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M. OSBORN.

Wrecking Apparatus.

No. 144,125. Patented Oct. 28, 1873.

Fig. 1.

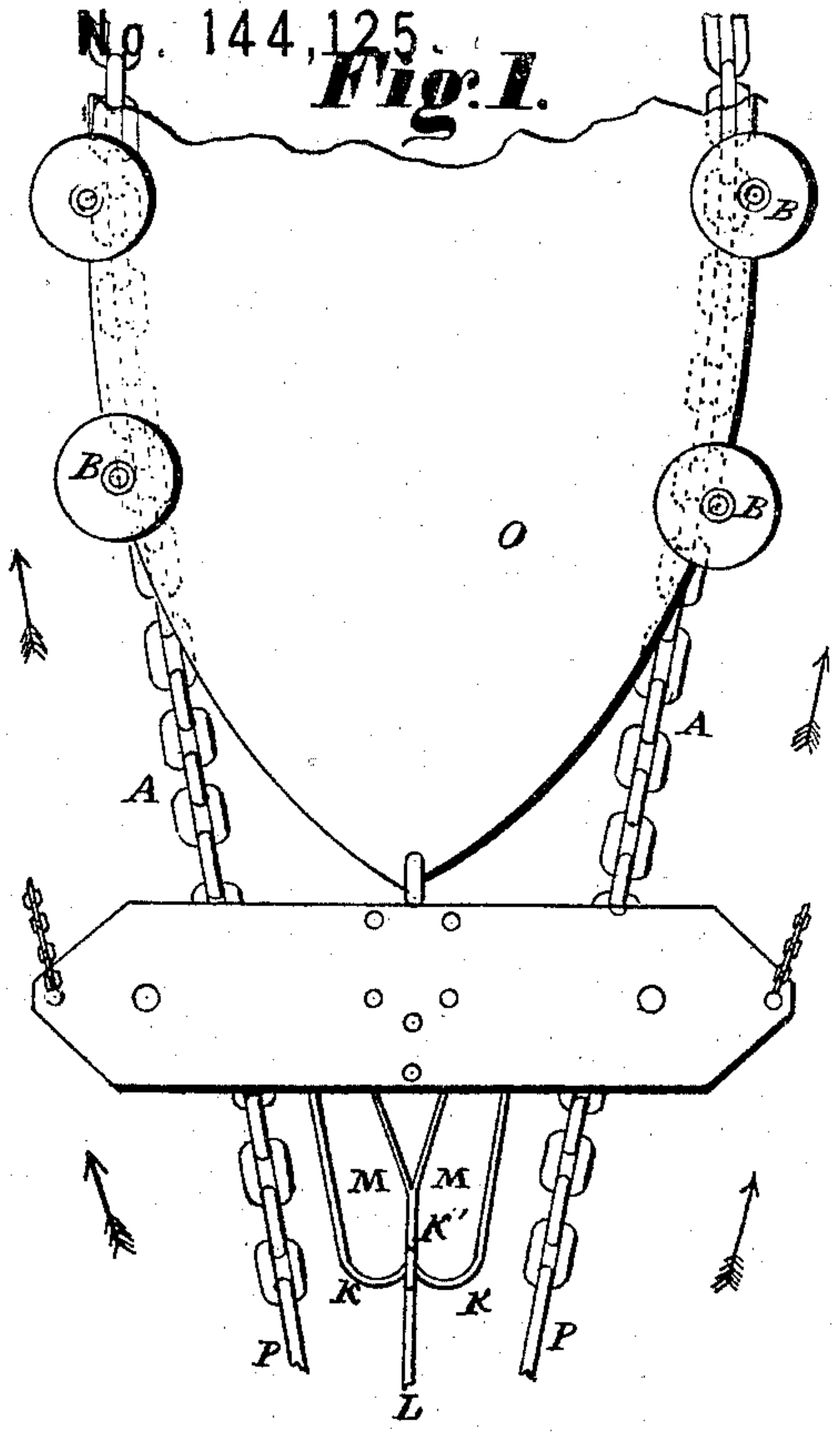


Fig. 2.

