

No. 661,573.

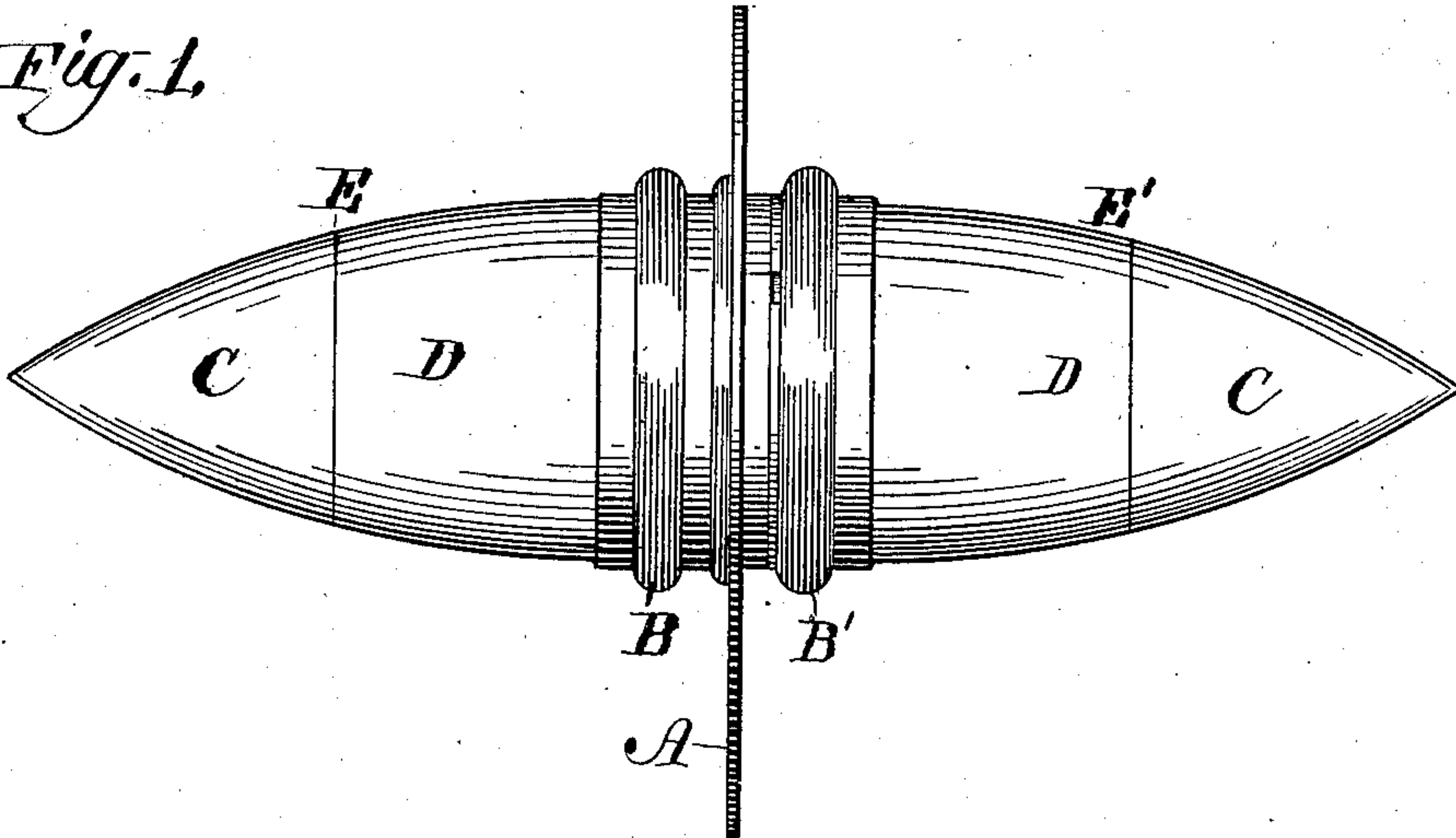
Patented Nov. 13, 1900.

