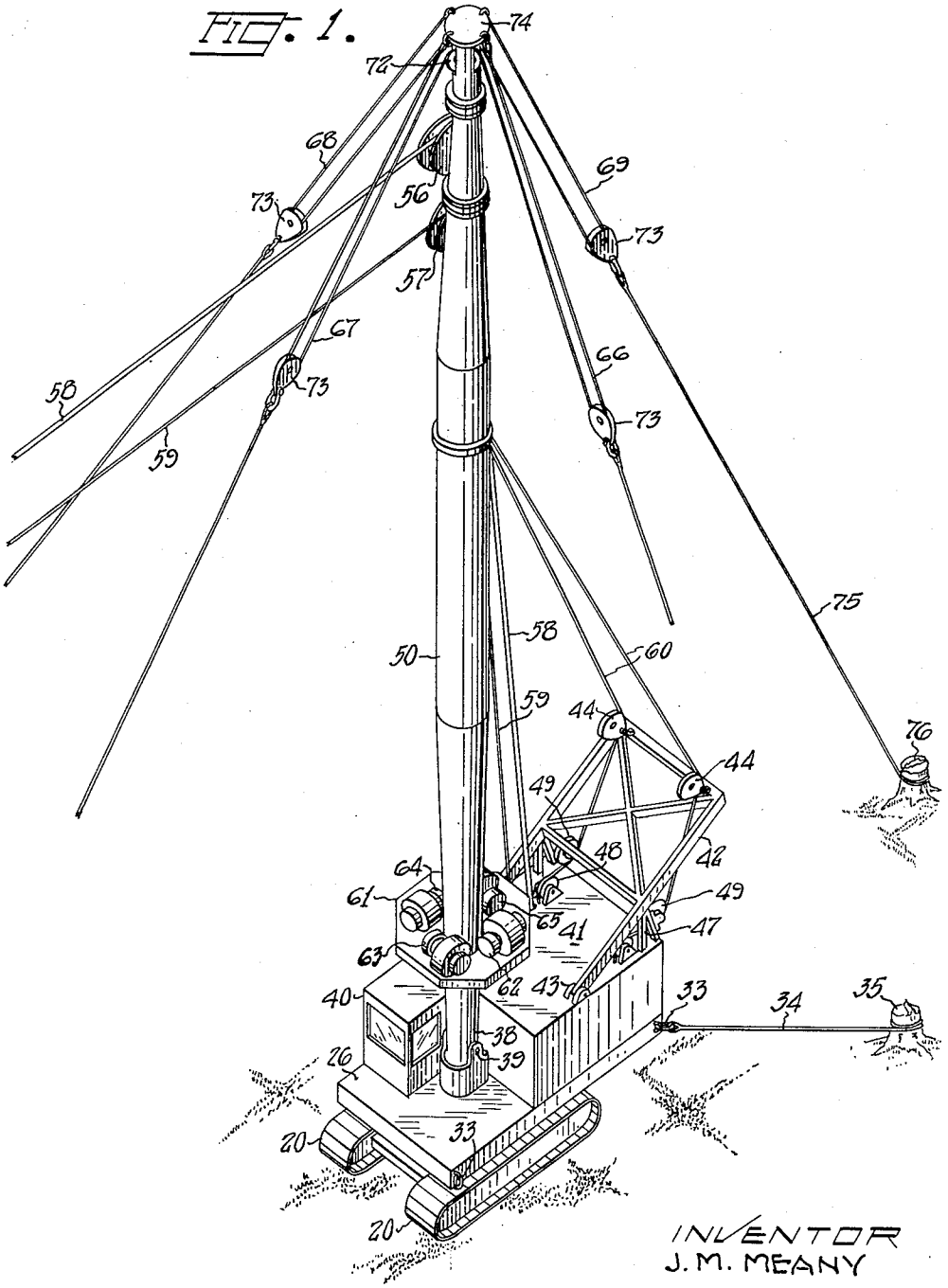
Nov. 16, 1954 J. M. MEANY 2,694,474

MOBILE SPAR YARDER

Filed Jan. 2, 1951 5 Sheets-Sheet 1

FIG. 1.



