

UNITED STATES PATENT OFFICE.

PETER OLSEN, OF NEW YORK, N. Y., ASSIGNOR TO THE LIDGERWOOD MANUFACTURING COMPANY, OF NEW YORK, N. Y., A CORPORATION.

DEVICE FOR OPERATING THE DOGS OF HOISTING-ENGINES.

SPECIFICATION forming part of Letters Patent No. 713,487, dated November 11, 1902.

Application filed October 16, 1900. Serial No. 33,188. (No model.)

To all whom it may concern:

Be it known that I, PETER OLSEN, a citizen of the United States, and a resident of New York city, borough of Manhattan, in the
5 county of New York and State of New York, have invented a new and Improved Device for Operating the Dogs of Hoisting-Engines, of which the following is a full, clear, and exact description.

10 My invention relates to an improvement in devices for operating the dog of a hoisting-engine, and comprises certain novel features, which will be hereinafter described, and particularly pointed out in the claims.

15 The drawings accompanying herewith show a preferred form of construction, the same being in the form of an attachment which may be secured to an engine already in use, although it is evident that when the engine is
20 being built provision may be made for a bearing for the shaft of my device in the frame of the engine.

Figure 1 of the drawings shows a portion of the hoisting-engine in plan with my device
25 attached thereto, and Fig. 2 is a side elevation of the same.

In a great many if not a majority of the hoisting-engines built containing a rope-drum A, loose on a shaft I and driven by a friction-
30 cone J, fixed to the shaft, provision is made for locking the hoisting-drum against its running backward or in the direction which will permit the cable wound thereon to be run out. This is usually accomplished by means of a
35 toothed or ratchet wheel, as B, fast to the drum, and a dog or pawl, as P, adapted to engage therewith and hold the drum from turning backward, both the ratchet and dog being generally located inside the end frame H,
40 which carries one bearing of the drum-shaft I.

I combine with the parts of an engine of the class referred to mechanism for operating the dog extending from the same to a point nearer the position outside the end frame H
45 of the man operating the friction-lever, and in its preferred form this point is in such position that the dog may be operated by the same hand used for operating the friction.

In the construction of the device, as herein
50 shown, a slide E is mounted upon the friction-

controlling lever D, and two guide-rollers *d* are placed upon this lever, so as to be upon opposite sides of its pivotal center. The guide-rollers *d* may be supported independent of the lever, if desired, but should be located at each
55 side of the axis of the lever. The lever D is preferably outside the end frame H and controls a friction device by which the drum is driven and which may be of any preferred form. As the particular construction of the
60 friction device is immaterial to my invention, I have not illustrated it in detail.

In the construction herein shown, in which the device is designed for attachment to an engine already built, a frame F is provided
65 having two arms and adapted to be secured to the two bolts *f*, which are usually provided in connection with an engine of this sort to take the thrust of the friction device. The ends of these arms are provided with holes
70 adapted to pass over the bolts *f*, and said arms are adapted to be secured in place by the nuts which screw upon said bolts. This frame carries a sleeve F', adapted to form a bearing for a rock-shaft G, which is provided
75 at its ends with arms *g* and *g'*, one of which, the arm *g*, is connected by a link *p* with the dog or pawl P. The other arm *g'*, which is at the opposite end of the rock-shaft, is connected, by means of a chain *e* or other equivalent flexible member, with the slide E, which is carried by the friction-controlling lever D. This chain passes between the two guide-rollers *d*, so that the distance from any point upon the friction-controlling lever D to the
85 end of the arm *g'* shall be constant at any and all positions of the lever D.

At P' the pawl or dog P is counterweighted, so as to normally be held out of engagement with the toothed wheel C. When it is desired
90 to throw the pawl into engagement, and thus to lock the drum, the upper end of the slide E, which is bent to one side for that purpose, may be engaged by a finger of the hand by which the lever D is operated to pull the slide
95 up, and thus to throw the dog into engagement.

While I have herein shown but one form of device for carrying out my invention, I am aware that the same may be embodied in 100

other quite different forms and do not, therefore, wish to be understood as confining myself to the particular construction shown and described, but claim my invention in any form in which it may be embodied.

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

1. In a hoisting-engine, the combination with a drum, a friction driving means for said drum, and a friction-controlling member, of a drum locking or holding mechanism, and an operating member therefor mounted upon the friction-controlling member.

2. In a hoisting-engine, the combination with a drum, and locking means therefor, of a friction driving mechanism for said drum, a lever for controlling said friction mechanism, a lock-controlling member carried by said lever, guides coinciding with the pivot of said lever, and connections from said lock-controlling member to the lock and passing through said guides.

3. In a hoisting-engine the combination with a drum, and a locking means therefor normally out of action, of a friction driving mechanism for said drum, a lever for controlling said friction mechanism, a lock-applying member carried by said lever, guides coinciding with the pivot of said lever, and a flexible connector extending from the said lock-controlling member to the lock and passing through said guides.

4. In a hoisting-engine the combination with a drum, an adjustable friction driving means for said drum, and a lever controlling the said friction, of a ratchet and pawl adapted to hold the drum against rotation, a slide mounted upon the friction driving-lever and adapted to be engaged by the hand operating said lever, and connections from said slide to the pawl comprising a guide coinciding with the pivot of said lever.

5. In a hoisting-engine, the combination with a drum, a friction operating means for said drum, a lever for controlling said friction, and a ratchet and pawl adapted to hold the drum against turning, of a movable pawl-controlling member carried by said lever, connections between said pawl-controlling member and pawl comprising a flexible member, and guides for said flexible member placed at the axis of the lever by which the friction is controlled.

6. In a hoisting-engine, the combination with a drum, a friction driving means for said

drum, a lever for controlling said friction and a pawl and ratchet for holding the drum against rotation, of a slide mounted on said lever, rollers journaled on the lever at each side of its pivot-point, and connections from said slide to the pawl comprising a flexible member passing between said rollers.

7. In a hoisting-engine, the combination with a drum, and friction driving means for said drum, a lever for controlling said friction and a pawl and ratchet for holding the drum against rotation, of a slide mounted on said lever, rollers journaled on the lever at each side of its pivot-point, a rock-shaft having arms thereon, a connection from one of said arms to the pawl, and a flexible connection between the other arm and the slide and guided between said rollers.

8. In a hoisting-engine the combination with a drum, a friction driving means for said drum, a lever for controlling said friction, and a pawl and ratchet for holding the drum against rotation, of a slide mounted on said lever, rollers journaled on the lever at each side of its pivot-point, a frame adapted to be secured to the engine-frame, a rock-shaft journaled in said frame and provided with two arms, a connection from one of said arms to the pawl, and a flexible connection between the other arm and the slide and guided between said rollers.

9. In a hoisting-engine in combination a driven shaft, a rope-drum loose on the shaft, a friction-clutch fixed to the shaft, a frame containing one bearing of said shaft, a friction-clutch-controlling lever outside of said frame, a drum-locking device inside said frame, and mechanism for operating said drum-locking device mounted upon but unaffected by the movements of the clutch-operating lever.

10. In a hoisting device, the combination with a drum, a clutch-driving mechanism therefor and a lever for controlling the clutch, of a lock for the drum, and a lock-controlling lever moving in unison with but unaffected by the movements of the clutch-controlling lever and operative independently thereof.

In testimony whereof I have signed my name to this specification, in the presence of the two subscribing witnesses, at New York, October 15, 1900.

PETER OLSEN.

Witnesses:

H. L. REYNOLDS,
CHARLES J. RATHIEN.