message.

[0010] The buoyant marker may include a cover member for covering a part of the messenger portion.

The message may be provided on the cover member. The cover member may comprise a sheet of flexible plastics material, which may include polyethylene and which may have a thickness of between 1mm and 3mm.

The material may be rotationally moulded polyethylene polymer powder material. The cover member is preferably of a complementary shape to an upper part of the message portion.

[0011] The base part of the message portion may be provided with means for attaching one or more anchors to the buoyant marker. These means may include one or more protrusions, each protrusion being provided with an opening therein. Two protrusions may be provided, each for receiving a string or chain to which an anchor may be attached.

[0012] The stabiliser portion may include a foot provided with an opening for receiving a ballast material. The opening may be located in a base of the foot. The opening may be substantially cuboid. The stabiliser portion may comprise sheet plastics material. The material may be rotationally moulded polyethylene polymer powder material. The plastics material may comprise polyethylene having a thickness of between 5mm and 10mm and preferably about 8mm. The length of the foot may be between 25% and 65% of the length of the messenger portion of the buoyant marker. The width of the foot may be between 40% and 80% of the width of the message portion of the buoyant marker.

[0013] The stabiliser portion may further include a ballast material, received within the opening in the ballast foot. The ballast material may be releasably retained within the opening. The releasable retaining means may include a nut and bolt. The ballast material may include a block of metal, such as cast iron. The ballast material preferably weighs at least 75% of the weight of the remainder of the buoyant marker. The block of ballast material may weight at least 95% as much as the remainder of the buoyant marker.

[0014] The neck portion may link the base part of the message portion with an upper surface in use of the stabiliser portion. Preferably the neck portion includes smooth, curved sides. The neck portion may include two opposite substantially planar, substantially parallel sides. The neck portion may further include two opposite curved sides.

[0015] The neck portion may comprise sheet plastics material. The material may be rotationally moulded polyethylene polymer powder material. The plastics material may comprise polyethylene having a thickness of between 5mm and 10mm and preferably about 8mm.

[0016] The buoyant marker may further include means for moving in the wind, to attract attention. These means may include a flag or windmill. The flag or windmill may be locatable on the upper surface of the message portion. The flag or windmill may be locatable in an opening and may be lockable in place.

[0017] An embodiment of the invention will now be described for the purpose of illustration only with reference

to the accompanying drawings, in which:-

Fig. 1 is a perspective view of a buoyant marker according to the invention, with a block of ballast in place;

Fig. 2 is a diagrammatic perspective view of the buoyant marker of Fig. 1, with the block of ballast shown separately;

Fig. 3 is a diagrammatic side view of the buoyant marker of Figs. 1 and 2 with the block of ballast shown separately;

Fig. 4 is a diagrammatic end view of the buoyant marker of Figs. 1 to 3 with the block of ballast shown separately; and

Fig. 5 is a view similar to that of Fig. 4, but also illustrating a flag on the buoyant marker.

[0018] Referring to the drawings, a buoyant marker in the form of a messenger buoy 10 includes a message portion 12 and a stabiliser portion 14 connected by a neck portion 16. The messenger buoy 10 is generally hollow and is moulded from 8mm thick polyethylene.

[0019] The message portion 12 includes two generally planar sides 18 which are almost parallel to one another, but which converge slightly in a direction away from the stabiliser portion 14. Each planar side 18 is substantially semi-circular in shape, including a curved outer edge 20. The curved outer edges 20 of the planar sides 18 are joined by a smooth, curved upper surface 22 of the message portion 12. Each planar side 18 of the message portion 12 includes a generally straight lower edge 24 which merges smoothly into a curved corner 26 of a base part 28 of the message portion 12. The base part 28 merges smoothly with the neck portion 16 of the messenger buoy 10.

[0020] The base part 28 of the message portion 12 is provided with two projections 30 which are very approximately cylindrical, but which merge smoothly with the remainder of the base part 28. Each projection is provided with a generally cylindrical opening 32 passing therethrough. The function of the openings 32 is described in more detail hereinafter.

