

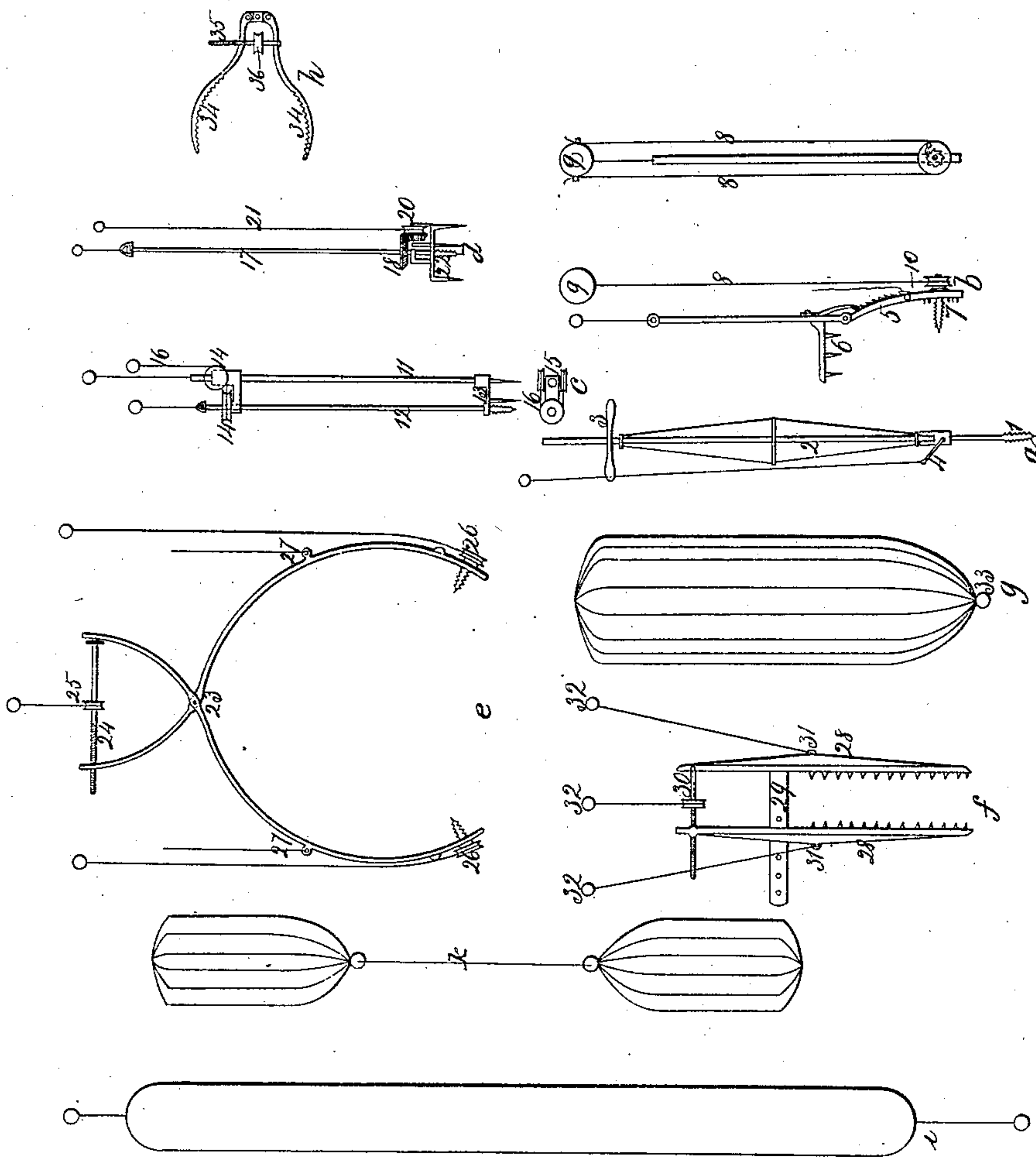
Sheet 1, 3 Sheets.

