

# C. Perley, Windlass.

No 5,477.

Patented Mar. 21, 1848.

Fig. 2

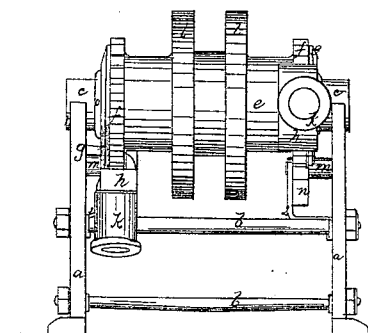


Fig. 3

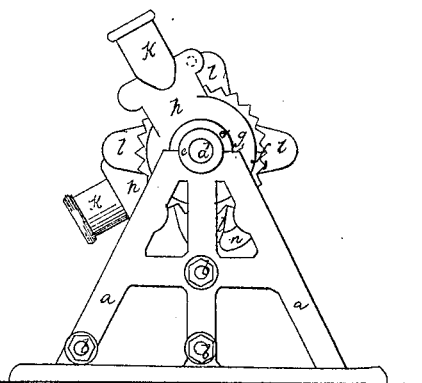


Fig. 1

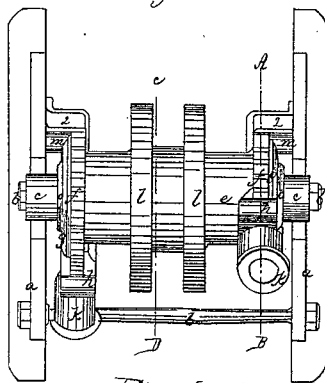


Fig. 4

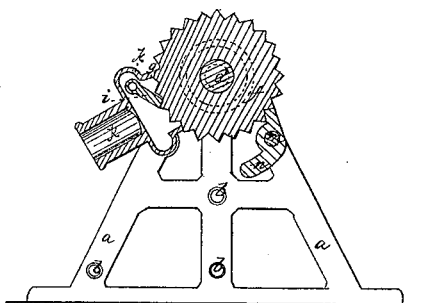
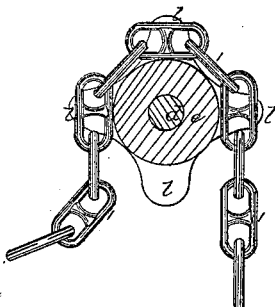


Fig. 5



Witnesses:

W. L. Merrill  
Lemuel W. Merrill

Inventor:  
Charles Perley

# UNITED STATES PATENT OFFICE.

CHARLES PERLEY, OF NEW YORK, N. Y.

## SHIP'S WINDLASS.

Specification of Letters Patent No. 5,477, dated March 21, 1848.

*To all whom it may concern:*

Be it known that I, CHARLES PERLEY, of the city and State of New York, machinist, have invented and made and applied to use certain new and useful Improvements in the Mode of Constructing and Applying What Are Nautically and Technically Known as "Ships' Windlasses;" that the object of said improvements and application is to save labor when the chain cable is to be bent for use by enabling a small portion of the crew of a ship easily to haul the cable up, from below by the aid of mechanical means, instead of this operation requiring the heavy and united labor of a considerable number of men, as is now generally the case, which improvements being made and arranged in a portable form, are also available for other nautical and mechanical purposes, and for which improvements I seek Letters Patent of the United States, and that the said improvements and the manner of constructing and using the same are fully and substantially set forth and shown herein and in the drawing annexed to and making part of this specification, wherein—

Figure 1 is a plan, Fig. 2 a front elevation, and Fig. 3 an end elevation, of a portable windlass, as fitted by me, for the above named and other uses: the Fig. 4 shows a section, through the line A, B, of Fig. 1, the Fig. 5 is a section through the line C, D, Fig. 1, and the same letters, and numbers, as marks of reference, apply to the same parts, in all the several figures.

