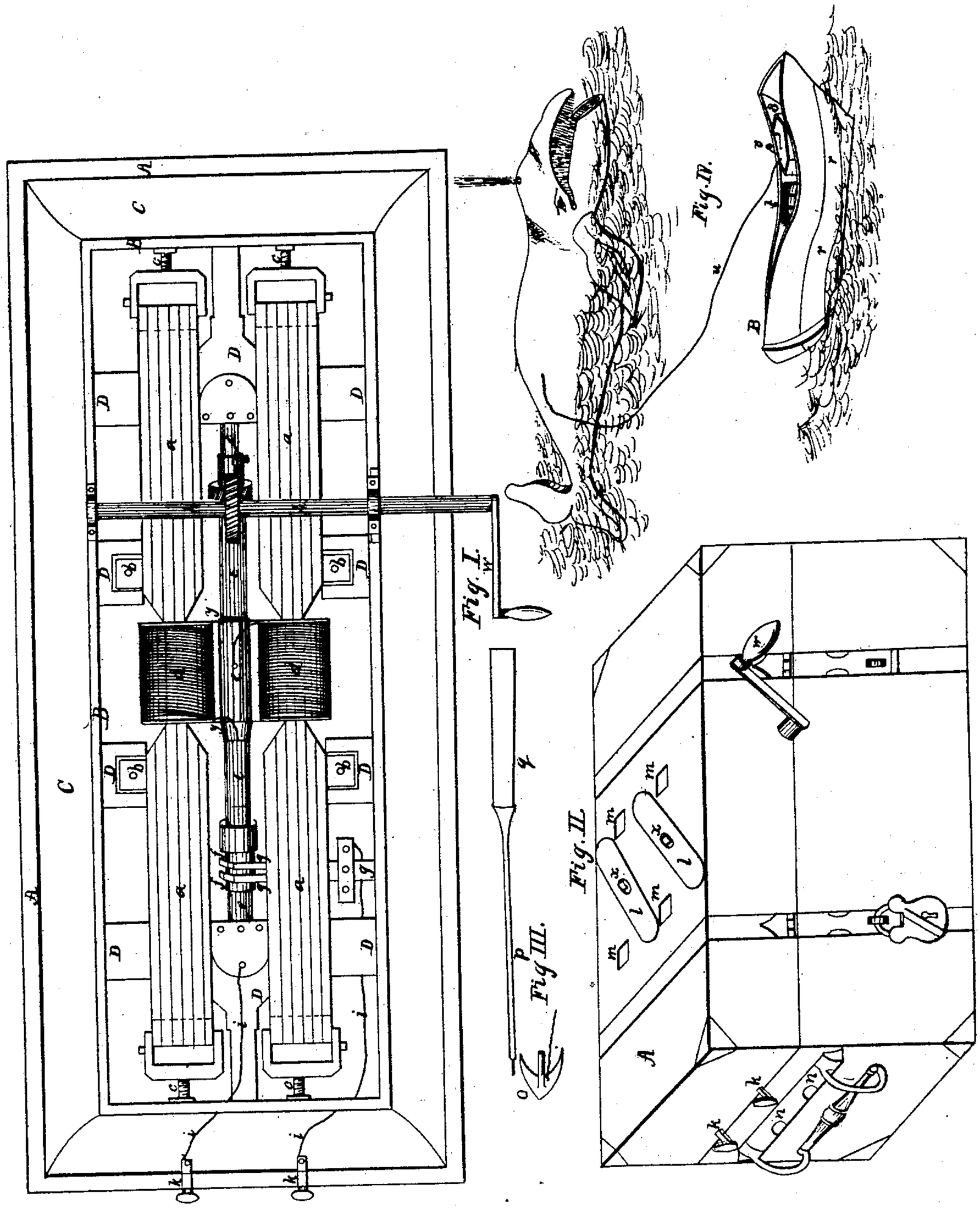
SONNENBURG & RECHTEN.

Electric Whaling Apparatus.

No. 8,843. Patented March 30, 1852.



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UNITED STATES PATENT OFFICE.

DR. ALBERT SONNENBURG AND PHILIPP RECHTEN, OF BREMEN, GERMANY, ASSIGNORS TO CHRISTIAN A. HAINAKEN, OF THE UNITED STATES.