[0021] The overall length of the message portion 12 is about 1.4m and the overall height of the message portion 12 is about 0.8m. The overall width of the message portion is about 0.35m.

[0022] The stabiliser portion 14 is very approximately cuboid, but has curved edges. The stabiliser portion has an overall length of about 0.3m, an overall width of about 0.12m and an overall height of about 0.1m. The stabiliser portion 14 includes a recess 34 for receiving a block of ballast 36. The block of ballast 36 is made of cast iron and has a maximum height of about 0.19m and a maximum length of about 0.35m. The ballast 36 is provided

with a central opening 38.

[0023] The message portion 12 and the stabiliser portion 14 are connected by the neck portion 16. The neck portion 16 merges smoothly with an upper surface 40 of the stabiliser portion 14 and with the base part 28 of the message portion 12. The neck portion 16 includes two generally planar sides 42 which are approximately parallel to one another. Edges 44 of the sides 42 are substantially arc-shaped, curving inwardly towards one another. Joining the planar sides 42 are opposite curved sides 46 which curve inwardly towards one another. The curved sides 46 merge into the base part 28 of the message portion.

[0024] The messenger buoy 10 further includes a shroud 48 of 1mm to 2mm thick polyethylene, which fits snugly over at least an upper part of the message portion 12 (see Fig. 2). The flexibility of the shroud means that it tends to cling to the message portion 12 and to be retained in place thereon.

[0025] The shroud 48 is brightly coloured and incorporates a message, such as a written message. The message might be, for example, "Deep Water", "No Swimming", "No Jet-Skis", the name of a hotel, etc.. An additional message may be included on a lower part 50 of the message portion 12. This additional message may be, for example, the word "Danger" permanently inscribed on the message portion. The shroud 48 is removable from the message portion 12 and therefore a number of different shrouds incorporating different messages may be available for use with a single messenger buoy.

[0026] The messenger buoy may further include a flag 52 located with a bayonet fitting in an opening (not illustrated) in the curved upper surface 22 of the message portions 12. The flag attracts attention to the messenger buoy and deters sea birds from landing on the buoy (See Fig. 5).

[0027] The messenger buoy 10 is used as follows. The ballast 36 is inserted into the opening 38 and bolted into place by inserting a bolt (not illustrated) through a hole 52 in the stabiliser portion 14 into the hole 38 in the ballast 36. A shroud 48 with an appropriate message printed thereon is placed over the message portion 12 of the messenger buoy 10. The flag 52 is inserted into the opening in the curved upper surface 22 of the message portion, and attached in place by any suitable means, thereby attaching the shroud 48 in place on the message portion 12.

[0028] Chains or strong ropes or wires (not illustrated) are attached to the openings 32 in the projections 30. An anchor (not shown) preferably including clawed feet, is attached to an opposite end of each chain, wire, etc.. The messenger buoy 10 may then be floated in a suitable area of water, the two anchors holding the messenger buoy in place. The weight of the ballast ensures that the water level is approximately in line with a water line 56 (shown in Fig. 3), although the precise level of the water will depend upon whether it is fresh water or salt

water. The shape of the stabiliser portion 14 and the positioning of the ballast 36 ensures that the messenger buoy 10 floats in a stable position, with the message portion 12 projecting out of the water. The planar sides 18 of the message portion provide large, flat areas for the display of any appropriate message.

[0029] There is thus provided a buoy which may be used to display a message in any area of water. The message might be used in an enclosed water area, such as a lake or gravel pit and may warn that an area is particularly deep, is prone to strong winds, etc.. Such messages are conventionally provided on the banks of the area in question, but are often ignored and may be vandalised. Alternatively, the buoy may be provided in coastal areas of the sea for warning about strong currents, dangerous swimming conditions, etc., or for marking off areas of water which are allocated to a particular hotel. Alternatively, the buoy may be used in marking off a safe swimming area in which jet skis, etc. are not allowed. A plurality of such buoys may be used to define the ends of a boundary of such an area, additional small buoys optionally being provided on a piece of string linking two messenger buoys.

