J. H. DICKINSON.

PORTABLE CABLEWAY.

APPLICATION FILED MAR. 24, 1908.

936,425.

Patented Oct. 12, 1909.

4 SHEETS—SHEET 1.

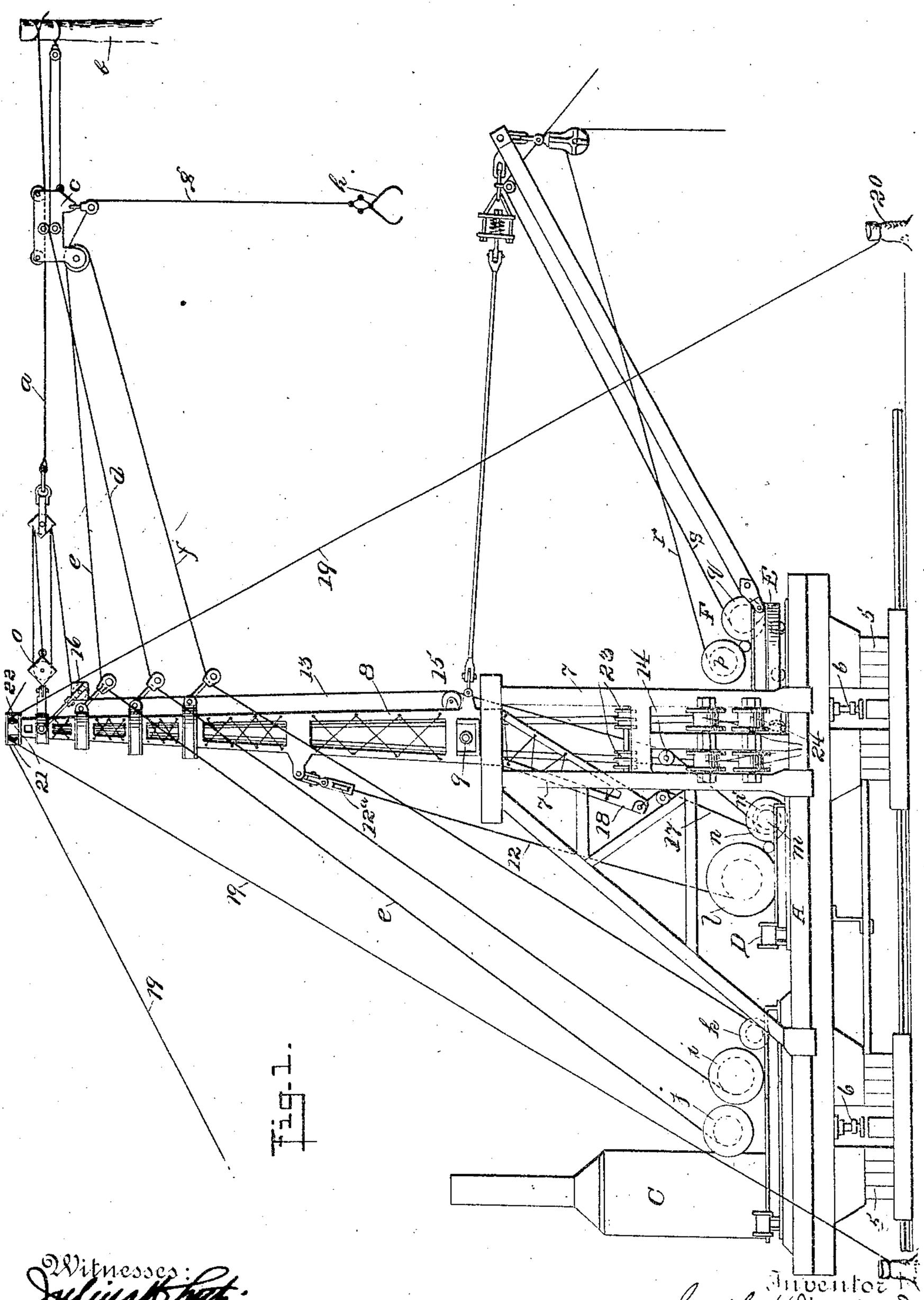

Fig. 1.

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4 SHEETS—SHEET 2.

Fig. 2.

