

No. 776,975.

PATENTED DEC. 6, 1904.

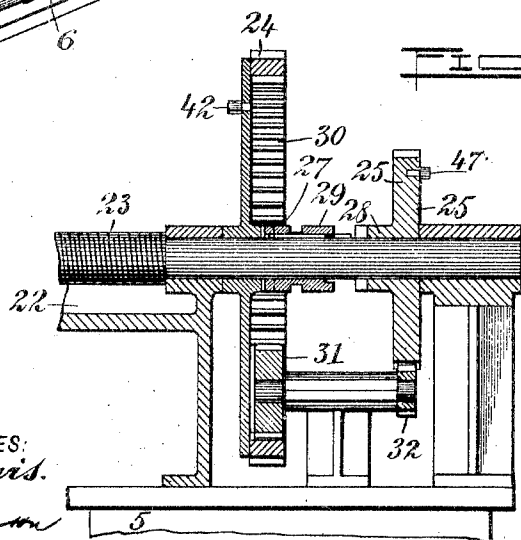
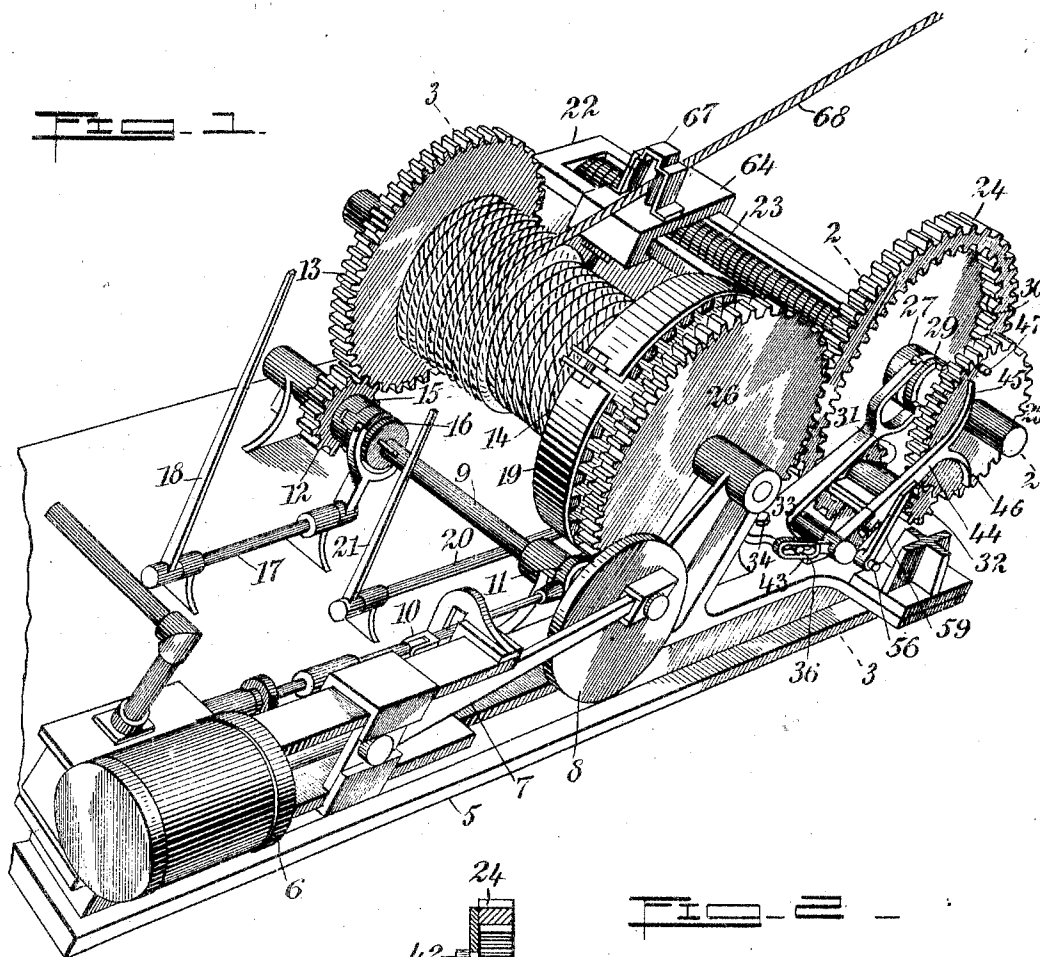
A. F. WHEATON.

