

No. 810,445.

PATENTED JAN. 23, 1906.

C. W. TRIBKEN.
HOISTING APPARATUS.
APPLICATION FILED SEPT. 30, 1902.

3 SHEETS—SHEET 1.

Fig. 1.

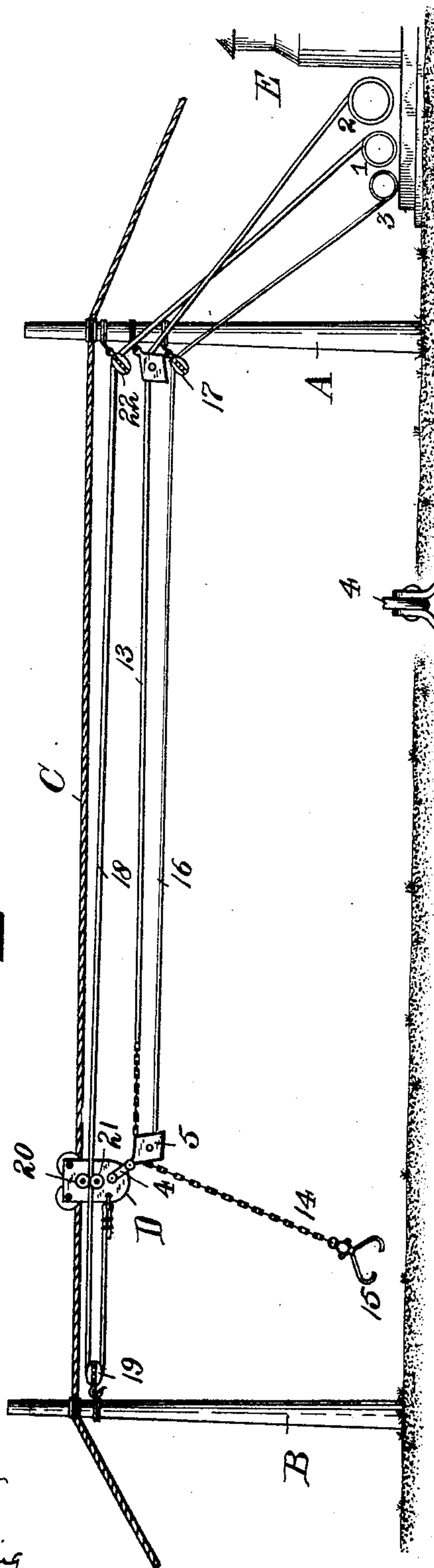


Fig. 3.