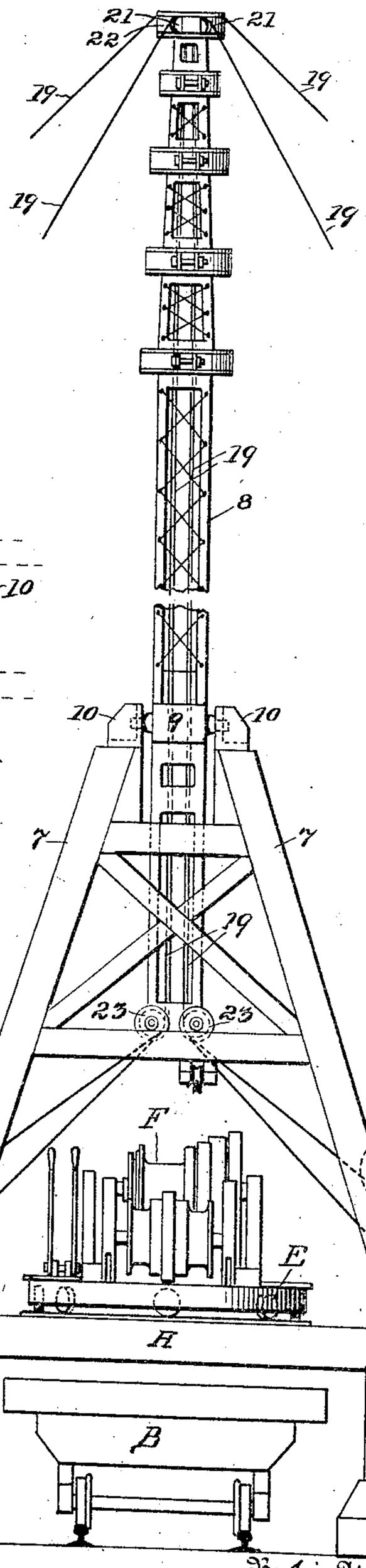
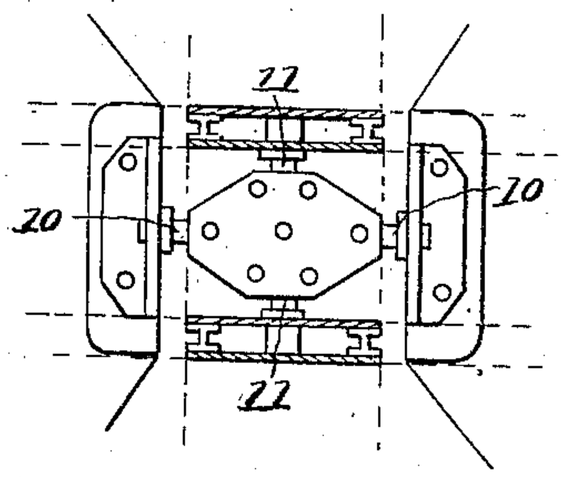


Fig. 2.A



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4 SHEETS—SHEET 3.

