

(No Model.)

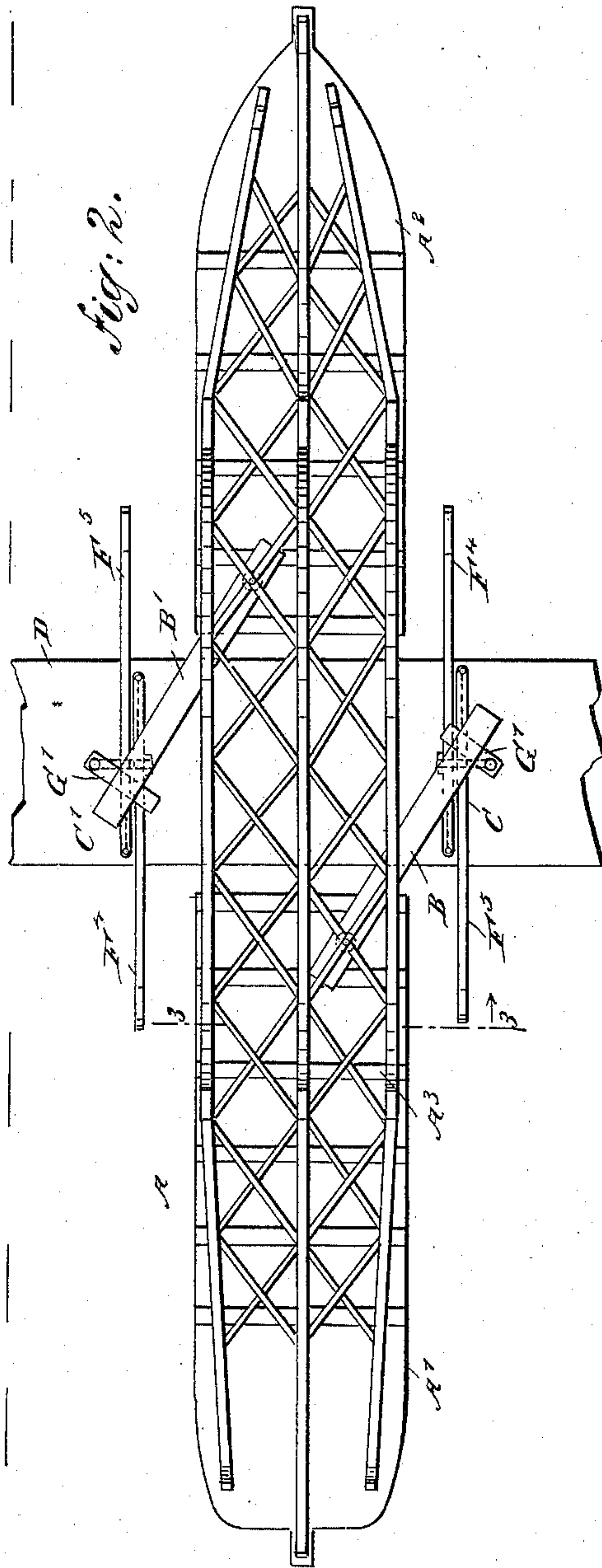
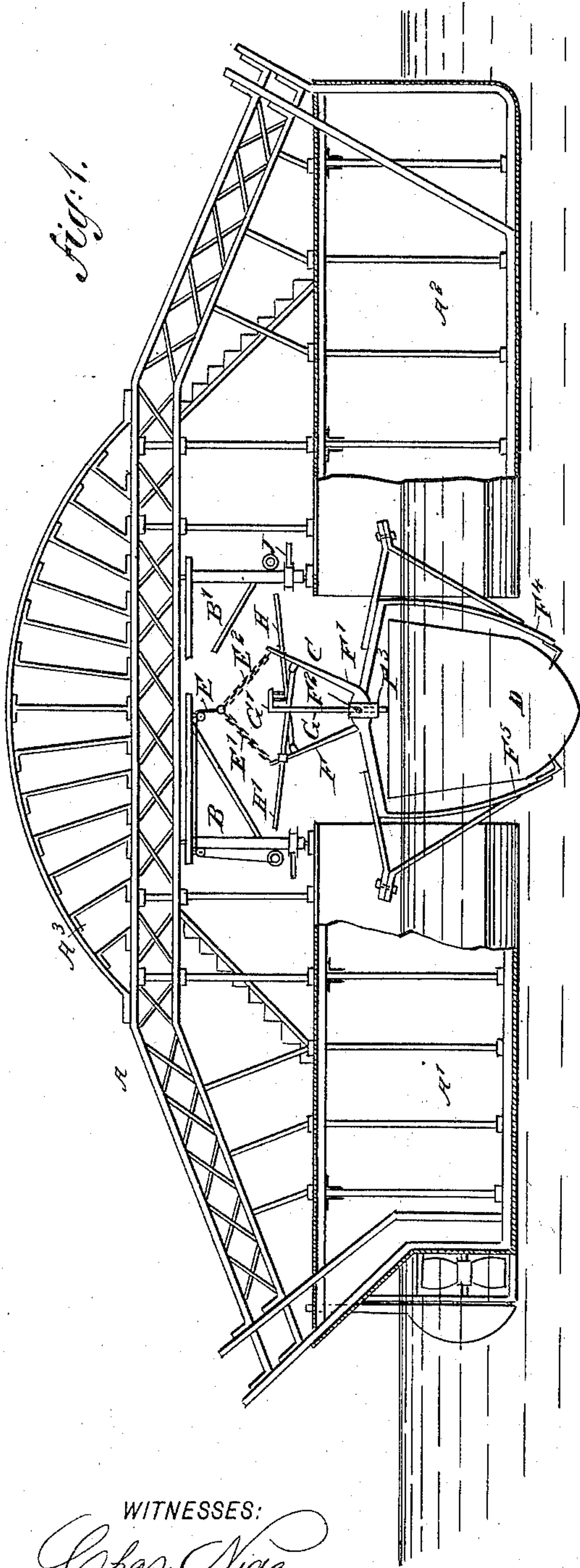
2 Sheets—Sheet 1.

