

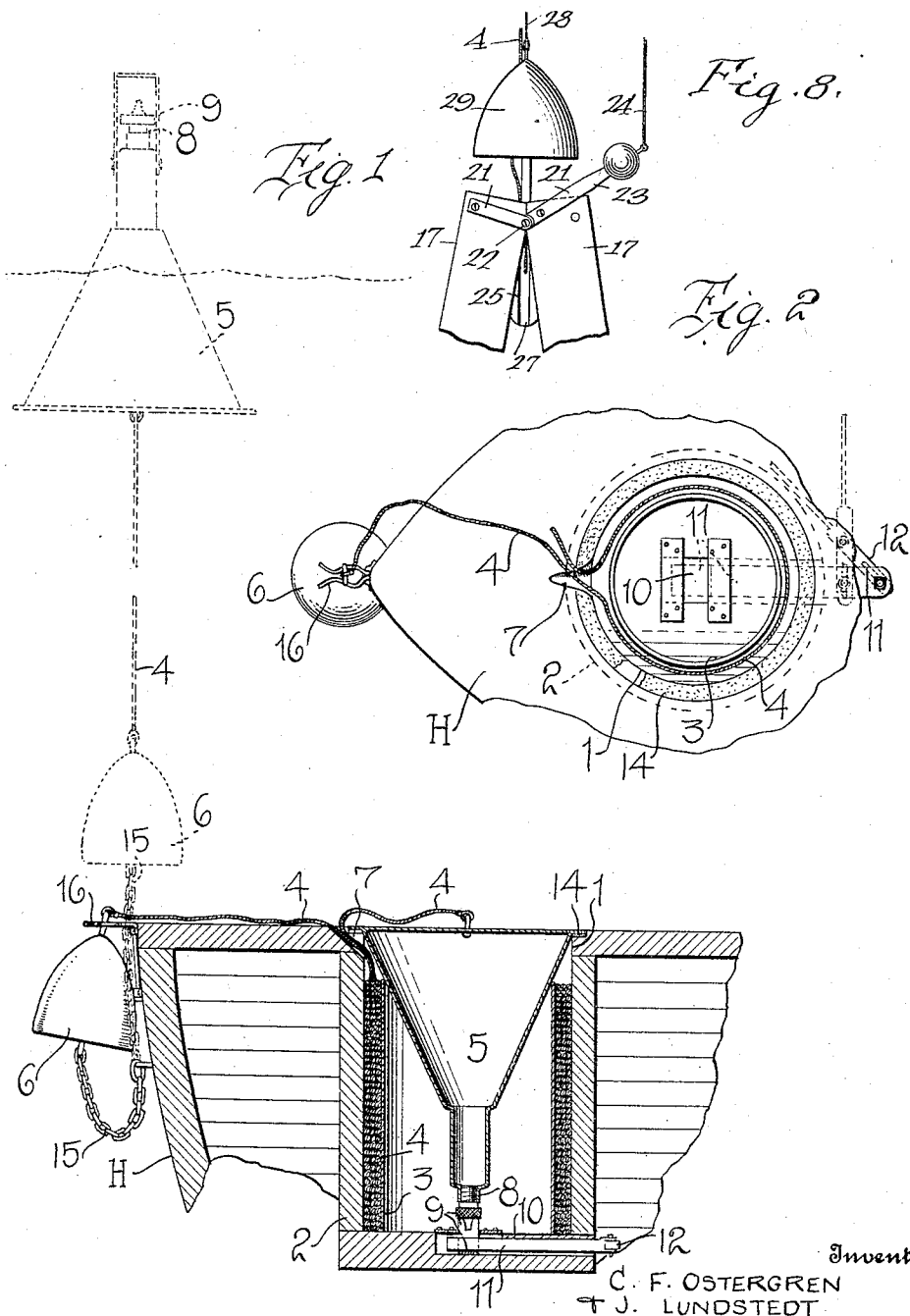
C. F. OSTERGREN & J. LUNDSTEDT.
MEANS FOR RAISING SUBMERGED BODIES.

APPLICATION FILED AUG. 9, 1915.

1,177,889.

Patented Apr. 4, 1916.