[0030] Because the messenger buoy 10 only has smooth surfaces, in particular the curved upper surface 22, it is not possible for a swimmer to climb onto the messenger buoy. If a swimmer attempts to do this the buoy simply tips up until the swimmer lets go. The smooth surfaces also minimise the possibility of sea birds alighting on the buoy. The windmill or flag acts as a further deterrent.

[0031] The design of the buoy ensures that it is metastable in performance, i.e. if the buoy is rocked or even turned upside down, it will right itself again.

[0032] Various modifications may be made to the above described embodiment without departing from the scope of the invention. Alternative materials may be used, although plastics materials are preferred because of their durability and their low weight. The messages may not be verbal but could include, for example, pictures indicating a particular hazard. Instead of the cast iron ballast, any other dense material may be used. Alternatively, a ballast of water crystals could be used within a hollow stabiliser portion. These water crystals are able to absorb around 400 times their own weight in water to form a dense gel. The gel however may be flushed out of the stabiliser portion when desired. Instead of a flag arrangement on the top of the buoy, a windmill may be provided or a rotating member may be mounted, for example, on nylon bearings, so as to spin in the wind. Alternatively, a light may be provided, which could flash to draw attention to the messenger buoy.

[0033] Whilst endeavouring in the foregoing specification to draw attention to those features of the invention believed to be of particular importance it should be understood that the Applicant claims protection in respect of any patentable feature or combination of features hereinbefore referred to and/or shown in the drawings

whether or not particular emphasis has been placed thereon.

5 Claims

1. A buoyant marker for floating in water to provide a visual message, the buoyant marker (10) including a message portion (12) for protruding in use from the water and bearing the message and a stabiliser portion (14) for locating in the water, the stabiliser portion including means for receiving a ballast material (36).
2. A buoyant marker according to claim 1, wherein the buoyant marker is metastable when floated in water with the message portion (12) protruding from the water and the stabiliser portion (14) located in the water.
3. A buoyant marker according to claim 1 or claim 2, wherein the message portion and the stabiliser portion are joined by a neck portion (16) which is narrower than the message portion (12).
4. A buoyant marker according to claim 3, wherein the neck portion (16) is also narrower than the stabiliser portion (14).
5. A buoyant marker according to claim 3 or claim 4, wherein the message portion (12) includes in use a substantially smooth, curved upper surface.
6. A buoyant marker according to any of the preceding claims, wherein a part or substantially the whole of the message portion protrudes from the water in use.
7. A buoyant marker according to any of the preceding claims, wherein the buoyant marker includes a cover member for covering a part of the message portion.
8. A buoyant marker according to any of the preceding claims, wherein the stabiliser portion includes a foot provided with an opening for receiving a ballast material.
9. A buoyant marker according to claim 8, wherein the stabiliser portion further includes a ballast material, received within the opening in the ballast foot.
10. A buoyant marker according to claim 9, wherein the ballast material is releasably retained within the opening.
11. A buoyant marker according to any of the preceding claims, wherein the buoyant marker further includes

means for moving in the wind, to attract attention.

