

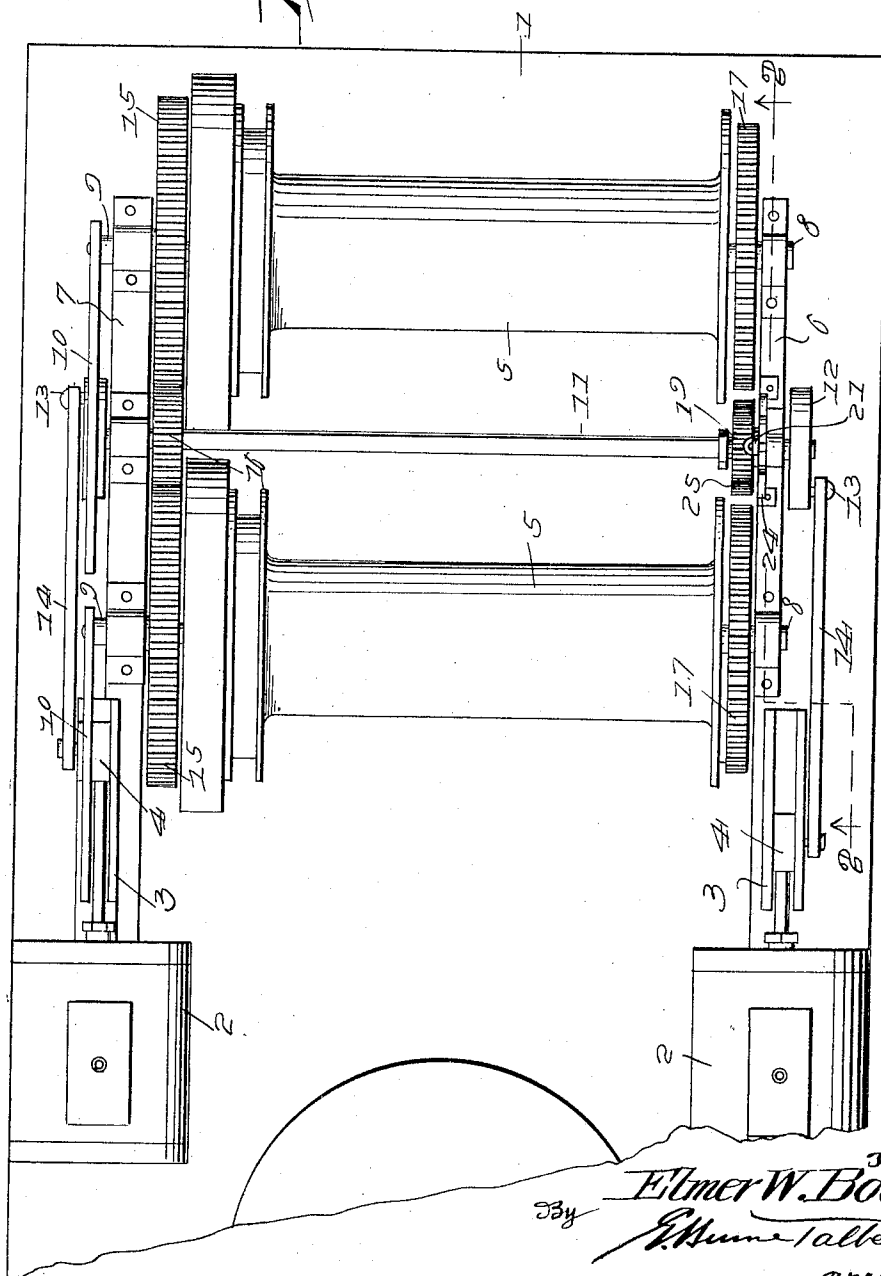
E. W. BODALY.
 DRUM GEAR FOR LOGGING ENGINES.
 APPLICATION FILED MAR. 21, 1919.

1,330,678.

Patented Feb. 10, 1920.

2 SHEETS—SHEET 1.

Fig. 1.