MACHINE FOR LAYING CABLES ON WINDING DRUMS.

APPLICATION FILED APR. 8, 1904.

NO MODEL.

3 SHEETS—SHEET 1.



WITNESSES:

E. A. Jarvis.
C. A. Johnson.

INVENTOR

Almeron F. Wheaton

BY

M. M. M.
ATTORNEYS

No. 776,975.

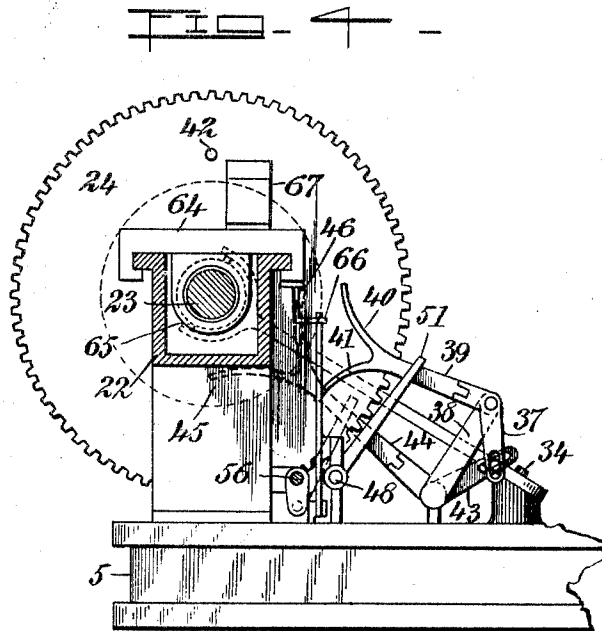
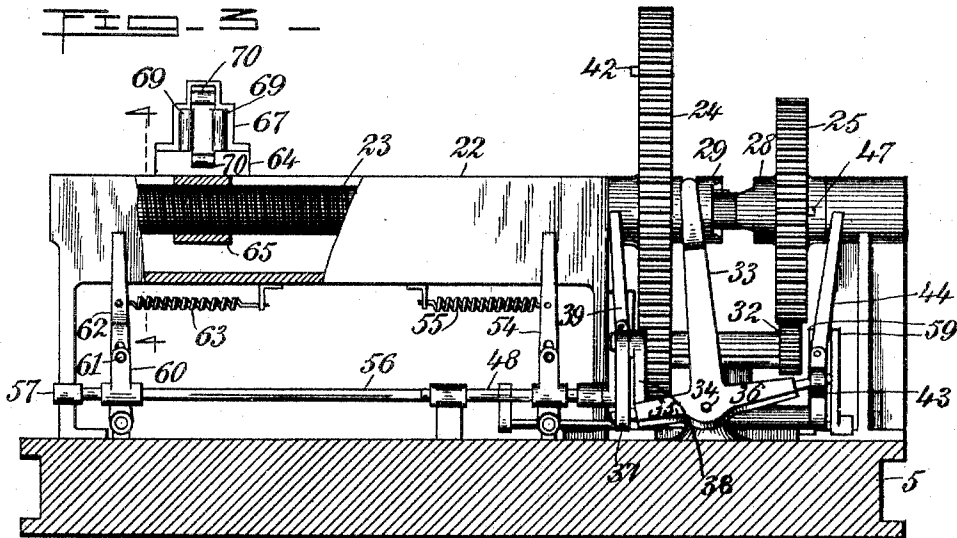
PATENTED DEC. 6, 1904.

A. F. WHEATON.
MACHINE FOR LAYING CABLES ON WINDING DRUMS.

APPLICATION FILED APR. 8, 1904.

NO MODEL.

3 SHEETS—SHEET 2.



WITNESSES:
C. A. Jarvis.
C. P. Ferguson

INVENTOR
Almeron F. Wheaton
BY
Munn & Co.
ATTORNEYS

No. 776,975.

