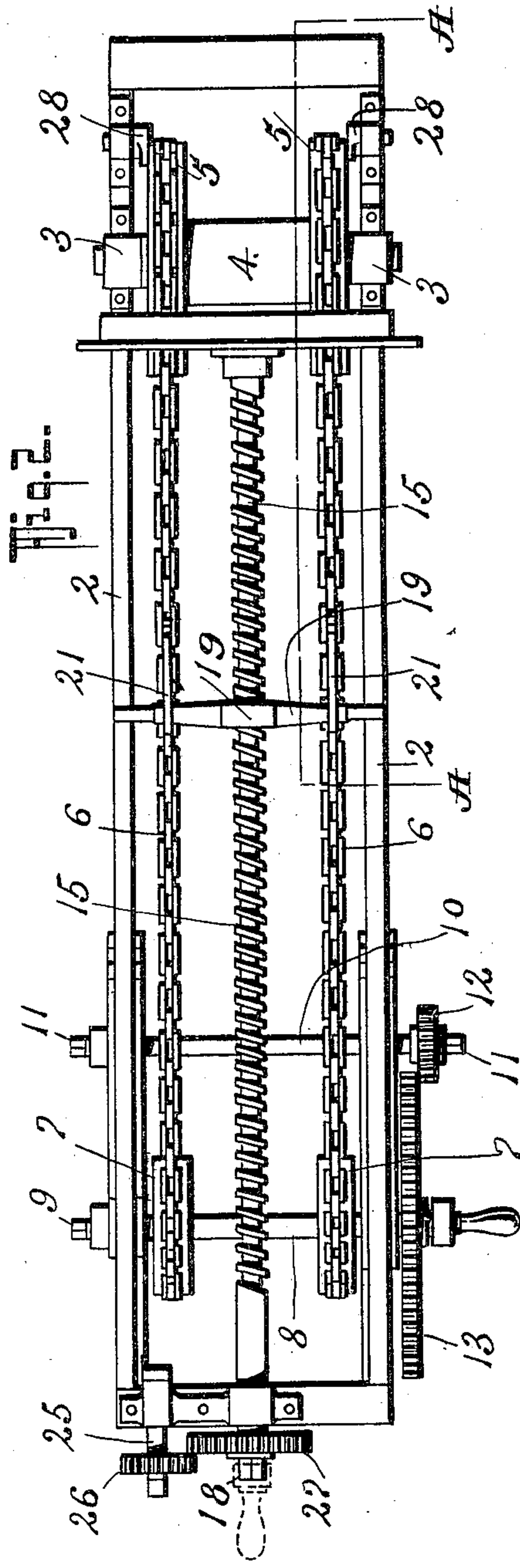
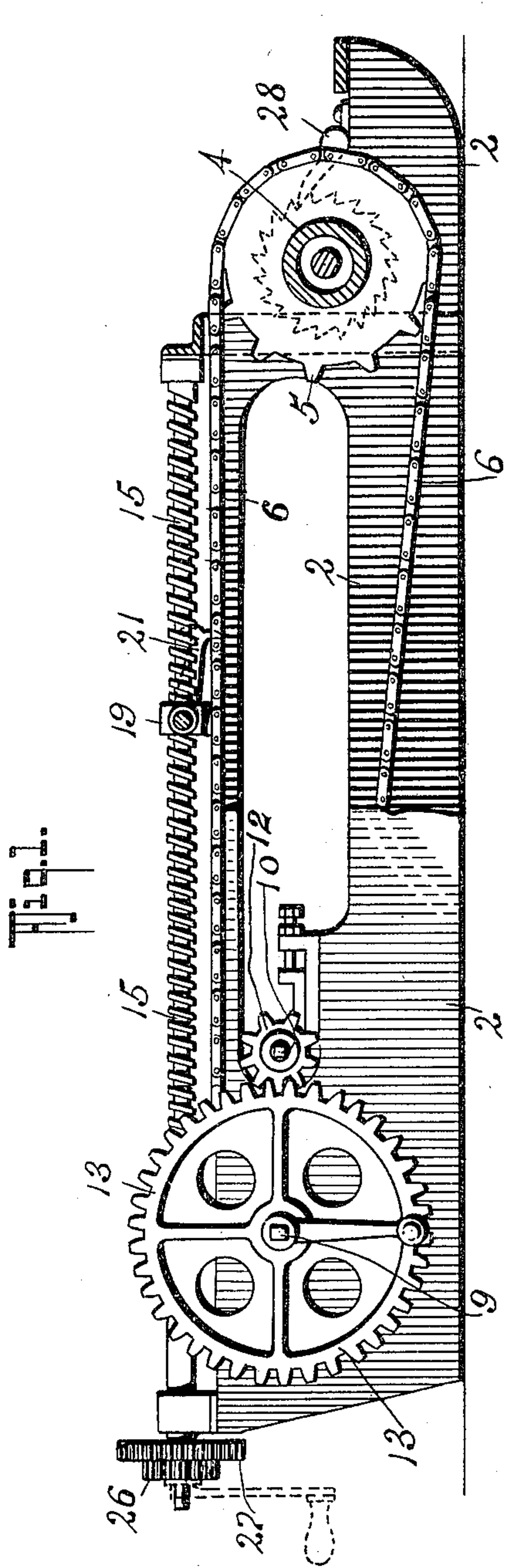