INVENTOR
J. M. MEANY

BY

ATTORNEY

Nov. 16, 1954 J. M. MEANY 2,694,474

MOBILE SPAR YARDER

Filed Jan. 2, 1951 5 Sheets-Sheet 2

FIG. 2.

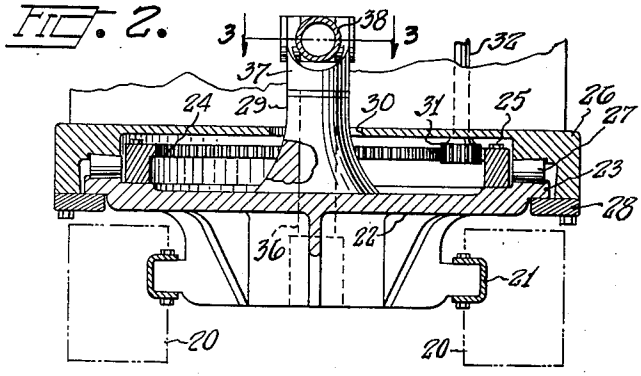


FIG. 3.

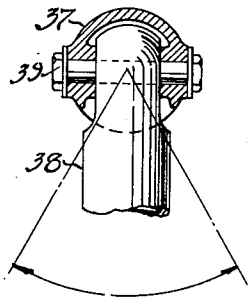


FIG. 4.

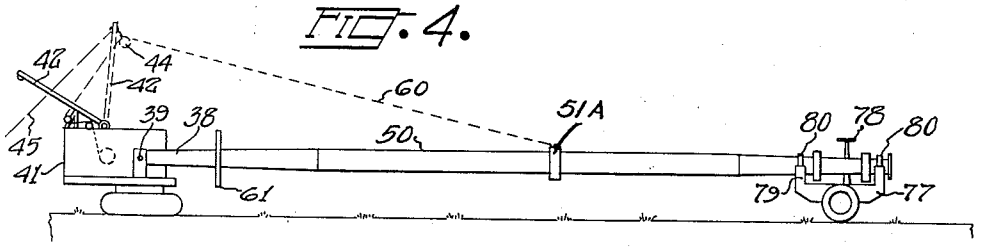
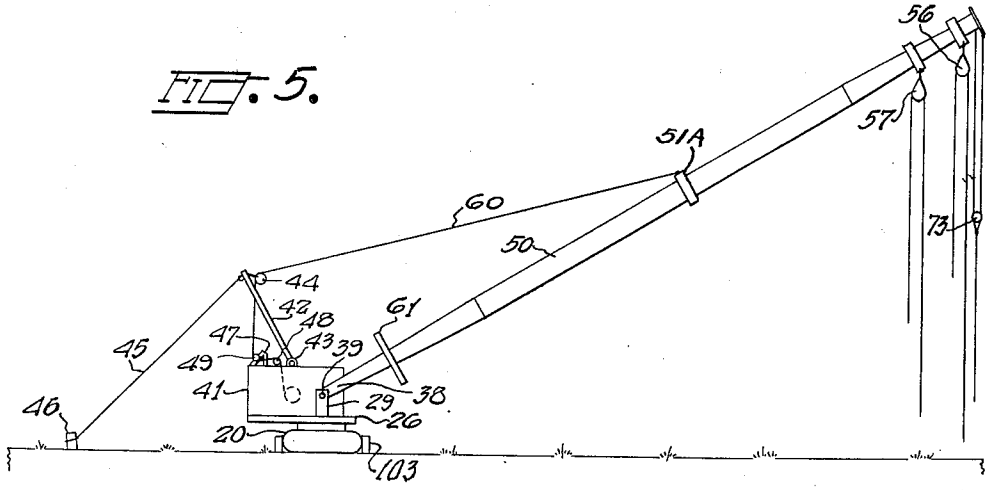


FIG. 5.