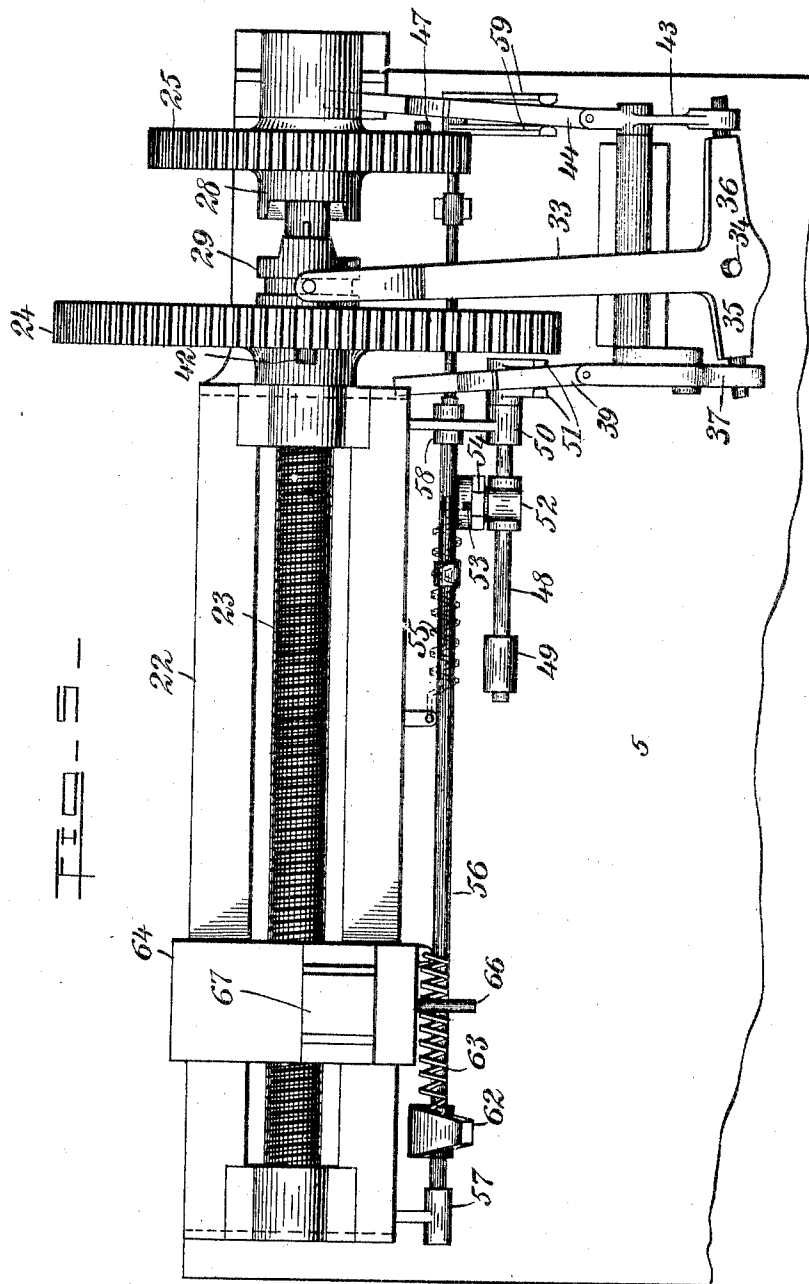
PATENTED DEC. 6, 1904.

A. F. WHEATON.
MACHINE FOR LAYING CABLES ON WINDING DRUMS.

APPLICATION FILED APR. 8, 1904.

NO MODEL.

3 SHEETS—SHEET 3.



WITNESSES:

C. A. Jarvis
C. R. Ferguson

INVENTOR

Almeron F. Wheaton

BY

Mumme

ATTORNEYS

UNITED STATES PATENT OFFICE.

ALMERON F. WHEATON, OF MENLO, WASHINGTON.

MACHINE FOR LAYING CABLES ON WINDING-DRUMS.

SPECIFICATION forming part of Letters Patent No. 776,975, dated December 6, 1904.

Application filed April 8, 1904. Serial No. 202,196. (No model.)

To all whom it may concern:

Be it known that I, ALMERON F. WHEATON, a citizen of the United States, and a resident of Menlo, in the county of Pacific and State of Washington, have invented a new and Improved Machine for Laying Cables on Winding-Drums, of which the following is a full, clear, and exact description.

