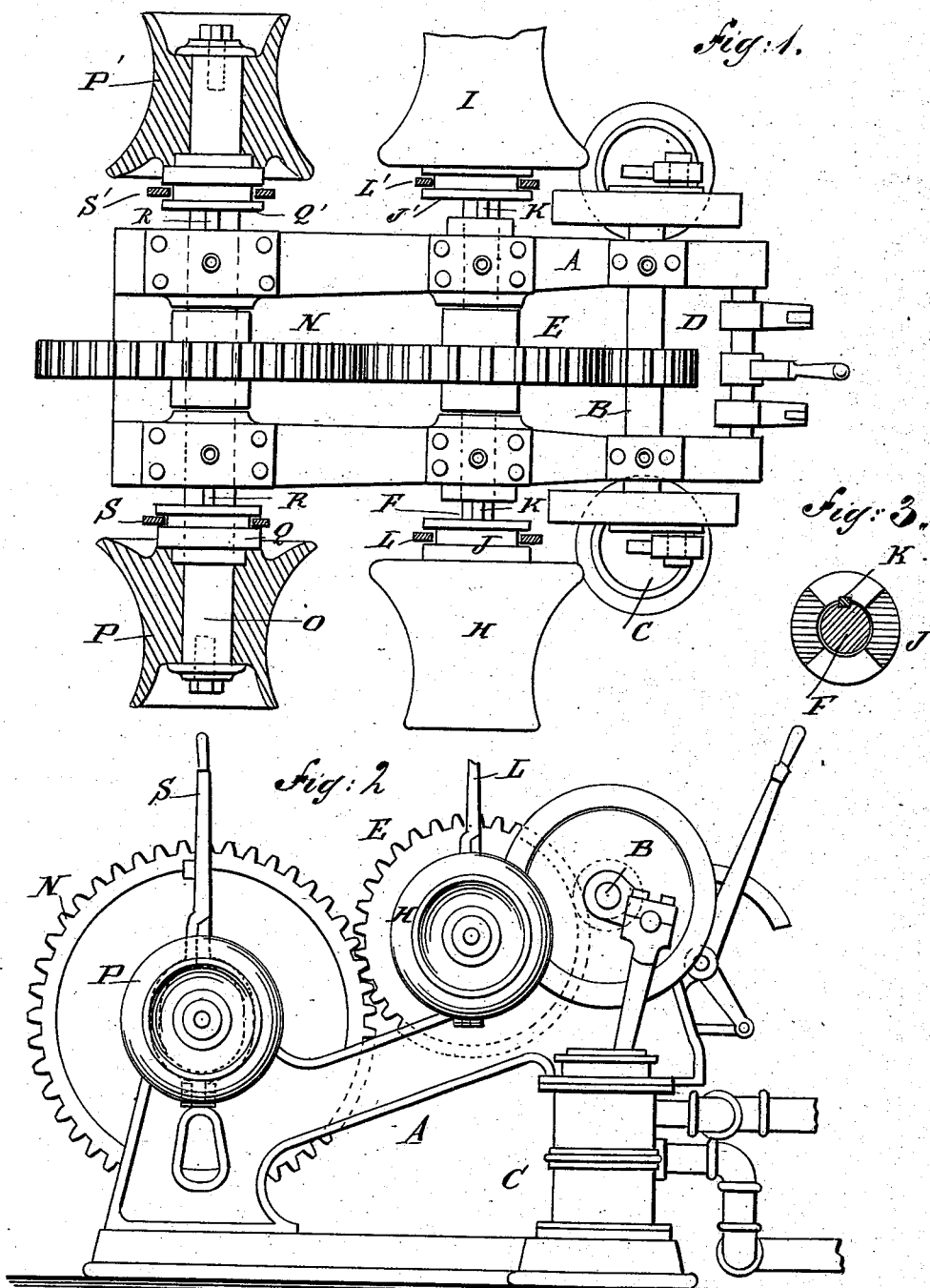


(No Model.)

E. C. BACON.
WINDLASS.

No. 381,203.