INVENTOR
J. M. MEANY
BY E. B. Birkenbeuel.
ATTORNEY

Nov. 16, 1954 J. M. MEANY 2,694,474

MOBILE SPAR YARDER

Filed Jan. 2, 1951 5 Sheets-Sheet 3

FIG. 6.

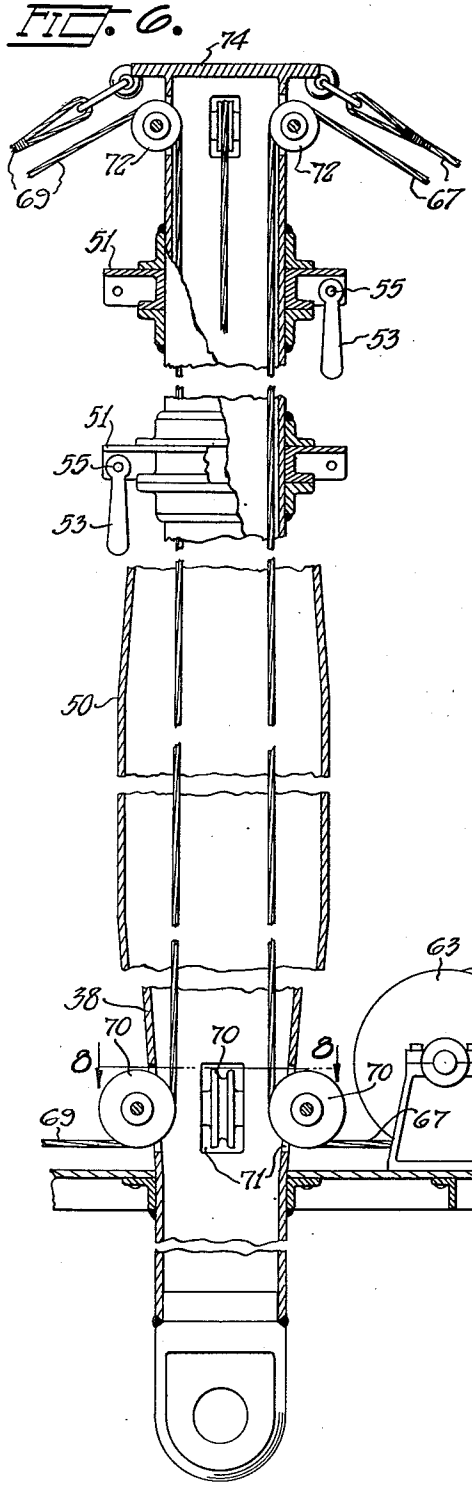


FIG. 7.

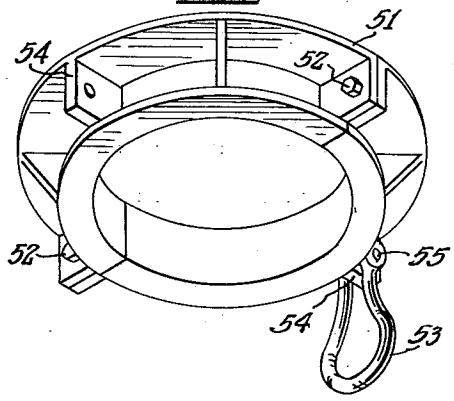
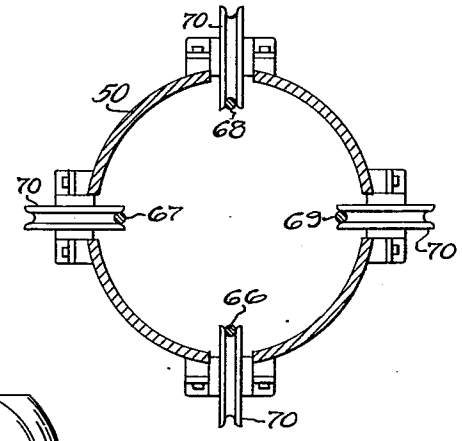


FIG. 8.