H. SCHON.

APPARATUS FOR RAISING SUNKEN VESSELS.

No. 541,794.

Patented June 25, 1895.



WITNESSES:

Chas. Nida.
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INVENTOR

BY

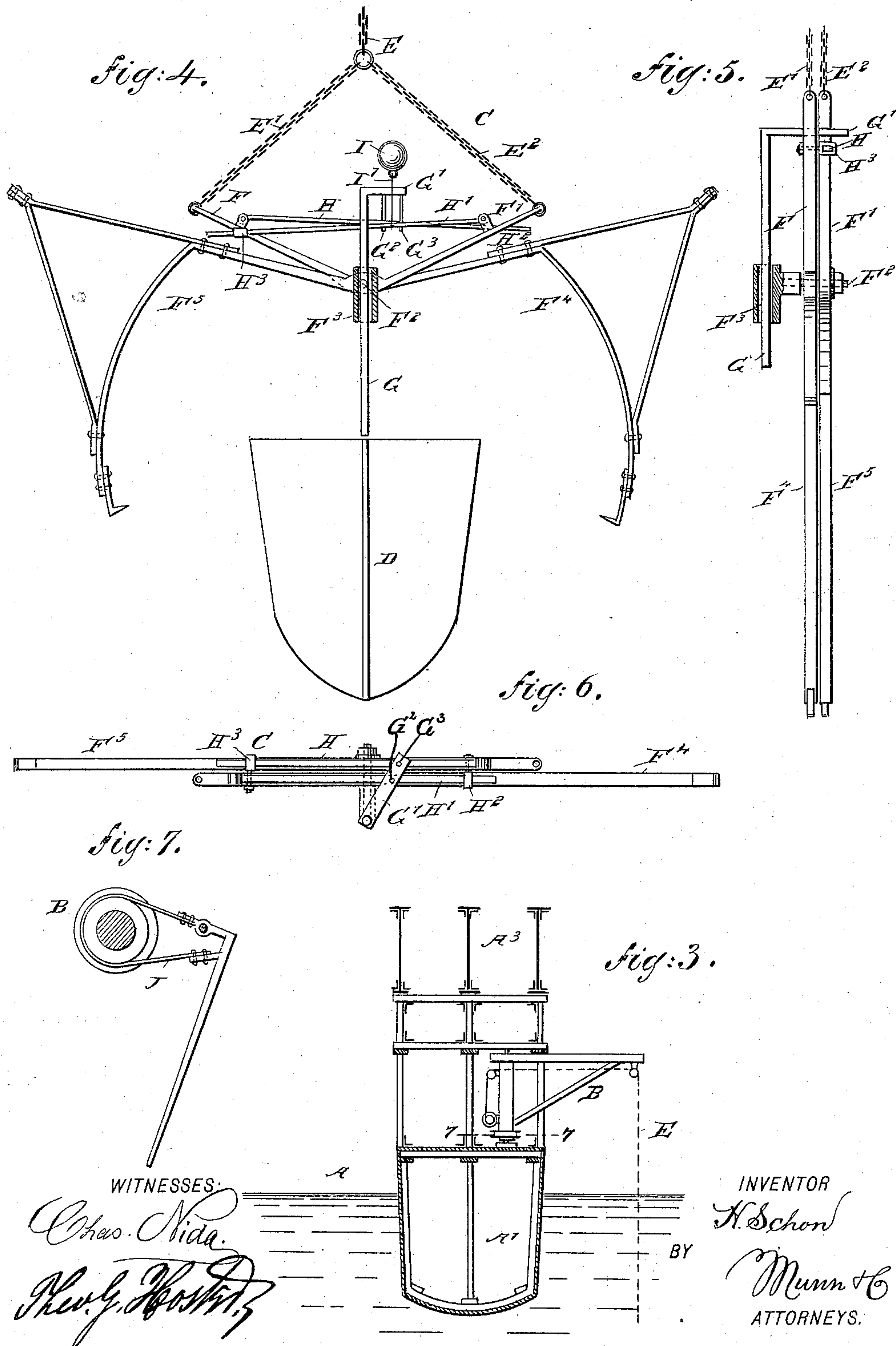
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APPARATUS FOR RAISING SUNKEN VESSELS.

