O. S. PRESBREY.

Hoisting-Apparatus.

No. 207,681. Patented Sept. 3, 1878.

Fig. 2.

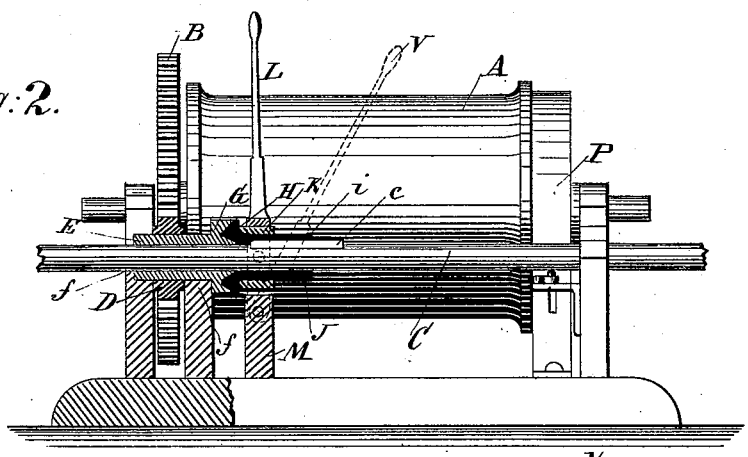


Fig. 1.

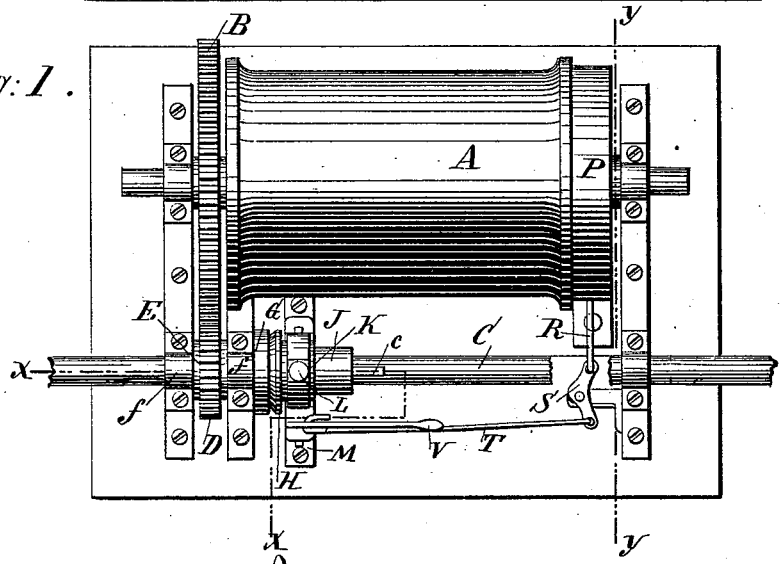
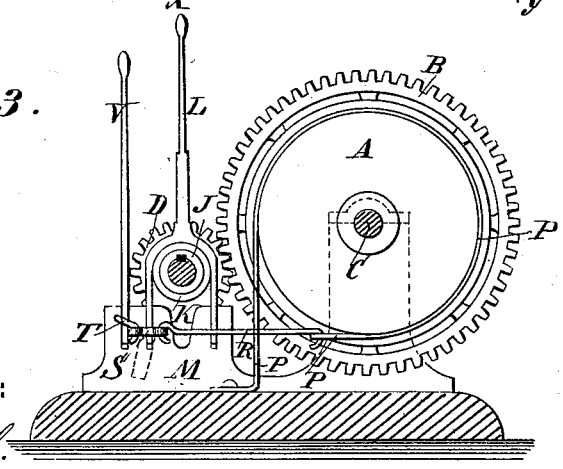


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

OLIVER S. PRESBREY, OF PORT HENRY, NEW YORK.

IMPROVEMENT IN HOISTING APPARATUS.

Specification forming part of Letters Patent No. **207,681**, dated September 3, 1878; application filed July 18, 1878.