C. I. BERG.  
BUOY.

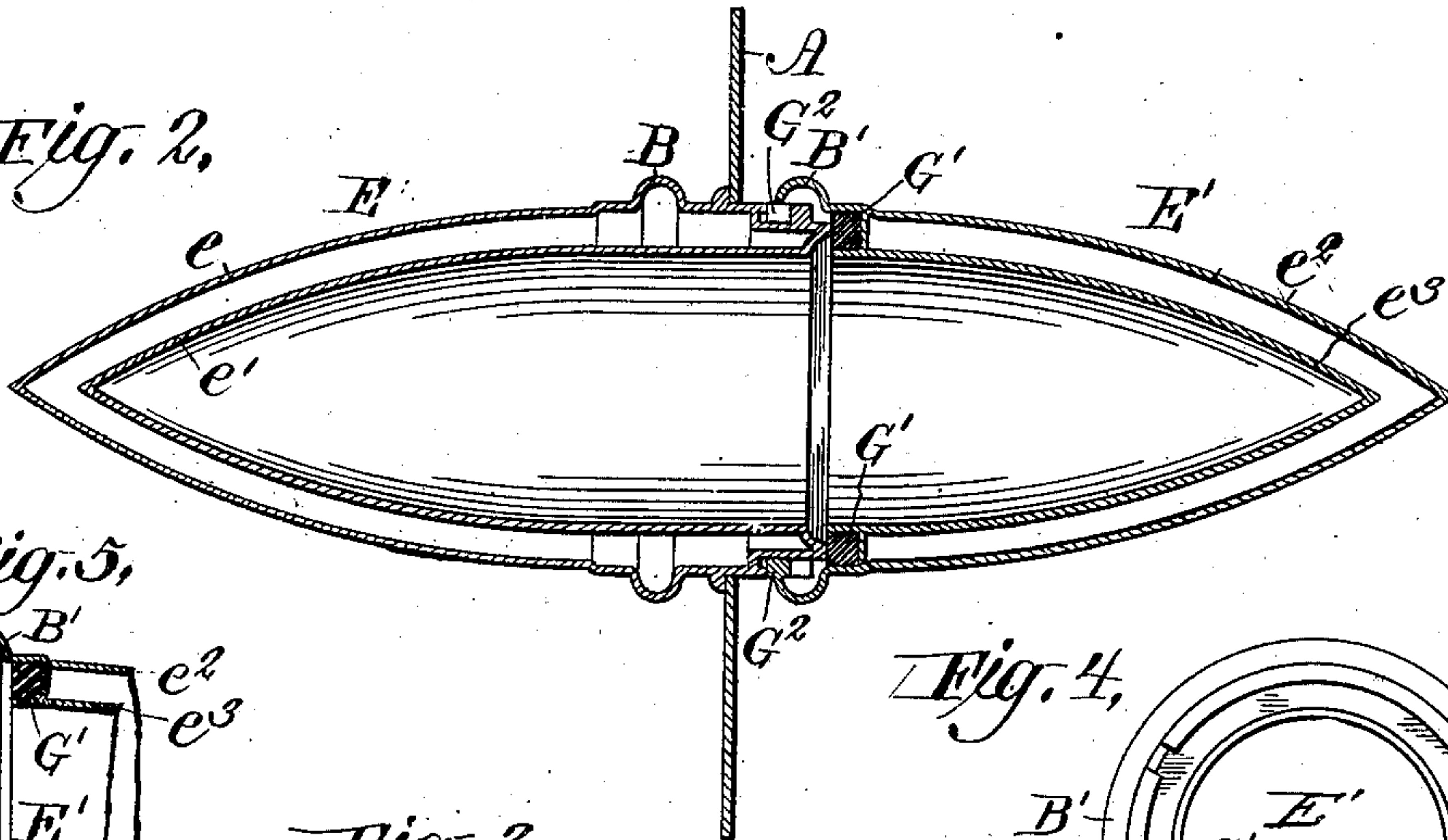
(Application filed July 22, 1897.)

(No Model.)

