

(No Model.)

2 Sheets—Sheet 1.

J. & C. TAYLOR.

APPARATUS FOR RAISING SUNKEN VESSELS.

No. 517,630.

Patented Apr. 3, 1894.

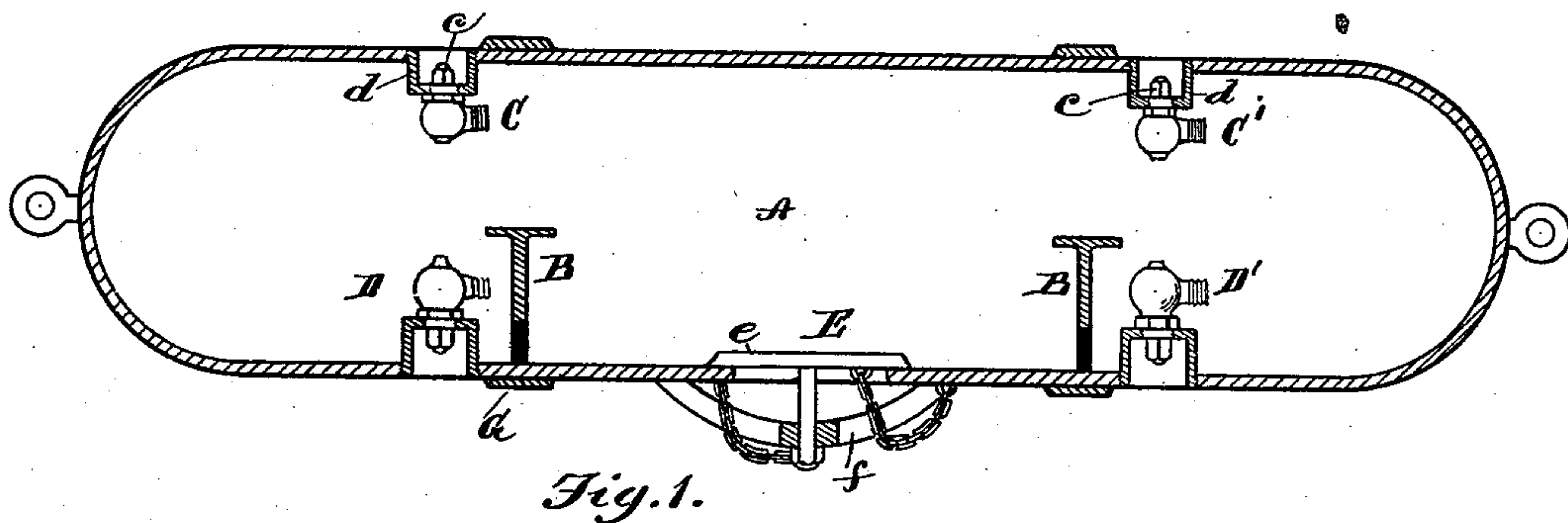


Fig. 1.