ELECTRIC WHALING APPARATUS.

Specification forming part of Letters Patent No. **8,843**, dated March 30, 1852.

To all whom it may concern:

Be it known that we, Dr. ALBERT SONNENBURG and PHILIPP RECHTEN, of Bremen, in Germany, have invented a new and Improved Mode of Catching and Securing Sperm and Right Whales, as well as other animals of the sea; and we do hereby declare that the following is a full and exact description.

The nature of our invention consists in catching and securing sperm and right whales, as well as other animals of the sea, by the application of electric galvanic current conveyed by a conductor to the instrument commonly called "whale-iron" or "harpoon," and which is used to be thrown into the fish.

To enable others skilled in the art to make use of our invention, we will proceed to describe the means and operation of the same.

The apparatus which we use to catch and secure sperm and right whales, as well as other animals of the sea, by our invention consists of three different parts, viz: first, a magneto-electric rotation-machine; second, a metallic wire connected with a whale-iron; third, a coppered whale-boat for the reception of the rotation-machine, and constructed in such a manner as to reconduct the electric current from the fish or animal through the sea to the machine.

We propose to construct the above-named three parts in the following manner:

I. The electric galvanic current is produced by means of a magneto-electric rotation-machine. This machine contains four or more horizontal permanently-fixed boat-magnets, placed, as Fig. 1 shows, opposite each other, which produce the electric current in four or any other convenient number of inductors. The inductors are attached to a rotation-axle by a cross, a disk, arms, or other means well known in the construction of magneto electric machinery, and get their rotation before the magnetic poles by means of a crank or other suitable gearing. Through a commutator on the axle, on which slides a strong steel spring in the shape of a fork, the counteracting currents in the wires on the inductors are thrown into one and the same direction. The machine is inclosed in a strong chest. The inside of the latter is bolstered with gutta-percha. The joints of the chest are filled with grease, so that when closed neither air nor moisture can penetrate. On the outside of the chest are two brass knobs which are in connection with the machine, they being the poles of the same. To these two knobs the metallic conductors are tied. The axle of the machine passes through the chest and is seen outside. The outside of the box is surrounded by a brass box, into which the turning-handle is fixed. A cover of india-rubber or oil-cloth should surround the chest, it being most important to keep all moisture from the machine; but this is so well-known a device for keeping packages dry that we do not think it necessary to represent it in the drawings. It is advisable to examine now and then the machine and to wipe it gently with a woolen cloth. On the outside of the chest is a contrivance for the purpose of removing the anchors or keepers from the magnets, and another to regulate the latter. When the machine is not in use the anchors always must be put on, as seen at *bbbb*, Fig. 1, passing down by the sides of the magnets. The magnets being set edgewise, only the upper limb of each magnet is seen in the drawings.

II. The two metallic conductors are gilt copper wire covered with india-rubber, and thus completely isolated from salt-water. Great care must be taken in manufacturing these conductors, for the least exposure of the naked wire to salt-water would lead part of the electric current into the salt-water instead of the fish or animal. A solution of india-rubber in spirits of turpentine is the best glue to be used. Before the conductors be delivered for use they ought to be tried in salt-water, letting them run through one hand, the other to touch the machine when the anchors are on the magnets and the former set in motion. One end of these conductors (we propose one hundred feet long) is to be fastened to the head of the whale-iron, after having removed from the ends the india-rubber covering, so as to have a metallic connection, and the other end to one of the knobs of the machine. We presume a conductor of one hundred feet will be sufficient; but it is safe to take four thousand feet on a whaling voyage. The other conductor need only be a few feet long, one end to be fastened to the second knob of the machine and the other end

to be connected with the copper bottom of the whale-boat. The whale-iron above mentioned is the same as generally used under the name of harpoon, but constructed in such a manner that the iron shaft, with wooden pole, can be detached from the head of the whale-iron by a slight motion backward. For this purpose a thin fish-line is fastened to the end of the pole and kept in the boat. As soon as the harpoon is in the fish the pole is withdrawn by this line, so that the head of the harpoon, together with the metallic conductor, only remain in the whale or animal when the harpoon is thrown into her and the pole withdrawn. The machine now set in motion, the electric current through the metallic conductor and the head of the whale-iron circulates in the body of the fish or animal, and returns from the same through the salt-water to the copper bottom of the boat, and from thence, by means of the short metallic conductor, to the machine. The fish or animal receives about eight tremendous strokes at each turning of the machine-handle. If only two turns be made each second, she receives nine hundred and sixty strokes each minute—so formidable a power that no living being can resist the same.