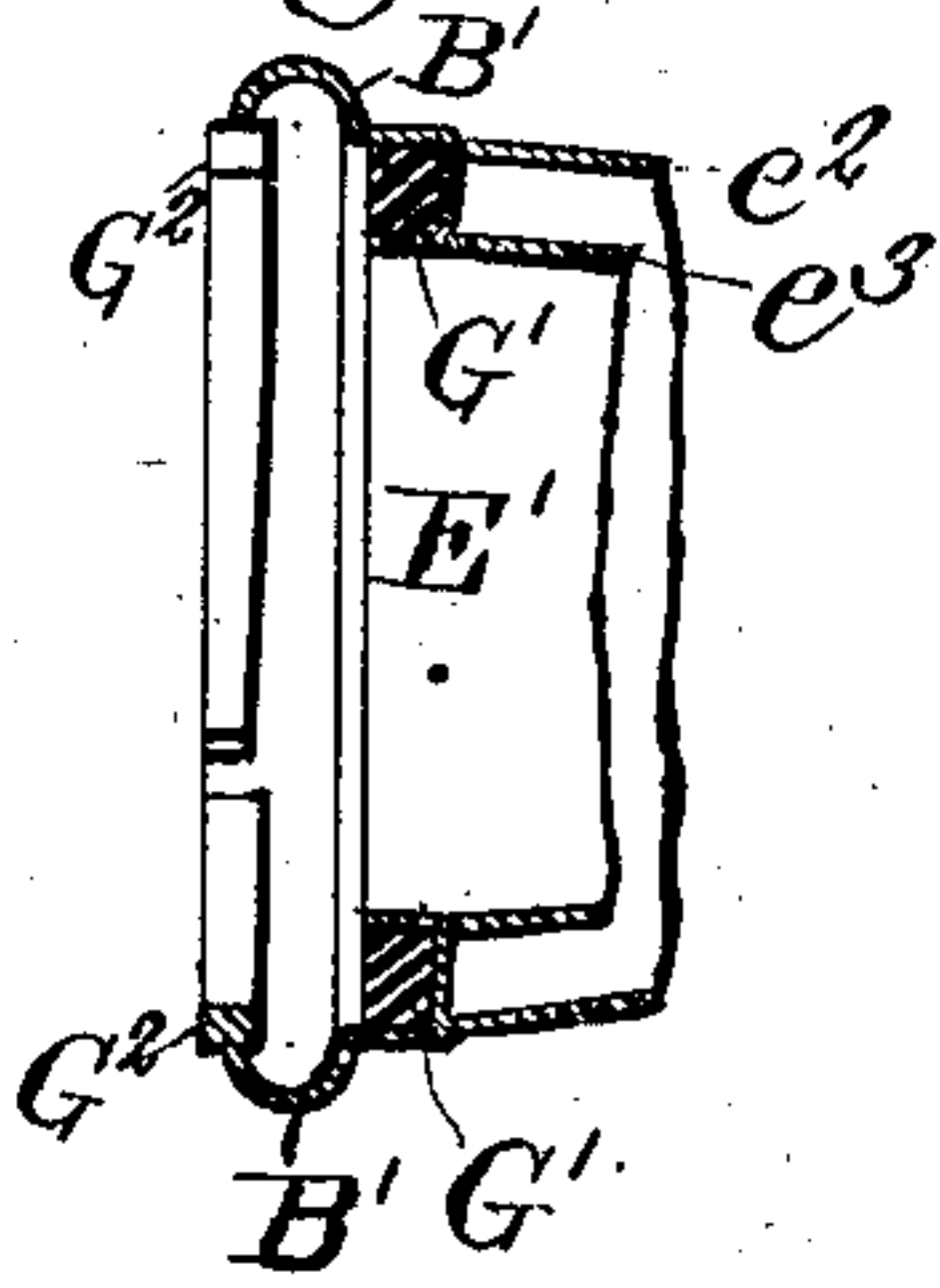
*Fig. 1.*



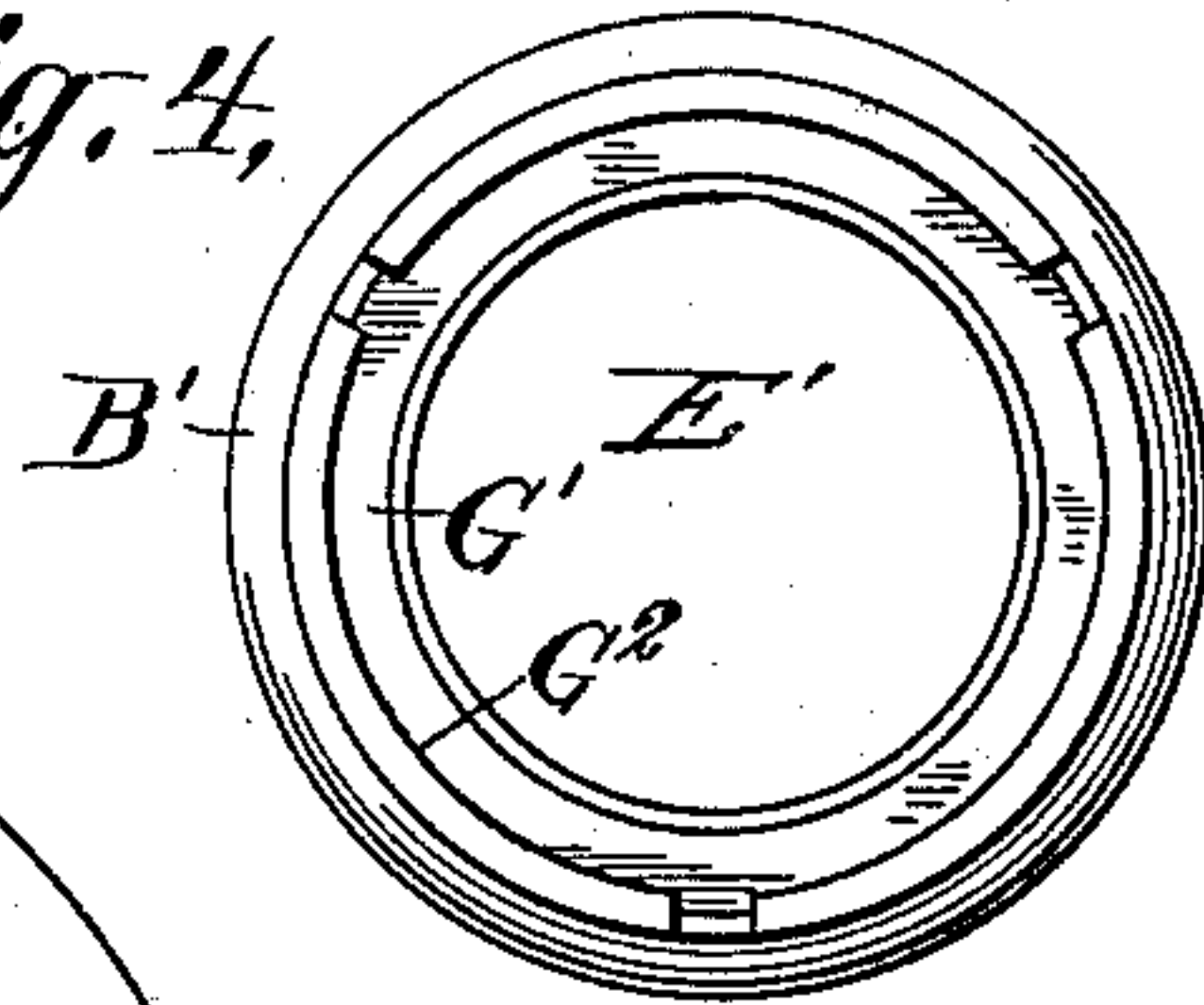
*Fig. 2.*



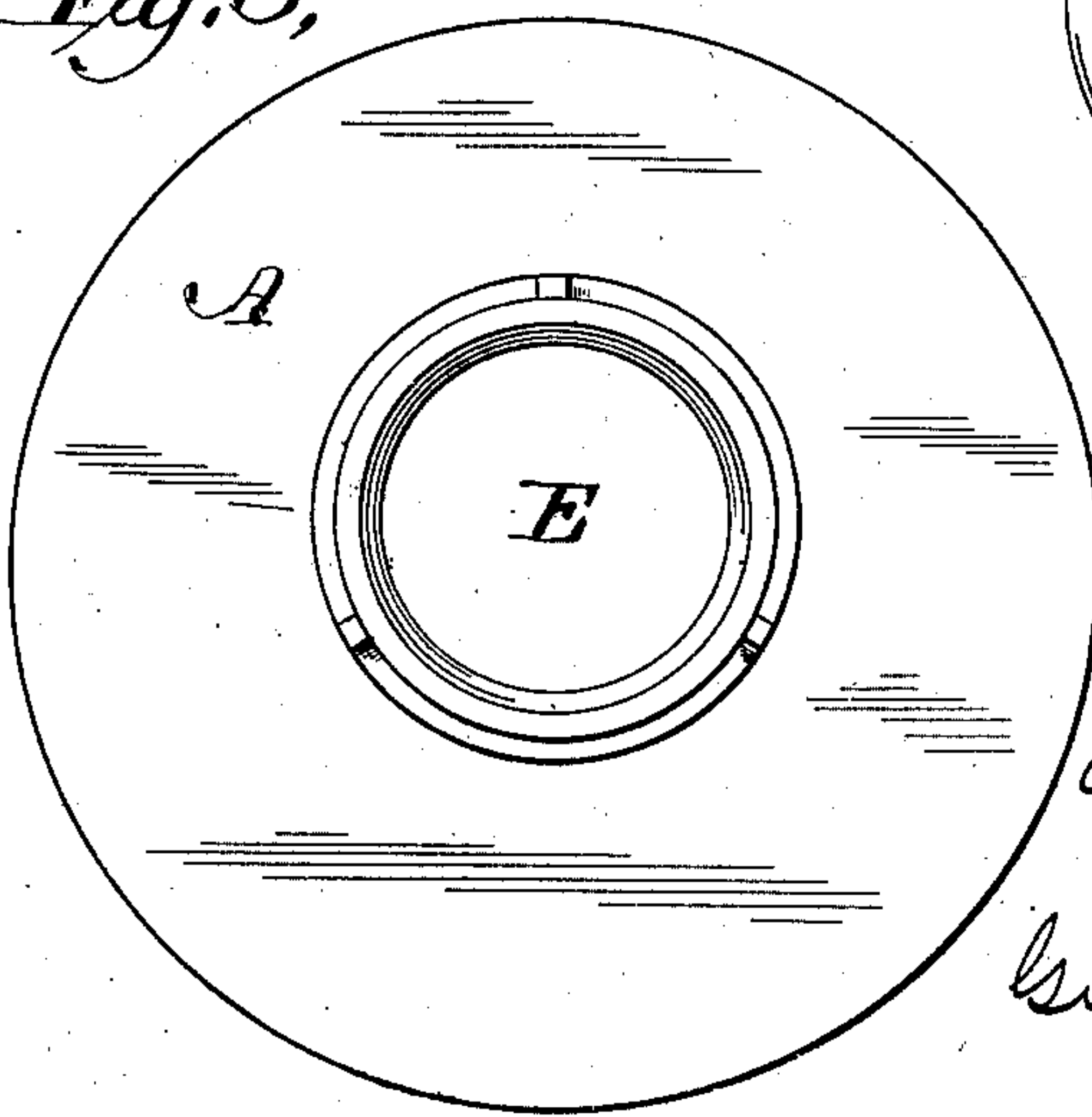
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

CHARLES I. BERG, OF NEW YORK, N. Y.

## BUOY.

SPECIFICATION forming part of Letters Patent No. 661,573, dated November 13, 1900.

Application filed July 22, 1897. Serial No. 645,562. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES I. BERG, of New York, in the State of New York, have invented a certain new and useful Improvement in Disaster-Buoys, of which the following is a specification.