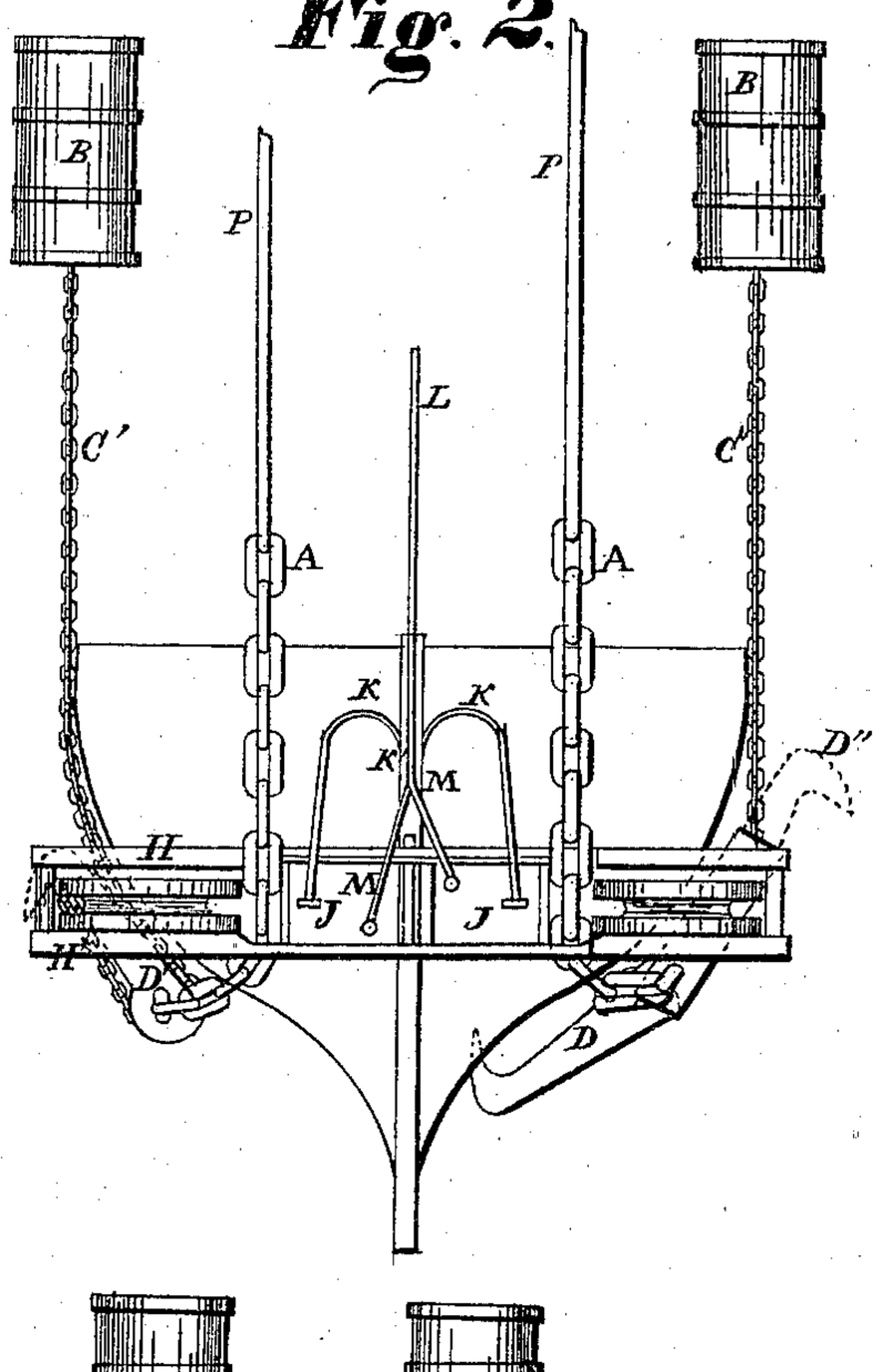