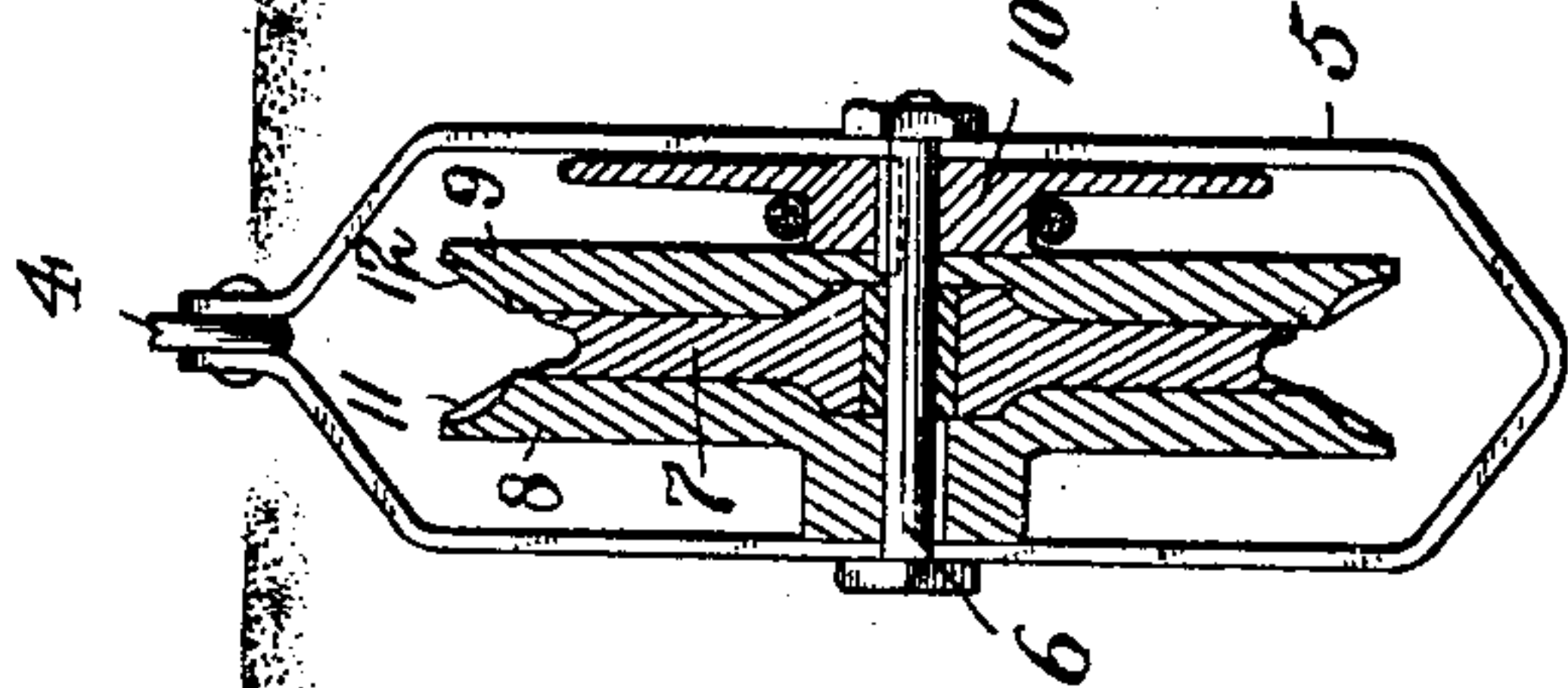
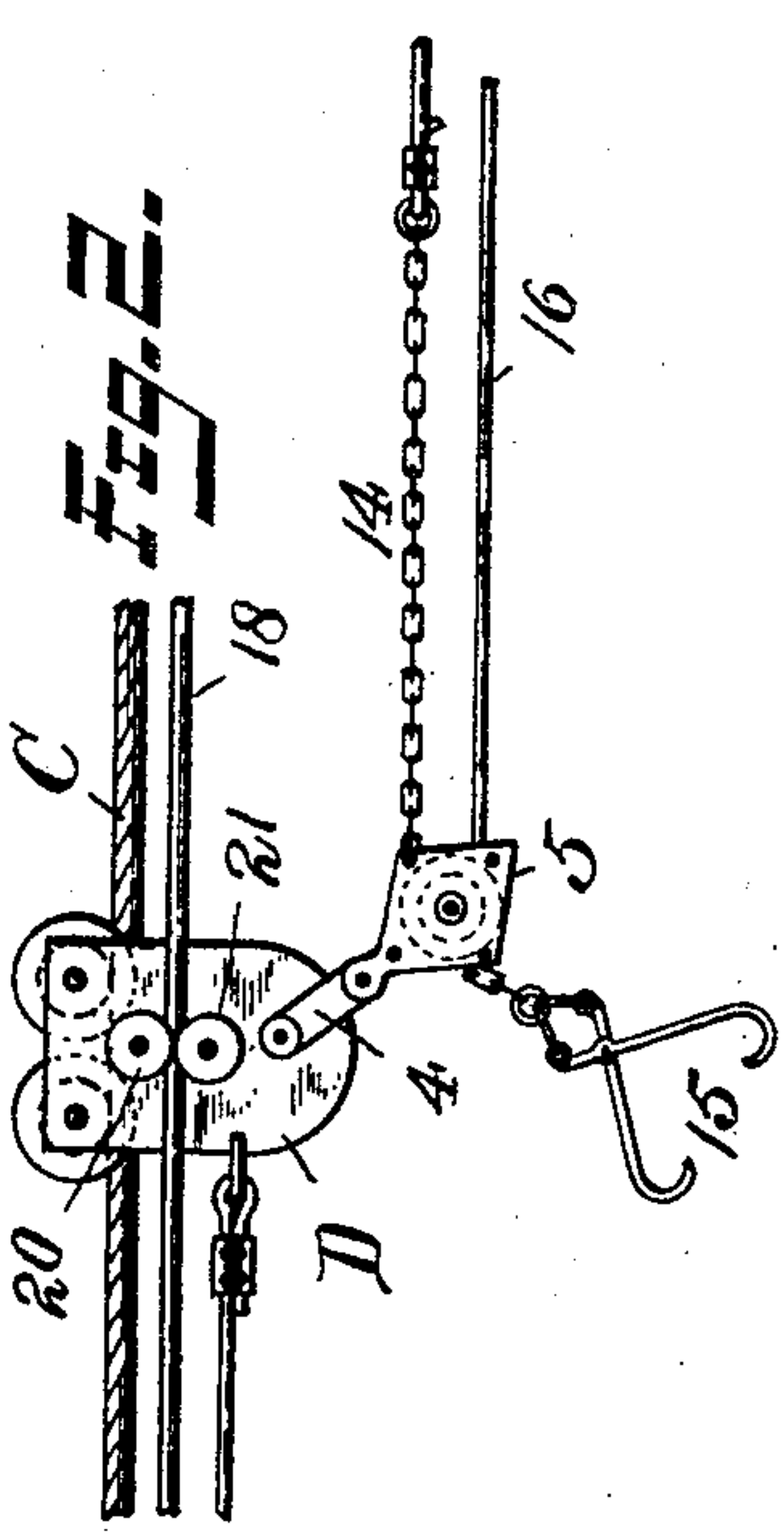