F. Kettler.

App's. for Raising Sunken Vessels.

No. 37,401.

Patented Jan. 13, 1863.



Witnesses  
Wm. H. Kettler  
Lewis E. Bantley

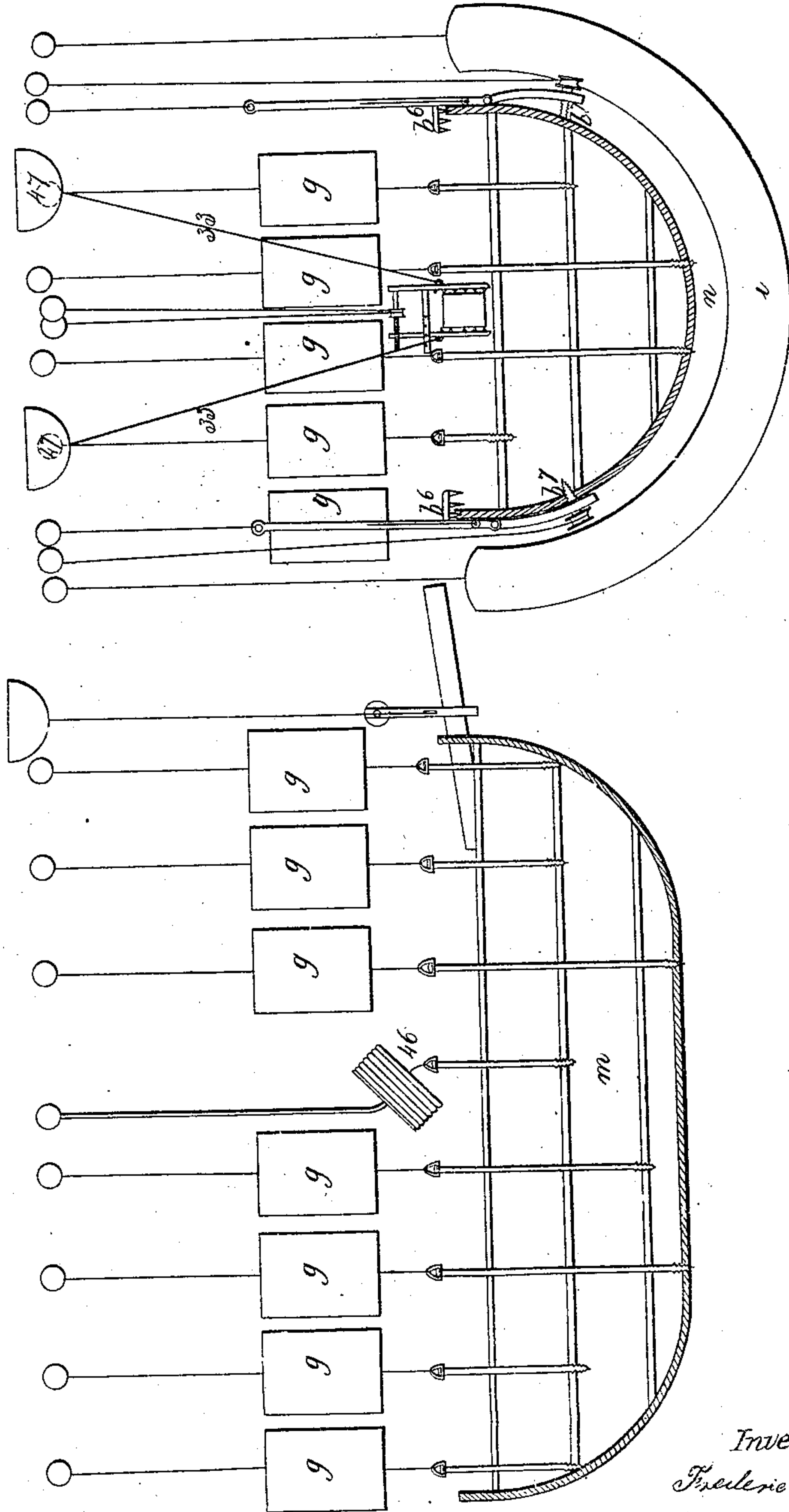
Inventor  
Frederic Kettler

F. Kettler

App's for Raising Sunken Vessels.