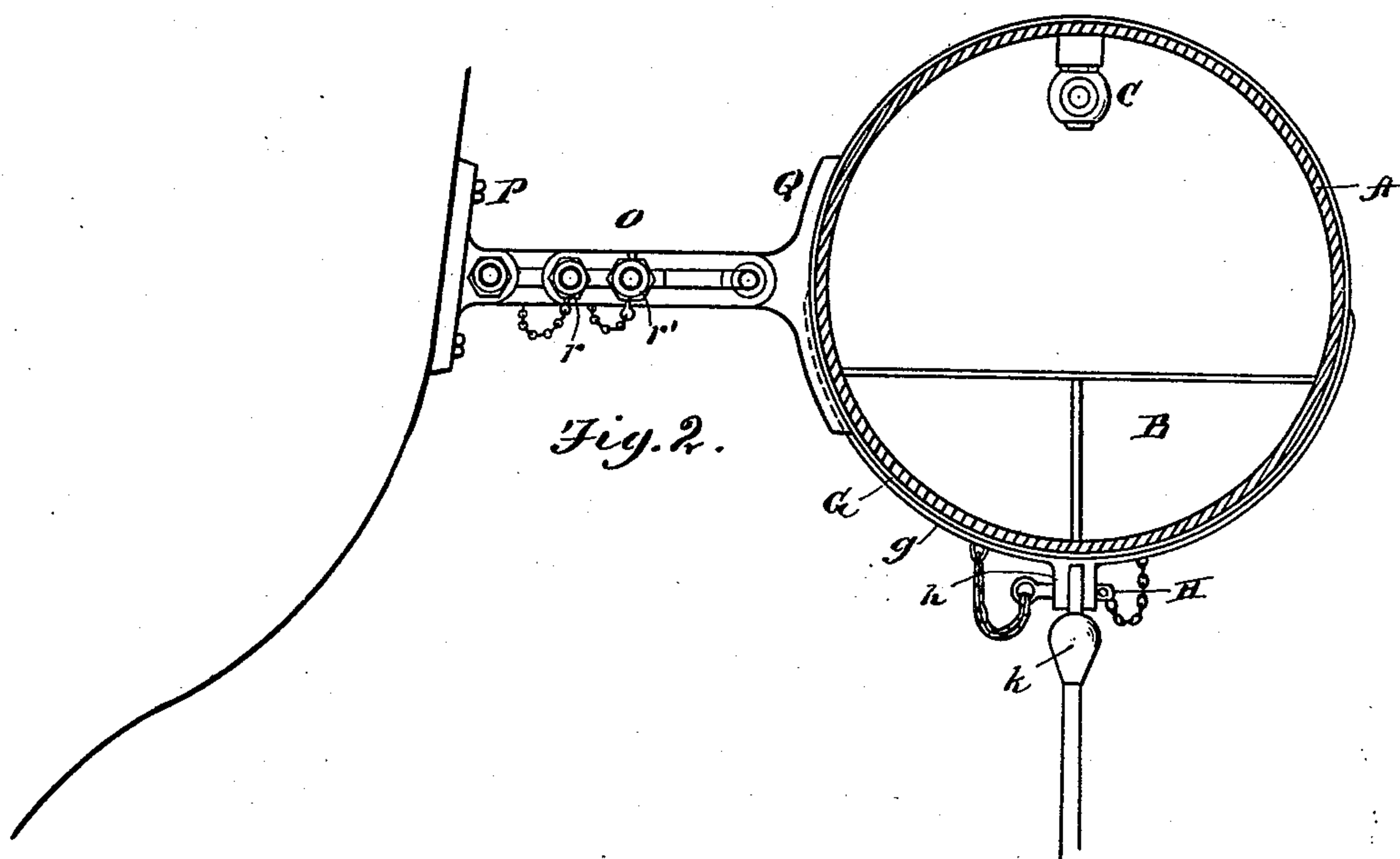


Fig. 2.

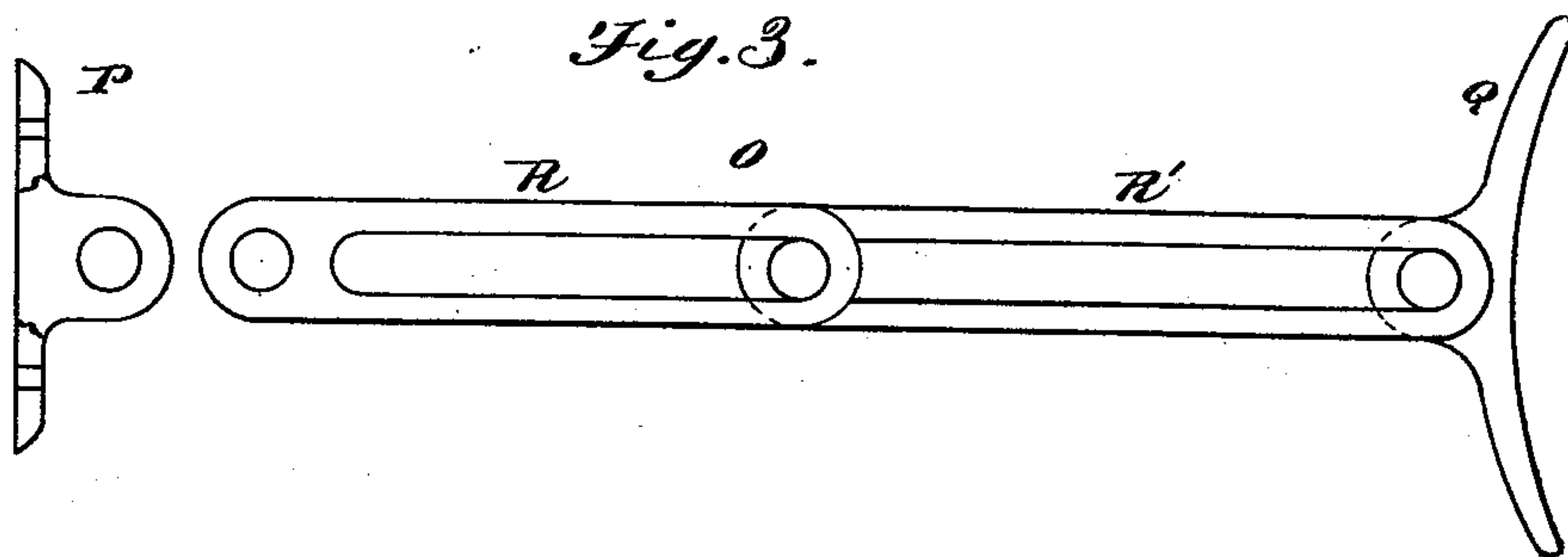


Fig. 3.