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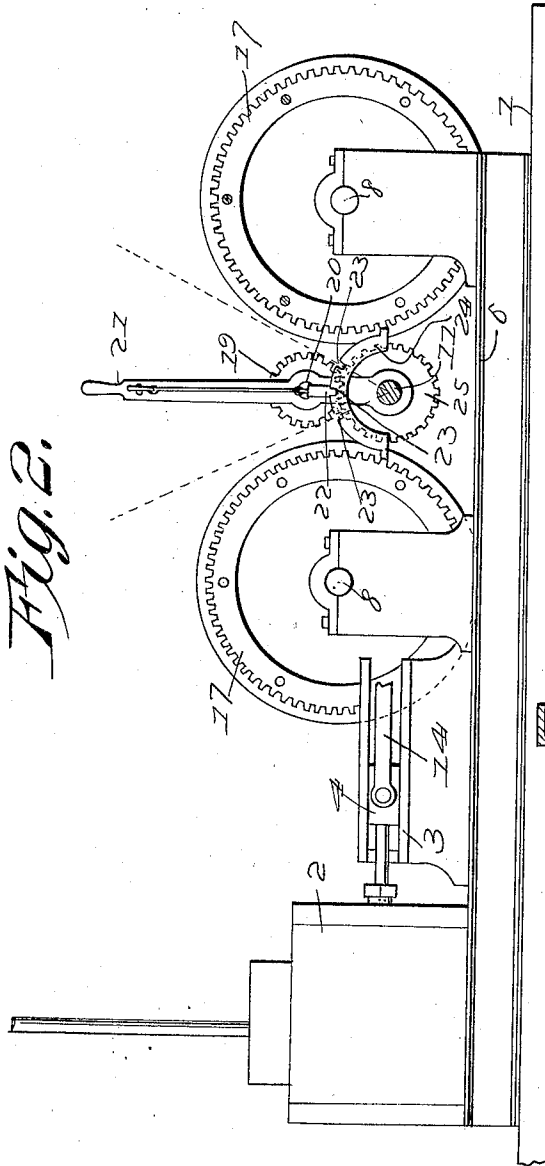


Fig. 2.

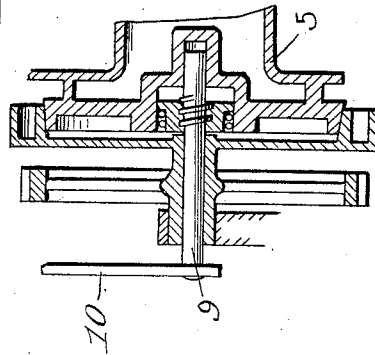


Fig. 3.

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UNITED STATES PATENT OFFICE.

ELMER W. BODALY, OF COOMBS, BRITISH COLUMBIA, CANADA.

DRUM-GEAR FOR LOGGING-ENGINES.

1,330,678.

Specification of Letters Patent.

Patented Feb. 10, 1920.

Application filed March 21, 1919. Serial No. 284,106.

To all whom it may concern:

Be it known that I, ELMER W. BODALY, a citizen of the Dominion of Canada, residing at Coombs, in the Province of British Columbia and Dominion of Canada, have invented new and useful Improvements in Drum-Gears for Logging-Engines, of which the following is a specification.

The purpose of the invention is to so modify the construction of the drum on which the log ropes are wound in lumber handling that the necessity for having to unwind the ropes from the drum by hand will be avoided, thereby doing away with the very great pull and attendant tiring effect on the workman handling the ropes. To this end the invention comprises means for reversing either drum of a pair of drums on which the logging ropes are wound, this reversal of direction being accomplished by means of the power of the engine so that it is only necessary for the workman to lead the rope from the drum as it is being unwound.

The invention is illustrated and described in a specific embodiment, to which, however, it is not to be restricted. The right is reserved to make such changes or alterations as the actual reduction to practice may suggest, in so far as such changes or alterations are compatible in spirit with the annexed claims. The same numerals of reference designate the same parts throughout the several figures of drawings, wherein:

Figure 1 is a top plan view of a logging engine embodying the herein described members.

Fig. 2 is a section on the line 2—2 of Fig. 1.

Fig. 3 is a detail sectional view showing the clutch by means of which the drum is operatively connected to the driving mechanism therefor.

