

No. 735,323.

PATENTED AUG. 4, 1903.

J. L. WATSON.
DIVING APPARATUS.
APPLICATION FILED NOV. 12, 1902.

NO MODEL.

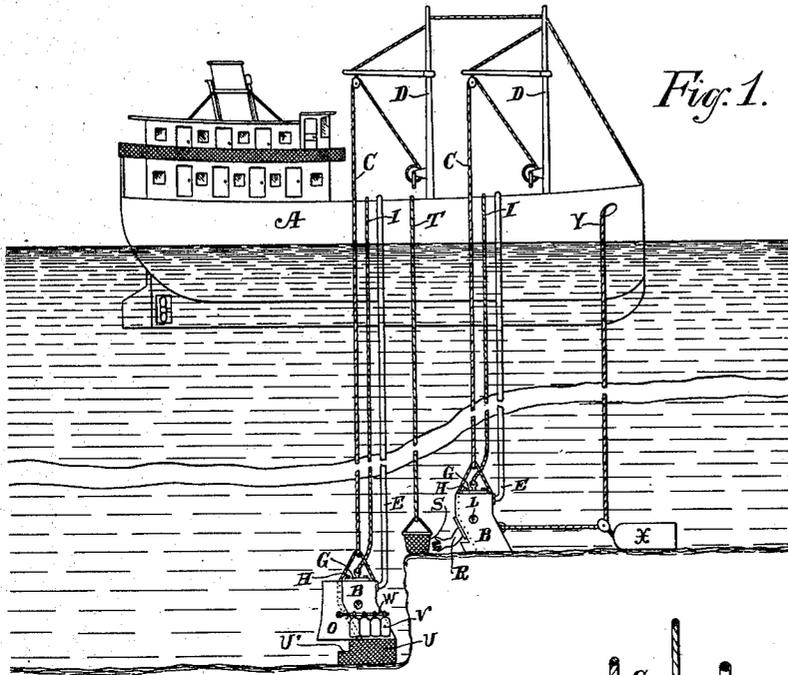


Fig. 1.

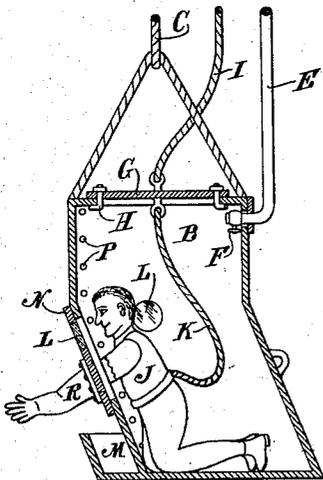


Fig. 2.

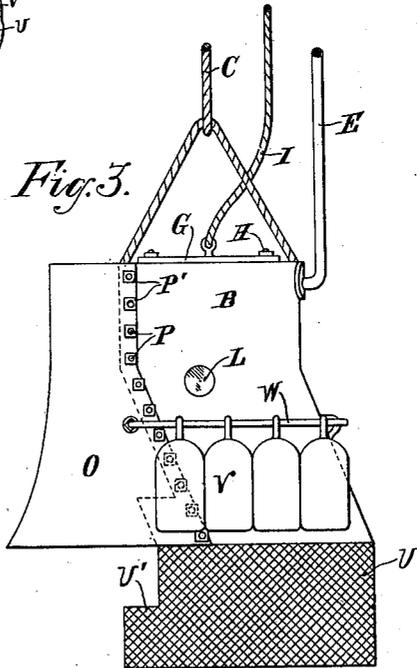


Fig. 3.

WITNESSES
Chas. L. Snyder
M. B. Mickelson.

INVENTOR
John L. Watson.
BY Hazard & Harpham
ATTORNEYS.

UNITED STATES PATENT OFFICE.

JOHN L. WATSON, OF LOS ANGELES, CALIFORNIA.

DIVING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 735,323, dated August 4, 1903.

Application filed November 12, 1902. Serial No. 131,036. (No model.)

To all whom it may concern:

Be it known that I, JOHN L. WATSON, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, State of California, have invented new and useful Improvements in Diving Apparatus, of which the following is a specification.

My invention relates to means to enable a person to descend into the water and examine the bottom and remove anything therefrom without coming in contact with the surrounding water; and the object thereof is to provide means to accomplish the same in a safe, efficient, and economical manner. I accomplish this object by means of the mechanism described herein and illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of my diving apparatus in working position in the water and secured to a boat at anchor. Fig. 2 is a vertical section of the diving-bell, and Fig. 3 is a side elevation of my diving-bell and attachments for use in deep water.

Referring to the drawings, A is a vessel adapted for use in any business in which a diving-bell is used.

