

No. 710,954.

Patented Oct. 14, 1902.

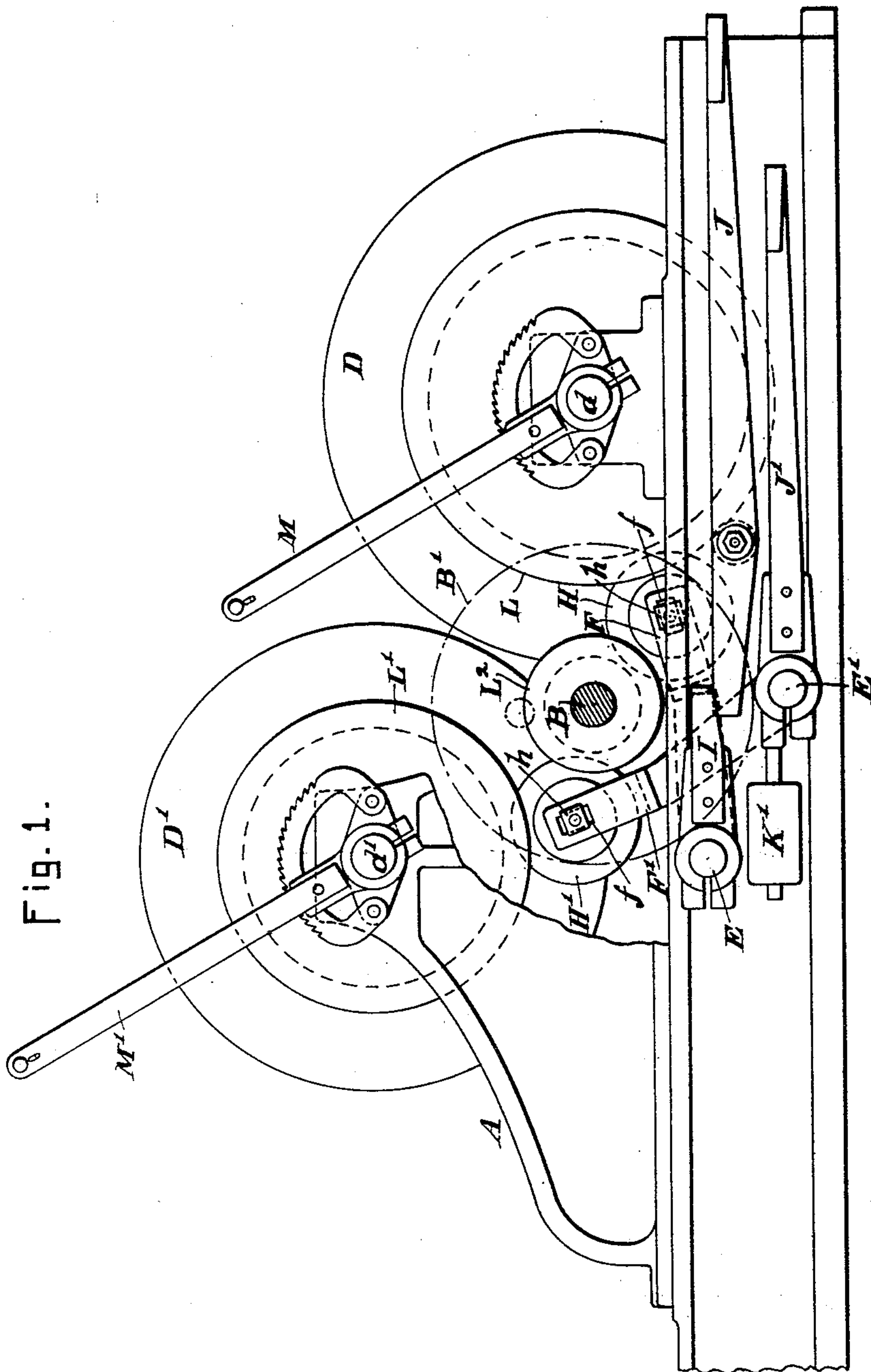
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DRUM REVERSING DEVICE FOR WINDING ENGINES.

(Application filed Mar. 2, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
H. L. Reynolds.
Fred Kemper.

Inventor
Harry N. Covell.
By his Attorneys
Gifford & Bull.

