C. L. MENZEL.

BOAT.

APPLICATION FILED MAR. 9, 1912.

1,038,928.

Patented Sept. 17, 1912.

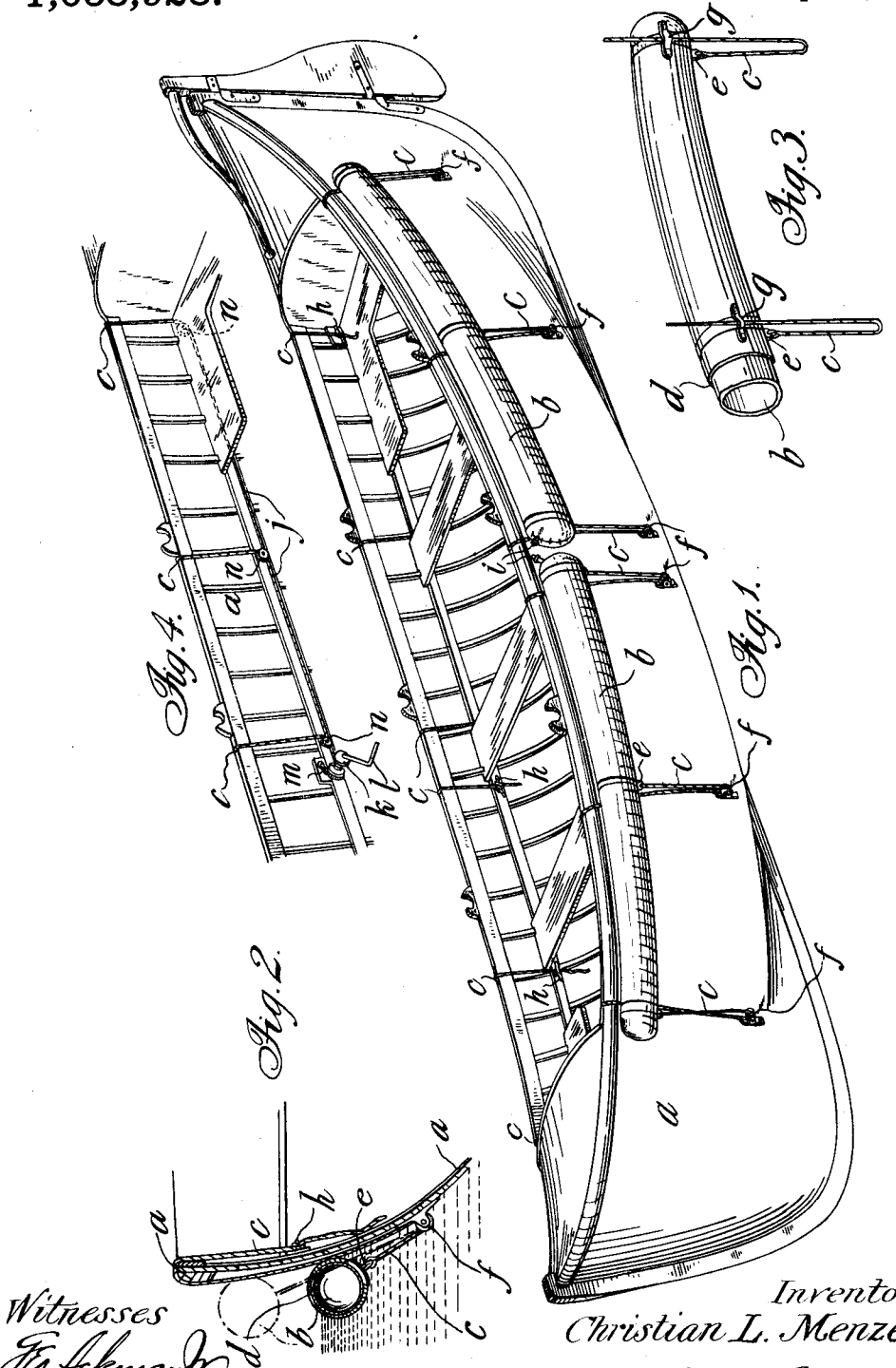

Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Witnesses

Fred. Ackeman Jr.

John A. Donegan

Inventor

Christian L. Menzel

By Victor J. Evans & Co.

Attorneys

UNITED STATES PATENT OFFICE.

CHRISTIAN LUDWIG MENZEL, OF NOBBY, QUEENSLAND, AUSTRALIA.

BOAT.

1,038,928. Specification of Letters Patent. Patented Sept. 17, 1912.

Application filed March 9, 1912. Serial No. 682,678.

To all whom it may concern:

Be it known that I, CHRISTIAN LUDWIG MENZEL, a subject of the King of Great Britain, residing at Nobby, in the State of Queensland, Commonwealth of Australia, farmer, have invented certain new and useful Improvements in or Connected with Boats, of which the following is a specification.