*a, a*, are the foot flanches and parts, forming two triangular standard frames, secured together by the bolts *b, b, b*, with collars, or shoulders, against the inside of the frame, and nuts on the outside ends: The apex of each frame is formed, as a bearing *c, c*, to carry the journals of the main shaft *d*, on which a barrel *e*, is fitted and keyed. At each end of this barrel, are the ratchet wheels *f*, made with the teeth faces at nearly a right angle with each other, and each face, at nearly an angle of 45°, with a radial line to the bottom of the teeth: At each end, or between each wheel and the frame, is an annular metal disk *g*, centering to the shaft *d*, with a flanch plate *o*, having a ring, or annular collar on the shaft; and these two parts lie between the disks, and frames, and shafts, to keep the disks to the sides of the wheels *f*, and clear of the shaft, for purposes hereafter shown: In one part, the metal of

the disks, is extended, to form a hollow box *h*, over the teeth of the ratchet wheel, and inclosing a pawl *i*, to take the teeth of the wheels *f*, and the pawl is covered by a small flanch, projecting downward, over a portion of the inner face of each wheel, which is put into place, with the disk, before the flanch and annular ring *o*, are entered on to the shaft. Beyond the pawl boxes *h*, the metal is yet further extended, to form a deep hollow cylinder, or socket *k*, to receive one end of a handspike, or capstan bar, and beneath each wheel, in what may be termed the back of the machine, a pin *m*, on each of the frames, is supported by a bracket arm 2, to carry the stop or retaining pawl *w*, each made with a tail piece, that forms a counter weight, and keeps the points of the pawls *w*, to the teeth of the wheels *f*.

Between the ratchet wheels, the barrel *e*, is fitted with a pair of strong flanches *l, l*, either cast solid with the barrel, or fitted and keyed on, these flanches are formed as four horned cams, as shown in the Figs. 3 and 5. In the Fig. 5 these horns are shown as with the vertical links *l, l*, of a chain cable, lying between the points of the flanches and the horizontal links *l, l*, lying in the hollows, with the shoulders of each link *l* against the shoulders of the horns, or points of the flanches, which with the barrel may be varied in size to suit the required work.

When thus constructed, a rope, or a small chain, may be attached to one end of a heavy chain cable, in the well below, and carried around any open part of the barrel *e*, and "held on to," in the usual way, and handspikes, or capstan bars, entered, as levers, into the sockets *k*, are to be worked by men, with an upward and circular motion on the shaft *d*, as a center, which will carry the pawls *i*, to a new position on the ratchets *f*, when the lever is to be depressed, and the pawls *i*, taking the ratchet teeth, will force the wheels, shaft, barrel, and horned or cam flanches, around, raising the rope, or small chain, until the large, or cable chain, can be laid in to the flanches, as shown in Fig. 5, and "held on to" and led forward, by the rope, or small chain, and by a continuous motion of the levers, as before described, the heaviest chain cable is easily raised from the well, below, by a few men, and generally quicker, than by the united and laborous exertions of a greater

number of men, in the usual way, generally termed, "man handling the cable." The open parts of the barrel *e*, between the flanches or between the ratchets and flanches, 5 may be used in the way described, to heave a rope, or small chain taut, or raise a weight, in any situation where it can be conveniently applied.

When not in use, the apparatus takes no 10 more room, than the frame and foot flanches and may be easily moved to, and lashed fast, in any part of the ship, either for use, or security; and the pawl boxes and lever sockets, turning downward, within the frame, 15 are thereby protected from injury, by external causes.

I do not herein claim to have invented any of the parts herein described and shown, as all are well known, and in use, for many 20 purposes, excepting, however, the mode of fitting the annular disks *g*, with the pawl boxes *h*, and lever sockets *k*, which are collectively included, in a claim, made by me,

in an application for a patent bearing date about the twelfth day of May one thousand 25 eight hundred and forty-seven. But I do claim as new, and of my own invention, and desire to secure by Letters Patent of the United States—

The constructive mode of fitting the bar- 30 rel *e*, with the horned cams, or flanches *l*, and ratchet wheels *f*, conjointly with the application of the disks *g*, pawl boxes *h*, pawls *i*, and lever sockets *k*, to be used in working the barrel and flanches, for nautical and me- 35 chanical purposes, collectively, constructively, and substantially, in the manner described and shown.

In witness whereof, I have hereunto set my hand in the city of New York, this 40 fourteenth day of July, one thousand eight hundred and forty-seven.

CHARLES PERLEY.

Witnesses:

W. SERRELL,

SAMUEL W. SERRELL.