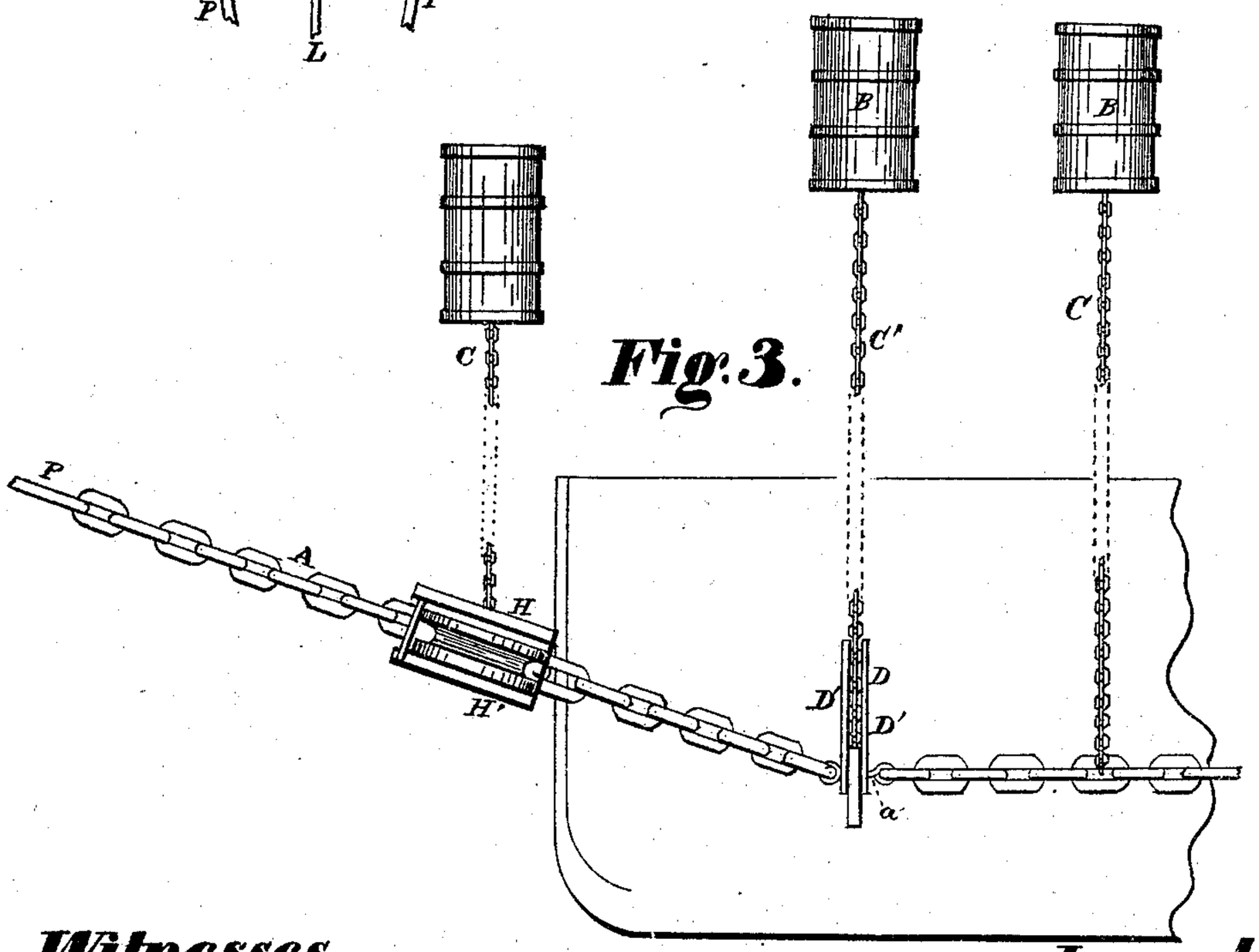