III. The whale-boat has a coppered keel, and is sheathed with thin copper from the keel two feet upward. Between the copper and the boat-plank a thick coat of tar is put on, that the copper may be well isolated from the boat-board. The boat being twenty-eight to thirty feet long has a surface of about seventy-seven square feet of copper on each side—more than sufficient for the reconducting of the electric current. The boat we build two feet longer than the common whale-boat, to make room for the machine. On one of the gunwales is a brass or copper knob, connected with the copper on the bottom by a small sheet of copper. This is the knob on which the short conductor is to be tied, and referred to before. When the apparatus is placed in the head of the boat to be used for whaling a buoy consisting of an empty thirty-gallon cask perfectly tight is attached to the box containing the machine and placed in the stern of the boat, so that in case the latter should swamp or upset, the box, being water-tight, will be saved by the buoy.

If good care be taken of the apparatus, there is no wearing it out; only keep the wet out, and do not let it be thrown about or roughly handled. Should the machine refuse its wonted effect, examine whether the inductors be too remote from their magnets. The distance between the inductors and their magnets should be such that a French playing-card can be put between them. Examine whether the steel spring on the commutator be in such a condition that intensive sparks appear when the machine is in motion; if not, regulate it by the small screws connected with the same. Keep all parts of the machine free from rust. Examine whether the conductors have a true metallic connection with the poles of the machine (the two knobs) and the india-rubber covering on the ends of the conductors be properly removed.

There is no possible personal danger in using our machine or apparatus, except the man who throws the whale-iron take the metallic part of it into one hand and put the other hand at the same time into the sea when the machine is in motion. But such a position is not to be assumed, as it cannot take place except intentionally.

In the drawings, Figure I, *a a a a* are four steel magnets in the shape of a horseshoe, of one foot two inches each; *b b b b*, four anchors, which project from the box through the holes, Fig. II, *m m m m*, and which can be removed after turning the plates *l l* so as to open the holes by the turning-handle of the machine applied to the shank *x*. *c c c c* are four screws for regulating the magnets. They pass through both the boxes, so that the regulating is done on the outside, Fig. II, *n n*. *d d* are two of the four inductors. The four inductors are fastened by two brass plates, *y y*. *e e e e* is the rotation-axle; *f f*, the commutator; *g g g*, the sliding spring on the commutator; *h h*, the shaft with pinion and crank; *i i*, the conductors or wires which pass to the brass knobs on the outside of the box K K. The conductor *i* proceeds from the axle, the other, *i*, from the sliding spring. D D D D D are wooden stanchions to secure the magnets; B B, the inner box; A A, the outside box; C C, the bolsters between the two boxes.

Fig. II: *l l* are iron plates for shutting up the holes *m m m m*.

Fig. III: *o* is the harpoon or whale-iron, with the conductor; *p*, the iron pole of the whale-iron, which is to be withdrawn from the latter as soon as it is fast to the fish or animal; *q*, the wooden pole of the whale-iron.

Fig. IV: B is the whale-boat; *r r*, the coppering of the same; *s*, the magneto-electric machine; *t*, the empty barrel, to be attached to the machine to keep it from sinking in case the boat should upset; *u*, the conductor or wire to lead the electric current to the fish or animal; *v*, the same, to carry it back to the machine through the sea. *y y* are the plates crossing the axis *e*, to which the inductors are fixed.

What we claim as our invention, and desire to secure by Letters Patent, is—

The application of electric galvanic current conveyed by a conductor to an instrument which is to be thrown into sperm and right whales, as well as other animals of the sea, in order to secure them.

Bremen, the 26th September, 1851.

DR. ALBERT SONNENBURG.
PHILIPP RECHTEN.

Witnesses:

H. W. BÖHME,
HEINRICH TIMPE.