2 SHEETS—SHEET 1.



Inventors

C. F. OSTERGREN
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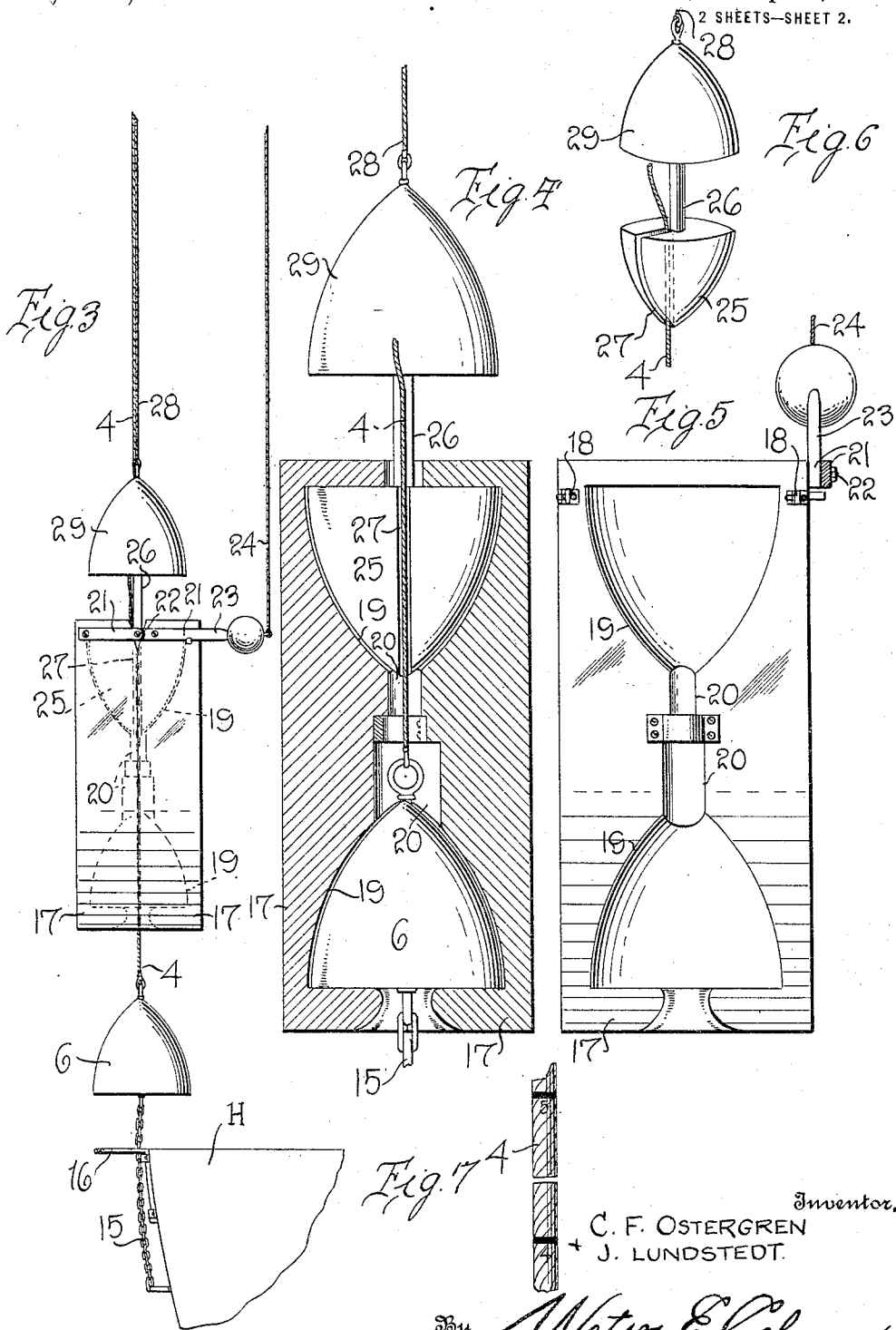
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UNITED STATES PATENT OFFICE.

CHARLES F. OSTERGREN AND JOHN LUNDSTEDT, OF HELENA, MONTANA.

MEANS FOR RAISING SUBMERGED BODIES.

1,177,889.

Specification of Letters Patent.