This invention relates to improvements in or connected with boats, which improvements have been devised in order to increase the buoyancy of a boat and to keep it afloat should it have sprung a leak or be otherwise seriously damaged. Furthermore, the improvements are exceedingly light, strong and easy to attach to a boat, while they will prevent the same from being overturned even in a very rough sea.

In the accompanying sheet of explanatory drawings:—Figure 1 is a view in perspective showing a boat fitted with the invention, while Figs. 2, 3 and 4 are views showing constructional details of the invention hereinafter fully described.

In these drawings like characters of reference have been employed to indicate similar parts in the different views and the letter *a* designates the boat which may be of the type shown or of any other approved design.

The improvements consist essentially in providing a plurality of inflatable air-tight tubes or elongated flexible compartments *b* which may be secured adjustably to the sides of the said boat by means of cords *c* or other flexible members. These air-tight tubes or compartments *b* may be constructed of rubber surrounded or reinforced with a canvas or other woven fabric covering *d* or it may be made of fairly thick vulcanized rubber or of prepared canvas or like material. The said tubes or compartments *b* are placed end to end and completely or partially surround the outer periphery of the boat, and their diameters may be less at the bow and stern ends than at the center thereof. A suitable number of loops *e*, rings or the like are attached to or formed on the lower parts of the said tubes or compartments *b* and to these said rings are affixed the ends of the ropes or cords *c* which pass downwardly to and around pulleys *f* or the like secured to the side portions of the boat. From the said pulleys *f* the ropes or cords pass upwardly through loops *g*, rings or the like formed on the inside of the coverings *d* of the tubes or compartments, over the gunwales of the boat and then fasten in an approved way within the boat as to cleats *h* or the like. By means of these ropes *c* and pulleys *f* the air-tight tubes or compartments can be raised or lowered to any desired height relatively to the sides of the boat in order to meet existing requirements. The said tubes when not in use may be folded up and strapped neatly against the sides of the boat so as to occupy a very small space and prevent injury through coming into contact with hard objects when in motion. The said tubes or compartments *b* are fitted with valves *i* to permit of them being inflated by means of an air pump in any approved way and preferably when near the gunwale of the boat.

When inflated, the tubes or compartments *b* can be lowered or forced into the water to a point whence their greatest amount of buoyancy may be obtained by pulling on the ends of the cords *c*. When correctly located the said tubes or compartments may be retained in position by securing the cords *c* to the cleats *h* or other approved devices within the boat.

The object of the loops *g* is to insure the tubes or compartments being retained at all times close to the sides of the boat, at the same time leaving them free to move on the cords *c*.

The improvements are extremely simple and can be readily detached from a boat and the tubes or compartments deflated so as to be packed into a very small compass and conveniently placed to preserve them from injury from any cause whatsoever. Moreover, the free ends of the cords *c* may be connected up in such a way that all those fitted to one section of the tubes or compartments may be operated simultaneously and can be retained fixedly in a desired position by a single fastening device—see Fig. 4. In this said view the ends of the cords *c* are shown passing over the gunwale of the boat and down to a horizontal cord *j* which is connected to a small winding drum *k* fitted with an operating handle *l* and retaining pawl *m*. The said cords *c* pass around rollers *n* of any approved form which are fitted to the inside of the boat and act as guides to insure the cords *c* operating in a satisfactory manner. When the handle *l* is rotated the cord *j* is wound upon the drum *k* and the cords *c* are

drawn into the boat thereby elevating the inflatable tubes *b*. The said tubes may be lowered by raising the pawl *m* and reversing the motion of the handle *l*, when the said tubes will descend by gravity to the desired point. The handle *l* on the winding drum *k* may be made collapsible or detachable to economize space within the boat and one drum may be used to simultaneously wind the cord *j* of two adjacent tubes or compartments.

What I do claim is:—

1. The combination with a boat, of inflatable and collapsible tubes or compartments surrounding the outer periphery of said boat, cords secured to said tubes and passing downwardly to and around pulleys fitted to the sides of the boat, loops or rings on the inside of said tubes for engaging said cords and means for securing the free ends of the said cords, substantially as described and for the purposes set forth.

2. The combination with a boat, of externally disposed inflatable and collapsible tubes or compartments surrounding the outer periphery of said boat, cords attached to said tubes and passing around rollers on the outside and inside of the boat and having their opposite ends secured to horizontal cords within the boat, and a winding drum fitted with a handle and retaining pawl for operating said horizontal cords, substantially as described and illustrated and for the purposes set forth.

In witness whereof I have signed this specification in the presence of two witnesses.

CHRISTIAN LUDWIG MENZEL.

Witnesses:

L. F. BERNAYS,

E. C. BERNAYS.