Dec. 16, 1930. J. H. DICKINSON ET AL 1,785,340

PORTABLE CABLEWAY

Filed Oct. 3, 1929 4 Sheets-Sheet 1

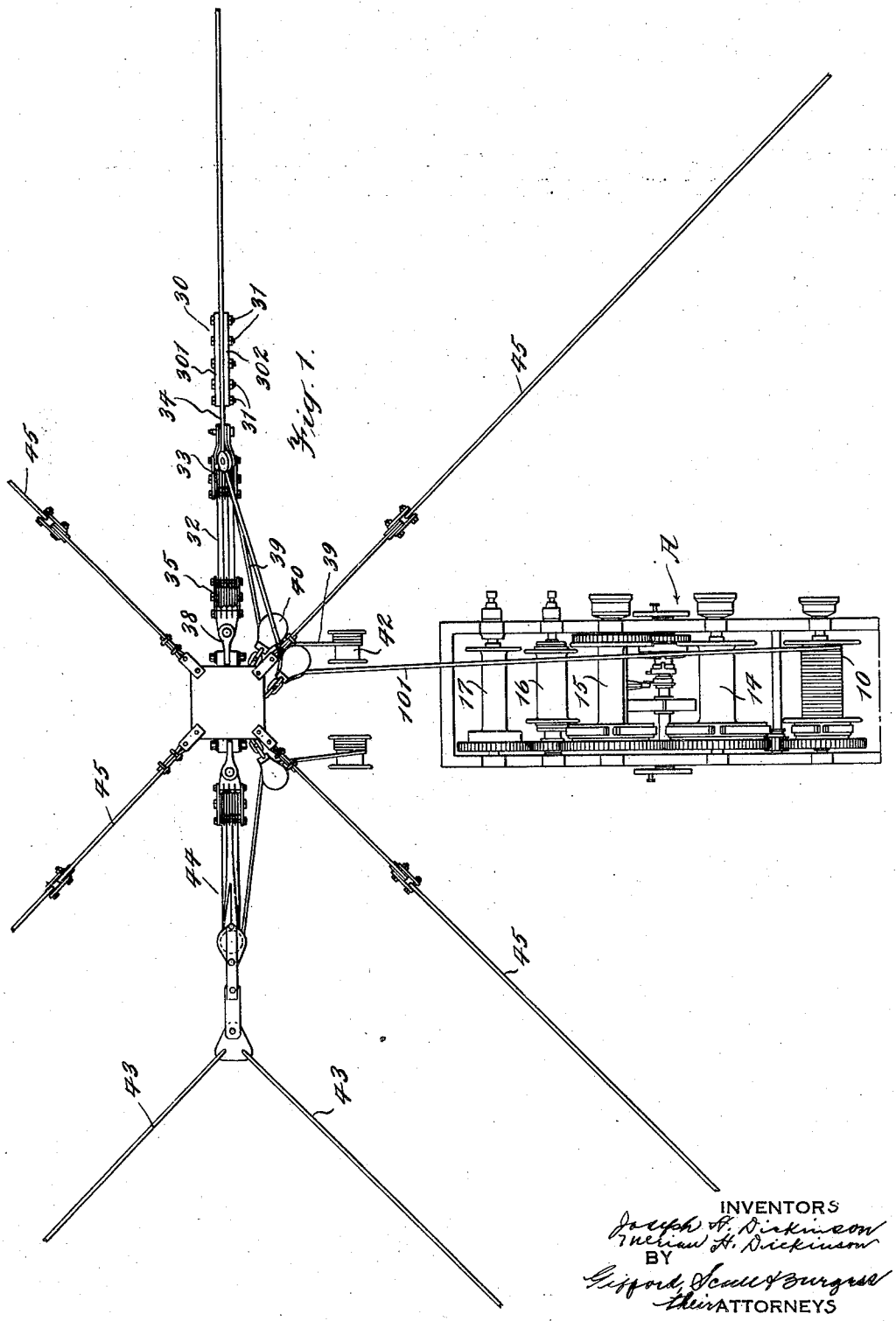


Fig. 1.

