C. Perley,

Windlass.

No. 6,480. Patented May 29, 1849.

Fig. 3.

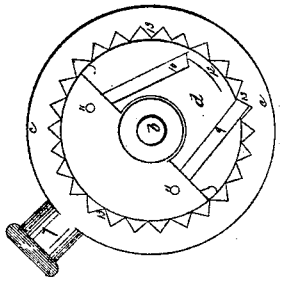


Fig. 1.

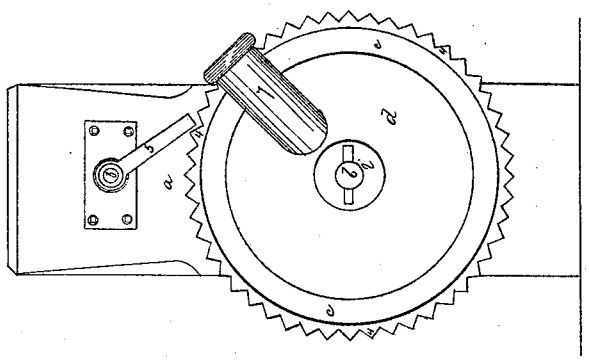
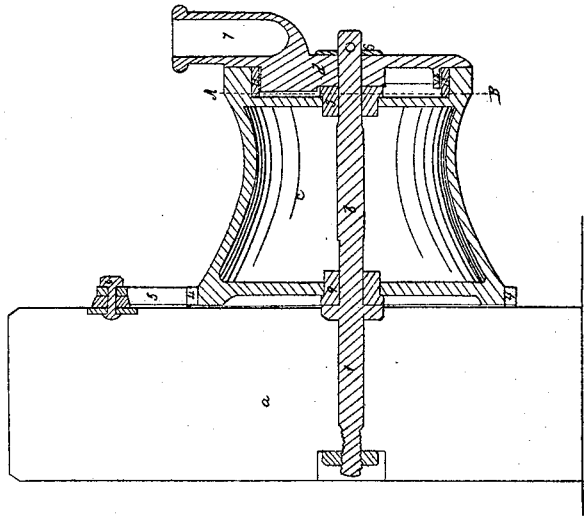


Fig. 2.



Witnesses:
Geo. W. Reid
Lemuel W. Serrell

Inventor:
Charles Perley

UNITED STATES PATENT OFFICE.

CHARLES PERLEY, OF NEW YORK, N. Y.

DIRECT AND COUNTER MOTION WINCH.

Specification forming part of Letters Patent No. 6,480, dated May 29, 1849; Reissued May 21, 1861, No. 1,188.

To all whom it may concern:

Be it known that I, CHARLES PERLEY, of the city and county of New York, State of New York, machinist, have invented and made and applied to use certain new and useful improvements in the construction of winch-heads for nautical and mechanical uses, such improvements effecting the purposes of making winches more generally and permanently useful, on shipboard by constructing them with facilities for dispensing with the movable crank now generally used and for placing winches in situations where they cannot now be so well placed, but where they will be more locally useful, as turning effectively either way on their shaft, more protected from accidental injury, more safe in use to the crew of a ship, and in situations where the common crank cannot now be effectively used, if at all, for which improvements I seek Letters Patent of the United States, and that the said improvements and the mode of constructing and using the same are fully and substantially set forth and shown in the following description and in the drawing annexed to and making part of this specification, wherein—

Figure 1, is a front elevation, of my improved winch-head as in place for use. Fig. 2, is a vertical sectional elevation through the center of the winch, and Fig. 3, is an elevation of the winch cap and pawls as seen from the interior through the line A, B, of Fig. 2.

The same letters and numbers as marks of reference, apply alike to the same parts in each figure.

b, is the shaft of the winch having a round part on which the winch rotates, and a square stock piece 1, to fix into a bitt or timber head or stanchion *a*, in any part of the ship, or the shaft may be a prolongation of the ship's windlass shaft outside the head of the windlass, thus placing a winch in or on any part of the ship where it can be needed, 2, is a two part journal box on the inner end of the shaft, made to fit on the shaft, with the larger diameter against the bitt, or other part to which the shaft is attached and the smaller diameter fitted to a socket in the larger end of the winch head *c*, with a Λ key to make the box and head rotate together, 3, is a single journal box on the shaft at the smallest end of the winch head. By this construction of the boxes 2, and 3, a broken winch head can be removed, and a new one slipped on, without removing the shaft, and the winch head may either be fitted with whelps or not. At the larger end the winch barrel *c*, is fitted with ratchet teeth 4, and a stop pawl 5, which may be bolted to whatever the winch itself is carried by, the ratchet teeth being made alike on each side at an angle of 45°, with the radial line the pawl is fitted on a pin 6, to act on either side of its own center, and take the ratchet teeth in whatever direction the winch head is worked. On the outer or smaller end of the winch head, a ring flanch cast solid with the head has on the inside edge a set of teeth 13, forming a female ratchet wheel, inclosed by a cap or movable cover *d*. This has a boss that sets against the outer journal box 3, and within the edge is an interrupted ring flanch, between one part of this and the boss a hollow block or plate forms a lodgment for the eyes and pins 11, 11, of two pawls 9 and 10, that are so set and hung, as to take the teeth of the female ratchet 13, one pawl only, operating in the direction of the rotation given, the other pawl hanging loose, until the cap is moved with the socket on the opposite side, and the stop pawl 5, changed when the winch will be turned the opposite way.

A washer and pin 8, on the outer point of the shaft *b*, secures all the parts in place leaving them easily accessible for repair if needed. The cap *d*, is swelled out and extended so as to form a socket 7, into which one end of a handspike or capstan bar, is to be inserted as a lever. On raising this in either direction, one of the pawls 9 or 10, overruns the teeth 13, the other hanging clear of contact against a stop 12, and on depressing the lever and socket 7, the point of the one pawl 9, or 10, takes the teeth 13, and forces the winch around, by an intermittent but powerful motion, by which a rope or chain wound around may be hove taut for any required purpose and when not in use the socket 7, hangs with the mouth downward, occupying but little more room than the winch head and out of the risk of accidental injury.

The shifting crank ordinarily used with a winch, on board ships is liable to injury by breakage, is frequently lost when wanted, often slips from the nose of the shaft when in use, and causes accidents to the crew, be-

sides taking so much room in use that it must have a full sway all around, both ways of the bitt, or standard that carries the winch, so that the crank cannot be operated in many parts of the ship, where a winch would save a dead haul on the arms of the crew. By the constructive arrangement above set forth and shown, all these inconveniences are avoided, the winch is always ready for use, by a handspike, in any corner where there is room to place it, and a mooring rope to a wharf, a halliard, or sheet or tackle fall taken, from either direction of the winch, may be easily and quickly hove taut, by a few men with this construction, of winch and the heavy labor of a greater number relieved.

I do not claim to have invented a winch head, or any of the parts herein described and shown, irrespective of the manner in which I have applied and used them. But

I do claim as new, and desire to secure by Letters Patent of the United States—

The application of the female ratchet 13, conjointly with the mechanical arrangement of the head or cap *d*, with the two reversing pawls 9 and 10, and lever socket 7, to produce a winch, that shall be worked by a handspike or lever, moving in either direction on the winch center, for the purposes and substantially in the manner before described.

In witness whereof I have hereunto affixed my signature this ninth day of February one thousand eight hundred and forty eight.

CHARLES PERLEY.

Witnesses:
GEO. W. REID,
LEMUEL W. SERRELL.

[FIRST PRINTED 1913.]