This invention relates to improvements in mechanism for laying cables on the winding-drums of logging-engines, hoisting-engines, and the like, the object being to provide a simple, novel, and automatically-controlled device by means of which the cable will be placed on the drum in even layers while moving in either direction along the drum, thus preventing injury to the cable by overlapping.

I will describe a machine for laying a cable on a winding-drum embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a logging or hoisting engine with a cable-laying mechanism embodying my invention thereon. Fig. 2 is a sectional detail substantially on the line 2-2 of Fig. 1. Fig. 3 is a section on the line 3-3 of Fig. 1. Fig. 4 is a section on the line 4-4 of Fig. 3, and Fig. 5 is a plan view.

Referring to the drawings, 5 designates a base-plate on which is mounted the engine 6, from the piston of which a connecting-rod 7 extends to the wrist-pin of a crank-wheel 8 on a driving-shaft 9.

The slide-valve of the engine is operated in the usual manner—that is, by means of a rod 10, extended from the valve and engaging with a cam 11 on the driving-shaft. Loosely mounted on the driving-shaft is a pinion 12, engaging with gear-teeth 13 on one end of the drum 14. The pinion 12 has a clutch member 15, designed to be engaged by a clutch member 16 movable on the shaft 9, but rotating therewith. This clutch member 16 is moved into and out of engagement with the member 15 by means of a shaft 17 and a

lever 18. A brake for the drum, as here shown, consists of a friction-band 19, having connection with a rod 20, provided with a lever 21.

Supported on one end of the base-plate 5 is a boxing 22, in which a screw-shaft 23 operates. Loosely mounted on the extended end of the screw-shaft are gear-wheels 24 25, the wheel 24 being of larger diameter than the wheel 25, and this wheel 24 meshes with a gear-wheel 26 on the end of the drum 14. The wheel 24 has a clutch member 27, while the wheel 25 has a clutch member 28. These clutch members are designed to be engaged one after another by a clutch member 29 movable on the extended end of the screw-shaft, but keyed thereto.

It will be noted that the space between the teeth of the clutch member 29 is somewhat greater than the width of the teeth of the members 27 and 28, which permits of the clutch members readily engaging one with another. The wheel 24 has interior gear-teeth 30, with which a pinion 31 engages. The shaft of this pinion 31 has on its opposite end a pinion 32, which engages with the gear-wheel 25. The clutch member 29 has an annular channel in which pins carried by a shifting-lever 33 engage. This shifting-lever is mounted to swing on a stud 34 and has oppositely-extended arms 35 36. The arm 35 has its end extended into a slot formed in an angle-lever 37, mounted to swing on an arm 38, and having swinging connection with the upper and inwardly-extended end of the angle-lever is a shifting arm 39, having oppositely-extended curved fingers 40 41, either one of which is designed to be engaged by a pin 42, carried by the wheel 24, depending upon the direction of location of said wheel. The arm 36 has its end extended into a slot in an angle-lever 43, on which a shifting arm 44 is pivoted, this arm being provided with divergent curved fingers 45 46, designed to be engaged by a pin 47, carried by the wheel 25, when the said fingers are in line of movement of said pin.

A push-bar 48 is mounted to slide in bearings 49 50 and carries at one end fingers 51 for engaging on opposite sides of the arm 39.

From a block 52 on the rod 48 a pin 53 extends into a slot formed in an upright lever 54, from which a spring 55 extends to a connection with the boxing 22. A push-rod 56 has its bearings in boxes 57 58, and one end of this rod 56 is turned downward and then horizontally underneath the wheel 24 and on its end it has fingers 59 engaging on opposite sides of the arm 44. From an arm 60 on the rod 56 a pin 61 extends into a slot formed in an upright lever 62, the said lever having a spring connection 63 with the boxing 22.

Movable along the upper side of the boxing 22 and operated by the screw-shaft 23 is a carriage 64, having a nut 65, with the thread of which the screw-shaft engages, and mounted on this carriage 64 is a tappet-arm 66, designed to engage with either one of the levers 54 or 62. Arranged on the carriage is a frame 67, through which the cable 68 passes. This frame at its sides is provided with bearing-rollers 69 and at its top and bottom are bearing-rollers 70, these rollers being designed to permit of a movement of the cable through the frame with comparatively little friction and without danger of abrading the cable.

