Nov. 9, 1971 J. V. ANSELMI 3,618,150

BEACON BUOY MARKER CONTAINING LIFESAVING AND SIGNALING DEVICES

Filed March 4, 1969 3 Sheets-Sheet 1

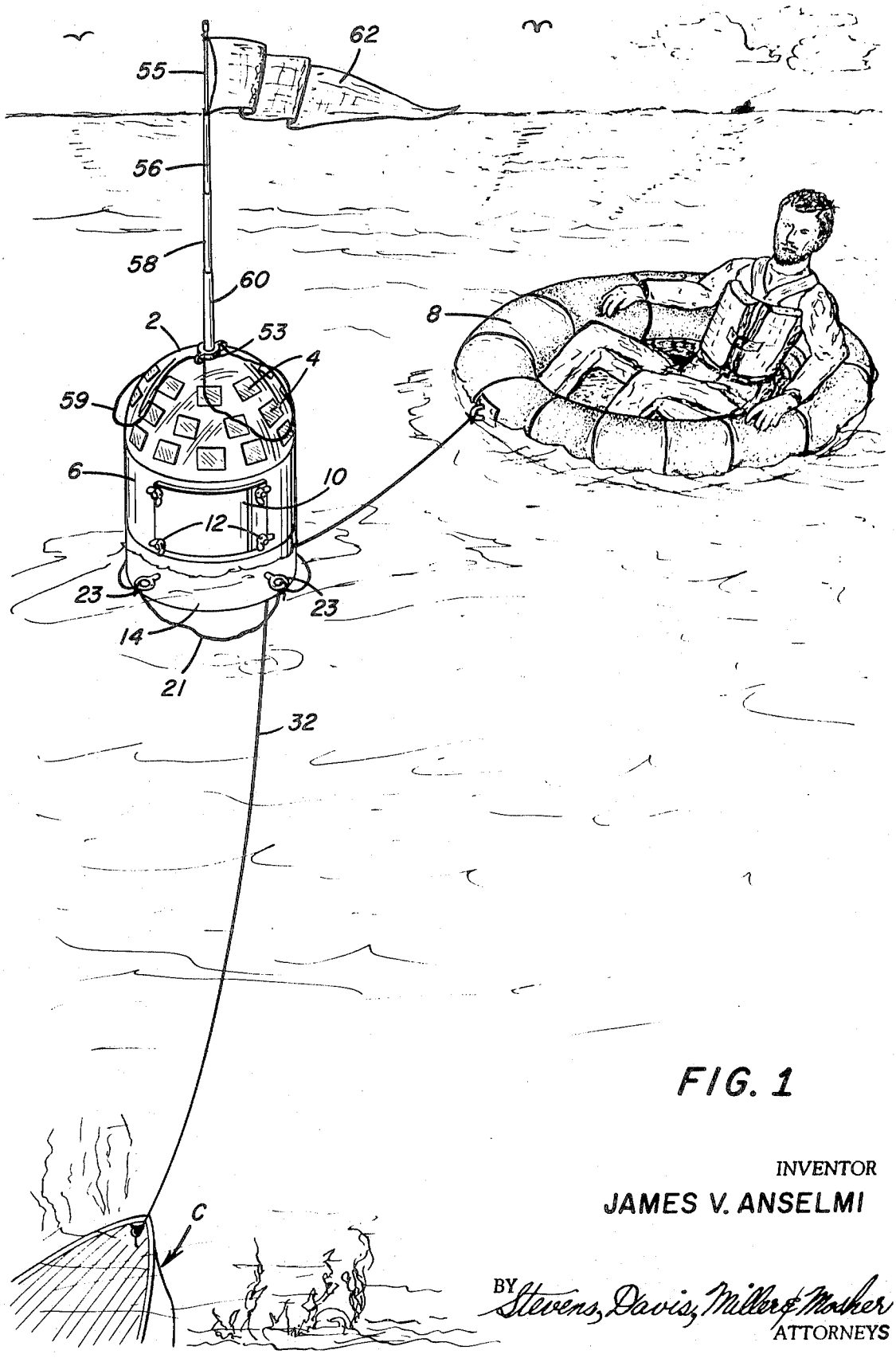

FIG. 1

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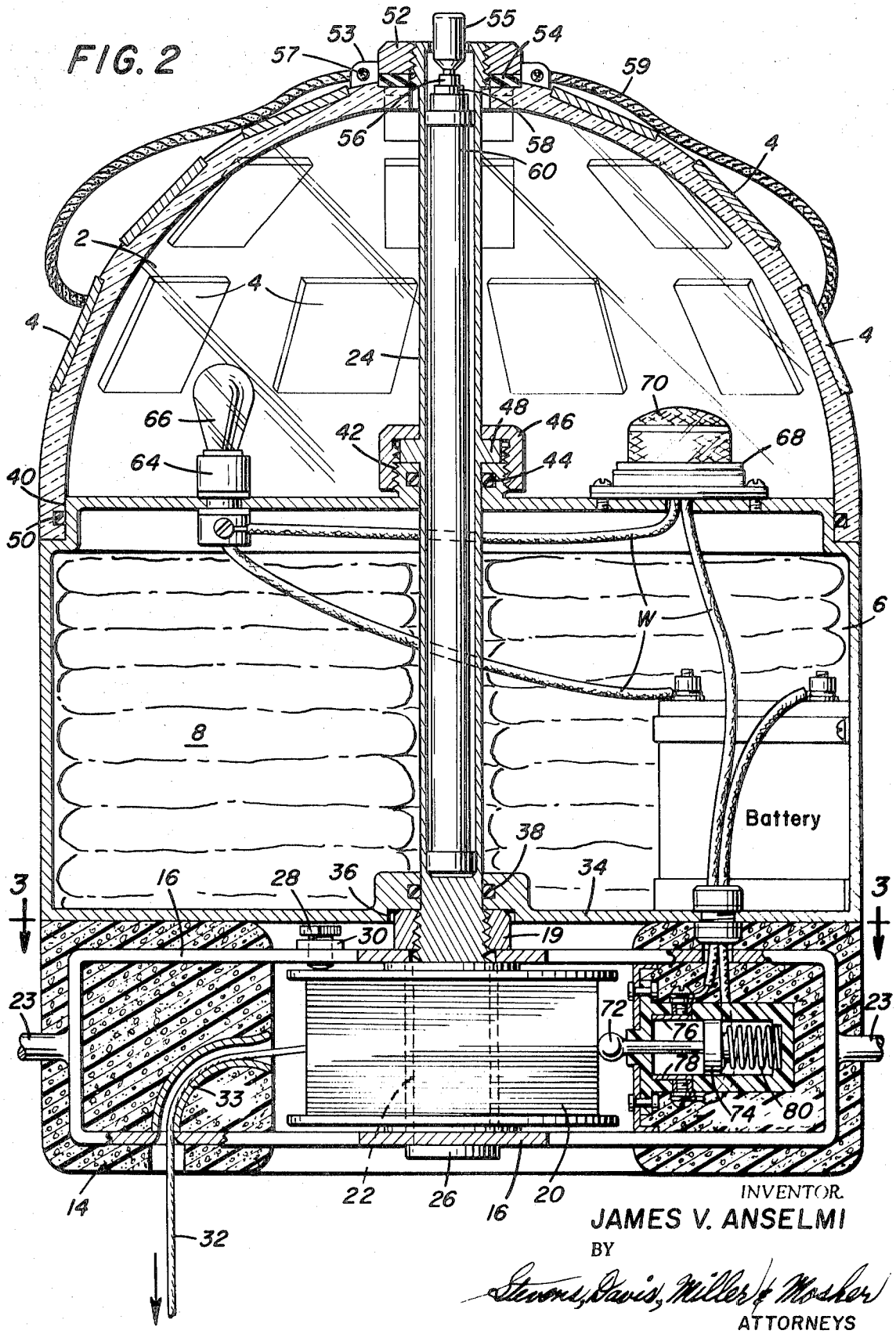
FIG. 2