F. HOGLAND.
HAND LOGGER'S WINCH.
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Patented Aug. 1, 1911.



WITNESSES:

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FREDRIK HOGLAND, OF ALBERNI, BRITISH COLUMBIA, CANADA.

HAND-LOGGER'S WINCH.

999,369.

Specification of Letters Patent.

Patented Aug. 1, 1911.

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To all whom it may concern:

Be it known that I, FREDRIK HOGLAND, a citizen of the Dominion of Canada, residing at Alberni, Vancouver Island, in the Province of British Columbia, Canada, have invented a new and useful Hand-Logger's Winch, of which the following is a specification.

This invention relates to a log hauling mechanism which is particularly adapted for the use of manual power to exert a pulling effort in hauling logs or extracting stumps or the like, the object of the invention being to provide in a simple and direct manner a means for multiplying manual power to the haul, which multiplying means is susceptible of variation through a considerable range, so that "hand loggers" or men working at land clearing operations with limited power at their command may have at their disposal a means for exerting a rapid hauling effort where the resistance is slight or a powerful effort where the resistance to be overcome is considerable.

The invention is particularly described in the following specification, reference being made to the drawings by which it is accompanied, in which:

Figure 1 represents the hauling device in elevation and part section on the line A A in Fig. 2, and Fig. 2, a plan of the device.

In these drawings 2 represents a strong elongated framework preferably made in the form of a sled for convenience of transportation in the woods.

Rotatably mounted in bearings 3 toward the forward end of this frame 2 is a winding drum 4 suitable for a wire rope. This winding drum 4 is provided with a sprocket wheel 5 at each end over which sprockets chains 6 are carried from corresponding sprocket wheels 7 secured on a driving shaft 8 which is rotatable in bearings toward the other end of the frame 2.

The driving shaft 8 is provided at each end with squares 9 for crank handles by which manual power may be directly applied to the shaft 8 and therefrom to the winding drum 4 through the chains 6.

Adjacent and parallel to the shaft 8 is a countershaft 10 the ends of which are similarly provided with squares 11 for crank handles and where a stronger hand on the drum is required than can be attained through the shaft 8 alone the manual power is applied by the crank handles to the coun-

tershaft 10 and a pinion 12 on 10 is endwise moved that its teeth may mesh with those of a wheel 13 secured on the shaft 8 so that a multiplied hauling effort may be imparted to the winding drum when occasion requires.