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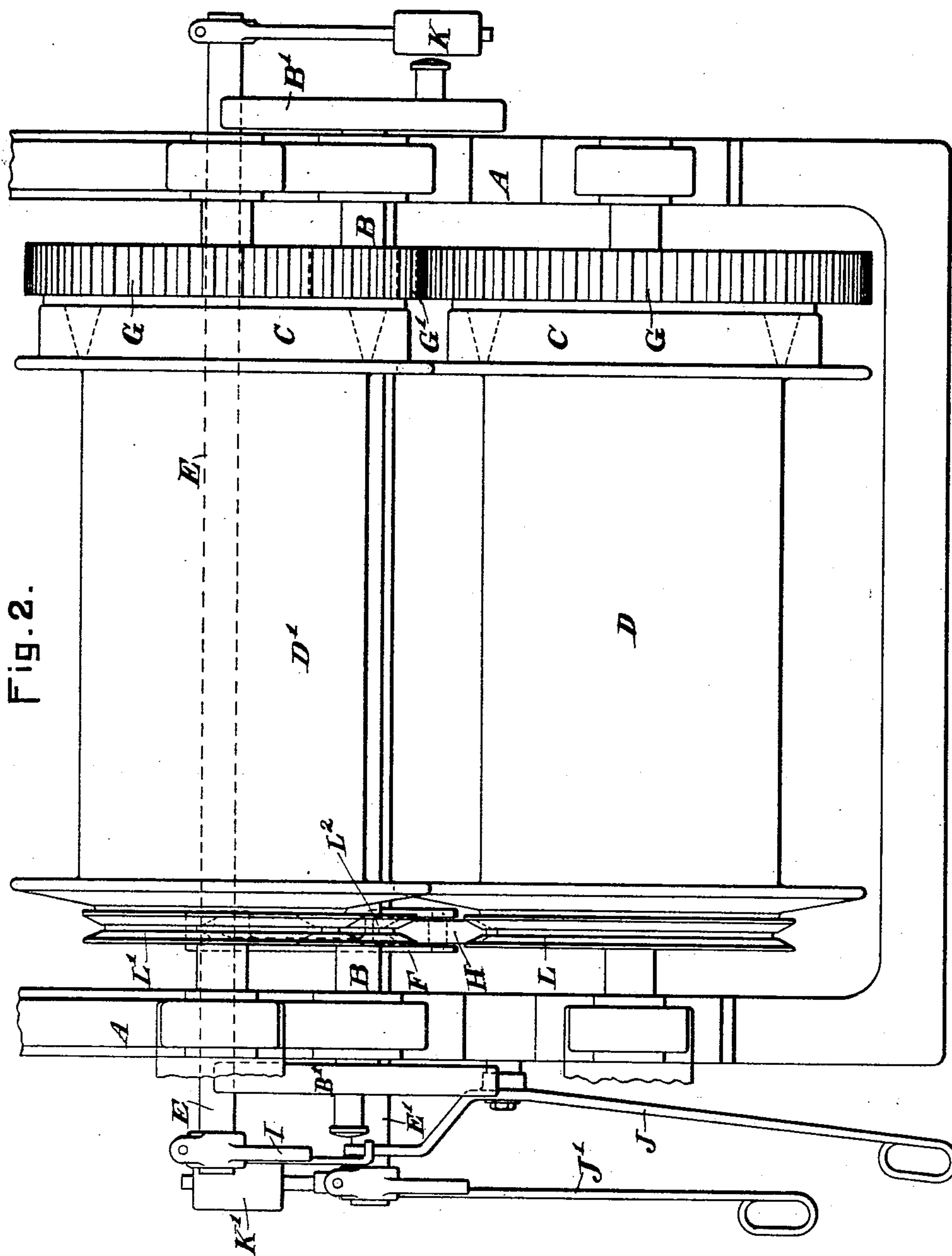
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UNITED STATES PATENT OFFICE.

HARRY N. COVELL, OF BROOKLYN, NEW YORK, ASSIGNOR TO THE LIDGERWOOD MANUFACTURING COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

DRUM-REVERSING DEVICE FOR WINDING-ENGINES.

SPECIFICATION forming part of Letters Patent No. 710,954, dated October 14, 1902.

Application filed March 2, 1900. Serial No. 7,076. (No model.)

To all whom it may concern:

Be it known that I, HARRY N. COVELL, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Drum-Reversing Devices for Winding-Engines, of which the following is a specification.

10 My invention relates to an improvement in devices for reversing the drum of winding-engines, whereby the resistance to drawing out the cable which is contained upon the drum may be removed, the drum being operated in its reversed direction by the power of the engine instead of by the pull upon the cable.

My invention comprises the novel features which are hereinafter described and claimed.

20 Figure 1 is a side elevation of my device shown in connection with that portion of a winding-engine which is directly connected therewith, a portion of the frame being broken away to more clearly show the device. Fig. 2 is a plan view of the same.

30 In some forms of work in which a winding-engine is used—as, for instance, in a logging-engine, where long lengths of cable are used—the ordinary practice has been to either haul the cable out to the point from which the logs or other load is to be drawn, either by means of a small cable which is carried through a sheave at such points and leads from the engine to said sheave and back again, or by hitching a team to the end of the cable and dragging the same over the ground. When either of these methods is used, the power required to draw the cable out is much increased by the resistance due to the friction of the drum and its immediately-connected mechanism. With the device herein shown it is designed to apply the power of the engine to the drum so as to turn it backward at such speed that the cable is paid off of the drum as fast as it is drawn out. I have herein shown one form of mechanism by which this is accomplished and such portions of the winding-engine as are necessary to properly illustrate its action.