Fig. 2.



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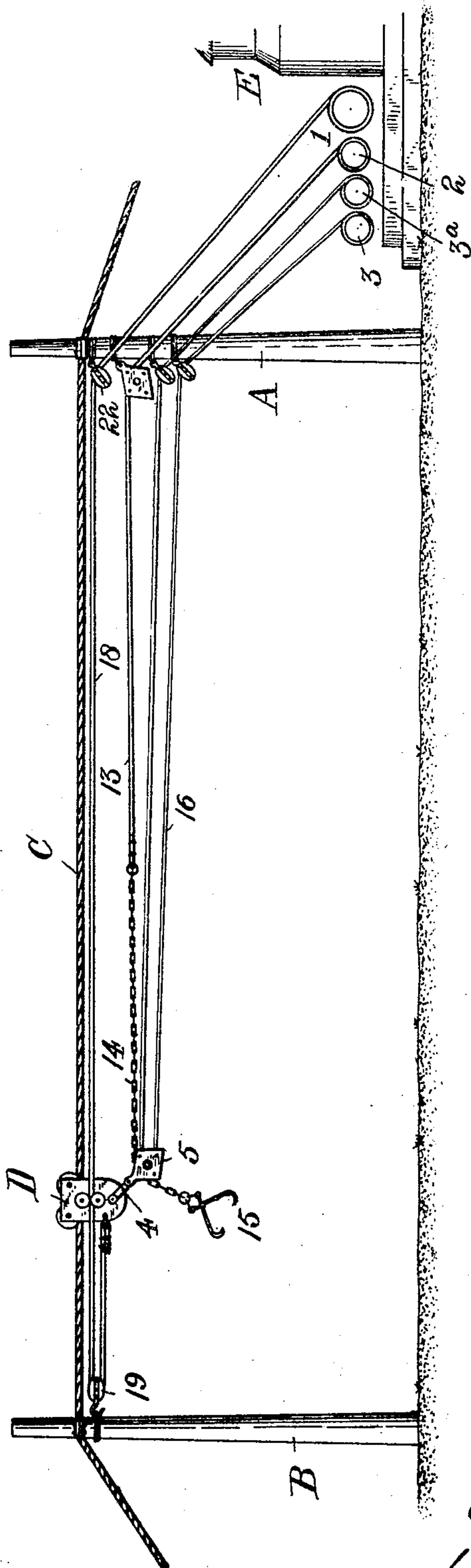
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3 SHEETS—SHEET 2.