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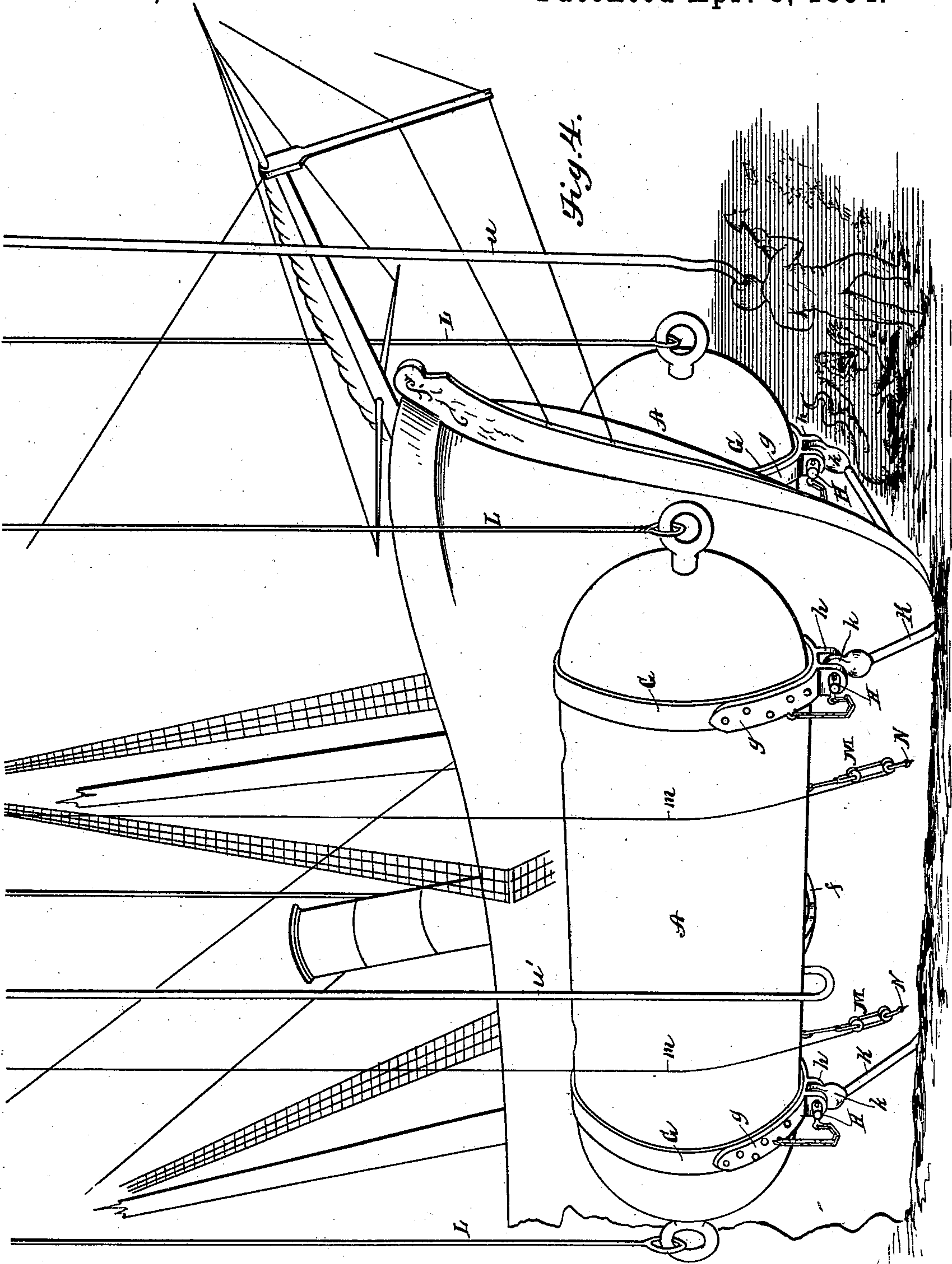
2 Sheets—Sheet 2.

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WITNESSES

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JOHN TAYLOR AND CALL TAYLOR, OF DETROIT, MICHIGAN.

APPARATUS FOR RAISING SUNKEN VESSELS.

SPECIFICATION forming part of Letters Patent No. 517,630, dated April 3, 1894.

Application filed April 8, 1893. Serial No. 469,548. (No model.)

To all whom it may concern:

Be it known that we, JOHN TAYLOR and CALL TAYLOR, citizens of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Wrecking Devices; and we declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to wrecking appliances, and has for its object improvements in that class of wrecking appliances in which sunken or disabled vessels are raised or lifted by means of pontons or tanks adapted to be entirely closed in and sunk or submerged in the water, and then to have the water expelled from them and the space occupied by it filled with air, thereby rendering the tank much lighter than the body of water occupying the same space, and, consequently enabling it to float not only itself, but also a vessel to which it has been properly attached.