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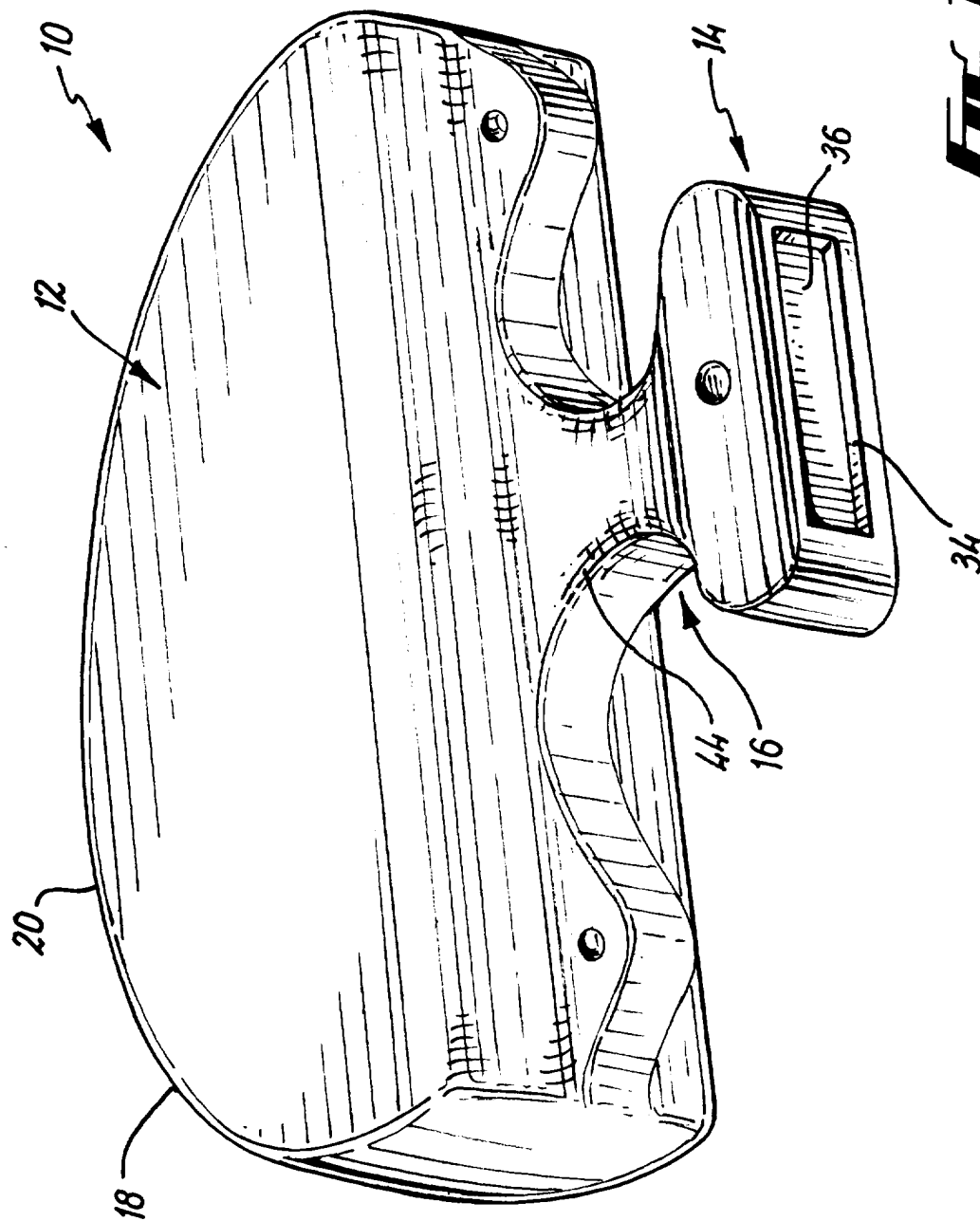