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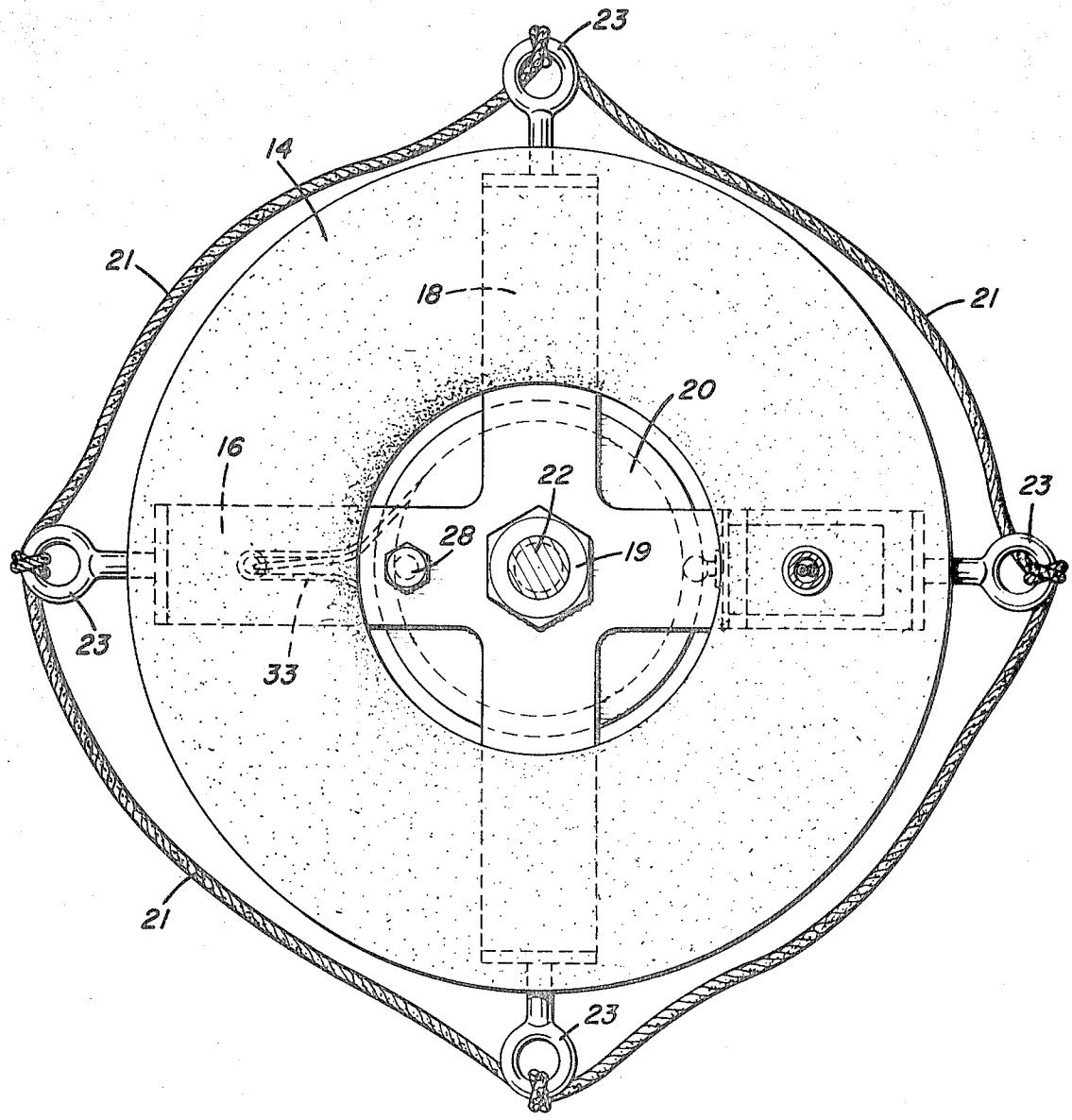

FIG. 3

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3,618,150

BEACON BUOY MARKER CONTAINING LIFE-SAVING AND SIGNALING DEVICES

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U.S. Cl. 9—8.3 E 4 Claims

ABSTRACT OF THE DISCLOSURE

A buoy for marking the location of a sunken craft. The buoy contains lifesaving and signaling equipment. An automatically inflatable raft can be removed by a survivor and a blinking light is turned on during the twilight and nighttime to signal a rescuer. A number of light reflecting plates reflect sunlight during the daytime to produce a daytime signaling device.

This invention relates to a buoy and more particularly to a buoy for marking the location of a sunken craft and which also contains lifesaving equipment.

It is an object of this invention to provide a buoy which will automatically rise to the surface of the water upon the sinking of the craft to which it is attached.

It is a further object of the invention to provide a buoy as aforesaid which serves as a storage container for life-saving and signaling equipment.

It is a further object of this invention to provide a buoy as aforesaid in which the signaling equipment will indicate the position of the buoy through all hours of the day.

It is a further object of this invention to provide a buoy as aforesaid in which the lifesaving equipment can be expeditiously removed by a survivor.

These and other objects of the invention will become manifest upon reading the following description in conjunction with the accompanying drawing wherein:

FIG. 1 illustrates the buoy in use;

FIG. 2 is a longitudinal cross section through the buoy; and

FIG. 3 is a section taken on the line 3—3 of FIG. 2.

With reference to the drawing, there is disclosed a buoy comprising a compartment 2 formed as a hollow segment of a sphere and made of a transparent material such as methyl methacrylate and known as "Lucite" or "Plexiglas." Reflective surfaces in the form of metal plates 4 are embedded in the outer surface to reflect the rays of the sun. If desired, the plates could be embedded into or on the inner or outer surface of the sphere and would serve to reflect the rays of the sun in an equally efficient manner.

A compartment 6 in the form of a cylinder is mounted under compartment 2. A life raft 8 is stored in folded condition in the compartment and can be removed through an opening that is sealed by a cover 10. The cover is secured by wing nuts 12 which can be readily removed by a survivor to permit quick access to the raft. The raft is of a well known type which carries inflating devices to inflate the raft for supporting the survivor.