B is the diving-bell, which is secured to the vessel by cable C, which is operated by derrick D in the usual manner, said derrick being secured upon the vessel. Said bell is provided with an air-hose E, through which air is supplied to the interior of the bell in the usual manner. On the inner end of the hose is a valve F, by means of which communication through the hose with the interior of the bell may be cut off in case the hose should accidentally be punctured, and thus prevent the water from flooding the bell.

When in use in shallow water, the air-hose is preferably large enough to permit the air to naturally pass therethrough; but when used in deep water the air-hose is preferably smaller and an air-pump (not shown) is used to force the air into and out of the bell in the usual manner. In the top of the bell is the removable cover G, which is secured to the top of the bell by bolts H, which can be turned by the diver when in the bell, so as to unloosen the cover from the bell. The cover is connected with the vessel by a rope or cable I and is secured to the diver J by

rope K, so that in case the bell gets fouled on the bottom or any accident happens there-to so that it cannot be promptly raised the diver can unloosen the cover and be hauled up to the surface by the ropes. The bell is provided with a convenient number of dead-lights L to enable the operator to view the bottom.

If desired, the bell can be connected by insulated wires with the vessel, and a telephone and electric lights may be installed therein.

The lower portion of the bell is preferably on a slant, as shown in the drawings, for the convenience of the operator, and is provided with a tool-box M, in which such tools as may be desired for use at the bottom of the water may be placed. In that portion of the bell which slopes toward the center of the bottom I have provided a door N, which may be opened outwardly by the operator to enable him to use a tool directly on the bottom with unincumbered hands.

To prevent the air escaping from the bell when the door is opened, I have provided a removable hood O, which is attached to the body of the bell by studs P, having nuts P', which at all times prevent any water entering the bell. The door is provided with a couple of flexible water-tight sleeves R, which terminate in glove-shaped ends to receive the hands and arms of the operator when the door is closed, so that he can use his hands without permitting the entrance of the water into the bell. These arms may be reinforced by spring-wire, if desired, to prevent too great pressure of the water on the hands and arms of the operator.

In Fig. 1 I have shown a retrieving-basket S in position near the bell that is not provided with a hood for the reception of any article that it may be desired to have removed from the bottom. This basket is operated by rope T, connected with the vessel. Where the bell is to be used in deep water, I prefer to attach to the bottom thereof a wire cage U, having an opening at U', through which articles to be removed from the bottom may be placed. This cage is adapted for use and is used only when the door is to be opened and the hood is in place on the bell. It will be understood that the bell is closed at the

bottom and is an air-tight vessel when the door is closed. It will also be understood that the hood is open at the bottom and is closed at the top and that its contact with the body of the bell is an air-tight joint. When the door is to be opened, there must be a sufficient air-pressure in the bell to prevent the water from entering therein. When the bell is to be used in very deep water, I provide a plurality of weights to be attached near the bottom thereof. These I have shown as bags of sand V, which are secured to rod W, which is removably secured to the hood. In shallow water the bell and vessel are preferably secured to the same anchoring-weight X by cable-rope Y.

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

1. In a diving apparatus the combination with a working chamber of a removable cover; a rope attached to the top of said cover; a rope attached to the under side of said cover adapted to be secured to the operator in said working chamber.

2. In a diving apparatus, the combination with the working chamber thereof of a removable cover for said chamber, said cover having a connection for raising the same; a connection from said cover to the operator in said chamber; means for lowering said working chamber.

3. In a diving apparatus the combination with the working chamber of a removable cover provided with elevating means and also with a device to be secured to the body of

the operator in said chamber, and means for lowering and hoisting said chamber.

4. A diving apparatus consisting of a working chamber provided with a removable cover having elevating means attached thereto; means secured to the cover adapted to be secured to the operator; attachments leading from the chamber to a boat or scow; an anchor; means for supplying air to the chamber, and means for raising and lowering the anchor, and the chamber from said boat or scow.

5. In a diving apparatus the combination of a working chamber; a hood removably secured to said chamber on one side thereof; a door in said chamber within said hood; means to supply said chamber with air; means to lower and hoist said chamber.

6. In a diving apparatus the combination with a working chamber of a hood removably secured to said chamber on one side thereof; a door in said chamber within said hood; means to supply said chamber with air; means to lower and hoist said chamber; a wire cage affixed to the bottom of said chamber and having an opening into the top thereof; removable weights attached to said chamber; and a vessel.

In witness that I claim the foregoing I have hereunto subscribed my name this 6th day of November, 1902.

JOHN L. WATSON.

Witnesses:

G. E. HARPHAM,
HENRY T. HAZARD.