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PORTABLE CABLEWAY

Filed Oct. 3, 1929 4 Sheets-Sheet 2

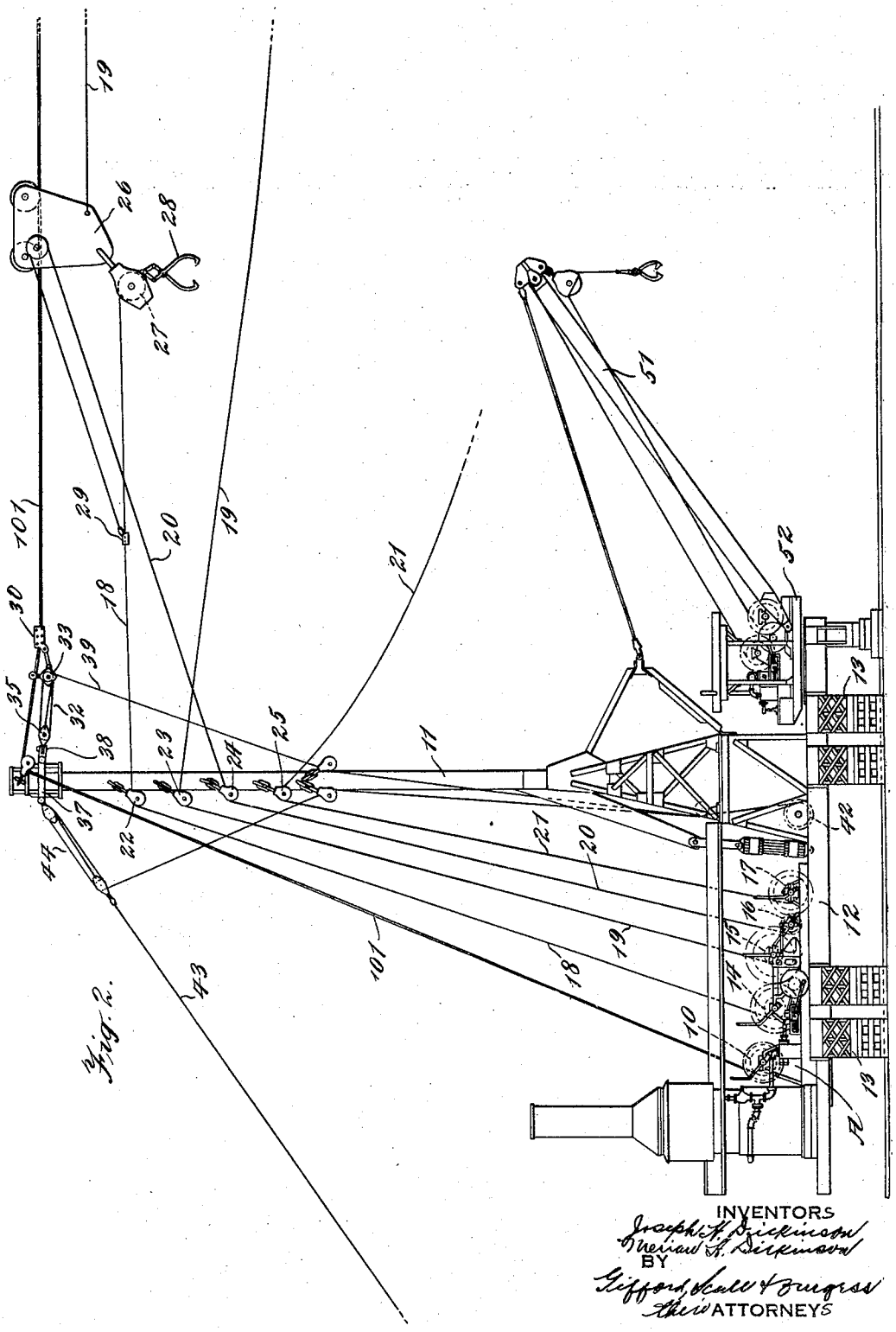


Fig. 2.

