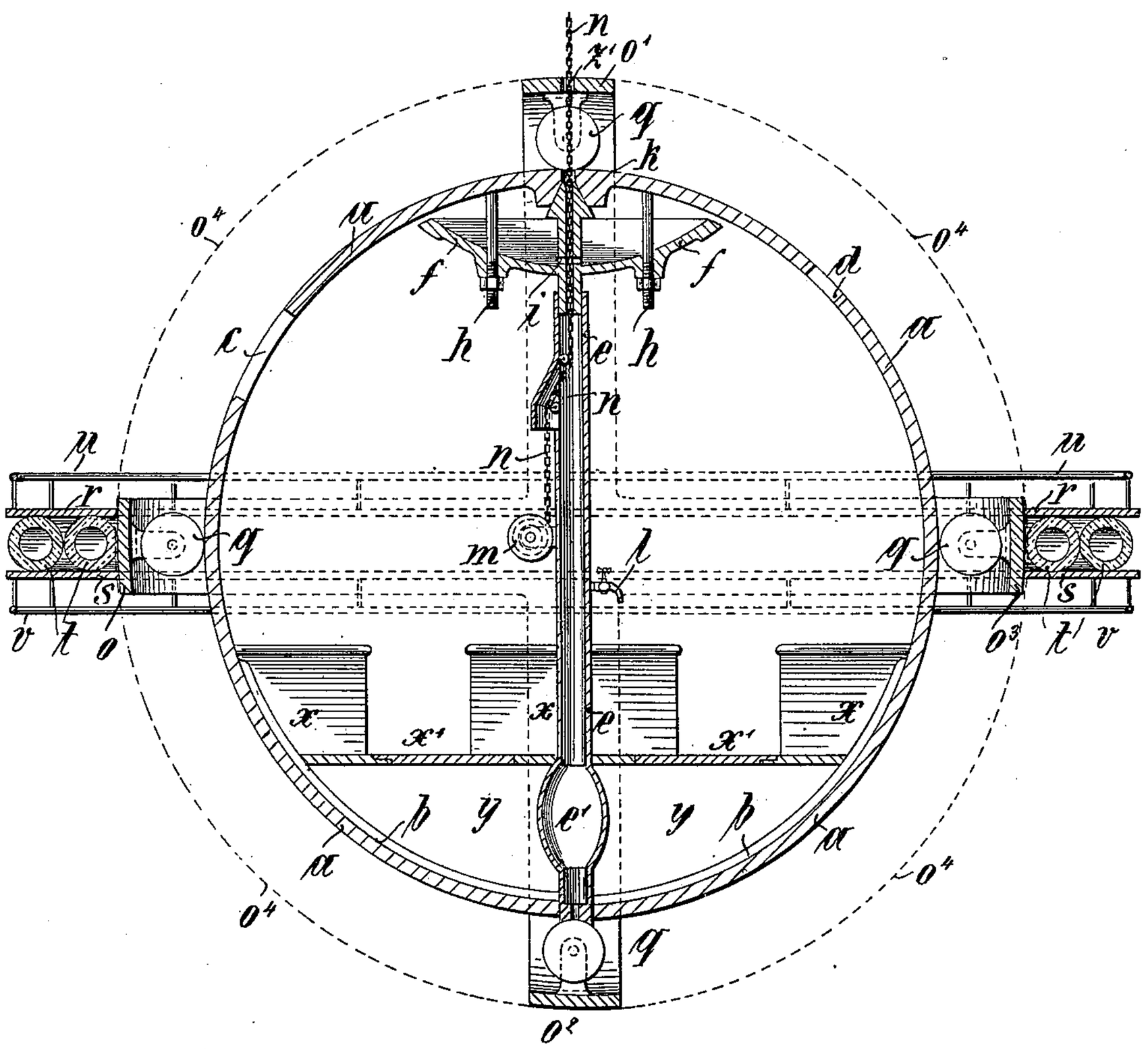
No. 675,269. Patented May 28, 1901.

J. DUNKEL.

LIFE SAVING APPARATUS.

(Application filed Jan. 21, 1901.)

(No Model.)



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UNITED STATES PATENT OFFICE.

JOSEF DUNKEL, OF FRANKFORT-ON-THE-MAIN, GERMANY.

LIFE-SAVING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 675,269, dated May 28, 1901.

Application filed January 21, 1901. Serial No. 44,198. (No model.)

To all whom it may concern:

Be it known that I, JOSEF DUNKEL, a subject of the King of Prussia, Emperor of Germany, residing at Frankfort-on-the-Main, in the Kingdom of Prussia, German Empire, have invented certain new and useful Improvements in Life-Saving Apparatus, of which the following is a specification.

My present invention relates to improvements in life-saving apparatus in case of shipwreck; and the objects of my improvements are, first, to provide accommodation for a considerable number of persons, and, second, to reduce the liability to seasickness. I attain these objects by the apparatus illustrated in the accompanying drawing in vertical section.

The apparatus consists, substantially, of a chamber to carry the shipwrecked persons and an apparatus for supporting this chamber.