50 In the drawings two drums D and D' are

shown, which are driven ordinarily by friction devices from the engine-shaft B. This engine-shaft is herein shown as provided with crank-disks B', to which the engines are attached. The shafts *d d'* of the two drums are provided with gear-wheels G, which mesh with a pinion G' upon the engine-shaft B. Friction driving devices are applied to driving both of the drums D and D', said friction driving devices being contained within the part C of the drum and being operated in any desired manner, as by means of the levers M M'. The form of friction driving device used for this purpose and the manner of applying the same are not material to my present invention. I have therefore herein shown in a conventional way one form of mechanism which is in common use.

60 Upon the drums D and D', preferably at the end opposite that occupied by the ordinary friction driving device for said drums, are placed two friction-wheels L and L', which are herein shown as being provided with V-grooves in their peripheries. Upon the engine-shaft B in line with said wheels L and L' is mounted a friction-wheel L², which is similarly provided with a V-groove in its periphery. In the frame A of the engine are journaled two shafts E and E', upon each of which is secured an arm carrying a friction-wheel adapted to be inserted between the friction-wheel L² and the friction-wheels L and L'. The arm F, which is secured to the shaft E, carries the friction-wheel H, which is provided with a V-shaped or beveled periphery adapted to enter the V-shaped groove in the friction-wheels L and L². This wheel is mounted to turn within blocks *h*, which are mounted to slide lengthwise of the arm in slots *f*, formed in the ends thereof. This permits the idler-wheel H to adjust itself to the proper position in the slot as the wheel is forced between the wheels L and L². The shaft E, which is, in effect, a rock-shaft, has another arm I, secured thereto upon its outer end or the end next to the operator. An auxiliary operating-lever J is pivoted to the frame and has one end engaging the lever I. The other end of the lever J is provided with an arm or plate adapted to be engaged by the

foot of the operator, so that when said lever is depressed the rock-shaft E is turned so as to elevate the idler friction-wheel H and force it between the friction-wheels L and L². As the ordinary driving connection between the shaft B and the drum D is direct, the drum when operated thereby will be turned in the direction opposite to that of the shaft B. When the ordinary driving friction is released and the idler friction-wheel H is inserted between the wheels L and L², the drum D will be turned in the same direction as the shaft, thereby paying out the rope. The shaft E', which is similar in its construction and function to the shaft E, carries the lever or arm F', within the outer end of which is mounted the idler friction-wheel H'. The rock-shaft E' has a foot-lever J' directly secured thereto, by means of which the idler friction-wheel H' is forced between the friction-wheels L' and L² to reverse the drum D'. The rock-shaft E' also has an arm extending oppositely from the foot of the lever J' and provided with a counterweight K', by means of which the idler friction-wheel is ordinarily withdrawn from between the other friction-wheels. Similarly the rock-shaft E has an arm carrying a counterweight K, which acts in a similar manner. In this case the counterweight is placed upon the opposite side of the machine as a matter of convenience.

The mechanism herein shown, it is to be understood, is simply given as one means for carrying out my invention, and it is not to be understood that I limit myself to the exact means herein shown for securing this purpose.

I claim—

1. In a winding-engine the combination with a motor-shaft, a drum mounted to turn on an axis parallel thereto and rotative connection between said drum and motor-shaft containing a releasable member adapted to turn the drum in one direction, of friction driving members independent of the other driving device and carried by said drum and

motor-shaft, and an idler friction member movable to engage the said friction driving members to reverse the drum.

2. In a winding-engine, the combination with a motor-shaft, a drum and a releasable driving connection between said shaft and drum, of auxiliary driving members upon said shaft and drum and distinct from the other driving members and a movable idler adapted to be engaged with said auxiliary driving members to reverse the rotation of the drum.

3. In a winding-engine, the combination with a motor-shaft, a drum and a releasable driving connection between said shaft and drum, of auxiliary driving members upon said shaft and drum, a pivoted arm and an idler-wheel mounted upon said arm and moved thereby into engagement with said auxiliary driving devices to reverse the drum.

4. In a winding-engine, the combination with a motor-shaft, a drum and a releasable driving connection between said shaft and drum, of auxiliary driving members upon said shaft and drum, a pivoted arm, an idler-wheel having a journal movably supported upon said arm and moved by said arm into and out of engagement with the said auxiliary driving members to reverse the drum.

5. In a winding-engine, the combination with a power-shaft, a drum-shaft alongside thereof, intermeshing gears connecting said shafts, a drum loosely mounted on the drum-shaft, and friction devices adapted to connect said drum and its shaft, of friction driving members carried by drum and power-shaft, an idler friction member and means for moving said idler into engagement with the friction members on drum and power-shaft to reverse the drum.

In witness whereof I have hereunto affixed my signature this 28th day of February, 1900.

HARRY N. COVELL.

Witnesses:

CHAS. C. PIERCE,
CHAS. G. MUNIER.