This invention relates to the construction of such pontons, to the means for attaching them to vessels, and the means for filling the pontons with air after they have been submerged and properly attached to a sunken vessel.

In the drawings, Figure 1, represents a section of one of our pontons. Fig. 2, shows a brace for securing proper contact between the vessel and a ponton. Fig. 3, is an enlarged detail of the brace shown in Fig. 2. Fig. 4, shows a pair of pontons attached to a submerged vessel.

The ponton is preferably made of metal, and is rounded in cross section and provided with convex ends to give it the greatest possible strength against the inward pressure of the external water.

A, indicates the ponton, which is strengthened at intervals by braces B, which form diaphragms or bulkheads across the lower portion of the cylinder, rising to about one-third or one-fourth the distance from the bottom to the top; through the bulkheads B, are openings, which permit the water to flow freely.

In each ponton are two air valves, C, C',

on the upper side. The valves are inserted from the interior of the ponton and the valve stems *c*, rest in a cup *d*, which forms part of the casing of the valve, and are entirely inside of the outer surface of the ponton. Such concealed valves are not liable to be broken. On the under side of the ponton are two similar valves, D, D', the lower valves, while similar in construction, are greater in capacity than the upper valves, the use of the upper valves being simply to permit the escape of air while the ponton is filling with water preparatory to being submerged. The lower valves are employed, one for the admission of air, and the other for the escape of water after the pontons have been submerged, and when they are resting on or near the bottom of the water.

In the lower side of the ponton is a man-hole E, over which is secured a cover, *e*, held in the ordinary way by a spider *f*.

Each ponton is strengthened by hoops or bands G, which surround the ponton and are bolted to it; on the lower half the hoop G, is further strengthened by additional straps *g*, bolted to the main hoops; and to the hoops and straps G and *g*, are secured lugs *h*, traversed by a pin H. The pin passes through an eye, *k*, at the end of a cable K, and holds the cable to the ponton.

The pontons are used in pairs, and are coupled together in pairs by cables K, which are first drawn under the vessel to be raised, and then secured to the lugs *h*, as described.

Each ponton is provided with lifting cables L, secured to it in any appropriate way, by means of which the ponton may be raised from the bottom or towed along the surface of the water; although it is not intended to use these cables for the purpose of lifting the pontons and the vessel, but simply for the purpose of lifting the ponton detached from the wreck.

M, indicates a block and tackle, and, *m*, indicates a line running to the surface from the block.

N, indicates an eye bolt driven into the sides of the vessel by a diver, and to the eye bolt N, is secured one of the sheaves of the block M. The other sheave is secured properly to the ponton A. These blocks and tackle are used for the purpose of handling

the ponton underneath the water and drawing it in close to the wreck to be raised.

The pontons are tubular and of equal diameter throughout and, when brought into use in connection with a wreck, will usually touch a wreck only at a single point. In order that we may have at least two bearing points between the ponton and wreck, we employ a strut or brace, O, made adjustable both as to length and as to the angle which may be assumed by the bearing ends P and Q. The bearing end P, is a flat block adapted to be placed against the vessel and bolted to it by lag screws.

Q, indicates a saddle made to fit the contour of the ponton A. Between the plate P, and the saddle Q, are two links R, R', one of which is hinged to the plate P, and the other of which is hinged to the saddle Q. These links are joined to each other by bolts, r, r'. The length of the combined brace may be readily adjusted, and the angle with which the saddle Q, is placed with respect to the plate P, may be adjusted.

Air is forced into the pontons A, from the under side as indicated in Fig. 4, the reason for this being that very much less pressure is required to force air into a sunken ponton from the bottom than from the top. Pressure sufficient to drive the air to the bottom of the hose will enable us to fill the ponton with air from the bottom; while it would re-

quire pressure sufficient, not only to pump the air to the bottom of the hose, but to expel the water from the ponton, if the air were admitted at the top of the ponton. All the loose parts, like the pin H, the cover e, to the man-hole, the nuts and bolts, r, r', are tied by small chains to the parts with which they are connected, thus preserving them from getting lost when under water.

Having thus described our invention, what we claim is—

1. In a wrecking device, the combination of submergible pontons, means for handling the same under water, and means for forcing air into said pontons, and braces having bearing ends P Q, connecting links R R', and an adjusting bolt, substantially as described.

2. In a wrecking device, means of securing submergible pontons in place, comprising a cable secured to its under side and passed under the wreck, and an adjustable strut, one end of which is secured to the wreck, the other end of which bears against the ponton, substantially as described.

In testimony whereof we sign this specification in the presence of two witnesses.

JOHN TAYLOR.
CALL TAYLOR.

Witnesses:

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