Occasion may frequently occur where one or two men are available to exercise a powerful haul, as with a particularly heavy log or while working uphill: Provision is made for this in a screw 15 extending lengthwise along the middle line of the frame and supported in bearings that will resist endwise movement. This screw is provided with a square 18 for the reception of a crank handle and has a nut 19 threaded on it which nut is extended across the width of the machine frame to receive support therefrom against rotation by the screw. On the extended end of this nut 19 hook pawls 21 are mounted which pawls will, when turned down, secure a hold in the links of the chains 6. As the screw 15 is rotated when the hook pawls are in engagement with the chains the pull of the screw will be delivered to the winding drum 4 which will be rotated through a definite distance proportional to the pitch of the screw and the number of turns given to the same. This powerful effort may be still further increased by providing a short countershaft 25 having a square to receive the crank handle and having a pinion 26 on it which may be endwise moved into mesh with a wheel 27 on the screw 15.

Check pawls 28 are furnished on each side of the winding drum 4 or their attached sprocket wheels 5, which will hold the winding drum against backward movement when such is not desired.

A novel mechanical arrangement is thus provided whereby a considerable range is afforded in the ratio of power applied to hauling effort attained, rendering the device particularly suitable for the purpose for which it has been designed, and the mechanism is such as can be built up by a handy workman from existing standard articles of gearing, etc. It has also the advantage in that the hauling effort is exerted close to the ground thus imposing no severe strain on the framework of the device.

In use when a light haul is required, the operator may apply his effort to rotate the winding drum 4 by the application of the crank handle either direct to the shaft 8 or

to its countershaft 10, but where a particularly heavy log requires to be moved in possibly rough ground, where the resistance will be considerable, he will apply his crank
5 handle to the square of the screw 15 or rotate that screw through the small countershaft 25.

I do not desire to be confined to the particular construction here shown as such may
10 be varied to suit individual requirements but

What I claim as new and desire to be protected in is set forth in the following claims.

1. A mechanism of the character stated
15 comprising an elongated frame, a winding reel rotatably mounted at one end of the frame, a rotatable shaft mounted at the other end of the frame, sprocket and chain connections between said shaft and said drum,
20 a screw extending lengthwise of the frame and rotatably mounted thereon, means for holding said screw against longitudinal movement, a nut on said screw, and means removably connecting said nut to the chain
25 of said sprocket and chain connection.

2. In a machine of the class described, an elongated frame, a shaft rotatably mounted at one end of the frame and transversely of the same, a winding drum rotatably
30 mounted at the other end of said frame and transversely of the same, sprocket and chain connections between said shaft and said drum, a screw mounted on said frame against longitudinal movement and extending
35 from said shaft toward said drum, a nut member threaded onto the screw, means preventing rotation of said nut member on said screw, pawls depending from said nut member and engaging the chains of said
40 sprocket and chain connection, and means for rotating said screw.

3. As a mechanism for the purpose specified, the combination with an elongated
45 end of said frame, sprocket wheels secured

to the winding drum, a shaft rotatable at the other end of the frame, said shaft having corresponding sprocket wheels, sprocket chains taking over the wheels on the shaft and on the winding drum, a screw extending
50 lengthwise of the frame, said screw being rotatable in bearings that will prevent endwise movement, a nut member threaded onto the screw, means for preventing rotation of the nut on the screw, pawls pivotally
55 mounted on the nut member which pawls may be thrown into engagement to secure a hold of and move the chains, and means for rotating the screw.

4. As a mechanism for the purpose specified, the combination with an elongated
60 frame, of a driving shaft mounted on said frame, a winding drum rotatable in one end thereof, check pawls by which backward rotation of the drum may be prevented, means
65 for rotating said winding drum by chains from said driving shaft rotatable in the other end of the frame, a countershaft rotatable adjacent to the driving shaft, gearing by which the speed of rotation may be reduced
70 from the countershaft to the driving shaft, a screw extending lengthwise of the elongated frame and rotatable in bearings which will prevent endwise movement of the screw, means for rotating said screw, a nut
75 member threaded on the screw, means for preventing rotation of the nut on the screw, pawls depending from the nut member and designed to engage the driving chains of the winding drum, a countershaft adjacent to
80 the end of and parallel to the screw and means for reducing the speed of rotation from the countershaft to the screw.

In testimony whereof I have signed my name to this specification in the presence of
85 two subscribing witnesses.

FREDRIK HOGLAND.

Witnesses:

ALAN W. NEILL,
GEORGE PAUL.