Patented Apr. 4, 1916.

Application filed August 9, 1915. Serial No. 44,478.

To all whom it may concern:

Be it known that we, CHARLES F. OSTERGREN and JOHN LUNDSTEDT, citizens of the United States, residing at Helena, in the county of Lewis and Clark and State of Montana, have invented certain new and useful Improvements in Means for Raising Submerged Bodies, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in means for raising submerged bodies, and it is an object of the invention to provide novel and improved means of this general character whereby a vessel or the like is provided with an indicating mechanism for disclosing its location when submerged together with mechanism guided by the indicating mechanism whereby the submerged vessel or the like may be suitably engaged for the purpose of raising the same.

The invention consists in the details of construction and in the combination and arrangement of the several parts of our improved means for raising submerged bodies whereby certain important advantages are attained and the device is rendered simpler, less expensive and otherwise more convenient and advantageous for use, all as will be hereinafter more fully set forth.

The novel features of the invention will be carefully defined in the appended claims.

In order that our invention may be the better understood, we will now proceed to describe the same with reference to the accompanying drawings, wherein—

Figure 1 is a view, partly in elevation and partly in section, illustrating the float and its concomitant parts, a second position of the float being indicated by dotted lines; Fig. 2 is a view in top plan of the device as disclosed in Fig. 1; Fig. 3 is a view in elevation illustrating the grapple or diver as herein embodied in a position about to engage the head of the float mechanism; Fig. 4 is an enlarged sectional view taken through the grapple or diver as herein embodied in engagement with the head of the float mechanism; Fig. 5 is a view, partly in elevation and partly in section, illustrating one of the members of the improved grapple or diver as herein disclosed; Fig. 6 is a view in perspective, detached, of one of the heads herein disclosed; Fig. 7 is a fragmentary view, enlarged, of one of the members here-

in embodied and disclosing the linear measure indications; Fig. 8 is a fragmentary view in side elevation illustrating the members of the grapple or diver, as herein embodied, in an open adjustment.

As herein embodied, H denotes the hull of a vessel having produced in the deck thereof an opening 1 in communication with the depending tank 2 in which is positioned the drum 3, said drum 3 being of a diameter less than that of the interior of the tank 2 and having normally wound therearound the flexible member 4, one extremity of said flexible member being secured to the buoyant body 5 while the opposite extremity of said flexible member is secured to the head 6, said head being substantially conical in form with the flexible member secured to the apex thereof. The intermediate portion of the flexible member is disposed around the drum 3 and in order that the end portions of said flexible member may be directed exteriorly of the tank 2, a marginal portion thereof is recessed, as at 7. It is to be observed that the float 5 serves as a closure for the tank 2 and, as herein set forth, said float is substantially conical in form and having its apex provided with an extension 8 having means whereby said float may be charged with air or the like, and said extension is further provided with the yoke 9 adapted to be positioned within the recess 10 produced in the base of the tank 2 and engaged by the key 11 whereby said float may be normally maintained in applied position relative to the tank 2.

The key 11 is adapted for endwise movement to engage or release the float and, as herein disclosed, one extremity of said key extends exteriorly of the tank 2 and has co-acting therewith the rock member 12 whereby the desired movement may be imparted to the key as the necessities of practice may require. It is also to be observed that the float 5 is provided with a marginal flange adapted to overlie the marginal portion of the opening 1 and coacting with said flange is a gasket 14 of suitable material whereby ingress of water or other foreign substances within the tank 2 is prevented. The head 6 is also secured to the hull H through the medium of the flexible member 15 preferably a linked chain, and the head 6 is adapted to be normally supported by the spring lock 16 mounted for swinging movement so that the head 6 may be readily released from

the lock irrespective of the position the submerged hull H may assume.

