No. 880,552. PATENTED MAR. 3, 1908.

A. G. LUNDIN.

NET DRAWING OR LIFTING DEVICE.

APPLICATION FILED JULY 31, 1907.

FIG. 3.

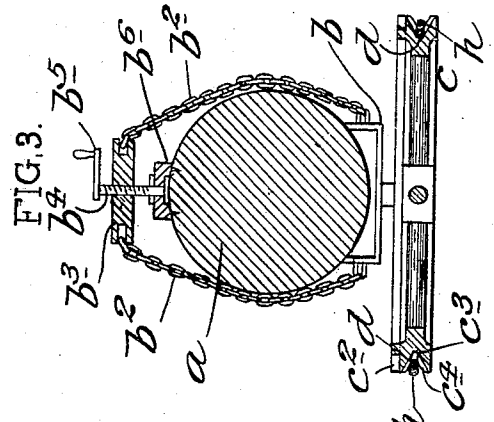

FIG. 4

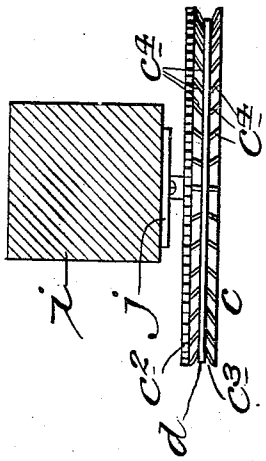

FIG. 2.

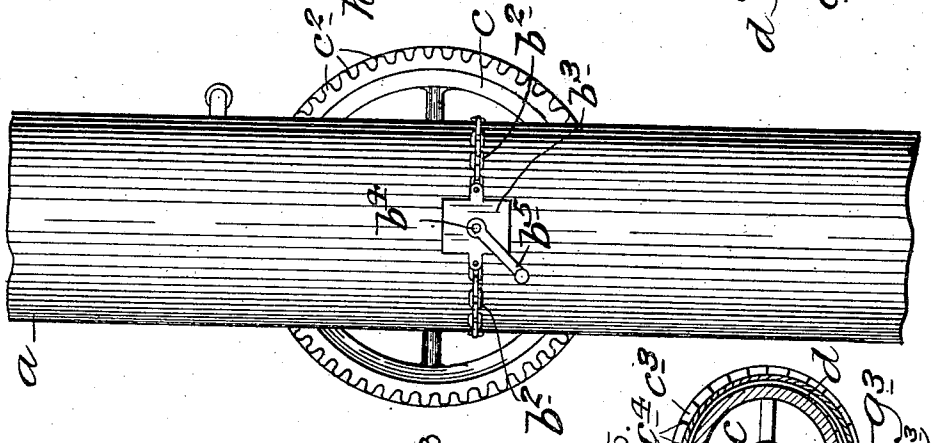

FIG. 5.

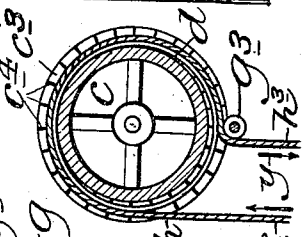

FIG. 1.

WITNESSES

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NET DRAWING OR LIFTING DEVICE.

No. 880,552. Specification of Letters Patent. Patented March 3, 1908.

Application filed July 31, 1907. Serial No. 386,353.

To all whom it may concern:

Be it known that I, AXEL GABRIEL LUNDIN, a citizen of the United States, and residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Net Drawing or Lifting Devices, of which the following is a specification, such as will enable those skilled in the art to which it appertains to make and use the same.

This invention relates to devices for drawing and lifting fish nets, and the object thereof is to provide an improved device of this class which is specially designed for use in drawing or lifting, or drawing and lifting what are known as trap nets.

The invention is fully disclosed in the following specification, of which the accompanying drawing forms a part, in which the separate parts of my improvement are designated by suitable reference characters in each of the views, and in which:—

Figure 1 a side view of an ordinary pile with my improvement attached thereto; Fig. 2 a view opposite that shown in Fig. 1; Fig. 3 a cross section on the line 3—3 of Fig. 1; Fig. 4 a view similar to Fig. 3 but showing a modification of the support of the net drawing and lifting device, and Fig. 5 a sectional side view of a wheel which constitutes a part of my improvement.

In the drawing forming part of this specification, I have shown at a an ordinary pile to which my improved net drawing and lifting device is applied in the construction shown in Figs. 1 to 3 inclusive. The net drawing and lifting device consists of a plate or other support b connected with the pile a by side chains b^2, which are in turn connected with a block b^3 through which is passed a screw b^4 provided at its outer end with a crank b^5 and at its inner end with a head or block b^6 adapted to bear on the pile a.

Mounted centrally of the plate or support b is a large wheel c, the perimeter of which is provided at its inner side with gear teeth c^2; and the perimeter of the wheel c is also provided with a deep annular groove c^3 which is V-shape in cross section and the side walls of which are provided with radial teeth or ribs c^4 and within the groove c^3 of the wheel c is placed a loose ring or band d which is preferably square or rectangular in cross section, and the ring or band d fits between and is movable between the inner ends of the radial teeth or ribs c^4 formed on the side walls of the groove c^3, and the diameter of the said ring or band d is considerably greater than the inner diameter of the groove c^3 as clearly shown in Fig. 3.