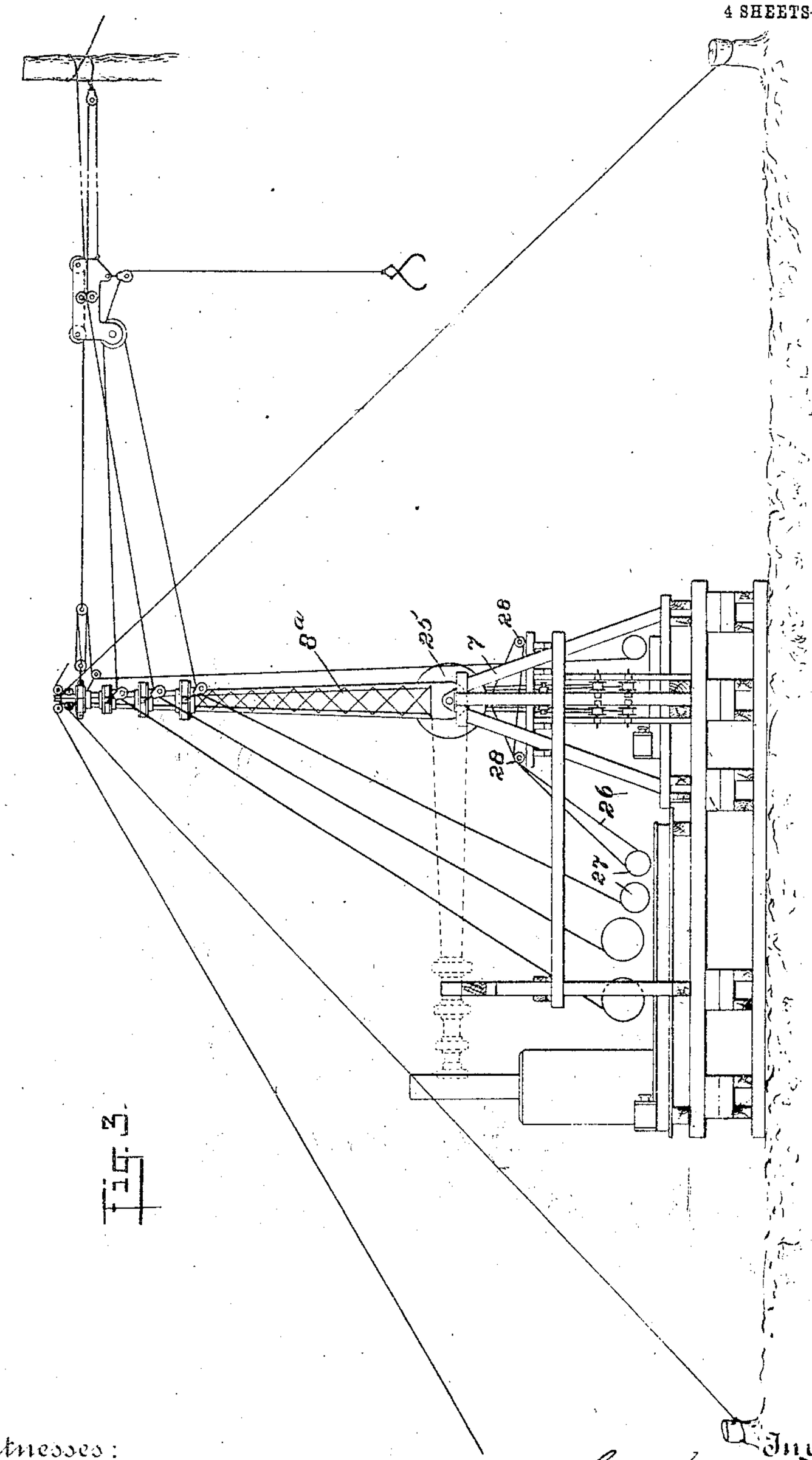

FIG. 3.

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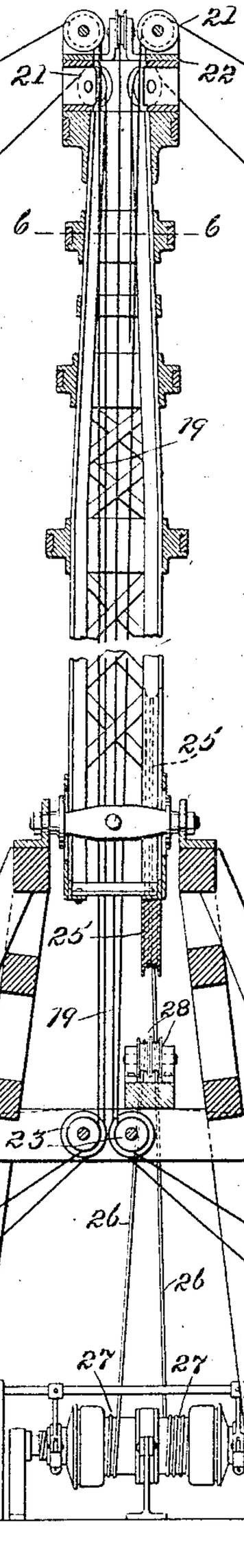
4 SHEETS—SHEET 4.

Fig. 4



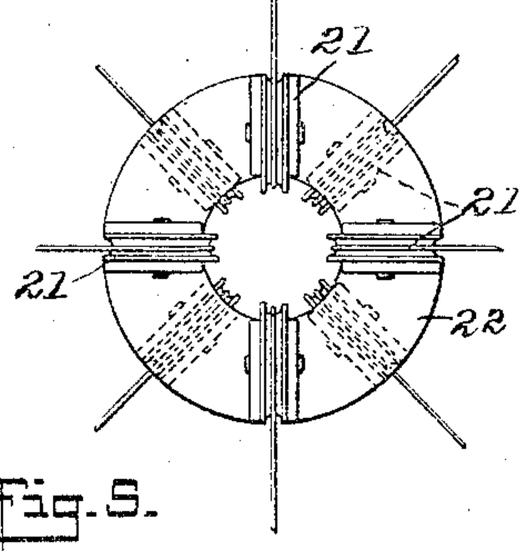


Fig. 5.