In practice, we find it especially desirable to have the flexible member 4 suitably divided into linear measure so that the depth at which the submerged body lies may be readily and conveniently determined. Upon the sinking of the body or hull H, the float 5 is manually released whereupon the same will rise to the surface of the water and upon being located by a rescuing party our improved grapple is employed, and, as herein embodied, said grapple or diver, as it may be termed, comprises two elongated members 17 preferably rectangular in form and of predetermined dimensions having adjacent extremities hingedly connected, as at 18, and the opposed faces of said members 17 adjacent opposite ends thereof are provided with the recesses 19 intersected by the grooves 20, said grooves 20 forming a bore through which the flexible member 4 is adapted to be disposed whereby the grapple or diver will be suitably guided in order to engage the head 6, it being understood that the hinged portions of the members 17 are uppermost when the grapple or diver is applied to the flexible member 4. It is also to be understood that the head 6 is detached from the spring lock 16 before the diver or grapple is permitted to descend, said heads 6 being released from the lock 16 by pull upon the flexible member 4. It will also be readily perceived that the head 6 will pass between the members 17 and be received within the compartment afforded by the adjacent recesses 19, said recesses being of such configuration as to snugly house the head 6 therein. In order to positively assure the requisite opening or separation of the members 17, we provide the hinged extremities thereof with the levers 21 having their adjacent extremities pivotally engaged, as at 22, one of said levers being provided with the extension 23 with which is engaged the flexible extension 24 whereby it will be perceived that upon upward pull being given to the flexible member 24, the free extremities of the members 17 will be caused to separate so as to properly engage the head 6, and during which operation the upper ends of the contacting faces of the members 17 serve as a fulcrum, it being understood that when the jaws 17 are in the position shown in Fig. 3 of the drawings, that the pintle of the hinges 18 are located below the levers 21. Positioned within the pocket afforded by the upper recesses 19 is a head 25 provided with the shank 26 projecting upwardly through the bore of the diver or grapple, and said head 25 is provided with the slot 27 through which the flexible member 4 is adapted to be disposed so that no obstruction will be offered to the movement of our improved

diver or grapple along said member 4. The outer extremity of the shank 26 has secured thereto the lifting cable 28 whereby the submerged body may be raised and we also find it of advantage to provide the outer end portion of the shank 26 with a head 29 with which a second grapple or diver may coact if the necessities of practice should so require.

While we have hereinbefore described but a single float together with its concomitant parts, it is to be understood that as many may be employed as deemed expedient by the necessities of practice.

From the foregoing description, it is thought to be obvious that means for raising submerged bodies constructed in accordance with our invention is of an extremely simple and comparatively inexpensive nature and is particularly well adapted for use by reason of the convenience and facility with which it may be assembled, and it will also be obvious that our invention is susceptible of some change and modification without material departure from the principles and spirit thereof and for this reason we do not wish to be understood as limiting ourselves to the precise arrangement and formation of the several parts herein shown in carrying out our invention in practice.

We claim:

1. In combination with a body, a head secured thereto, a float, and a flexible connection between the float and the head, a grapple comprising two hingedly connected members, the opposed faces of said members being provided with recesses and with grooves intersecting said recesses to afford a channel through which the flexible connection is adapted to pass, the recesses of the members being adapted to receive the head, means for imparting relative movement to the members, said means comprising pivotally connected levers carried by the members adjacent the hinged connection between the members, and a flexible member operatively engaged with one of said levers.

2. In combination with a body, a head detachably secured thereto, a float and a flexible connection between the float and the head; a grapple comprising relatively movable sections and adapted to have the flexible connection disposed therethrough, opposed faces of said sections being provided with recesses to receive the head, levers pivotally engaged with the members adjacent an end thereof, said levers being pivotally connected one with the other, and a flexible member operatively engaged with one of said levers.

3. In combination with a body, a head secured thereto, a float and a flexible connection between the float and the head; a grapple comprising relatively movable sections and adapted to have the flexible con-

nection disposed therethrough, opposed
faces of the sections being provided with
recesses adjacent the opposite extremities
thereof, the recesses adjacent one end of the
5 grapple being adapted to receive the head,
a second head positioned within the recesses
adjacent the opposite end of the sections,
a shank projecting from said second head,
and a third head secured to the outer end
10 of the shank, said third head being pro-

vided with a slot through which the flexible
member is disposed.

In testimony whereof we hereunto affix
our signatures in the presence of two wit-
nesses.

CHARLES F. OSTERGREN.
JOHN LUNDSTEDT.

Witnesses:

H. S. HEPNER,
L. E. MERRIFIELD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents,
Washington, D. C."