FIG. 1

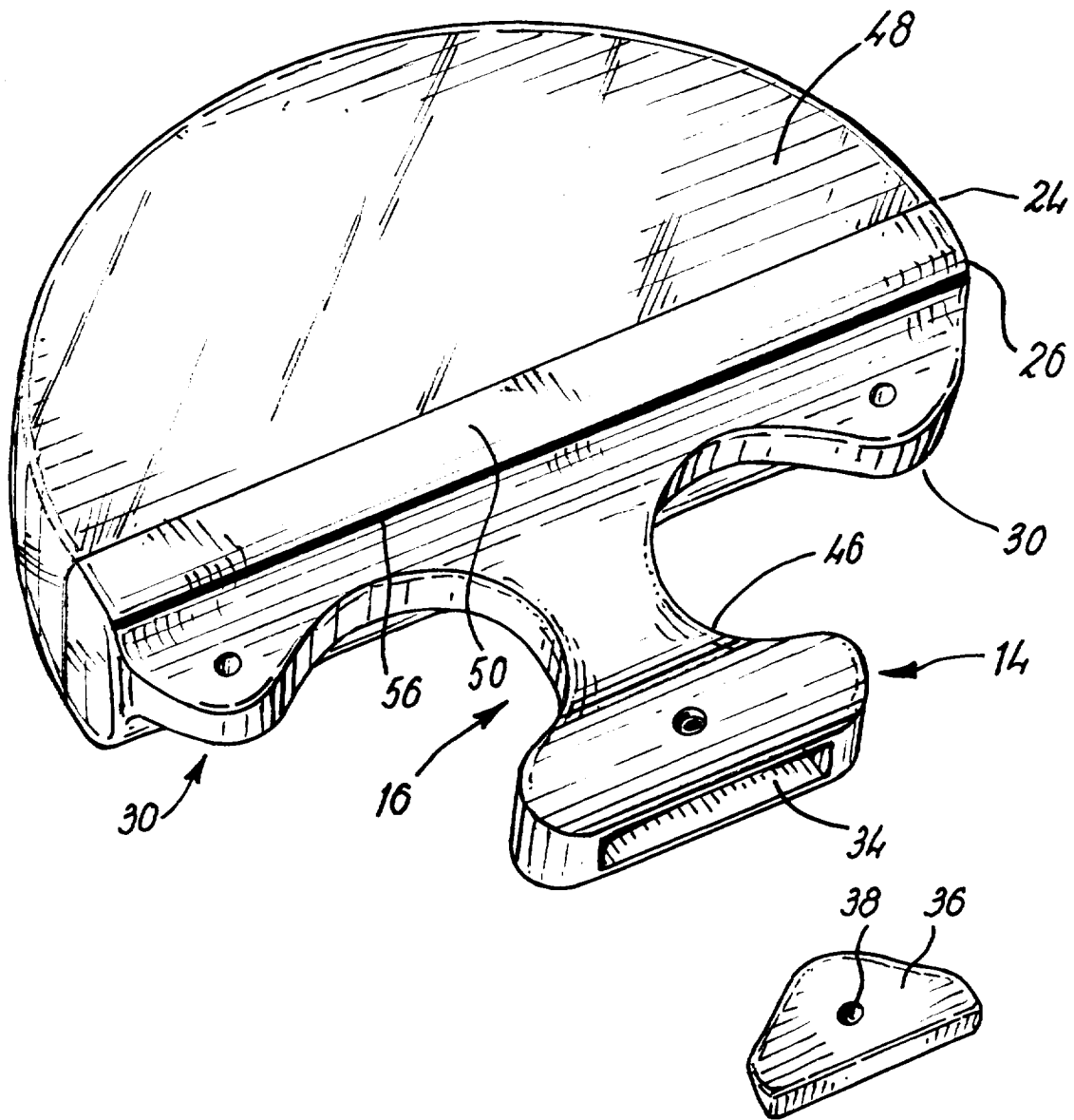


Fig. 2