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PORTABLE CABLEWAY

Filed Oct. 3, 1929 4 Sheets-Sheet 3

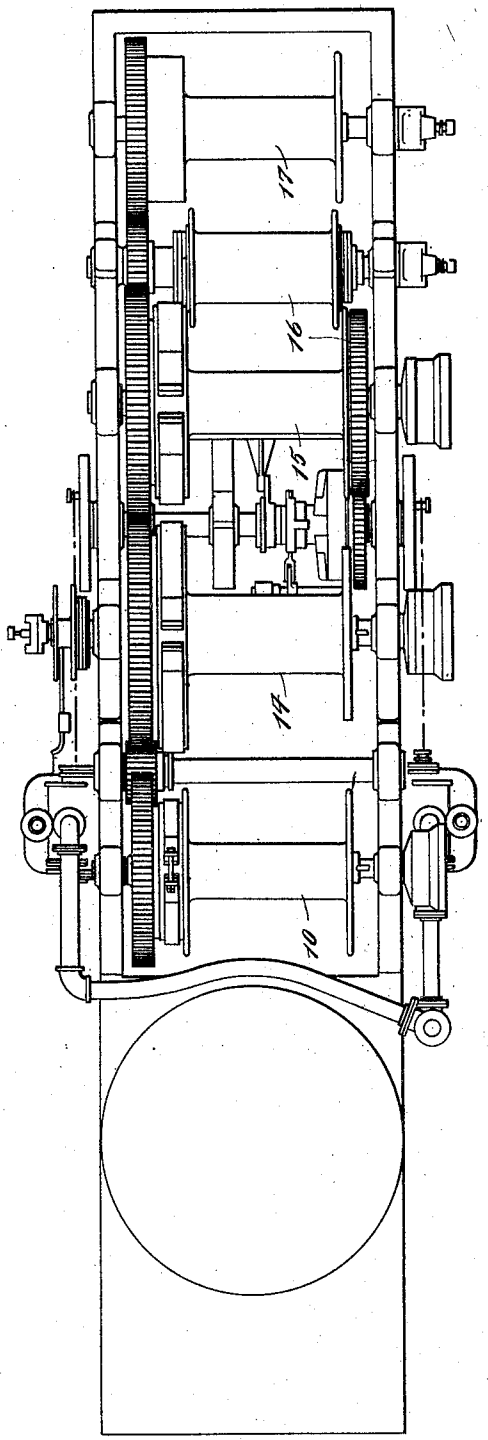


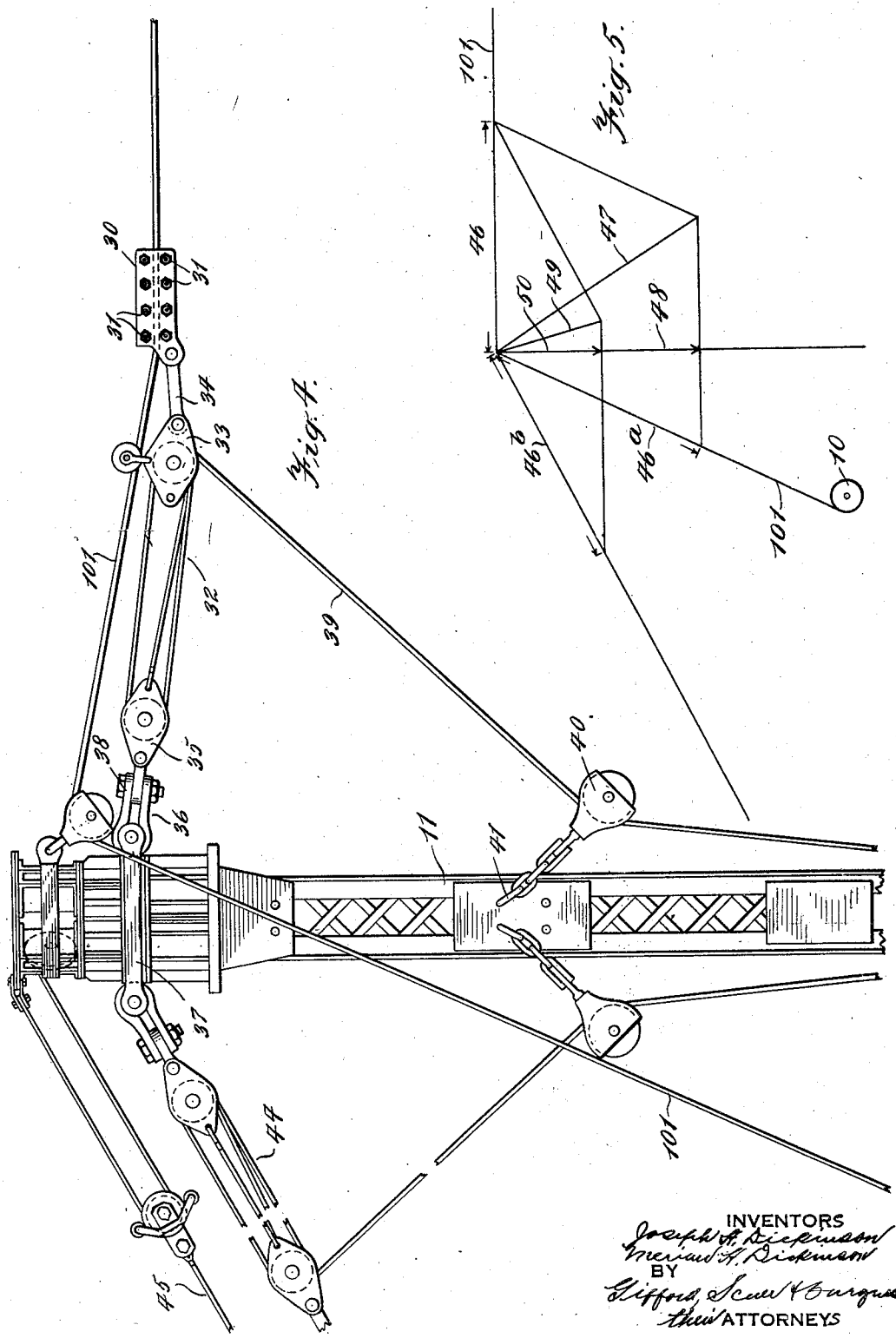
Fig. 3.