Fig. 3.



Witnesses.

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Bradford Haviland

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Milo Osborn.

Per. Burridge & Leo.

Attys.

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Fig: 6.

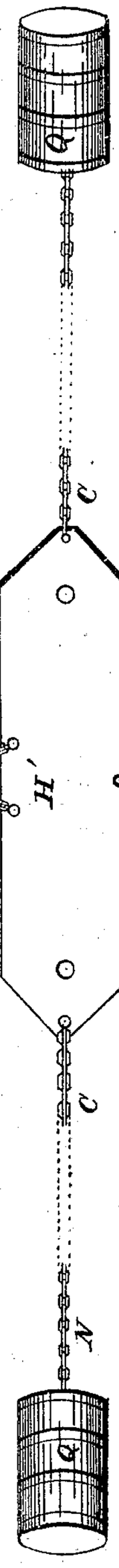

Fig: 5.

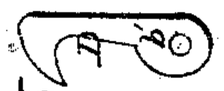

Fig: 7.

Fig: 4.

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Fig. 8.

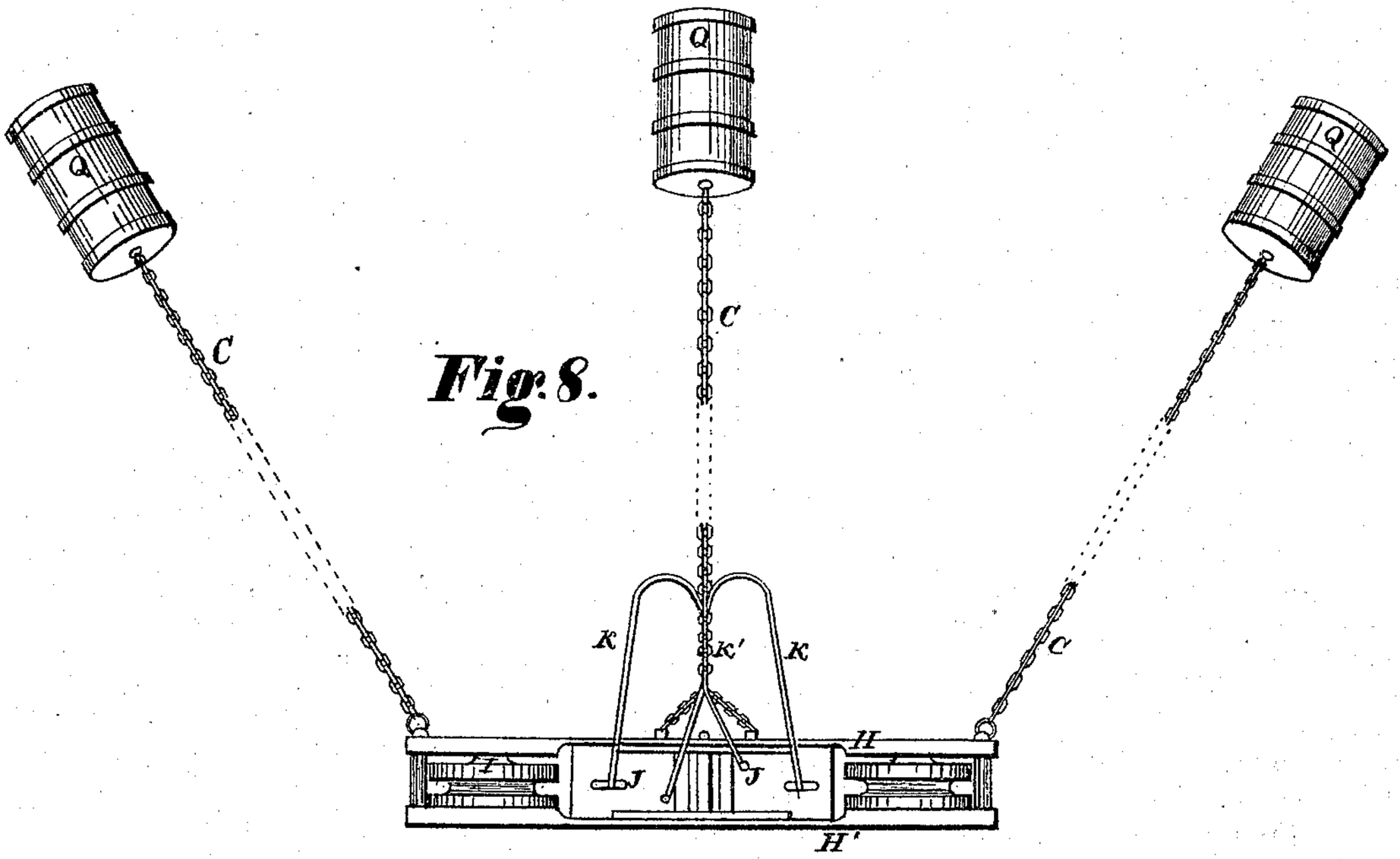
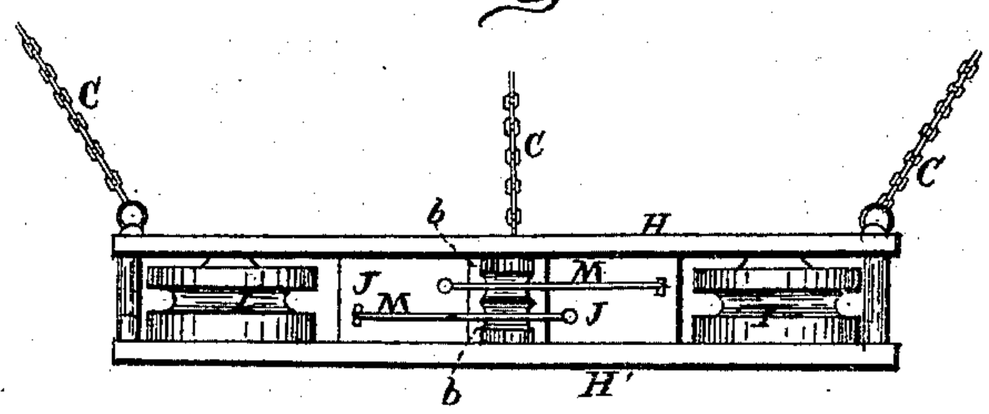