INVENTOR
J. M. MEANY
BY E. B. Richenbrenel.
ATTORNEY

Nov. 16, 1954 J. M. MEANY 2,694,474

MOBILE SPAR YARDER

Filed Jan. 2, 1951 5 Sheets-Sheet 4

FIG. 9.

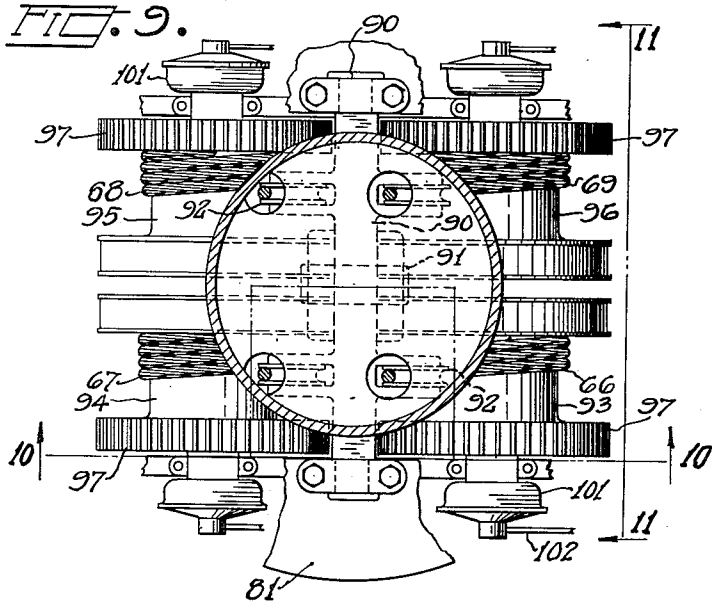
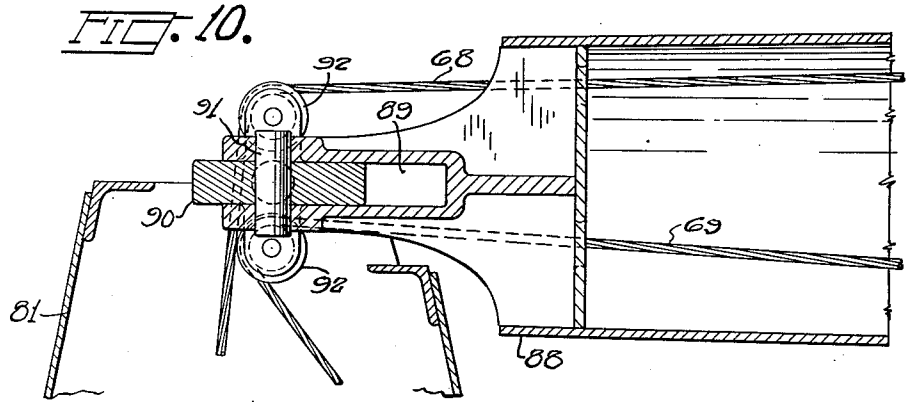
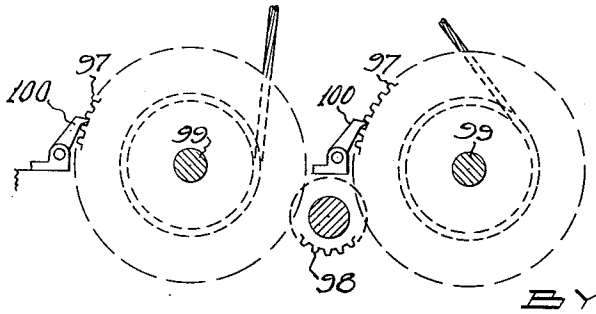


FIG. 10.





INVENTOR
J. M. MEANY

BY E. F. Birkenbeuel.