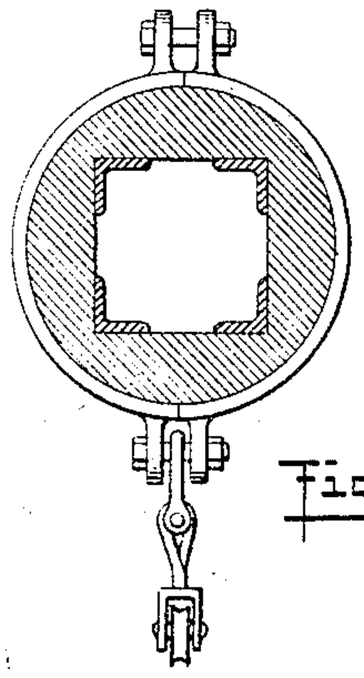


Fig. 6.

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UNITED STATES PATENT OFFICE.

JOSEPH H. DICKINSON, OF MONTCLAIR, NEW JERSEY.

PORTABLE CABLEWAY.

936,425. Specification of Letters Patent. Patented Oct. 12, 1909.

Application filed March 24, 1908. Serial No. 422,949.

To all whom it may concern:

Be it known that I, JOSEPH H. DICKINSON, a citizen of the United States, and a resident of Montclair, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Portable Cableways, of which the following is a specification.

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

In carrying out the present invention it is my purpose to provide a special cableway which may be moved from place to place as the occasion may require, without re-rigging the spars and the like.

It is also my purpose to provide an improved cableway having a supporting spar for the various ropes employed, so that the entire apparatus may be readily and speedily moved along the track from place to place, this being an advantageous feature when logging in mountainous districts where it is oftentimes inconvenient or impossible to employ a standing spar, such as an adjacent tree.

A further object of my invention is to provide means by which the guys for the spar may be readily tightened and loosened as necessary, and I also lead or direct said guys in such a manner as to obviate the possibility of the guys interfering with the various leads of the ropes of the cableway, such as the skidding ropes, the carriage-actuating ropes, and the like.

By means of my improved construction, I also dispense with the employment of a large gang of riggers, as it is unnecessary to re-rig the head, or portable spar every time the cableway is moved, as is the case where permanent supports are employed.

A further purpose of the invention is to so mount the head spar upon the frame of the machine that it may be readily raised and lowered, this being a valuable feature when the apparatus is moved from place to place, as the tower may be lowered toward the frame, thereby obtaining a low center of gravity for the machine.

With these and other objects of a similar nature in view, my invention consists in the construction, combination and arrangement of parts set forth in and falling within the scope of the appended claims.

In the accompanying drawings, Figure 1 is a view in side elevation showing one embodiment of my apparatus; Fig. 2 is an end view, the ropes of the cableway being removed, said view showing means for controlling the guy ropes running down through the center of the spar; Fig. 2^a is a detail of the preferable form of joint to permit the spar to yield in any direction; Fig. 3 is another view in side elevation of the cableway apparatus embodying my improvements in slightly modified form; Fig. 4 is an end view of the machine shown in Fig. 3, the cableway apparatus being omitted, showing guy ropes passing down through the spar, and also the operating drums 27, 27 with their ropes to raise and lower the spar; Fig. 5 is a plan view of the top of the supporting spar and showing the manner of supporting the guys at such point; Fig. 6 is a cross sectional view taken through a portion of the tower on the line 6—6 of Fig. 4, showing the circular attachment which allows the automatic adjustment of the main cable and lead blocks in any desired direction around the spar.

Referring now to the accompanying drawings in detail, and especially to Figs. 1 and 2, A indicates a frame or platform of the machine provided with suitable supports 5, adapted when the machine is in its stationary position to straddle the track. 6 designates jacking means for raising and lowering the frame upon a logging car B for transportation. Carried by the platform A is a supporting vertical framework 7, of any suitable type carrying the swinging or pivoted spar 8, the latter being fulcrumed as at 9, upon the support 7. The manner of pivoting the spar is more clearly shown in Fig. 2, in this instance, suitable bearings 10, 10 being secured to the supporting frame 7 and within said bearings lie the trunnions 11, 11 of the spar, said trunnions being so socketed in their bearings as to permit the tower to have a slight play or movement at the top in any direction, so that the unequal strain of the guys may be compensated for. Upon the frame A is mounted an engine designated as an entirety by the letter C, said engine being of any well known and approved type, such as the Lidgerwood engine, and embraces in its construction a plurality of drums for operating the various ropes of the cableway. As this engine is of a well known construction it is unnecessary to de-