In the operation, assuming the carriage to be moving in the direction of the gear-wheel 24 when it reaches near the end of the screw-shaft the tappet-arm 66 will engage with the lever 54, causing a longitudinal movement of the rod 48, which through the medium of the fingers thereon will throw the arm 39 toward the wheel 24, bringing its curved fingers in the line of movement of the pin 42. This pin being engaged with one of the fingers will swing the arm 39 upward or downward, depending upon the direction of rotation of the wheel, thus swinging the crank-lever, which should the pin 42 engage with the finger 41 will swing the lever 33 to engage the clutch member 29 with the clutch member 28. At this time the gear-wheel 24 will be loose on the screw-shaft, but will be kept in rotation, and consequently rotate the gear 25, reversing the movement of the screw-shaft, and thereby causing the carriage to move toward the opposite end, carrying the cable and placing it in close layers on the drum. Of course the operation will be reversed when the tappet-arm 66 engages with the lever 62. The springs 55 and 63 when the levers are released will move the parts to normal position, as indicated in Fig. 3.

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

1. In a machine of the character described, a winding-drum, a screw-shaft, a carriage movable along said screw-shaft, a boxing on which the carriage slides, a frame on the carriage through which the cable from the drum passes, means for rotating the screw-shaft in reverse directions, and means carried by the carriage for shifting the reversing mechanism.

2. In a machine of the character described,

a winding-drum, a screw-shaft, a carriage movable on said screw-shaft, a boxing on which the carriage slides, a frame on the carriage through which the cable from the drum passes, gear-wheels loosely mounted on the shaft, clutch members on said gear-wheels, a clutch member movable lengthwise of the shaft and adapted to engage with either one of the first-named clutch members, a shifting-lever for moving the movable clutch member, and devices actuated by the carriage for operating said shifting-lever.

3. In a machine of the character described, a winding-drum, a screw-shaft, a carriage movable on said screw-shaft, a frame carried by the shaft through which the cable from the drum passes, gear-wheels loosely mounted on the shaft, clutch members on said gear-wheels, a clutch member mounted to move lengthwise on the shaft but rotating therewith, a shifting-lever having connection with said clutch member, oppositely-extended arms on said shifting-lever, crank-levers having slots in which the ends of said arms extend, an arm mounted to swing on one of said crank-levers and having divergent curved fingers, a pin on the wheel adjacent to said arm for engaging with said fingers, an arm mounted to swing on the other of said crank-levers and having divergent curved fingers, a pin carried by the wheel adjacent to said arm for engaging with either one of said fingers, push-rods having fingers engaging with opposite sides of the said swinging arms, the said rods being independent one of another, upwardly-extended levers with which the rods have connection, and a part carried by the carriage for engaging with said levers.

4. In a machine of the character described, a winding-drum, a screw-shaft forward of the winding-drum, a carriage movable on said shaft, a frame on the carriage through which the cable from the drum passes, a gear-wheel loosely mounted on the shaft, a gear-wheel on the drum engaging therewith, the said gear-wheel on the shaft having interior gear-teeth, another gear-wheel loosely mounted on the shaft, a pinion engaging with said interior gear-teeth, a pinion on the shaft of the first-named pinion engaging with the second-named gear-wheel, clutch members on said loosely-mounted wheels, a clutch member movable lengthwise of the shaft for engaging with either one of the first-named clutch members, and means operated by the carriage for shifting the movable clutch member.

5. In a machine of the character described, a winding-drum, a motor for operating the same, a screw-shaft forward of the drum, a carriage movable on said screw-shaft, a frame on the carriage, rollers in the frame for engaging with the cable extended from the drum, gear-wheels loosely mounted on the screw-shaft, a driving connection between the

said two gear-wheels, a driving connection between the drum and one of said gear-wheels, clutch members on said gear-wheels, a clutch member movable on the shaft for engaging
5 with either one of the said first-named gear-wheels, and means actuated by the carriage for shifting said movable clutch member.

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

ALMERON F. WHEATON.

Witnesses:

PERRY V. McCASH,
FRANK L. PRATT.