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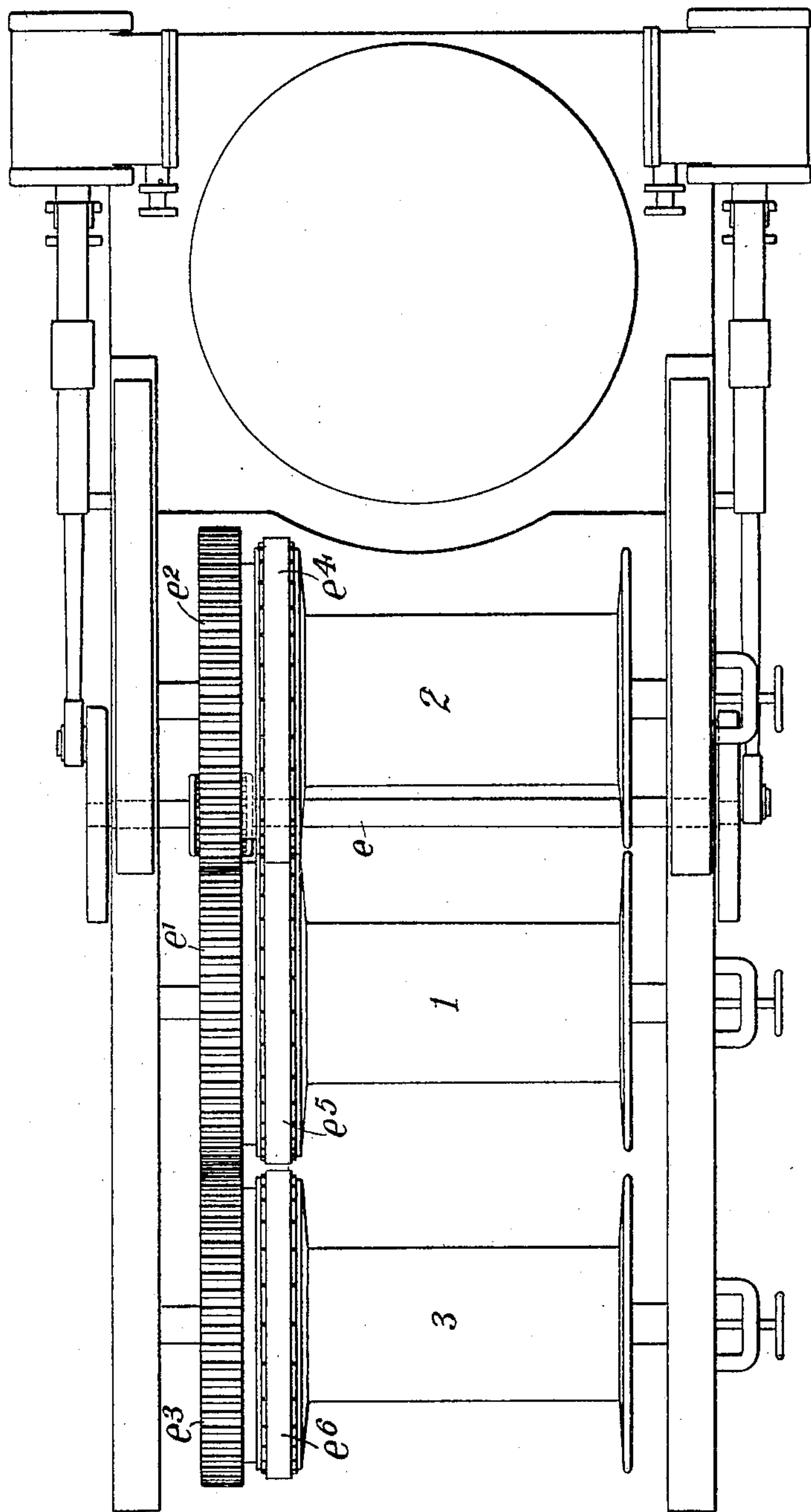
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3 SHEETS—SHEET 3.

FIG. 5.



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UNITED STATES PATENT OFFICE.

