

No. 681,632.

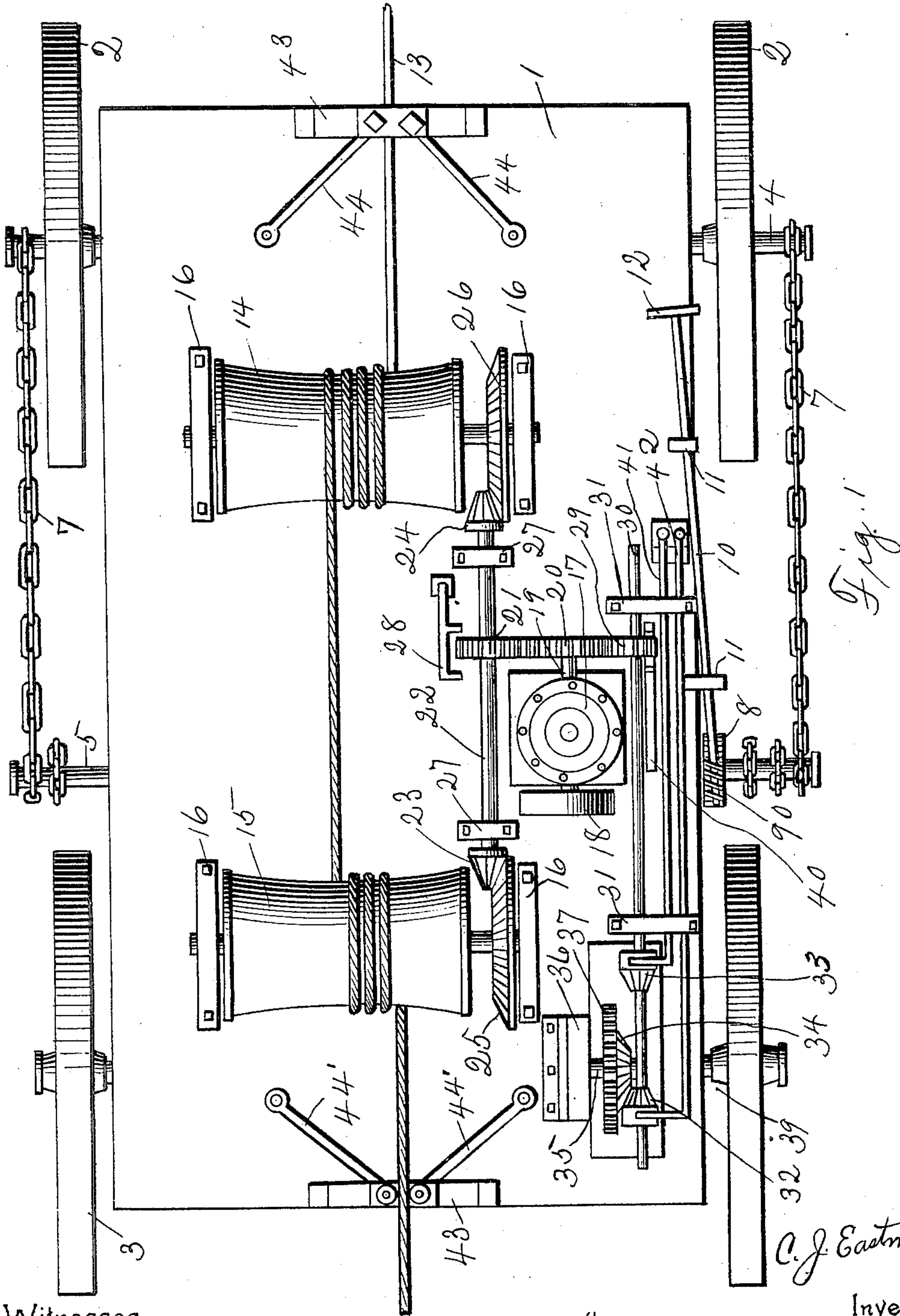
Patented Aug. 27, 1901.