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Dec. 16, 1930. J. H. DICKINSON ET AL 1,785,340

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UNITED STATES PATENT OFFICE

JOSEPH H. DICKINSON, OF WINTER PARK, FLORIDA, AND MERIAN H. DICKINSON, OF SEATTLE, WASHINGTON, ASSIGNORS TO LIDGERWOOD MANUFACTURING COMPANY, OF ELIZABETH, NEW JERSEY, A CORPORATION OF NEW YORK

PORTABLE CABLEWAY

Application filed October 3, 1929. Serial No. 397,004.

Our present invention relates to improved portable cableways and has particular application to an apparatus of the type adapted especially for logging operations.

It has heretofore been proposed to wind a main cable on a drum of a logging engine, the drum taking the tension when a load is being brought in over the main cable. Such constructions, however, have required large and heavy spars.

It has also been proposed to use heel block anchorages which are connected to the top of the spar, as the use of such anchorages permits the use of a smaller spar than where the cable is wound directly on the drum, the drum taking the tension when the cableway is loaded and being operated, for reasons which will more fully hereinafter appear.

Heretofore, where heel block anchorages for the main spar have been used, it has been customary to use two main cables, and while one of them is connected to the main spar and being used for bringing in logs, the other is brought to a position for the next run of logs. Such an operation requires a considerable amount of time and annoyance, especially in mountainous country where the spans are of extreme and variable lengths.

Our invention combines the advantages of a drum on which the main cable is wound and heel block anchorages which permit the use of a relatively small spar. A further advantage in our present invention resides in the fact that the free end of the cable may be brought to a desired position in the woods, whereas with a two cableway system, there is usually a surplus of cable that is not used and is a source of annoyance, since different spans are of different lengths.

Our invention will best be understood by reference to the accompanying drawings, in which Fig. 1 is a plan view of a cableway system embodying our invention; Fig. 2 is a side view thereof; Fig. 3 is a plan view of the logging engine; Fig. 4 is an enlarged detailed view of the top portion of the spar and associated parts, and Fig. 5 is a graphic diagram illustrating the advantages of our invention as compared to a system in which the main cable is wound upon a drum which takes the stress of the main cable when in use.

Like reference characters indicate like parts throughout the drawings.

Referring now to the drawings, A indicates generally a logging engine comprising a drum 10 on which is wound a main cable 101. A spar 11 is mounted on a car platform 12 which also carries the log-skidding engine. In Fig. 2, the platform is shown supported by suitable legs 13 which are intended to straddle track rails (not illustrated) in the usual way.

The log-skidding engine also comprises the usual skidding drum 14, outhaul drum 15, slack-pulling drum 16, and usually the transfer drum 17 on which are wound the skidding line 18, outhaul line 19, slack-pulling line 20 and transfer line 21, respectively, passing over blocks 22, 23, 24 and 25, all mounted on the spar 11. A carriage of usual construction is indicated at 26 and is adapted to traverse the main cable 101. The skidding line 18 passes over a block 27 attached to the carriage 26 and is provided at its free end with tongs 28 or device for attaching the same to a log or logs or other load. The outhaul line 19 is attached to the carriage 26 in the usual manner and the slack-pulling line 20 is attached to the skidding line as at 29.