To all whom it may concern:

Be it known that I, OLIVER S. PRESBREY, of Port Henry, in the county of Essex and State of New York, have invented a new and useful Improvement in Hoisting Apparatus, of which the following is a specification:

My invention relates to an apparatus which may be used for hoisting purposes in various situations, but is more particularly intended for use in mines and quarries and in other situations where a number of drums are employed at the same time and for the same kind of work.

The invention consists in a novel construction, arrangement, and combination, with a drum or drums and a driving-shaft, of a system of gearing, sleeves, and friction-surfaces, whereby provision is made for operating a number of drums from a single shaft and for readily and quickly throwing the parts in and out of gear.

The accompanying drawing represents the manner of carrying out my invention.

Figure 1 is a top view, showing my improvements applied to a single drum. Fig. 2 is a side view of the same, partly in section, through the line *x x* of Fig. 1. Fig. 3 is a transverse section taken in the line *y y* of Fig. 1.

Similar letters of reference indicate corresponding parts.

A represents a hoisting-drum of ordinary construction, carrying at one end a gear-wheel, B.

C represents a driving-shaft, receiving motion from a steam-engine or other primitive power. This shaft may be long enough to drive a number of drums, but the single drum here shown is deemed sufficient for illustration, and the invention will be described with reference to a single drum.

The drum A receives motion from a gear-wheel, D, meshing into the wheel B. This gear-wheel D is attached to and carried by a sleeve, E, journaled in bearings *f f*, independent of the shaft C; but said shaft passes through said sleeve, and is free to turn and to slide therein and independently thereof. At the extreme end of the sleeve E, farthest from the gear-wheel D, is an enlarged part, having a concave surface, which forms one half of a friction-clutch. Immediately adjoining the sleeve E, on the shaft C, is another sleeve, J, carrying at one end a convex surface, H, which forms the other half of the friction-clutch. The bearing-surfaces of the clutch may be of any suitable form. The sleeve J slides freely on the shaft C longitudinally thereof, but is arranged to turn therewith by means of a groove, *i*, in the sleeve engaging with a feather, *c*, on the shaft. Surrounding the sleeve J is a loose collar, K, to which is connected, by means of trunnion-like pivots, a forked lever, L, the lower end of which is pivoted in a block or standard, M, on the base or platform which supports the parts. The collar K is arranged to slide on the sleeve J and to bear against the shoulder or rear side of the part H of the clutch when the lever L is moved in the proper direction.

The parts being in the positions shown in the drawing, the shaft C revolves freely without turning the gear-wheel D; but, by moving the lever L toward the left-hand side of Fig. 2 of the drawing, the collar K throws the part H of the clutch into engagement with the part G, causing the sleeve E to revolve with the shaft C and the gear-wheel D to give motion to the drum A through the gear-wheel B.

By this construction and arrangement of parts any suitable number of drums may be operated from a single shaft, and each drum will work independent of all the others.

This invention will be of peculiar advantage in mines and quarries and other situations where a number of hoisting-drums is required, and where an engine is kept running continuously for the purpose of compressing air and for other purposes.

The drum A is provided with a brake mechanism, which may be of any suitable description. The mechanism here shown consists of an elastic metallic strap or flat bar, P, having one end fixed to the base or platform and the other end passing around the drum, and connected by a rod, R, with one arm of a bell-crank lever, S, the rod R passing through a slot in the strap near its fixed end. The other end of the lever S is connected by a rod, T, with a hand-lever, V, having its lower end pivoted in the block or standard M near the lever L. By this arrangement both levers are placed within convenient reach of the attend-

ant. By moving the lever V toward the left-hand side, the brake is applied to the drum, and when the lever is released the brake springs out of engagement.

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

1. The combination, with wheels B D and shaft C, of the sleeves E J, the latter sliding, and provided with an end enlargement carrying the convex surface H, as and for the purpose specified.

2. The combination, with the drum A, of the brake mechanism, consisting of the strap or flat bar P, rod R, bell-crank lever S, rod T, and hand-lever V, when arranged as shown and described.

OLIVER STETSON PRESBREY.

Witnesses:
CARLTON H. MERRITT,
WILLIAM H. CARR.