CHARLES W. TRIBKEN, OF BROOKLYN, NEW YORK, ASSIGNOR TO LIDGER-
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HOISTING APPARATUS.

No. 810,445.

Specification of Letters Patent.

Patented Jan. 23, 1906.

Application filed September 30, 1902. Serial No. 125,363.

To all whom it may concern:

Be it known that I, CHARLES W. TRIBKEN, a citizen of the United States, and a resident of New York city, borough of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Hoisting Apparatus, of which the following is a specification.

In the accompanying drawings, Figure 1 is a side view of an apparatus showing my invention as applied to an apparatus adapted for logging. Figs. 2 and 3 are details. Fig. 4 is a modification. Fig. 5 is a plan view of the friction-drum engine.

A and B are the head and tail supports for the cable or track-way C, on which runs the carriage D. E is the rope-drum engine near the head-support, by which the apparatus is operated and which contains a traction or outhaul rope drum 1, a hoisting or skidding rope drum 2, and a slack-pulling rope-drum 3. Each of these rope-drums is frictionally controlled independently of the others by a driven friction-clutch and a friction-brake, the driving power for all of such friction-clutches being the engine E. A plan view of these connections is shown in Fig. 5, in which e is the pinion-shaft, driven from the engine and meshing with the spur-wheels e' e^2 of the friction-drums 1 and 2. The spur-wheel e' in turn meshes with the spur-wheel e^3 of the friction-drum 3. These three drums are provided, respectively, with the friction-brakes e^4 , e^5 , and e^6 . Mounted upon the carriage D and preferably suspended therefrom by the vibratory suspender 4 is a sheave-block consisting of the frame 5, the shaft 6, the sheave 7, free to turn upon said shaft and flanked on each side by the disks 8 and 9, which are keyed to said shaft, and at one side of one of which the drum 10 is also keyed to said shaft. The disks 8 and 9 are of larger diameter than the sheave 7, and outside the periphery of the sheave 7 are inversely beveled at 11 and 12, so that together they constitute a supplemental sheave adapted for engagement with a rope or chain of larger diameter than the rope or chain for which the sheave 7 is adapted.

In the drawings the surfaces 11 and 12 are pocketed, so as to have a sprocket action upon the chain with which they are engaged.

The hoisting or skidding rope is made up of two parts 13 and 14, the latter of which

parts extends from the load-holder 15 past the sheave-block 5 and is connected with the rope-drum 2 by the part 13. The slack-pulling rope 16 is connected at one end with the rope-drum 3 and extends thence over the sheave 17 to the drum 10, with which its tail end is connected. The traction or outhaul rope 18 is connected at its tail end with the carriage D, extends around the sheave 19 on the tail-support, and thence back again between the guides 20 and 21 on the carriage D and over the sheave 22 on the head-support to the rope-drum 1, with which its head end is made fast.

The operation is as follows: When the hoisting-rope is in the position shown in Fig. 2, the slack-pulling rope is to the requisite extent coiled upon the drum 10. The clutch of the drum 1 being disengaged and the clutch of the drum 3 being engaged, the hauling-in of the slack-pulling rope 16 turns the drum 10, shaft 6, and disks 8 and 9. The chain 14 being of sufficient diameter to engage with the surfaces 11 and 12 of the disks 8 and 9, the rotation of those disks positively pays out the hoisting-rope until the end of the chain portion thereof is reached, whereupon the rope portion thereof is of too small a diameter to engage with the disks 8 and 9 and is transferred into the groove of the sheave 7. Thereupon the clutch is disengaged from the drum 3, and said drum is held by its brake from further rotation, while the hoisting-rope is hauled out to any further extent desired by any suitable hauling means applied at the load-holder 15. By the selection of a proper length of chain for the hoisting-rope part 14 the slack-pulling mechanism may be caused to operate for paying out the hoisting-rope to any extent which may be desired for placing the load-holder 15 within the reach of the means by which it is hauled out to its ultimate extent. This is particularly useful in logging, where it is desirable that the tail end of the skidding-rope should be lowered to the ground, so as to be within reach for attachment to the mule or other means by which it is hauled out to the point where the log lies.