No 37,401.

Patented Jan. 13, 1863.



Witnesses:  
 John H. Humphreys  
 Lewis A. Rantakari

Inventor:  
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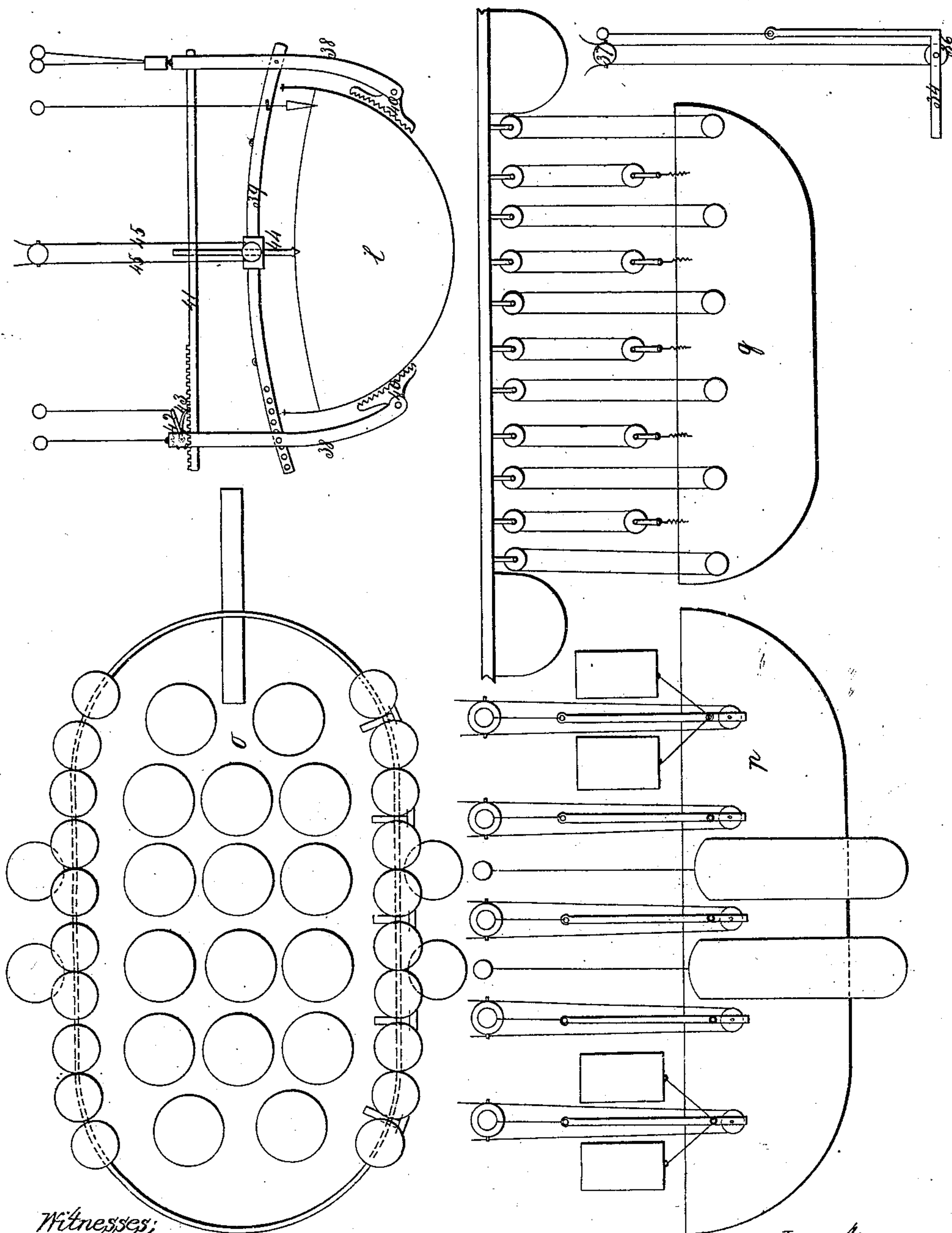
Sheet 3, 3 Sheets.