Patented Apr. 17, 1888.



WITNESSES:

Chas. Nida
W. Sedgwick

INVENTOR:

E. C. Bacon
BY *Munn & Co*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

EARLE C. BACON, OF BROOKLYN, ASSIGNOR TO COPELAND & BACON, OF
NEW YORK, N. Y.

WINDLASS.

SPECIFICATION forming part of Letters Patent No. 381,203, dated April 17, 1888.

Application filed February 28, 1887. Serial No. 229,171. (No model.)

To all whom it may concern:

Be it known that I, EARLE C. BACON, of Brooklyn, in the county of Kings and State of New York, have invented a new and improved Windlass, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved windlass carrying several hoisting-drums or winch-heads actuated from one main shaft and traveling independently of each other at a differential rate of speed.

The invention consists in the construction and arrangement of various parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improvement, parts being in section. Fig. 2 is a side elevation of the same, and Fig. 3 is a front view of the clutch.

On the suitably-constructed frame A is mounted the main shaft B, receiving a rotary motion from the steam-engine C, or other means. On the shaft B is secured a pinion, D, meshing into the gear-wheel E, secured to the transverse shaft F, mounted in suitable bearings on the frame A and extending on each side of the frame.

On the ends of the shaft F are loosely mounted the hoisting-drums or winch-heads H and I, respectively, each provided on its inner face with clutch-teeth adapted to be engaged by the clutch-collars J and J', respectively, each sliding on a key, K, secured near the end of the shaft F. The clutch-collars J and J' can be thrown in and out of contact with the respective hoisting-drums H and I by the clutch-levers L and L', respectively, fulcrumed on the frame A. The levers L L' are the common shifting-levers pivoted at their lower ends to the frame and extending upward in engagement with the grooves in the clutch-collars.

The gear-wheel E meshes into a gear-wheel, N, having more or less teeth than the said

gear-wheel E, and being secured to a transverse shaft, O, mounted in suitable bearings on the frame A, and extending in a similar manner to the shaft F on each side of the frame A. On the outer ends of the shaft O are loosely mounted the hoisting-drums P and P', which are similar in construction to the drums H and I, and adapted to be connected with the clutch-collars Q and Q', each sliding on a key, R, fastened on the shaft O. Each clutch-collar Q can be thrown in or out of gear with its respective hoisting-drum P or P' by the clutch-lever S or S', which levers are connected with the said clutch-collars Q and Q', respectively, and are pivoted on the frame A.

The operation is as follows: The rotary motion of the main shaft B is transmitted to the shafts F and O, which travel at a differential rate of speed. The hoisting-drums H I and P P', on account of being loosely mounted on the shafts S and O, respectively, do not rotate until connected by the respective clutch-collars with the respective shaft F or O. The hoisting-drums can all be actuated simultaneously by throwing the clutch-collars in contact with the clutch-teeth on the said hoisting-drums, so that the latter rotate with the shafts and at the same rate of speed as the latter. Any single hoisting-drum may be used independently of the others by throwing its respective clutch-collar in contact with the clutch-teeth on the respective hoisting-drum. The gear-wheels E and N may also be of equal diameter, having the same number of teeth; but in this case all the hoisting-drums, when connected with their respective shafts, will travel at the same rate of speed. Another gear-wheel may be connected with the gear-wheel N, so as to operate a set of hoisting-drums either at the same rate of speed or at a differential rate of speed in the same manner as the drums H and P or I and P'.

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

The combination, with the frame A, parallel horizontal shafts B F O, journaled thereon, and having keys at their opposite ends,

the meshing pinions D E N on said shafts and increasing in diameter from D to N, and means for operating the main shaft D, of the loose drums H I at opposite ends of the shaft F, the clutch-collars J and their operating-levers, the loose drums P P' at opposite ends of the shaft O, and the clutch-collars Q Q', provided

with operating-levers, substantially as set forth.

EARLE C. BACON.

Witnesses:

JOHN M. KNAPP,
D. DEMAREST.