No. 886,194. PATENTED APR. 28, 1908.

C. DOWNER & E. H. SIMPSON.

DEVICE FOR RAISING VESSELS.

APPLICATION FILED SEPT. 17, 1907.

Fig. 1.

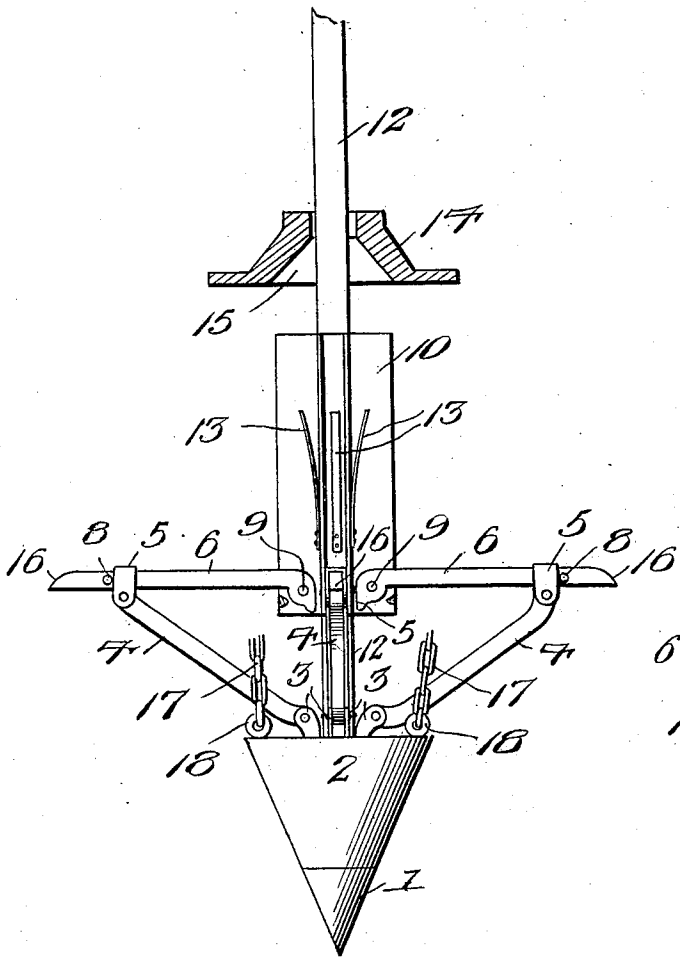
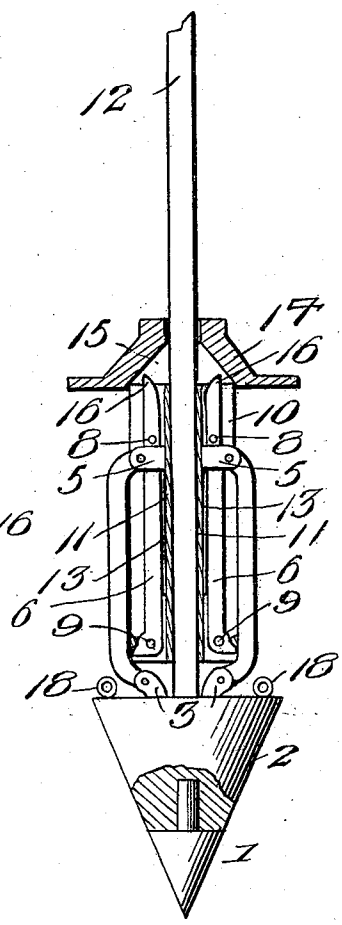


Fig. 2.



Witnesses

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UNITED STATES PATENT OFFICE.

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DEVICE FOR RAISING VESSELS.

No. 886,194. Specification of Letters Patent. Patented April 28, 1908.

Application filed September 17, 1907. Serial No. 393,307.

To all whom it may concern:

Be it known that we, CHARLES DOWNER and EUGENE H. SIMPSON, citizens of the United States, residing at Blaine, in the county of Whatcom and State of Washington, have invented new and useful Improvements in Devices for Raising Vessels, of which the following is a specification.

This invention relates to devices for raising sunken vessels and one of the principle objects of the same is to provide devices which are adapted to be driven down through the deck of the vessel, said devices having arms which are adapted to spread under the deck and to provide a firm grapple by means of which the vessel may be raised to the surface.

Another object of the invention is to provide devices designed to be driven into a sunken vessel, said devices having arms which are held in retracted positions during the driving of the devices and which are adapted to be thrown outward to engage the vessel after they have been driven and to provide firm grapples by means of which the vessel may be raised to the surface.

These and other objects may be attained by means of the construction illustrated in the accompanying drawing, in which:—

Figure 1 is a side elevation and partial section of a grapple device made in accordance with our invention, said grappling device being shown with the arms extended. Fig. 2 is a similar figure of the grapple with the arms retracted in position to be driven.

Referring to the drawing for a more specific description of our invention, the numeral 1 designates a steel point which is connected to a cone 2. On the upper surface of the cone 2 is a series of lugs 3 and pivoted to said lugs are arms 4, said arms having pivotally connected to their outer ends stirrups or keepers 5 mounted to slide upon levers 6, said levers being provided with stop pins 8 for said stirrups or keepers. The levers 6 are pivoted at 9 to a sliding member 10 having a centrally disposed tubular bearing 11 for the drive rod 12, the lower end of which drive rod bears against the upper surface of the cone 2. Springs 13 secured to the member 10 are designed for throwing the levers 6 outward. The upper ends of the levers 6 are held against the tubular portion 11 by means of a cap 14, said cap having a recess 15 in the under side, the walls of which engage the upper ends 16 of the levers 6 during the driving operation. It is to be noted that there are four of the levers 6 and the arms 4, as shown in Fig. 1. The lifting chains 17 are connected to eyes 18 secured to the cone 2.

The operation of our invention may be briefly described as follows:—With the grapple arranged as shown in Fig. 2, the point 1 is driven through the deck or other portion of the sunken vessel by means of a pile driver acting upon the upper end of the drive rod 12. When the grapple has been driven through the deck, the upper surface of the deck comes into contact with the lower surface of the cap 14 and this releases the levers 6 and the arms 4 and permits them to assume the position shown in Fig. 1 underneath the surface of the deck. When a sufficient number of grapples have been attached to the sunken vessel, the drive rod 12 may be removed and the lifting chains 17 connected to suitable winding mechanism, not shown, for raising the sunken vessel.

From the foregoing it will be obvious that our invention is of comparatively simple construction and will operate efficiently for the purpose designed.

Having thus described the invention, what is claimed as new, is:—

1. In a device for raising sunken vessels, a penetrating point, a cone to which said point is connected, arms pivoted to said cone and slidingly connected to levers, a tubular member to which said levers are pivoted and a drive rod extending through said tubular member, springs for throwing the levers outward and a cap for holding the levers in retracted positions.

2. In a device of the character described, a grapple comprising a point, a cone to which said point is secured, arms pivoted to said cone, levers connected with said arms, a slid-

ing member to which said levers are pivoted, means for holding said arms and levers in retracted positions, a drive rod for driving said grapple, and hoisting chains connected thereto.

3. In a device of the character described, a penetrating point, a cone to which said point is connected, arms pivoted to the cone, levers slidably connected to said arms, a sliding member to which said levers are pivoted, a detachable drive rod, and lifting chains.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES DOWNER.
EUGENE H. SIMPSON.

Witnesses:
FRANK W. LEES,
SAMUEL W. COX.