My invention relates to an improvement in disaster buoys or devices designed to be detached from ships in case of accident and to float, carrying within them papers or other matter which will give some tidings of the fate of the ship.

My invention comprises the novel features which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an elevation of my device. Fig. 2 is a longitudinal section. Figs. 3 and 4 are end elevations of the two separable parts of the buoy, and Fig. 5 is a section showing the joint between sections of the buoy more in detail.

It is desirable in case of accidents to ships—as, for instance, in case of a ship foundering at sea—that some means be provided by which the records of the ship or any messages desired may be inclosed within a buoy or float, which shall be of such character that it will remain a long time upon the surface of the water, unless sooner picked up or blown to land, and which may be able to carry such records or messages. The device herein shown is a preferred form, although it is evident that the shape of the buoy might be varied from that herein shown without departing from the spirit of the invention. As herein illustrated the device is in the form of a figure of rotation which is much longer than its diameter, being pointed at each end. This is divided into the two sections E and E', the plane of division being near the center of the length of the body and substantially at right angles to its longest dimension. At about the center of the length of the body is attached a vane or disk A, which extends radially about the body and in a plane substantially at right angles to its longest dimension. Each of the sections E and E' is com-

posed of two concentric shells, the two shells  $e$  and  $e'$  forming the larger part E of the body, and the two shells  $e^2$  and  $e^3$  forming the smaller part E' of the body. The two shells of each part are joined at the end where the two parts are united, so as to form an annular air-space which will act as a float to sustain the body, even if the interior space should become filled with water. It will be observed that each part is composed of inner and outer shells when separated, and it will also be observed that when the parts are assembled there are two independent air-spaces, so that should the outer shell be pierced it will not affect the integrity of one of the air-spaces. The two concentric shells also strengthen the body materially and make it easier to maintain a water-tight joint between the two halves, and thus to prevent the ingress of water to the interior chamber. The outer shell, even if dented or battered by contact with rocks upon a beach, will protect the inner shell and make it more probable that the inner shell be kept uninjured and the interior chamber water-tight. The body of the buoy would ordinarily be constructed of some metal, preferably of some such metal as copper or aluminium, which is not affected by contact with the salt water. The parts E and E' of the body are herein shown as provided, respectively, with ribs B and B', and from the latter a number of arms  $G^2$  project inwardly, forming flanges adapted to engage lugs  $G^3$ , secured to the other part E of the body. The inner surfaces of the flanges or arms  $G^2$ , which engage the inner side of the lugs  $G^3$ , are inclined so that as the two parts are turned relative to each other they are drawn tightly together. This construction is similar to the bayonet-joint which is often used to join similar parts together.

It is evident that various other fastening means might be substituted for that shown and described without affecting my invention, the means described being given to show a desirable and convenient construction.

Upon the end of one of the parts of the buoy, as the part E', where it abuts upon the other part, and between the outer and inner shells, is formed an annular groove, within



which is placed a yielding packing-ring G', which is engaged by the end of the other half of the body to maintain a tight joint.

The vane or disk A, which surrounds the buoy, is placed slightly eccentric thereto, as clearly seen in the drawings. This increases the weight of the buoy on one side and serves to maintain the buoy constantly with one side upward. Since the radial vane or disk is perpendicular to the longest diameter of the buoy, it tends to keep its longest diameter at right angle to the wind and to present a maximum resistance to the water, thus reducing drift by the action of the wind to a minimum and keeping the buoy as near as possible stationary. As the vane or disk extends deep in the water, it will resist drifting when the buoy presents its end to the wind. The buoy is designed to be painted or otherwise made of such a color or colors as will make it a conspicuous object and one which would be readily noticed at a distance. Its shape is also such as is designed to make it readily visible at a distance. The buoy is designed to be of such weight relative to its displacement that it will float high in the water and will consequently be readily seen from a distance. The vane or disk A being placed in the position relative to the body of the buoy as shown in the drawings will present its larger area to the observer at the time when the smallest area of the buoy proper is presented to the observer. By reason of these facts the device will present a large visible area whatever the position of the buoy relative to the observer. If the buoy is lying horizontally, either the vane or disk A or the body of the buoy will be plainly visible. Should the buoy float with one end downward, the upper projecting end will be plainly visible.