Referring to the drawings, the engine in conjunction with which the improved drum gearing is used is mounted upon a suitable base 1, and comprises the cylinders 2, the cross head slides 3 and the cross heads 4 operatively connected in the usual way with the cylinders. The pistons operating in the cylinders are designed to rotate the two drums 5 and to this end there are provided on the base 1 the supports 6 and 7, the drums each being provided with a stub shaft 8 journaled in suitable bearings carried by the bearing support 6. At the opposite end the

drums are rotatably mounted on angularly movable studs 9 susceptible of limited angular movement through the instrumentality of hand levers 10, these hand levers 10 and studs 9 constituting a part of the conventional frictional clutch shown in Fig. 3 used in conjunction with apparatus of the present character, and the studs 9 are mounted on the bearing supports 7.

Positioned between the two drums 5 and mounted in the supports 6 and 7 there is a shaft 11, this shaft projecting beyond its bearings at either end to receive on these projecting ends the disks 12 which are securely attached to the shaft and carry wrist pins 13 so that rotary motion may be communicated to the shaft 11 from the engine pistons, the cross heads of which are connected with the wrist pins 13 by means of connecting rods 14. It will be observed that the two cross heads are connected to the disks 12 120 degrees apart so that there may be no position of respective parts in which both engine pistons are on dead center.

Each drum 5 has connected with it a spur gear 15 and the gears 15 on the two drums mesh with a driving pinion 16 carried by the shaft 11.

At the opposite ends of the drums there are mounted to turn with the drums the spur gears 17, these latter being carried by and attached to the stub shafts 8 and are positioned for engagement with an idle pinion 19 rotatably mounted on a stud 20 carried by a hand lever 21, the latter moving angularly on the shaft 11 as a pivot point and having a spring latch 22 engageable in notches 23 formed in the upper circular edge of an arcuate plate 24 mounted on the bearing supports 6. The idle pinion 19 meshes with a driving pinion 25 carried by the shaft 11.

Obviously the lever 21 may be swung to throw the pinion 19 into mesh with either of the spur gears 17, whereupon motion will be communicated from the shaft 11 through the said gears to the drum 5 of the gear 17 with which the pinion 19 is thrown into mesh. The notches 23 provide means for locking the lever 21 in a position where the pinion 19 is out of mesh with either gear 17 or for locking the lever in a position where the pinion will be in mesh with either gear 17.

To wind the rope gearing on the drums 5 the levers 10 are operated to cause the fric-

tion clutches which they control to connect the drums with the gears 15 whereupon the starting of the engine to transmit motion to the gear 17 will result in the rotation of both
5 drums 5 in the same direction whereupon the cables employed are wound upon the drums. When it is desired to unwind the cable from either drum to carry it back to connect with a log or some other device to be moved by
10 the engine, the drum carrying that particular cable has its direction of rotation reversed and the cable is unwound by the engine, the person carrying the cable being only required to take up the slack. When
15 such unwinding of the cable is desired the friction clutch of the drum concerned is thrown out by the operation of the proper lever 10 and the lever 21 is swung to throw the pinion 19 into mesh with the gear 17 of
20 that drum. The motion of the engine then imparts rotary motion to the drum but in the reverse direction from that in which the drum was turned when the pinion 16 was the operating medium. The cable is thus
25 unwound from the drum and there is thereby avoided the strain usually imposed upon the lumber man, who under ordinary conditions, is required to pull the cable off the drum and to turn the drum himself in such
30 pulling or operation.

The invention having been described, what is claimed as new and useful is:

1. The combination with a logging engine, of a pair of rotatably mounted drums, a rotatably mounted shaft positioned between
35 the drums and operatively connected to the latter so that its rotation may result in the rotation of the drums, and a manually operable device carried by the shaft and engageable with either of the drums to effect
40 their rotation in the opposite direction from that in which they are driven by the afore-said operative connections.

2. The combination with a logging engine, of a pair of rotatably mounted drums, a rotatably mounted shaft operatively connected
45 with the engine and with the drums, gears carried by the said drums, a hand lever pivotally mounted on said shaft, a pinion rotatably mounted on said hand lever, a second
50 pinion mounted on the shaft and meshing with the first pinion, and a locking device operatively connected with the lever, whereby the first said pinion may be thrown
55 into mesh with either of said gears for the imparting to the drums a direction of rotation the reverse of that in which they are normally rotated.

In testimony whereof I affix my signature.
ELMER W. BODALY.