

(No Model.)

J. & T. McNEIL.

HOISTING MACHINE.

No. 296,864.

Patented Apr. 15, 1884.

Fig 1.

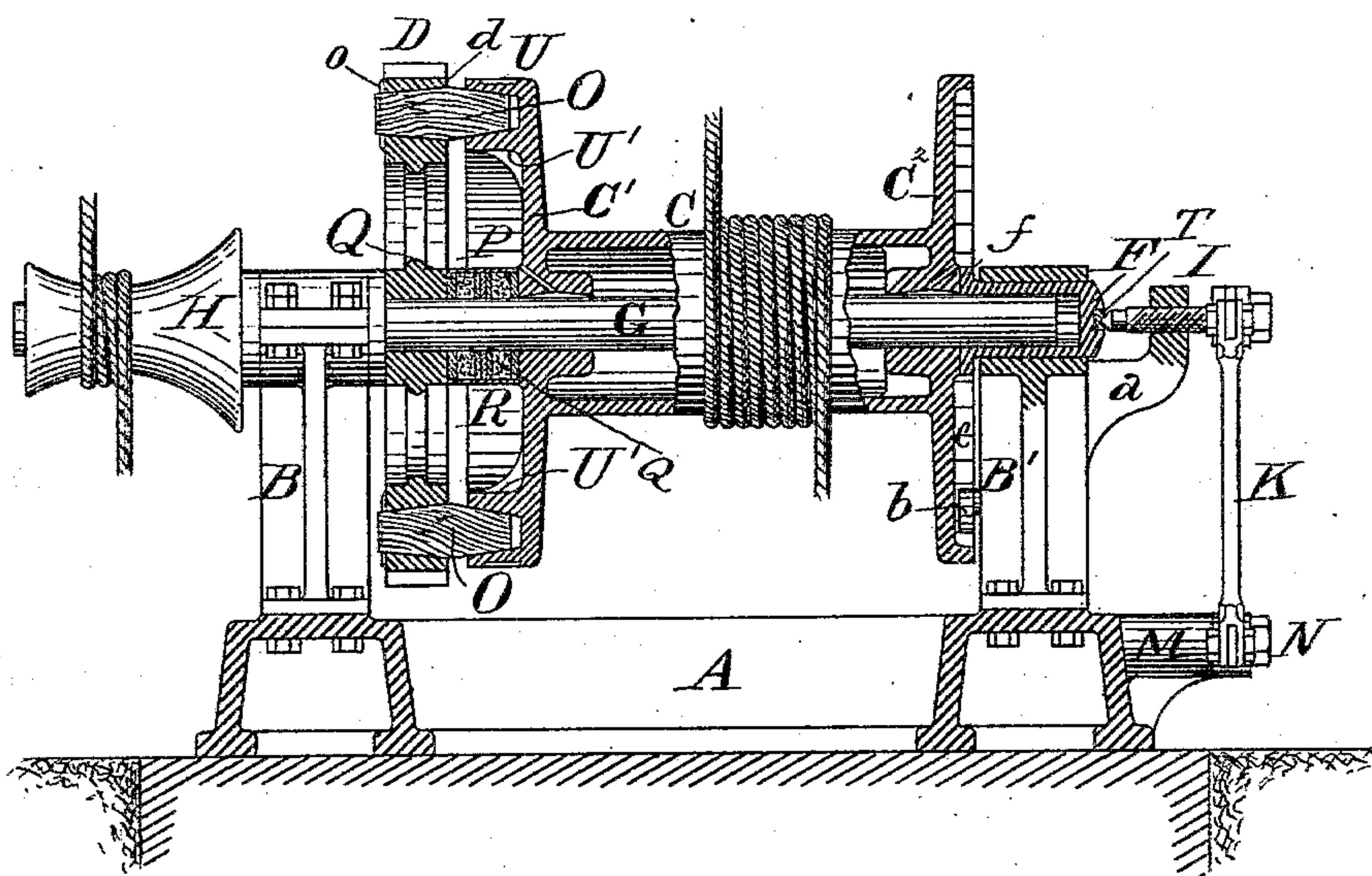
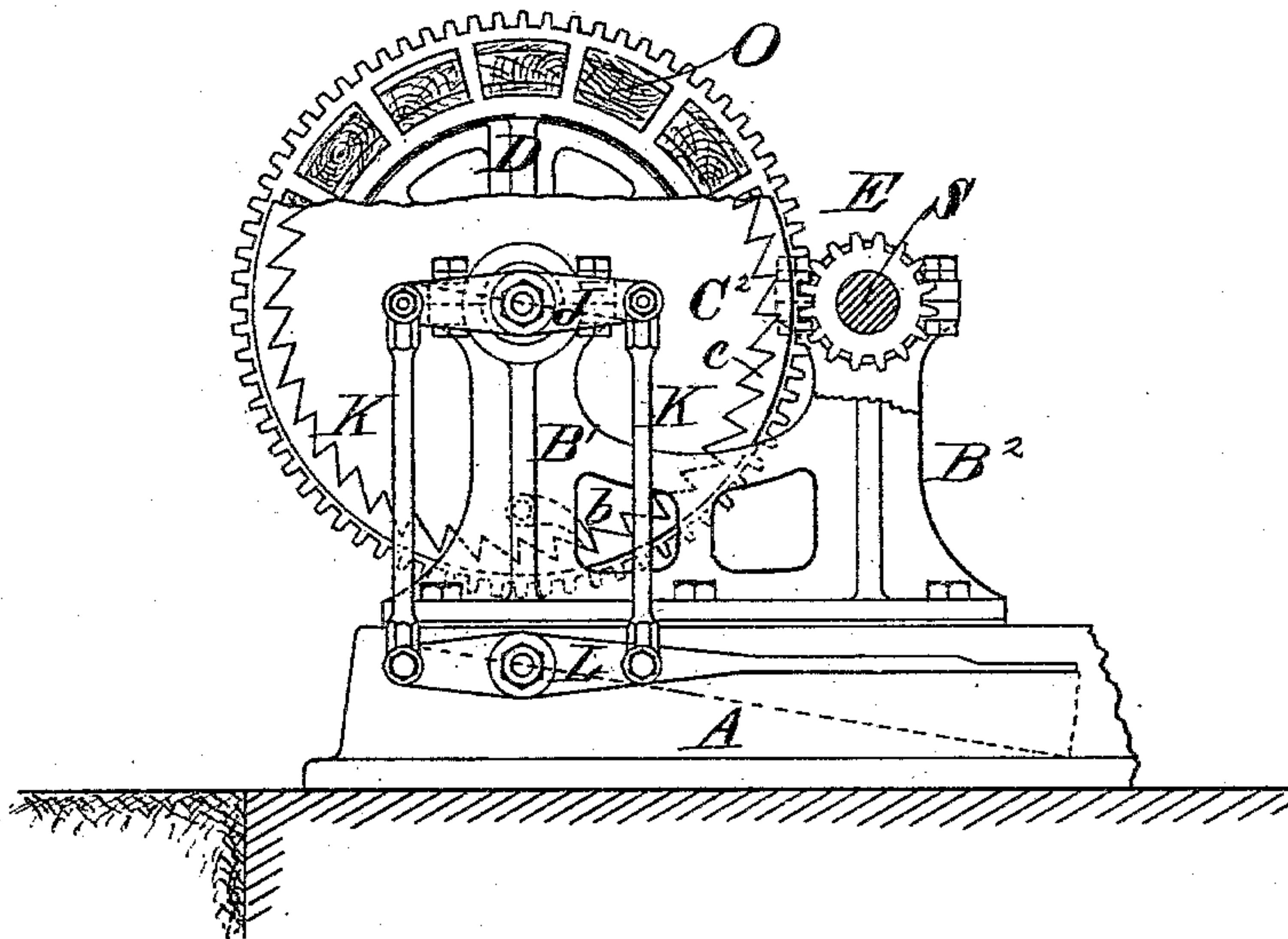