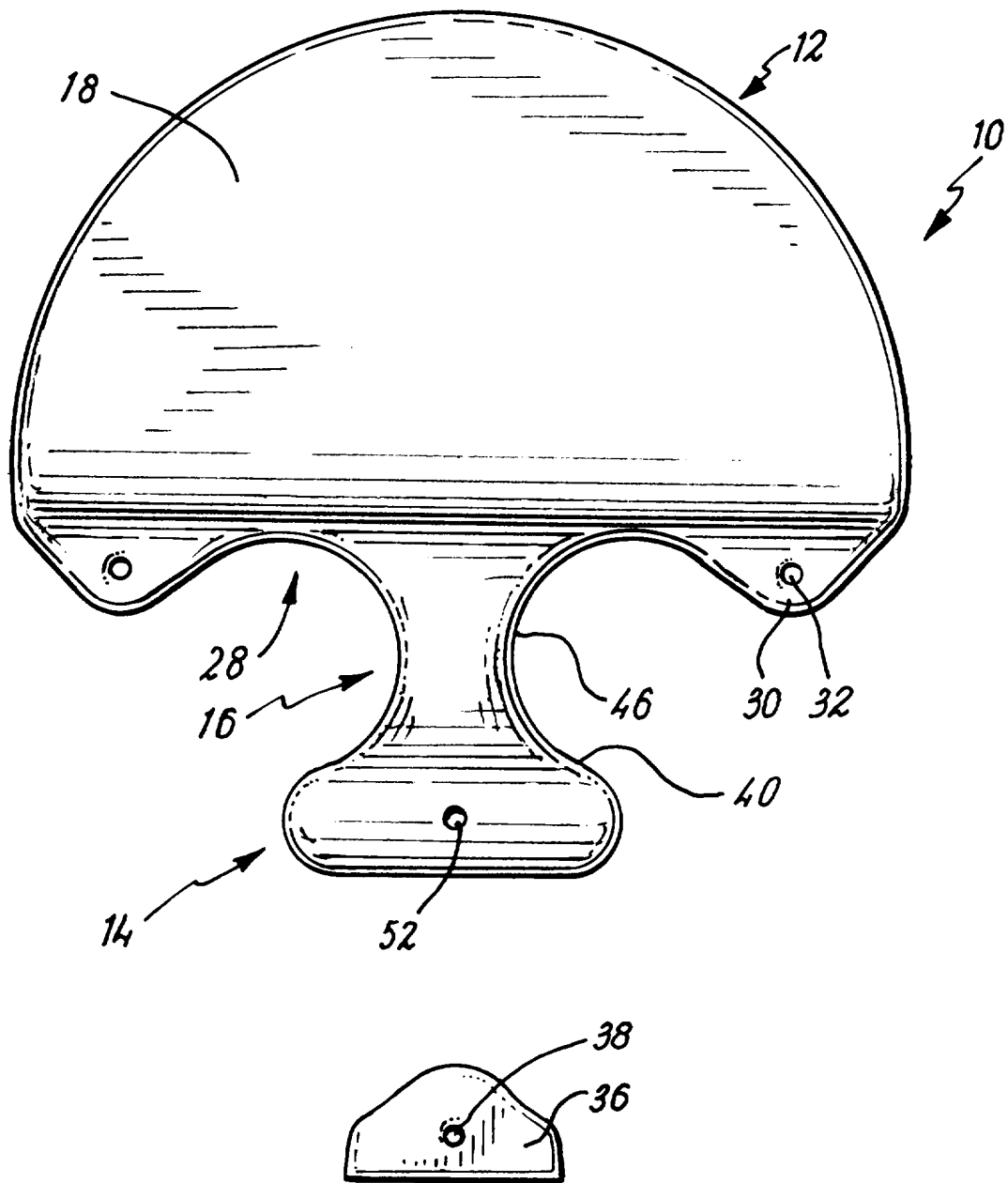


FIG. 3

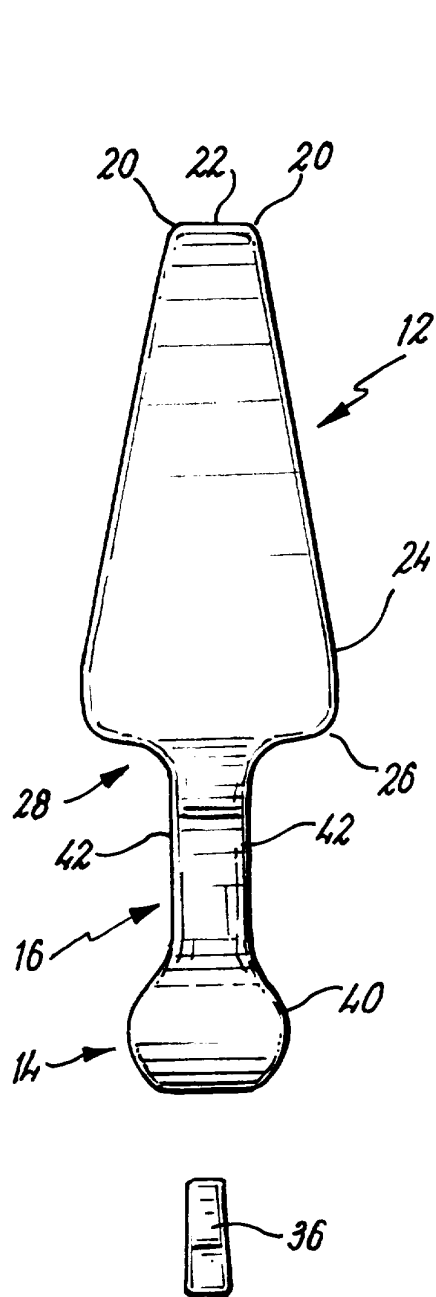