Fig. 9.



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UNITED STATES PATENT OFFICE.

MILO OSBORN, OF CLEVELAND, OHIO.

IMPROVEMENT IN WRECKING APPARATUS.

Specification forming part of Letters Patent No. **144,125**, dated October 28, 1873; application filed August 4, 1873.

To all whom it may concern:

Be it known that I, MILO OSBORN, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and Improved Wrecking Apparatus; and I do hereby declare that the following is a full, clear, and complete description thereof, reference being had to the accompanying drawings making part of the same.

Figure 1 is a plan view of the apparatus as applied to a wreck. Fig. 2 is an end view of the same. Fig. 3 is a side view of Fig. 1. The several figures on Plates 2 and 3 are sections detached from the hull, to which reference will be made.

Like letters of reference refer to like parts in the several views.

This invention has for its object the adjustment, fastening, and support of main cables around sunken vessels, for the purpose of raising them, consisting of a main cable-clutch and dogs or hooks D, with their attachments.

In Fig. 1, detached views of which are shown in Plates 2 and 3, is the cable-clutch, consisting of sides H H′, Figs. 8 and 9, between which, at each end thereof, is a sheave, I, Fig. 4, each of which is provided with a pawl, J, pivoted, at *a*, in the sides referred to, one of which sides, called the upper, is provided with four chains, C C C C, fastened thereto, one at each end, and one each near the longitudinal center. That part of the cable-clutch toward which the free ends of pawls rise is called the outer, and that toward which they fall, as shown at Fig. 4, in clamping the cable A upon the sheaves I, is called the inner part of said clutch. This cable-clutch is also provided with two small sheaves, *b*, at the inner and longitudinal center thereof, also with ropes M M, fastened by one end thereof on the inner side of one pawl, passing around one of the sheaves *b*, up through the opposite pawl, forming a loop or bight, and then down through the first pawl, around the second sheave *b*, to the inner side of the opposite pawl, where the other end is fastened. The large rope K K, extending from the outer bolt-eye of one pawl to that of the other pawl, forms a second bight, which is connected to the first-formed bight by a smaller rope, K′, which is united to the large operating-rope L, extending outward from the clutch any desired distance. To this cable A are attached dogs or hooks D, Fig. 2, detached views of which are shown at Figs. 5 and 6, serving to support the cable by being driven into the wreck, as hereinafter described, in such numbers and at such intervals along the same as required. Said dogs are connected in cable A by means of round bars or bolts *a*, Fig. 3, upon either end of which an eye is formed. The eye at one end is first formed, then the bolt *a* is passed through the hole *b′* in the dog, after which the eye at the other end is formed; thus comprising connections in the cable by means of these eyes, and also a shaft between them, upon which the dog is made to revolve or turn. The chain C′ is then attached to the dog, as seen at Figs. 2 and 3, where the outer end of the dog is triced up on its chain C′, and held in that position by a piece of marline or its equivalent. The groove in the large rounded end of dogs D should be deep enough to allow free play of its chain around that end of the dog without friction; or side plates may be attached to the bolt, as at D′, Fig. 3, to secure the same end. The cable A, being provided with hawsers at each end thereof of any desired length; also, with lateral chains at intervals, say, of three feet along its entire length, excepting twenty or thirty feet of each end thereof, and with buoys attached to said lateral chains, and arranged with the cables in such manner as described in the specifications of my Letters Patent No. 118,741, dated September, 1871; and, further, provided with the dogs D, triced up in the position as indicated at D′, Fig. 2, is launched and brought around a wreck sunk, say, in water of one hundred feet depth, the chains and buoys being so arranged as to allow cable A when thus launched to be stretched out, assuming a horizontal position one or two feet up from the bottom of that depth of water. Then, with tugs or other power applied to said hawsers, the cable A is drawn in a direction to bring the bight of said cable up to the bow or stem of the wreck, and also bring the two ends thereof, one on each side of the wreck, to a point beyond the opposite end of the wreck, and distant therefrom twenty or thirty feet, and also bring the hawsers together