scribe the same in detail here, the illustration in the present drawing being merely conventional. The cableway itself is also of a well known type, *a* designating the main cable secured in a manner hereinafter described, to the portable head spar, and at its tail end to the tail tree *b*. *c* designates the carriage adapted to travel along said main cable. *d* indicates the outhaul rope for the carriage, *e* is the inhaul, or what is commonly known as the skidding line, and *f* designates what is commonly termed the slack-pulling line employed to overhaul the slack-pulling drum on the carriage to permit the lowering of the fall-rope *g* carrying the grappling tongs or log-engaging means *h*. The line *d* is operated by the drum *i* of the engine C, the line *e* by the drum *j* of the engine and the line *f* by the drum *k*. D indicates a second engine mounted upon the frame, said engine in this case being provided with three drums. The drum *l* operating the line 12, this line runing over a pulley 12^a attached to the spar. This line 12 is employed for changing the main cable from one setting to another. Upon the forward shaft *m* are mounted two drums *n n'*, side by side, one of said drums, an ordinary slip drum, controlling the heel-block line 13, which runs over suitable pulleys 14, 15 and 16, and operates the block and fall *o*. This line may be termed the heel-block line and serves as a tension means in conjunction with the block and fall for tensioning the main cable. Such a tension device is shown in an earlier patent to Miller & Dickinson No. 808,246, and it is unnecessary to further describe the operation of the same here. The second drum *n* is employed for operating the car-spotting line 17, this line when not employed for spotting the cars beneath the loader is preferably connected to the lower end 18 of the tower and may be employed to assist in raising and lowering such spar. Carried preferably at the forward end of the frame is a turntable E carrying a third engine F, said engine having suitable drums *p* and *q*, operating the loading line *r* and the swinging lines *s* respectively. Such construction is shown in the patents to Miller & Dickinson No. 726,325, dated April 28, 1903, and need not be described here further in detail.

When the tower is in its elevated position, as when the apparatus is employed in the actual operation of logging it is, of course, necessary to guy or secure the tower against movement and in the present invention I have shown a novel form of guy lead. Referring, for instance, to Figs. 1 and 2, I provide a suitable number of guys 19 which, for the sake of convenience and distinction, may be termed ground guys; that is to say, the lower end of said guys are secured to suitable points of support as the stump 20, while the upper ends of said guys pass over sheaves 21 journaled in the collar 22, adjacent to the top of the spar, said guy ropes then leading down through the interior of the tower and over suitable sheaves 23 to their respective guy tightening drums 24, in the present instance, mounted on the supporting frame 7 and designed to be operated by hand, although I wish it to be understood that I may extend said guy ropes to power operated drums mounted at any suitable position, either upon the platform or frame, or upon other portions of the apparatus.

The advantages incident to the construction of apparatus shown in Figs. 1 and 2 will be readily apparent. The spar or tower may be easily and readily raised and lowered by the means described and when lowered for transportation, may rest or lie above the loading boom, and furthermore, the arrangement of guys shown, that is, leading such guys into and down through the spar enables me to obtain a universal lead of the various operating ropes of the cableway; that is to say, said guys are located in such position that while maintaining their efficiency as supporting means, they do not interfere with the operation of the cableway ropes.

In Figs. 3, 4, 5 and 6 I have shown a slightly modified form of arrangement as concerns the raising and lowering of the tower, the tower 8^a being provided at its fulcrumed point with a bull-wheel 25 actuated by a rope 26 operated by suitable drums 27, said rope passing over suitable guys 28 to obtain the correct lead. In raising and lowering the construction of tower shown therein the operation will be apparent. When the drums 27 are rotated in one direction the bull-wheel is actuated to lower the tower and when rotated in the opposite direction to raise the latter.

While I have herein shown and described preferred forms of my invention, I wish it to be understood that I do not limit myself to all the precise details of construction herein delineated, but that modification and variation may be made without departing from the spirit of my invention or exceeding the scope of the claims.

Having thus described my invention, what I claim is:

1. The combination of a frame, a logging cableway supported thereby, and a loading boom apparatus on said frame.

2. The combination of a portable frame, a logging cableway apparatus supported thereby, and a loading boom apparatus carried by the frame.