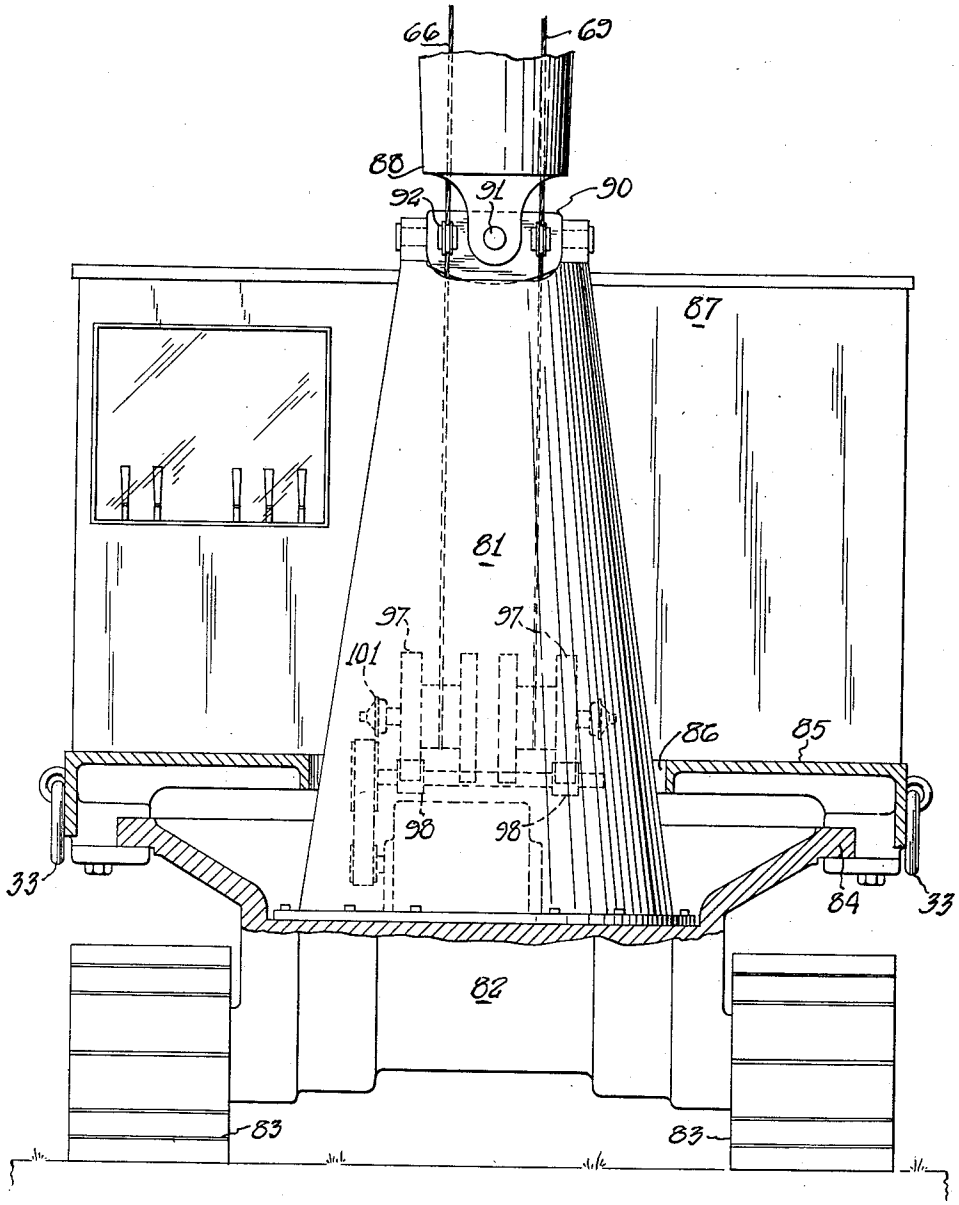
ATTORNEY

Nov. 16, 1954 J. M. MEANY 2,694,474

MOBILE SPAR YARDER

Filed Jan. 2, 1951 5 Sheets-Sheet 5

FIG. 11.



INVENTOR
J. M. MEANY
BY E. B. Richenbeul
ATTORNEY

United States Patent Office 2,694,474 Patented Nov. 16, 1954

2,694,474

MOBILE SPAR YARDER

James M. Meany, Portland, Oreg.