FIG. 4

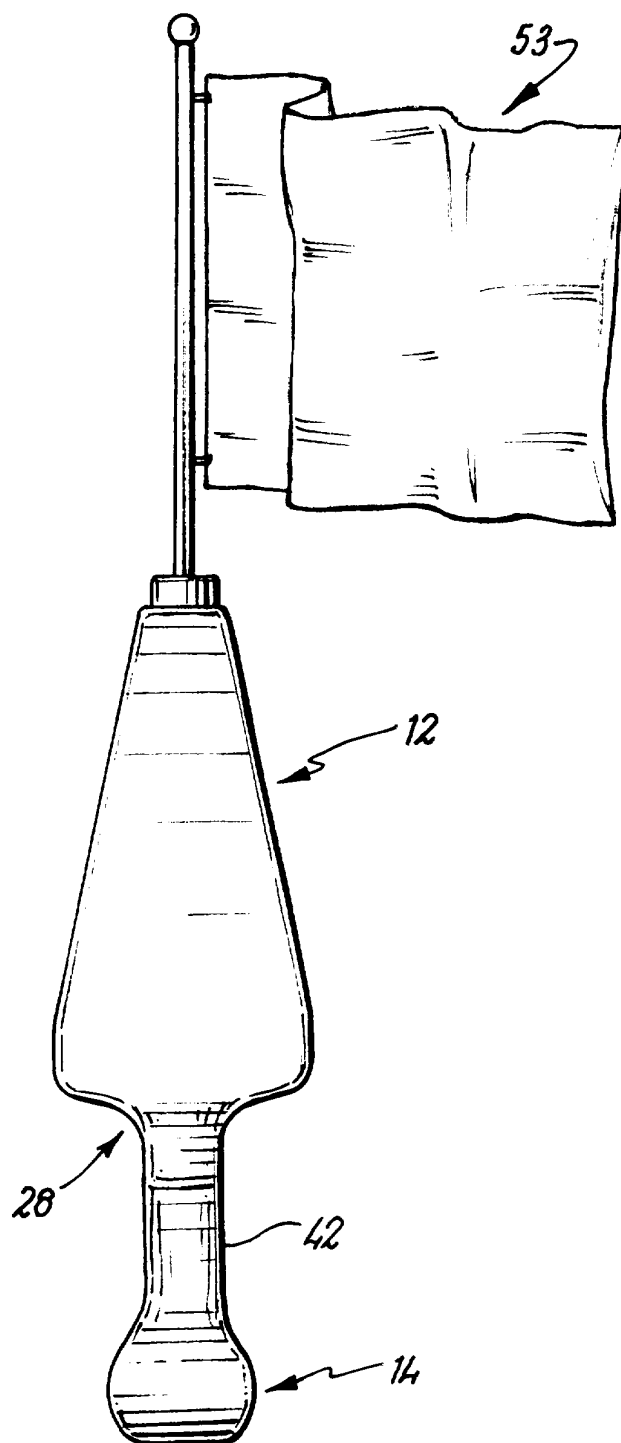


FIG. 5