at the surface. Said cable will then be in the position shown at Figs. 1, 2, and 3, Plate 1, without the cable-clutch.

After cable A and hawsers are brought into such position, the practical operation of my present improvement will be as follows, viz: The cable-clutch, being about six feet long, twenty inches broad, and ten inches thick, weighing some one thousand five hundred pounds, is held at the surface on vessels or tugs. The four chains, being each one hundred and five feet long, leading from the upper side of said clutch, having attached thereto at the outer ends thereof each one buoy of the lifting power of one ton, are stretched out in opposite directions, as viewed at Fig. 7, Plate 2, upon the surface of the water. Now, while on the surface in this position, with the inner part of the cable-clutch toward the wreck, said hawsers are reeved through the clutch, each between the free ends of pawls J and sheaves I, and held taut at an upward angle from the cable of, say, forty-five degrees, when the clutch is allowed to descend, guided by the hawsers, down to and over the two ends of the cable, dragging in its descent the four buoys Q together on the surface, which buoys then hold the cable-clutch up from the bottom of the water one or more feet, and in such position as desired at the time of adjusting such buoys to the chains, if at a level; then, by slightly forcing down the buoys on said clutch outer chain, the clutch will be canted in such manner as to allow the cable to be pulled with a fair lead around each of the sheaves I. Then, as the tugs pull backward in the direction of the arrows, Fig. 1, the tendency will be to crowd the said clutch up to the wreck, and tauten the cable snugly thereto. The cable then is pawled or clamped in that position by the pawls J, actuated by pulling upward upon the operating-rope L, which forces the pawls in contact with the cables, thus preventing it from receding through the clutch.

Now, at this stage of proceedings, power is applied to the chains C′ C′, leading from dogs D, either by forcing down on them buoys or otherwise, thereby causing an upward strain thereon, sufficient to break or displace the tricing, and force the free end of dogs over and into the wreck, as seen at Fig. 2, thus supporting the cable and keeping it in proper position.

The rope forming the second bight on the clutch, by being fastened at the outer bolt-eyes of pawls is never brought into requisition, excepting for the purpose of disengaging the pawls from the cable. It can be used for that purpose when the clutch is submerged at the depth above described, or at almost any other depth, by applying sufficient power to the operating-rope L to part or break the small rope K connecting the two bights, by which means the same power is exerted to pull the free ends of pawls outward and away from the cable, when the clutch can be withdrawn.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The cable-clutch consisting of the sheave I and pawls J, in combination with the sheaves *b* and side plates, substantially as and for the purpose set forth.

2. The pawls J and ropes K, in combination with the ropes M and sheaves *b*, substantially as and for the purpose set forth.

3. The cable-clutch connected with the buoys, in combination with the cable A, operating conjointly substantially as and for the purpose set forth.

4. The dog D, hinged to the cable by the eyebolt *a*, in combination with the cable and chain C′, substantially as and for the purpose set forth.

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Witnesses:
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