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Patented June 25, 1895.



UNITED STATES PATENT OFFICE.

HUBERT SCHON, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR OF THREE-FIFTHS TO ANTON LUTZ AND GEORGE MUTH, OF SAME PLACE.

APPARATUS FOR RAISING SUNKEN VESSELS.

SPECIFICATION forming part of Letters Patent No. 541,794, dated June 25, 1895.

Application filed March 6, 1895. Serial No. 540,732. (No model.)

To all whom it may concern:

Be it known that I, HUBERT SCHON, of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and Improved Apparatus for Raising Sunken Vessels, &c., of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved apparatus for raising sunken vessels, submerged articles, materials, &c., in a very simple and effective manner.

The invention consists principally of a marine vessel having a two-part hull, with the parts placed a suitable distance apart and rigidly connected with each other overhead by a framework, and hoisting devices supported in the said vessel and arranged to engage the sunken vessel, to raise the latter into the space between the two hull parts.

The invention also consists in certain parts and details, and combinations of the same, as will be hereinafter fully described and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of the improvement, with parts in section and a sunken vessel raised. Fig. 2 is a plan view of the same. Fig. 3 is a cross section of the same, on the line 3—3 of Fig. 2. Fig. 4 is an enlarged side elevation of the hoisting devices with parts in section. Fig. 5 is an end elevation with part in section. Fig. 6 is a plan view of the same; and Fig. 7 is an enlarged sectional plan view of the brake for the hoisting device on the line 7—7 in Fig. 3.

The improved apparatus for raising sunken vessels and other submerged objects, is provided with a marine vessel A, having its hull made in two parts, viz: a prow section A² and a stern section A', placed a suitable distance apart so as to form a free space to receive the vessel to be raised, as hereinafter more fully described. The two hull parts A' and A² are rigidly connected with each other overhead by a suitable frame-work A³, as plainly indicated in the drawings. The hull parts A' and A² support at their adjacent ends the cranes B and B' respectively, adapted to swing ob-

liquely from the hull parts to the sides thereof, as plainly indicated in Fig. 2, so as to stand with their outer ends over the vessel to be raised.

The cranes B and B' carry the grappling devices C and C' respectively, both alike in construction, and adapted to be raised and lowered by the hoisting chain E, forming part of each crane B or B'. The grappling devices C and C' are adapted to engage a sunken vessel D, at the sides thereof, as plainly indicated in Figs. 1 and 2, at the time the grappling devices are lowered to the sunken vessel, with the marine vessel A standing at right angles to the sunken vessel D, directly over the same, as indicated in the drawings.