As shown in the drawing, the chamber *a* for the shipwrecked is a hollow sphere, preferably stiffened inside by ribs *b*. In the wall of the sphere are provided an opening or door *c*, which can be closed by a hermetically-closing door, and windows *d*. Another opening provided at the top of the sphere is partially closed by the conical end of a tube *g*. This tube *g* passes through a plate *f*, by which it is carried, and projects a short distance into a pipe *e*, arranged in the vertical axis of the sphere. The tube *g* is secured at the proper height by any suitable means, such as screws *h*, secured to the sphere, and passing through the plate *f*, nuts being screwed on the ends, as shown in the drawings. On a floor *x'*, arranged at a convenient level, are provided seats *x*, and underneath the floor *x'* there is a space *y* for eatables, fresh-water tanks, ballast, and such like. The pipe *e* extends through the space underneath the floor *x'*, where it has an enlargement *e'*. At the bottom the pipe *e* is open, so that water can rise in the same to the same level as outside the sphere. The enlargement *e'* being full of water acts as ballast. This spherical chamber *a* is supported on rollers *q*, carried by the float or buoy *o o' o² o³*, which consists of two rings situated at right angles, forming two crossing zones. Over the apparatus are loosely and detachably secured, by means of rings *z*, a number of finely-meshed nets *o⁴* in order to diminish the force of the waves and relieve the sphere from sudden shocks tending to alter its position. In this respect the enlargement *e'* is very effective also. Around the zone or belt *o o³* are arranged two tubes *t*, filled with air, and above and below these tubes a gallery *r s*, each having a small rail *u v* extending entirely around the sphere to afford a hold for swimmers or other shipwrecked persons in the water.

My life-saving apparatus is used as follows: In case of shipwreck the inmates step through the open door *c*, the net being broken off at this point, into the chamber *a*. The door *c* is then closed and the apparatus lowered onto the sea by releasing the winch *m*, on which a chain *n* is wound. This chain *n* passes through the pipe *e*, tube *g*, and opening *z'* and is secured at the end to any suitable part of the ship. When the apparatus is afloat on the sea, the chain is released in any suitable manner and the apparatus thus liberated from the ship. If the sea is quiet, the spherical chamber *a* will be kept in a vertical position between the rollers by the ballast alone, and in such cases the necessary fresh air can be supplied in abundance by opening the door and windows. In stormy weather it is necessary, however, to close the door and windows, and in such cases the air entering through the permanently open hole at *k* will suffice. If desired, the air can be drawn in by suitable means, such as a blower. Any water likewise entering through the hole *k* will fall into the plate *f* and through the holes *i* into the pipe *e*. The tube *g* can be adjusted vertically to open or close the hole *k* more or less, according to the amount of air required.

Although this apparatus might be rocked or tossed from side to side in stormy weather, the movement, owing to the net *l*, ballast device *e'*, and the friction of the rollers *q*, will never be excessive and in no case exceed that of a ship.

A cock is provided on the pipe *e* for obtaining water in the chamber *a* when desired, and suitable means can be provided for the removal of excrements or the like.

From the above description of my apparatus it will be seen that a considerable number of persons can find refuge in the chamber *a*, where they are provided with many neces-

sities, and, what is of special importance for women and children, that the liability to seasickness is much reduced, because the chamber is prevented from swaying excessively and its movements are in greater part invisible to the inmates.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. A life-saving apparatus comprising in combination, a float or buoy, a hollow spherical chamber for the accommodation of human beings supported by, but revoluble in any direction independent of the float or buoy, and means for displacing the center of gravity of the sphere below its middle point, substantially as described.

2. A life-saving apparatus comprising in combination, a supporting float or buoy, a hollow spherical chamber for the accommodation of human beings supported by, but revoluble in any direction independent of the said float or buoy, means for displacing the center of gravity of the sphere below its middle point, and an inclosing net adapted to break the force of the waves on the sphere.

3. A life-saving apparatus, comprising in combination a float or buoy, a hollow spherical chamber for the accommodation of human beings supported by, but revoluble in any direction independent of the said float or buoy, means for displacing the center of gravity of the sphere below its middle point, a tube adapted to open or partially close an air-hole at the top of the sphere, a perforation in the side of the said tube, a plate secured to said tube below said perforation and a vertical pipe extending from the bottom of the sphere to nearly the top into the upper end of which the said tube opens, substantially as described, for the purpose specified.

4. A life-saving apparatus, comprising in combination a float or buoy, a hollow spherical chamber for the accommodation of human beings supported by, but revoluble in any direction independent of the said float or buoy, a tube adapted to open or partially close an air-hole at the top of the sphere, a perforation in the side of the said tube, a plate secured to said tube below said perforation, a vertical pipe extending from the bottom of the sphere to nearly the top into the upper end of which the said tube opens, and a ballast-pocket in the said vertical pipe receiving water from below, substantially as described, for the purpose specified.

5. A life-saving apparatus comprising in combination a float or buoy, a hollow spherical chamber for the accommodation of human beings supported by, but revoluble in any direction independent of the float or buoy, means for displacing the center of gravity of the sphere below its middle point, and a chain having one end fast within the spherical chamber, and its other end led out of the chamber and secured to some suitable part of the ship, substantially as described, for the purpose specified.

6. A life-saving apparatus comprising a spherical chamber or casing, and a float or buoy consisting of two rings crossing each other at right angles and surrounding and carrying the spherical casing, substantially as described.

7. In a life-saving apparatus the combination of a float or buoy consisting of two rings crossing each other at right angles, air-tubes inclosing one of said rings, and platforms secured to said tubes exterior to the rings, substantially as described for the purpose specified.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

JOSEF DUNKEL.

Witnesses:

JEAN GRUND,

CARL GRUND.