When it is desired to shift the position of the carriage D inward, the two ropes 13 and 16 being hauled in conjointly act as an in-haul traction-rope to move the carriage toward the head-support while the rope 18 is paid out. Conversely, the hauling in of the

rope 18 moves the carriage toward the tail-support while the ropes 13 and 16 are conjointly paid out. The application of the brake to the rope-drum 1 holds the carriage stationary at any point on the trackway while the ropes 13 and 16 are performing their respective hauling or hoisting and slack-pulling functions.

In Fig. 4 is shown a modification in which a sheave is substituted for the drum 10, and the slack-pulling rope engages with such sheave by taking a wrap or wraps around the same instead of having its tail end secured thereto, as in the form first described. In this construction the ends of the slack-pulling rope 16 will be respectively secured to the separate rope-drums 3 and 3^a. In this construction the run of the slack-pulling rope connected with the rope-drum 3^a may be employed to assist the hoisting-rope during the stages of the operation when the hoisting-rope part 14 is in engagement with the disks 8 and 9.

Although I have shown my invention applied to a logging apparatus, I do not wish to limit myself thereto, because my principle of driving one rope (as the rope 13 14) by another (as the rope 16) during a portion of the movement of the driven rope, but not during another portion of the movement of the same, may be employed in many different applications, forms, and surroundings.

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

1. In combination, a hoisting or hauling rope containing two sections having different capacities for engagement, two members adapted for engagement with said hoisting or hauling rope parts, respectively, a slack-pulling rope and means whereby said slack-pulling rope is operatively connected with one of said members.

2. In combination, a hoisting or hauling rope containing two sections having different capacities for engagement, a slack-pulling rope and mechanism whereby said slack-pulling rope is operatively connected with one of said hoisting or hauling rope sections and disconnected from the other thereof.

3. In combination, a hoisting or hauling rope and a slack-pulling rope one of which contains two sections having different capacities for engagement and mechanism whereby said ropes are connected together during the passage of one of said sections and disconnected during the passage of the other thereof.

4. In a hoisting or conveying apparatus, a trackway, a load-carriage traveling thereon, two ropes, one of which is connected with said carriage and one of which contains two sections having different capacities for engagement, an actuating-drum for each rope,

and mechanism whereby said ropes are operatively connected during the passage of one of said sections and disconnected during the passage of the other thereof.

5. In a hauling apparatus, in combination, a trackway, a carriage thereon, an outhaul-rope for said carriage, a hoisting or hauling rope composed of two sections having different capacities for engagement, a slack-pulling rope and mechanism supported by said carriage whereby said slack-pulling rope is operatively connected with said hoisting or hauling rope as one section thereof is passing and is operatively disconnected therefrom as the other section thereof is passing.

6. In a hauling apparatus, in combination, an elevated sheave-block, a hoisting or hauling rope mechanism on said block adapted to form a gripping engagement with one part of said hoisting or hauling rope and an ungripping engagement with another part thereof, an inhaul-drum connected with said rope and pay-out means acting upon said rope through said gripping connection.

7. In combination, a rope 16, its drum 3, a sheave driven by said rope, a sheave movable independently thereof and a rope and means whereby it is transferred from one of said sheaves to the other in the course of its movement.

8. In combination, an elevated sheave-block, a rope-drum, a hoisting or hauling rope having a part of one capacity for engagement of sufficient length to extend from said block substantially to the ground and having another part of different capacity for engagement connecting said first part with said drum and pay-out mechanism operatively engaging said first part only.

9. In a hoisting apparatus, in combination, two ropes, an actuator for each rope, one of said ropes containing two sections having different capacities for engagement and mechanism whereby said ropes are operatively connected during the passage of one of said sections and disconnected during the passage of the other.

10. In a hoisting apparatus, in combination, two ropes extending to a distant point, one of which contains two sections having different capacities for engagement and mechanism located at said distant point whereby said ropes are operatively connected during the passage of one of said sections and disconnected during the passage of the other thereof.

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

CHARLES W. TRIBKEN.

Witnesses:

BERNHARD GLATHE,
CYRUS EVERS.