Each hoisting chain E of each of the cranes B or B' is provided at its lower end with two branch chains E' and E², connected with the ends of the arms F and F' respectively, fulcrumed at F² on a bracket F³, through which passes loosely a rod G, forming part of the gripping devices for the grappling tongues F⁴ and F⁵, forming extensions of the arms F, F' respectively. The rod G is provided at its upper end with a cross arm G', in which are secured two downwardly-extending pins G² and G³ adapted to engage loosely apertures in the connecting rods H and H' pivotally connected with the arms F and F' respectively. The free ends of the said rods H and H' are fitted to slide in guideways H² and H³ respectively, pivoted on the arms F' and F respectively. Thus the rods H and H' extend from their respective arms F and F' horizontally or approximately so, to the arms F' and F respectively. Now, as long as the pins G² and G³ are in engagement with the said rods H and H', the grappling arms F⁴ and F⁵ are held in an open position, as indicated in Fig. 4, but when the grappling device C or C' is lowered and the lower end of the rod G strikes the deck of the sunken vessel D, then the pins G² and G³ are withdrawn from the rods H and H', and consequently the weight of the grappling devices F⁴ and F⁵ causes the latter to close, as the arms F and F' are now unlocked owing to the withdrawal of the pins G² and G³. The grappling hooks F⁴ and F⁵ now engage the hull of the vessel D, as indicated in Fig. 1, and when the chains E' E² are raised by the

windlasses on the cranes, the sunken vessel D is carried within the grappling devices, and consequently raised to the position shown in Figs. 1 and 2, that is, the sunken vessel D passes into the space between the adjacent ends of the hull parts A' and A².

At the time when the grappling devices C or C' are lowered, I attach to the cross bar G' and the rods H and H', a light cord I' carrying a float I preferably in the shape of a ball filled with air, as indicated in Fig. 4. Now when the rod G strikes the vessel, it breaks the cord I between the cross bar G' and the rods H, H', so that the float I is liberated and quickly rises to the surface of the water, thus indicating to the attendants on board of the vessel A that the grappling hooks F⁴ and F⁵ have closed upon the vessel D.

In order to prevent the cranes B and B' from swinging out of their oblique positions, as shown in Fig. 2, in case of a rolling sea or other movement of the vessel A, I provide a brake-band J for the vertical shaft of each crane B, B'. See Figs. 3 and 7. When the vessel D is raised to the position shown in Fig. 1, then the vessel A, either by its own machinery and propelling mechanism is moved to a landing, dock, or other place where the vessel D is to be delivered, or the vessel A is propelled or moved forward by tugs or other marine vessels.

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

1. An apparatus for raising sunken vessels, comprising a vessel provided with a prow section, a stern section spaced therefrom, an overhead connection between the said sections, and a hoisting device for raising the sunken vessels into the space between the said two sections, substantially as described.

2. An apparatus for raising sunken vessels, comprising a marine vessel having a two-part hull, with the parts placed a suitable distance apart and rigidly connected with each other overhead by a suitable framework, two cranes held in adjacent ends of the said hull parts, grappling devices held on the hoisting chains of the said cranes, and a locking and tripping device for holding the grappling forks of the said grappling devices in an open position during the time the grappling devices are lowered, and for automatically releasing the grappling forks when striking a vessel, substantially as shown and described.

3. An apparatus for raising sunken vessels, comprising a marine vessel having a two-part hull, with the parts placed a suitable distance apart and rigidly connected with each other overhead by a suitable framework, two cranes held in adjacent ends of the said hull parts, grappling devices held on the hoisting chains of the said cranes, a locking and tripping device for holding the grappling forks of the said grappling devices in an open position during the time the grappling devices are lowered, and for automatically releasing the grappling forks when striking a vessel, and an indicator for indicating the engagement of the grappling forks with a vessel, substantially as shown and described.

4. An apparatus for raising sunken vessels, provided with a grappling device comprising pivoted forks, arms extending therefrom, rods connected with the said arms, and pins engaging the said rods and held on a slidable bar, substantially as shown and described.

HUBERT SCHON.

Witnesses:

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