Application January 2, 1951, Serial No. 203,905

2 Claims. (Cl. 189—11)

This invention relates generally to logging equipment and particularly to a mobile spar yarder.

The main object of this invention is to provide a portable spar and handling mechanism therefor.

The second object is to produce a spar which is easily transported and erected and which when erected will permit the revolving of the rigging through 360 degrees.

The third object is to construct a spar through which the guy lines are passed through the interior of the spar to increase the rotating range of the spar with relation to the anchor and guy lines.

I accomplish these and other objects in the manner set forth in the following specification as illustrated in the accompanying drawings, in which:

Fig. 1 is a general view in perspective.

Fig. 2 is a fragmentary vertical section through the base of the spar and the supporting vehicle.

Fig. 3 is a section taken along the line **3—3** in Fig. 2.

Fig. 4 is a diagram illustrating the method of transportation and in dotted lines the position of the purchase frame and cable at the first part of the raising operation.

Fig. 5 is a diagram illustrating the spar in a partially raised position and indicating how the guy lines, main line and haul-back line can all be attached to the spar while in a lowered position.

Fig. 6 is a broken vertical section through the spar illustrating the construction thereof.

Fig. 7 is a perspective view of the sheave block carrying ring as viewed from below.

Fig. 8 is a section taken along the line **8—8** in Fig. 6.

Fig. 9 is a plan of the guy line tightening drums, showing the spar in transverse section.

Fig. 10 is a vertical section taken along the line **10—10** in Fig. 9, but showing the spar lowered to the towing position as shown in Fig. 4.

Fig. 11 is an elevation taken along the line **11—11** in Fig. 9 and showing the tracks, track frame, and cab platform in a preferred form of the device.

Like numbers of reference refer to the same or similar parts throughout the several views.

Referring in detail to the drawings, there is shown in Fig. 2 a vehicle comprising crawler track laying elements **20** whose side channels **21** support a central frame **22** having a circular track **23** within which is mounted a ring gear **24** which is secured to the frame **22** by bolts **25**. A turret base **26** is supported on the track **23** by the anti-friction rollers **27**. A keeper ring **28** secured to the underside of the base **26** engages the under side of the track **23** and holds the turret base **26** down upon the frame **22** while permitting the relative rotation of the parts **22** and **26**. A tubular post **29** is formed on the frame **22** and extends upwardly through the opening **30** in the turret base **26**. A pinion **31**, which meshes with the ring gear **24**, is mounted on the drive shaft **32** driven from a motor (not shown).

The mechanism described thus far is conventional. A preferred form is shown in Fig. 11, which will be described later.

The turret base **26** has anchor rings **33** to which are attached the lines **34** which are attached to the anchor stumps **35**.

In the post **29** is mounted the shank **36** on the upper end of which is a forked head **37**. To the head **37** is hinged the spar foot **38** by means of a pin **39**. A cab **40** is mounted on the base **26**. Also mounted on the base **26** is a housing **41** within which are the motors and cable winding drums.

On the top of the housing **41** is a purchase frame **42** which is hinged to the lugs **43** and which has attached thereto the blocks **44** and also a line **45** by means of which it is anchored to a stump **46**. Standards **47** limit the downward movement of the frame **42**. Fair leading sheaves **48** and **49** are mounted on the housing **41**.

At the upper end of the spar **50** are mounted the sheave block carrying rings **51** which are made in halves and clamped on the upper end of the spar **50** by means of the bolts **52**. Clevises **53** are attached to the radial ribs **54** by means of the pins **55**. To the upper clevis **53** is attached the main line block **56** and to the lower clevis **53** is attached a haul-back line block **57**.

From a cable winding mechanism (not shown) within the housing **41** extends the main line **58** which passes over the sheave in the block **56** to another spar.

From the same cable winding mechanism within the housing **41** extends a haul-back line **59** which passes through the block **57** to a carriage or other contrivance.