3. The combination of a portable frame, a tower carried thereby, a cableway in supported engagement with said tower, and a loading device carried by the frame.

4. The combination of a frame, traction mechanism therefor, a tower carried by the frame, a cableway in supported engagement with the tower, and a boom loading device carried by the frame.

5. The combination with a portable platform adapted to straddle a track in a manner to permit the passage of cars therebeneath, a tower carried by the platform, a cableway in supported engagement with said tower, and a loading device carried by the portable frame.

6. The combination with a portable frame adapted to straddle a track to permit the passage of cars therebeneath, a tower carried by the frame, a cableway in supported engagement with the tower, and a boom loading device carried by the portable frame.

7. The combination of a portable frame adapted to straddle a track to permit the passage of cars therebeneath, a tower carried by said frame, a cableway in supported engagement with said tower, and a swinging boom loader carried by the frame.

8. The combination with a portable platform, of a movable spar or tower carried thereby, a cableway in supported engagement with the tower, and a boom loading device carried by the portable frame.

9. The combination of a portable platform, a swinging spar or tower carried thereby, a cableway in supported engagement with the tower, means for raising and lowering the spar or tower, guys for maintaining said tower in its elevated position, and mechanism for operating the guys.

10. The combination of a portable platform, a tower carried thereby and fulcrumed to be raised and lowered relative to the platform, a cableway in supported engagement with the tower, guys connected to the tower and adapted to maintain the same in elevated position, and power mechanism located below the tower for tensioning said guys.

11. The combination of a portable platform, a spar or tower carried thereby, a cableway in supported engagement with the tower, guys for said tower, passing through the tower, and means for tightening and loosening said guys.

12. The combination with a platform, a tower carried thereby, a cableway in supported engagement with the tower, guys for said tower passing through a portion of the tower, and means for tightening and releasing said guys.

13. The combination of a platform, a spar or tower carried thereby and adapted to be raised and lowered relative thereto, guys for said tower having portions thereof passing through the interior of the tower, means for tightening and loosening the guys, and a loading device.

14. The combination of a platform, a spar or tower carried thereby and adapted to be raised and lowered relative thereto, guys for said tower having portions thereof passing through the interior of the tower, means for tightening and loosening the guys, and a boom loading device mounted on the platform.

15. The combination with a portable platform, a swinging spar carried thereby, a cableway in supported engagement with said spar, sheaves carried by said spar, guys for the spar passing over said sheaves and down through the tower, and drum mechanism for tensioning the guys.

16. The combination with a portable platform, a tower or spar carried thereby, guy ropes for said spar having portions thereof passing through the spar and drum members mounted above the platform for tensioning said guys.

17. The combination of a portable platform, a spar or tower carried thereby, a cable in supported engagement with said spar or tower, a carriage adapted to move along said cable, an outhaul rope for said carriage, an inhaul rope for the carriage, an engine for operating said inhaul and outhaul ropes, and a loading mechanism carried by the platform.

18. The combination of a platform, a support carried thereby, a spar, a cableway in supported engagement with the spar, and means connecting said spar to the support in a manner to permit the yielding of the spar in any direction.

19. The combination with a platform, a spar carried thereby, a cableway in supported engagement with the spar, sheave members for the ropes of said cableway, and means connecting the sheave members to the spar to permit the movement of the sheave members around the spar.

20. The combination with a platform, a support thereon, a spar carried by said support and fulcrumed in a manner to permit the lowering of the spar, and a cableway in supported engagement with the spar.

21. The combination with a platform, a spar carried thereby, and a cableway including a main cable in supported engagement with the spar, a tensioning device for the main cable, and a drum carried by the platform for operating the tension device.

22. In combination, a skidder cableway, its carriage, its operating ropes, its head-support, a portable base on which said head-support is carried, a guy for said head-support passing over an elevated bearing thereon and thence down toward said portable base and a member to which said guy is secured.

23. In combination, a skidder cableway, its carriage, its operating ropes, its head-support, the blocks for said operating ropes secured to said head-support, a portable base

on which said head-support is carried, a guy for said head-support passing over an elevated bearing thereon and thence down toward said portable base and behind the field of movement of said blocks and a member to which said guy is secured.

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

JOSEPH H. DICKINSON.

Witnesses:
R. B. CAVANAGH,
W. A. PAULING.