As shown in Fig. 1, it is designed that the surface of the buoy be divided into sections C and D, which will be made of contrasting colors, as may also the ribs B B'. These zones or sections, as well as the ribs and the disk, may have their colors arranged according to any desired code, so as to indicate the nationality of the ship, its ownership, its class, whether sail or steam, and, in fact, any information of that character desired, so that such information may be obtained by a mere glance at the buoy. The disk A thus serves a useful purpose in addition to making the buoy visible when the body thereof presents the smallest area to the observer.

The form of connection adopted for the two halves of the buoy is one which enables the buoy to be quickly opened and closed after receiving its contents and one which will also enable the two parts to be firmly drawn together and a tight joint thus secured, while at the same time reducing the possibility of accidental opening through concussion or rotation due to being tossed by the waves.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. A disaster-buoy consisting of a hollow metal body formed in two parts and provided with interlocking and securing flanges having cam or wedge surfaces adapted to draw the parts tightly together when the two parts are given relative rotation, and a radial vane or disk extending about the buoy, substantially as described.

2. An elongated buoy adapted to float horizontally and having a vane or disk substantially as described, projecting above the same in a single plane, said vane being adapted by the action of the wind thereon to determine the position of the buoy with relation to the wind.

3. A disaster-buoy consisting of a hollow metal body formed in two parts and provided with interlocking and securing flanges having cam or wedge surfaces adapted to draw the parts tightly together when the two parts are given relative rotation, and a radial vane or disk extending about the buoy substantially perpendicular to its longest dimension, substantially as described.

4. A disaster-buoy consisting of a hollow metal body formed in two parts and provided with interlocking and securing flanges having cam or wedge surfaces adapted to draw the parts tightly together when the two parts are given relative rotation, one of said parts having an annular recess in its joining end and a compressible ring in said recess adapted to be engaged by the end of the other part to form a water-tight joint, substantially as described.

5. The combination with an elongated buoy adapted to freely float with its axis or longest dimension horizontally, and an annular vane substantially as described extending about the buoy in a plane substantially perpendicular to its axis or longest dimension.

6. A disaster-buoy having a radial vane or disk extending about it substantially perpendicular to its longest dimension, said vane or disk being mounted eccentrically upon the buoy whereby it acts to keep one side of the buoy upward at all times, substantially as described.

7. A disaster-buoy composed of inner and outer shells and divided into two separable parts provided with locking means for securing them tightly together, and a radial disk surrounding the buoy and extending substantially perpendicular to the longest dimension of the buoy, substantially as described.

8. A disaster-buoy composed of inner and outer shells and divided into two separable parts provided with locking means for securing them tightly together, and a radial vane or disk surrounding the buoy and extending substantially perpendicular to the longest dimension of the buoy, said disk being eccentrically mounted upon the buoy whereby one side of the buoy is kept uppermost at all times, substantially as described.

9. A disaster-buoy composed of two parts, each having an inner and an outer shell form-



ing a closed air-chamber, a rotative cam-lock-  
ing device for joining the two parts, a com-  
pressible packing-ring between the two parts,  
and a radial vane or disk extending about the  
5 buoy substantially perpendicular to its long-  
est dimension, substantially as described.

10. A disaster-buoy composed of two sepa-  
rable parts, each composed of inner and outer  
shells, combined with means for fastening the  
10 parts together, substantially as described.

11. A buoy comprising two hollow sections  
and means for detachably securing the hol-  
low ends of said sections together, the junc-

tion plane being substantially central of the  
buoy and perpendicular to its longest dimen- 15  
sion, and a radial projecting vane secured to  
one section adjacent to and substantially  
parallel with the junction plane of the two  
sections.

In testimony whereof I have signed my 20  
name to this specification in the presence of  
two subscribing witnesses.

CHARLES I. BERG.

Witnesses:

PIERSON L. WELLS,  
LEO WYLER.