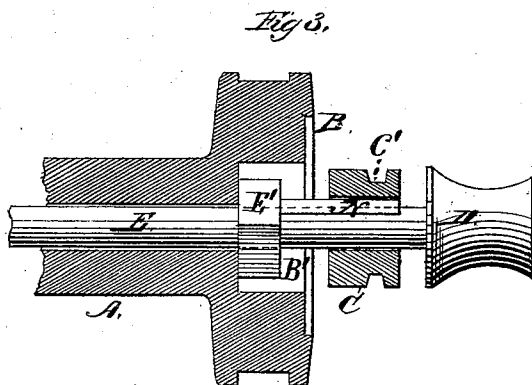
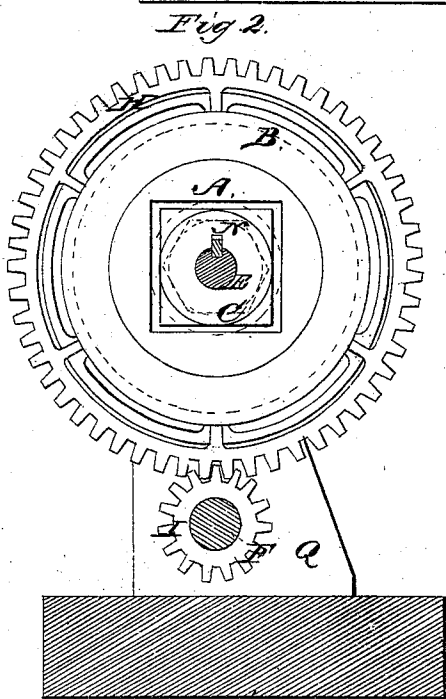
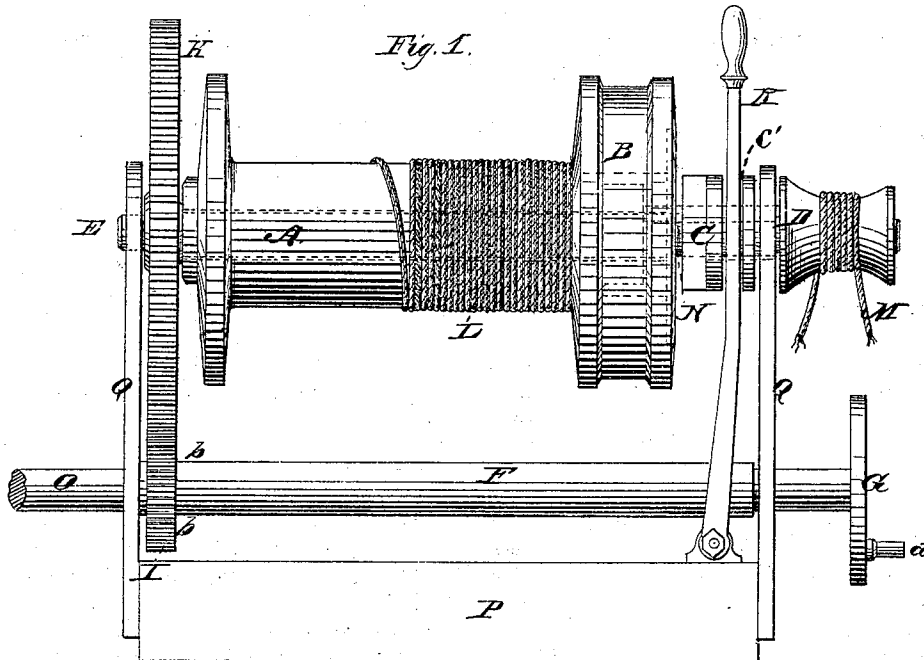


J. RUSHWORTH.

Windlass for Hoisting-Machines.

No. 136,270.

Patented Feb. 25, 1873.



Witnesses.

J. H. Mottley
William Thomson

Inventor.

John Rushworth

UNITED STATES PATENT OFFICE.

JOHN RUSHWORTH, OF NEW YORK, N. Y.

IMPROVEMENT IN WINDLASSES FOR HOISTING-MACHINES.

Specification forming part of Letters Patent No. 136,270, dated February 25, 1873.

To all whom it may concern:

Be it known that I, JOHN RUSHWORTH, of the city, county, and State of New York, have invented certain Improvements in Hoisting Apparatus, of which the following is a specification:

The object of this invention is the ready throwing into and out of gear the drum of a hoisting-machine, upon which the rope or chain is wound or unwound to hoist or lower matter from one floor to another of a building, or for other purposes.

The invention consists of a shaft carrying a gear-wheel, which meshes into a larger gear-wheel arranged on the shaft carrying the drum, the revolution of the said drum being controlled by a clutch, having a polygonal or other shaped head adapted to a correspondingly-formed cavity in one end of the drum—the clutch being operated through the medium of a lever, all as will be fully set forth in detail hereinafter.

In the drawing, Figure 1 is a side elevation of the frame of a hoisting-machine with my improvements attached thereto. Fig. 2 is a transverse section, showing the manner of securing the clutch to the operating-shaft. Fig. 3 is a detached sectional view.

The letter P represents the base of the frame of a hoisting-machine, at each end of which rise standards Q Q, in the upper ends of which is journaled the horizontal operating-shaft E. At one end of this shaft is a gear-wheel, H, which meshes into a gear-wheel, I, on the shaft F, which is also journaled in the standards Q Q. The end of the shaft F is provided with a disk, G, carrying a crank-pin, a, to which motion is communicated from an engine. The drum A is loosely mounted on the shaft E, and prevented from having a longitudinal movement on said shaft by the nut E', or its equivalent, and is provided with an enlarged head, B, in which is formed a recess or socket, B',

and upon the shaft is arranged the clutch C, secured to the shaft by the key or feather N, so as to revolve with the same. The clutch C is provided with a polygonal-shaped head, which is adapted to the correspondingly-shaped socket in the end of the drum. The clutch is also provided with a peripheral groove, C', to which is fitted the lever K, the lower end of which is pivoted to the base P, or in any other position which will enable the lever to cause the clutch to enter the end of the drum or be withdrawn therefrom when necessary. A pulley or windlass, D, is arranged upon the end of the shaft E, around which pulley passes the rope or chain M, which serves as a hauling medium, or may serve to operate the hoisting apparatus.

When motion is communicated to the shaft E, and it is desired to hoist or lower an object secured to the end of the rope L, the head of the clutch C is caused to enter the socket B' by pushing the lever K inwardly, and as the clutch revolves with the shaft E a rotary motion will be communicated to the drum A, which will wind up the rope L and elevate the object; and upon a reverse motion of the apparatus an object may be lowered with equal facility. If at any time it becomes necessary to arrest the motion of the drum without stopping the motive power, the lever K is drawn outwardly from the drum A to withdraw the head of the clutch from the socket in the drum, and thus the movement of the drum will be arrested.

I claim as my invention—

The shaft F and gear-wheels H and I, in combination with the shaft E, clutch C, lever K, and drum A, all arranged and operating in the manner and for the purpose described.

JOHN RUSHWORTH.

Witnesses:

J. H. WHITELEGGE,
WILLIAM THOMSON.