Mounted on the plate or support b above the wheel c is a small gear wheel e provided with a crank e^2 and the teeth of which mesh with the teeth c^2 of the wheel c, and above the wheel e is pivoted a pawl f having oppositely directed noses f^2 adapted to operate in connection with the teeth of the wheel e, and the pawl f is preferably provided with a knob or handle f^3 by which it may be turned into different positions.

Secured to the plate or support b beneath the wheel c is a casing g in which is mounted a vertically movable spring supported plunger g^2 provided at its outer end with a wheel or roller g^3 adapted to fit in the groove c^3 of the wheel c, but which only enters said groove a short distance as shown in Fig. 5.

I have also shown in Figs. 1 and 5 a rope h for use in drawing and lifting a fish net of the class specified, and in practice the end h^2 of the rope h is connected with the net and the end h^3 is passed around the wheel c and around the band or ring d, and passed between the said band or ring d and the wheel or roller g^3 as clearly shown in Figs. 1 and 5.

In the operation of drawing and lifting a net with the parts arranged as shown in Fig. 1, the wheel e and the crank e^2 thereof are turned in the direction of the arrow x. This operation turns the wheel c in the direction of the arrow x^2 and the net will be gradually drawn and lifted and the end h^3 of the rope h will be held in the groove c^3 of the wheel c as said rope passes around said wheel until the said rope, or the end h^3, passes between the wheel or roller g^3 and the wheel c, after which said end of the rope will descend vertically as shown by the arrow y and may be coiled on any suitable support, or on the deck of a vessel, as will be readily understood.

The groove c^3 in the wheel c and the teeth or ribs c^4 on the side walls of said groove are so formed that they hold the rope h securely on the wheel c, and if it were not for the band or ring d the end h^3 of said rope would pass on around said wheel and interfere with the operation of lifting the net, or result in throwing the rope h out of the groove c^3, but by employing the band or ring d, the diameter of which is greater than the inner diameter of the groove c^3, the end h^3 of the rope h, as it passes beneath the bottom portion of the

wheel c, is thrown out of the groove c^3 and drops vertically as hereinbefore described into any suitable support provided therefor.

In Fig. 4, I have shown my improved net drawing and lifting device applied to a vertical stanchion or other support i, which may be secured to or on the deck of a vessel or to any suitable support, and I have also shown in Fig. 5 a plate or support j which takes the place of the plate or support b shown in Figs. 1 and 3 and to which the operative parts of the apparatus are secured.

Although I have described my invention as particularly adapted for use in drawing and lifting nets, it will be apparent that the same may be applied for hoisting purposes generally, or for hoisting various kinds or classes of articles, and various changes in and modifications of the construction described may be made, within the scope of the appended claims, without departing from the spirit of my invention or sacrificing its advantages.

Although I have shown the parts of the apparatus in Fig. 1 in such position that the wheel c must be turned in the direction of the arrow x^2 in the operation of said apparatus, it will be apparent that the rope h may be passed around said wheel in the opposite direction, the crank e^2 of the wheel e may be turned in the opposite direction and the pawl f may also be turned so as to operate in connection with the opposite side of the wheel e, and in this event the wheel c will be turned in a direction opposite to that of the arrow x^2, and the end h^3 of the rope h will pass down over the opposite side of the wheel or roller g^3.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A lifting or hoisting device of the class described adapted to be secured to a vertical holder and comprising a plate or support, a wheel mounted centrally thereof and provided in its perimeter with a deep annular groove, the side walls of which are provided with radial ribs or projections, and a ring or band mounted in said groove, the diameter of which is greater than the inner diameter of said groove.

2. A lifting or hoisting device of the class described adapted to be secured to a vertical holder and comprising a plate or support, a wheel mounted centrally thereof and provided in its perimeter with a deep annular groove, the side walls of which are provided with radial ribs or projections, and a ring or band mounted in said groove, the diameter of which is greater than the inner diameter of said groove, and a vertically movable spring plunger supported beneath the said wheel and provided with a roller movable in said groove.

3. A lifting or hoisting device of the class described adapted to be secured to a vertical holder and comprising a plate or support, a wheel mounted centrally thereof and provided in its perimeter with a deep annular groove, the side walls of which are provided with radial ribs or projections, and a ring or band mounted in said groove, the diameter of which is greater than the inner diameter of said groove, and a vertically movable spring plunger supported beneath the said wheel and provided with a roller movable in said groove, said plate or support being also provided above said wheel with a small gear wheel which operates in connection with teeth on one side of the perimeter of said wheel, and a pawl mounted over said small gear wheel and adapted to operate in connection with the teeth thereof and to be turned in opposite directions.

In testimony that I claim the foregoing as my invention I have signed my name in presence of the subscribing witnesses this 29th day of July 1907.

AXEL GABRIEL LUNDIN.

Witnesses:

WILLIAM DRAKE,

THOMAS DEFTY.