F. Kettler.

App's. for Raising Sunken Vessels.

N<sup>o</sup> 37,401.

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Inventor;  
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# UNITED STATES PATENT OFFICE.

FREDERIC KETTLER, OF MILWAUKEE, WISCONSIN.

## IMPROVED MODE OF RAISING SUNKEN VESSELS.

Specification forming part of Letters Patent No. 37,401, dated January 13, 1863.

*To all whom it may concern:*

Be it known that I, FREDERIC KETTLER, of Milwaukee, State of Wisconsin, have invented a new and Improved Mode of Providing Fastenings for Raising-Power on Sunken Vessels; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the construction of the screw *a* and auger *b* in one piece, and the manner in which it is made to operate as a fastening onto the deck of a sunken vessel, by the arrangement and combination of this screw-auger with ropes 16, rods 11 and 12, teeth *c*, pulleys 14, and air-balloons *d*, for the purpose of raising sunken vessels.

Figures *a*, *b*, *c*, *d*, *e*, *f*, *h*, and *l* represent the different instruments as fastenings onto sunken vessels. Fig. *c*, being one of these instruments, shall now be described.

11 is an iron rod making a part of the frame. Rod 12 is provided with a screw, *a*, and auger *b*. This auger *b* is hollow, similar to a spoon-bit, for the purpose of removing the chips produced by the operation thereof. The screw *a* is also hollow and surrounds the auger *b*, the chips passing upward through the inside of the screw. The screw *a* turns in after the auger *b* and firmly secures the rod to the deck of the sunken vessel. An iron plate, 13, forms the conjunction of rods 11 and 12, and is provided with teeth *c*, which take hold in the deck of sunken vessel, so as to give the auger *b* a firm hold on the same. 14 are pulleys to be operated by means of rope 16, the ends of which are floated on the surface of the water by means of balloons *d*. A ratchet, *e*, is attached to pulley *f* on rod 12, preventing the contrary motion of the auger *a* when operated by pulling the ends of rope 16 up and down.

Said ratchet *e* is movable, it being intended to slide in a furrow with which rod 12 is provided, as the auger advances into the deck. This ratchet *e* is plainly shown in sectional view of Fig. *b*. Rod 12 is also provided with ring *g*, to which the raising power may be attached. A balloon, *d*, is attached to rod 11 for the purpose of keeping this instrument *c* in a perpendicular position when lowered on the deck of said vessel.

This machine is intended to operate on wood, or for light work in general.

To render this machine more substantial, and thus make it fit for heavy work, a conical wheel may be attached to the pulley 20 in Fig. *d*, which operates in conical wheel 18.

The instrument shown in Fig. *l* is intended to operate on metal in case the vessel is plated, and is operated in the same manner as in the former.

Figs. *b*, *e*, *f*, and *h* are instruments to be applied and closed upon at different portions of the sunken vessel, and are closed up and secured to the same in the same manner and by means of the same arrangement and operation and for the same purpose as by the former instrument *c*.

By means of these instruments all submarine or diving apparatus are dispensed with.

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

1. The construction of the screw auger *a b*, as herein described.

2. The screw-auger as combined with rods 11 and 12, plate 13, pulleys 14, ropes 16, teeth *c*, and balloons *d*, when arranged as herein specified, to form the instrument or machine *c* for raising sunken vessels.

FREDERIC KETTLER.

Witnesses:

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LEWIS E. RAUTERBERG.