Fig 2.



WITNESSES:

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JAMES McNEIL AND THOMAS McNEIL, OF PITTSBURG, PENNSYLVANIA.

HOISTING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 296,864, dated April 15, 1884.

Application filed February 15, 1884. (No model.)

To all whom it may concern:

Be it known that we, JAMES McNEIL and THOMAS McNEIL, citizens of the United States, residing at Pittsburg, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Hoisting-Machines; and we do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a side elevation, partly in section, of our improved hoisting-machine. Fig. 2 is an end elevation of the same, certain parts being broken away.

Our invention relates to machines used for hoisting loads and other like purposes; and the object of our invention is to so construct such a machine that the parts may be quickly and easily adjusted for operation; and to this end our invention consists in the construction and combination of parts, all as more fully herein-after described and claimed.

On a suitable foundation, A, are secured the standards B B', in which is journaled the shaft G. On this shaft G is so mounted the drum C as to be capable of rotation around and movement longitudinally along said shaft. At one end the drum C is provided with a head, C', on which are formed the flanges U U', whose opposing surfaces are slightly beveled, as shown.

On the shaft G, between the drum C and the bearing B, is secured the gear-wheel D. The rim of this gear-wheel is made of considerable thickness, and in it are formed a series of equally-spaced openings or slots, d, the sides of which are formed tapering, as shown. Into these openings d are driven the double-wedge-shaped blocks O, which are securely held in these openings by pins o. The projecting ends of the blocks O are tapered on their inner and outer sides, so as to correspond with the taper of the sides of the recess formed by the flanges U U', between which they are to be forced with a wedging action. The inner and outer sides of the projecting ends of the blocks and the opposing walls of the flanges are preferably given an inclination of from twenty to thirty degrees.

The blocks O may be formed of hard wood or paper, as desired.

On the shaft G, between the drum C and the gear-wheel D, are placed two rubber washers, Q Q', separated from each other by metal washers R, and surrounded and protected by a metallic cylinder, P. These washers are adapted to force the drum C away from the gear-wheel D, and thereby disengage the blocks O from the recess between the flanges U U'. The end of the shaft supported by the standard B' rotates in a cylindrical socket, F, adapted to rotate and move longitudinally in the bearing in the standard B'. The inner end of the cylindrical socket F is provided with flanges f, as shown, which bear against the end of the drum C, the outer end of the socket being provided with a steel button, T. Against this button bears the end of a rod, I, which is provided with a thread of considerable pitch, and passes through a similarly-threaded opening in the bracket a, formed in the standard B'.

To the outer end of the rod I is secured at its middle point the arm J, to the ends of which are pivoted the rods K, the lower ends of these rods being pivoted to a lever or treadle, L, which is pivoted to a pin, N, secured to a projection, M, on the base-plate A. The rods K may be adjusted along the arm J and lever L, for the purpose of increasing or diminishing the amount of rotation of the screw for a given movement of the lever.

On the inner periphery of the flanged head C' are formed teeth c, which are engaged by a pawl or detent, b, pivoted to the standard B'. This device prevents any backward movement of the drum during the hoisting operation, should the blocks O at any time lose their hold on the faces of the flanges.

The gear-wheel D meshes with a small spur-wheel, E, secured to a shaft, S, mounted in bearings B², secured to the base-plate A, as shown in Fig. 2, and power is applied to this shaft S in any convenient way.

On one end of the shaft G is secured an auxiliary drum, H, which may be used for light work.

The operation of our machine is as follows: Power having been applied to the shaft S to

rotate the spur-wheel E and gear-wheel D, the operator depresses with his foot one end of the lever L, thereby rotating the screw-rod I, causing it to move forward and push the cylindrical socket or box F longitudinally through its bearing and force the drum C toward the gear-wheel D, compressing the rubber washers Q Q'. This movement of the drum forces the blocks O in between the flanges U U' with a wedging action, and the drum is then caused to rotate with the gear-wheel by the frictional contact of the faces of the blocks with the faces of the flanges. When the cylindrical socket F is forced up against the drum, it will rotate with the shaft G, and thus avoid the increase of friction which would arise from a stationary socket pressing against the drum.

We claim herein as our invention—

1. A winding-drum having a head provided with flanges having their opposite faces inclined, in combination with a drive-wheel and wooden blocks secured to the drive-wheel, and having their projecting ends beveled on their inner and outer sides, substantially as described.

2. A winding-drum having a head provided with flanges having their opposed faces inclined, in combination with a drive-wheel having a slotted rim and double-wedge-shaped blocks, one of the ends of said blocks being adapted to be secured in the slots of the drive-wheel, the other ends of the blocks being adapted to be forced into frictional contact with the inclined flanges of the drum, substantially as set forth.

3. The winding-drum C, the shaft G, in combination with the cylindrical socket F, adapted to rotate and slide along said shaft, the screw I, the arm J, the rods K, and the treadle L, substantially as set forth.

In testimony whereof we have hereunto set our hands.

JAMES McNEIL.
THOMAS McNEIL.

Witnesses:

R. H. WHITTLESEY,
C. M. CLARKE.