From the same cable winding mechanism within the housing **41** extend the spar operating lines **60** which pass around the sheaves **48** and **49** and through the blocks **44** to a point of fastening at the lower ring **51**–A.

On the spar **50** is mounted a motor platform **61**, on which are mounted the four motor driven cable winding drums, **62**, **63**, **64**, and **65** whose lines **66**, **67**, **68** and **69** pass under the sheaves **70** extending through slots **71** in the foot **38** of the spar **50** and then upwardly and outwardly over the sheaves **72** at the upper end of the spar **50** and then through the block **73** and then fastening to the cap **74**. Each block **73** is attached to a guy line **75** which in turn is anchored to a stump **76**.

For transportation and maneuvering purposes there is provided a steerable two-wheel trailer unit **77** having a steering wheel **78** and cradles **79** to receive the upper end of the spar **50**. Clamping bands or chains **80** hold the spar within the cradles **79**.

In Fig. 11 is shown the preferred construction, in which a conical spar base **81** is mounted directly upon the frame **82** of the crawler elements **83**. Integral with the frame **82** is a circular track **84** upon which is mounted the turntable **85**, through whose central opening **86** the spar base **81** projects upwardly above the top of the housing **87**.

In this form of the device, the spar foot **88** is provided with a slot **89** which receives the flat axle **90** to which it is tiltably secured by the pin **91**. Sheaves **92** are mounted on opposite sides of the axle **90** to carry the lines **66**, **67**, **68** and **69** to the separate cable winding drums **93**, **94**, **95** and **96**, shown in Fig. 9, in which each drum is driven by a gear **97** from a drive pinion **98**. Pawls **100** are used to lock the gears **97** in desired positions.

Each drum **93** to **96** is driven from the power shaft **99** through a friction clutch **101** which is applied by means of a lever **102**.

It will be observed in Fig. 10 that the spar **50** can swing on the axle **90** and normally thereto on the pin **91** which enables the spar **50** to adapt itself to curves and changes in slope during transportation and, at the same time, enables the lines **66** to **69** to move about the bending point at the foot of the spar **50**.

In the operation of the device, the unit is towed to the point where the spar is to be erected. The spar operating lines **60** are then hauled in by their respective drums which causes the purchase frame **42** to be raised to the position shown in dotted lines as shown in Fig. 4, elevating the blocks **44** to positions which give a better lifting action to the lines **60**. As the spar **50** is raised it is placed under control of the guy lines **75**. The vehicle itself has, of course, been anchored by the lines **34** and by the blocks **103**. The main line **58** is then strung and the haul-back line **59** put into operating position. Relative tension on the guy lines **75** can be controlled to a nicety by the separate winding drums **62—65**. A tremendous advantage is gained with this construction in providing a portable yet firm foundation for the foot of the spar **50** and, at the same time, making it possible to easily change the setting without lowering the spar or guy lines and with a minimum amount of labor, mak-

ing it extremely mobile and capable of being easily handled over difficult terrain.

I claim:

1. A mobile spar yarder having in combination a vehicle, means for fixing the position of the vehicle on the ground, an elevated hollow spar base mounted on said vehicle, a turntable on said vehicle revolvable around said spar base, a universal joint at the top of said spar base, a hollow spar attached to said base by means of said universal joint, cable winding drums within said spar base, lines on said drums passing upwardly within said spar and emerging near the upper end thereof, thence passing around a block and anchoring to said upper end of said spar and a guy line attached to said block and to a point of anchorage, a purchase frame mounted on said turntable having sheaves mounted thereon, lines attached to said spar passing over said sheaves and cable winding means on said vehicle for operating said last mentioned lines.

2. The apparatus as described in claim 1, together with a steerable two-wheel trailer having a saddle formed thereon for the reception of the head end of said spar.

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
2,008,785	De Vou	July 23, 1935
2,224,901	Cunningham	Dec. 17, 1940
2,344,390	Cohen	Mar. 14, 1944
2,582,548	Larson	Jan. 15, 1952