A hollow compartment formed of a buoyant ring 14 is molded about a rigid frame of crossed spaced arms 16, 18. The ring may be formed of foam or it may be a hollow tube formed of a more dense plastic such as polyethylene. The frame is mounted on a stub 22 of a tube 24 and is fixed thereon by a nut 19 screwed on a threaded segment of the stub to urge the frame against a head 26 integral with the stub. Eye bolts 23 are secured to the arms and a holding line 21 is secured to the bolts.

A reel 20 is rotatably mounted on the stub and is prevented from free rotation by a brake in the form of a bolt 28 screwed into a threaded opening in arm 16 and bearing against the reel. The bolt is locked by a lock nut 30 as described in my U.S. Pat. No. 3,401,413. A cord 32 is secured to and wound on the reel and has one end secured to the craft C. The brake is adjusted to allow the reel to unwind under the buoyant force of the marker when the craft is sunk and the marker is engulfed by the water. A guide tube 33 guides the cord to prevent fouling.

The base 34 of the compartment 6 is recessed as at 36 to receive the nut 19 and is provided with a groove to receive a sealing ring 38. The top of the compartment is recessed as at 40 to provide a seat for the spherical segment and is provided with a hollow boss 42 for the passage of tube 24. The boss is provided with a groove for reception of a sealing ring 44 and is threaded to receive a nut 46 for engaging a collar 48 which is formed integral with tube 24. Tightening nut 46 securely fastens compartment 6 to buoyant ring 14.

The spherical segment is provided with a groove for reception of a seal 50 and is open at the top for the passage of tube 24. The end of the tube is threaded to receive a nut 52 and a flexible seal 54. The nut is threaded onto the tube to compress segment 2 against compartment 6 to thereby secure the members together. Integral with spherical segment 6 is a ring 53 having openings 57 to receive a line 59 for grasping by a survivor.

A mast having telescoping tube sections 55, 56, 58, 60 for carrying a distress flag 62 is stored in the tube 24.

The top of compartment 6 mounts a socket 64 for reception of a light bulb 66 and mounts a socket 68 for reception of a light responsive switch 70. The ring 14 is recessed to receive a switch having a feeler 72 carrying an annular contact 74 for contact with contacts 76, 78. A wiring system W connects the light 66, switch 70, contacts 74, 76, 78 and the battery in series.

In the event the craft is sunk, the buoyancy of the buoy will produce sufficient force to overcome the holding action of the brake and the buoy will float to the surface of the water. As the cord 32 is unwound from the reel, the feeler will be urged by spring 80 towards the left as viewed in FIG. 2 to produce engagement between contacts 74, 76, 78 and to complete a circuit through the light 66 switch 70 and battery. If the craft is sunk after sunset, switch 70 will operate to open and close intermittently to cause the light to blink. If the craft is sunk during daylight, switch 70 will open to conserve the charge in the battery and the reflection of light by plates 40 will serve to indicate the location of the buoy. A survivor in the water can thus instantly locate the buoy. By holding on to line 21 and/or 59 he can release the cover to allow access to the liferaft by releasing the nuts 12. The mast and distress flag can be raised merely by grasping the knob at the end of the inner section 55. The blinking light and reflectors can be seen at great distances and can easily be seen by a rescuer.

What is claimed is:

1. A marker buoy comprising a buoyant body having three superimposed compartments, the lower compartment being provided with a buoyant material for maintaining the other two compartments above the level of water when the buoy is floating in water, the middle compartment being provided with a sealed door above the water level which is operable from the exterior, said middle compartment having a storage area provided therein, said upper compartment having transparent wall portions, said upper compartment having reflectors in closely spaced relation to one another, a light disposed in said upper compartment, a source of energy for said

light, said reflectors permitting light rays from said light to show through the spaces between the reflectors during darkness with the reflectors designating the position of the buoy during daylight hours, a reel rotatably mounted in one of said compartments, a cord wound on and secured to said reel and secured to said craft, and switch means responsive to the unwinding of the cord from the reel for connecting said light to said source of energy, said switch means including a switch having a feeler, means urging the feeler into contact with the wound cord, and contact means carried by the feeler for closing the circuit when the cord is unwound from the reel by a preselected amount.

2. A buoy as defined in claim **1**, wherein said upper compartment comprises a hollow segment of a sphere and said reflectors are secured to said segment.

3. A buoy as defined in claim **1**, further comprising brake means for normally preventing rotation of the reel, said body having a buoyant force in water when the craft is sunk to overcome the resistance of the brake means to permit the body to substantially immediately commence to float to the surface of the water.

4. A buoy as defined in claim **1**, further comprising a tube extending through all three compartments providing means for securing the compartments together and for sealing said middle and upper compartments, said tube being further provided with a distress flag and a sectional, telescoping mast mounted therein.

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