In accordance with our invention, means are provided for attaching the main cable to the spar and thereby relieving the tension on the drum on which it is wound, the drum thus serving as a storage drum for the main cable. Such a clamp is best shown in Figs. 1 and 4 at 30 and preferably comprises two spaced plates 301 and 302 secured together by bolts 31 which cause the plates to firmly clamp the main cable. The concave surfaces of such plates which grip the cable are preferably formed to fit the lay thereof.

Means are provided for attaching the clamping device 30 to the spar and for subjecting the main cable to any desired tension. In the embodiment illustrated, a block and fall outfit, indicated generally at 32, comprises a block 33 connected to the clamp 31 by a connection 34. The block and fall outfit also comprises a block 35 attached to the top of the spar by a suitable connection, indi-

cated generally at 36, and comprising, in the embodiment illustrated, a split ring 37, a shackle 38 being connected at one end to the split ring 37 and at the other end to the block 35. The rope 39 for the block and fall outfit passes over a block or sheave 40 connected to the spar, as at 41, and is wound upon a heel block drum 42.

Suitable main cable anchor guys 43 are provided, which, as shown, are connected to the spar by heel blocks indicated generally at 44. It will be understood that the heel blocks 44 and the heel blocks or block and fall 32 may be reversed and that the main cable may be connected to the heel blocks 44, the guys 43 then being connected to the block and fall 32 when logging on the opposite side of the railroad.

Head spar guys 45, here illustrated as four in number, are connected to the spar in the usual way.

Referring now to the graphic diagram in Fig. 5, we have shown a comparison between the stresses and strains to which the spar is subjected when the main cable is wound upon the main cable drum, which drum is subjected to the tension of the main cable, and the arrangement where heel anchorages are connected to the spar. The drum on which the main cable is wound is necessarily located comparatively near the base of the spar. We have indicated at 46 on the main cable, a distance representing a force which may be, for example, 20,000 lbs. The same force, of course, is exerted on the cable between the spar and the drum on which the main cable is wound and the same distance, 46^a, represents the same tension in the cable.

The resultant of the parallelogram of forces of 46 and 46^a is represented at 47, and the vertical component of this resultant force in the spar is indicated at 48. Naturally the horizontal stress is taken up by the main cable anchor guys 43.

Now when the main cable drum serves only as a storage drum for the main cable, the tension being taken up by a connection between the clamping device on the main cable and the spar, and the heel anchorages 43 which are located on the opposite side of the spar from the main cable and which are farther removed from the base of the spar than the main cable drum can be in practice, as illustrated in Fig. 5, then when the main cable is subjected to the same tension as assumed in connection with the first case, the same distance 46 thereon represents the same force as previously and when the same distance 46^b is laid off on the guy 43 which is located opposite the main cable and takes up the tension therein, it will be seen that the resultant is at 49 and the vertical component thereof in the spar at 50. In the latter case, it will be seen, therefore, that the spar is subjected to a load or a force which is very much less in the second case than in the first and the spar can, therefore, be made very much lighter and cheaper than in the first case.

In the embodiment illustrated, we have shown a boom 51 of usual construction, mounted on a platform 52 which is, in turn, mounted on the car platform 12 and is rotatable thereon in the usual way. As this boom and the associated parts may be of usual construction and the same constitutes no part of our invention, the details thereof need not further be described.

We claim:

1. In combination, an engine comprising a drum, a spar, a main cable wound upon said drum, a clamp adapted to grip said cable, and means for connecting said clamp to said spar, said drum then serving merely to store cable.

2. In combination, an engine comprising a drum, a spar, a main cable wound upon said drum, a clamp adapted to grip said cable, block and fall means for connecting said clamp to said spar, said drum then serving only to store cable.

3. In combination, a log-skidding engine comprising a drum, a spar, a main cable wound upon said drum, a clamp adapted to grip said cable, and means for connecting said clamp to said spar.

4. In combination, a log-skidding engine comprising a drum, a spar, a main cable wound upon said drum, a clamp adapted to grip said cable, means for clamping said cable to said spar, and heel anchorages attached to said spar for resisting the strain exerted by said main cable.

5. In combination, a log-skidding engine comprising a drum, a main cable wound upon said drum, a spar, a clamp adapted to grip said cable, means for connecting said clamp to said spar, and connecting means between said clamp and said spar for tightening the main cable.

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