C. J. EASTMAN.
CABLE POWER.

(Application filed July 16, 1900.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses
J. M. Mothershead
R. F. Bouldin

Inventor
By his Attorney A. L. Jackson

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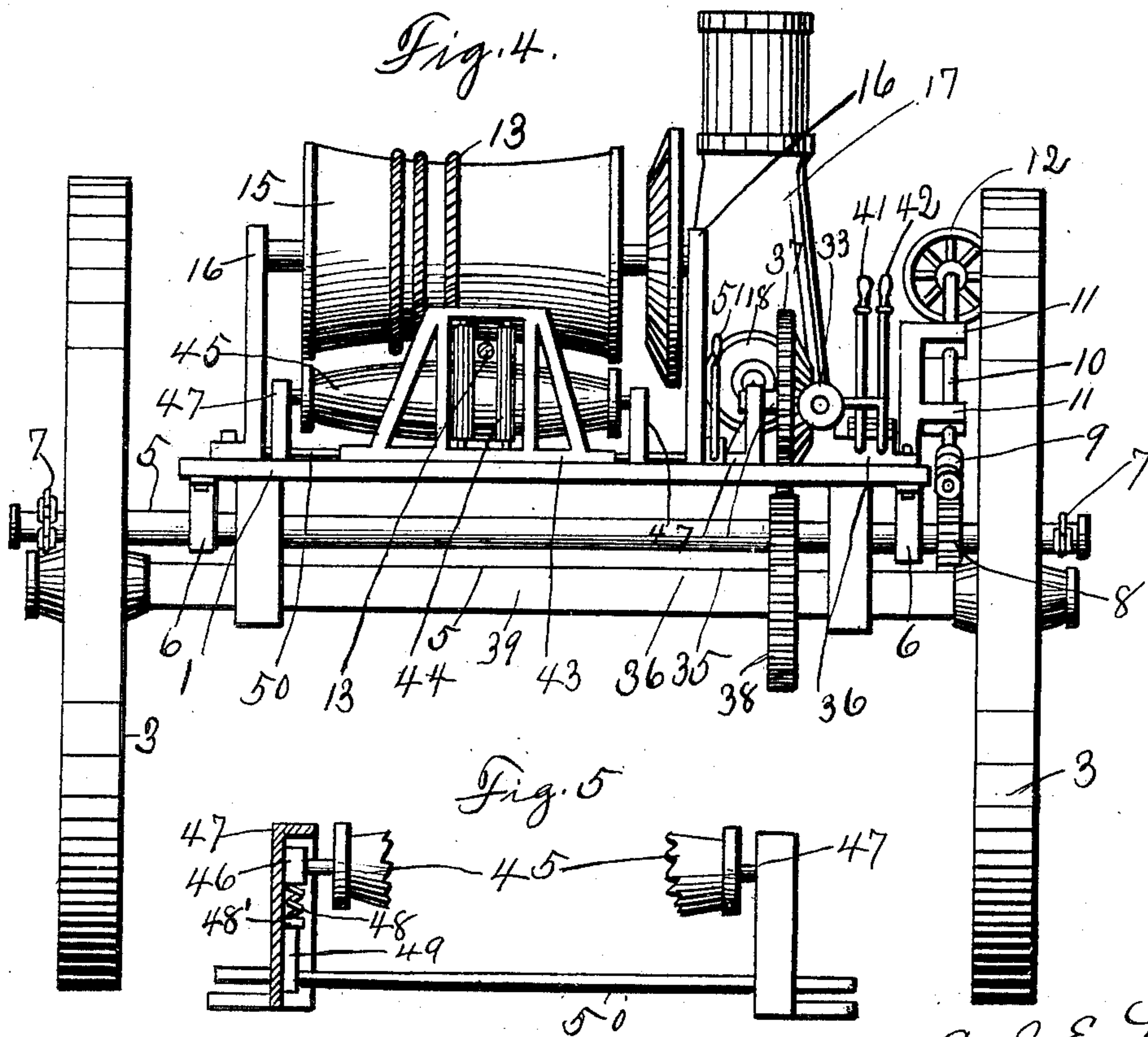
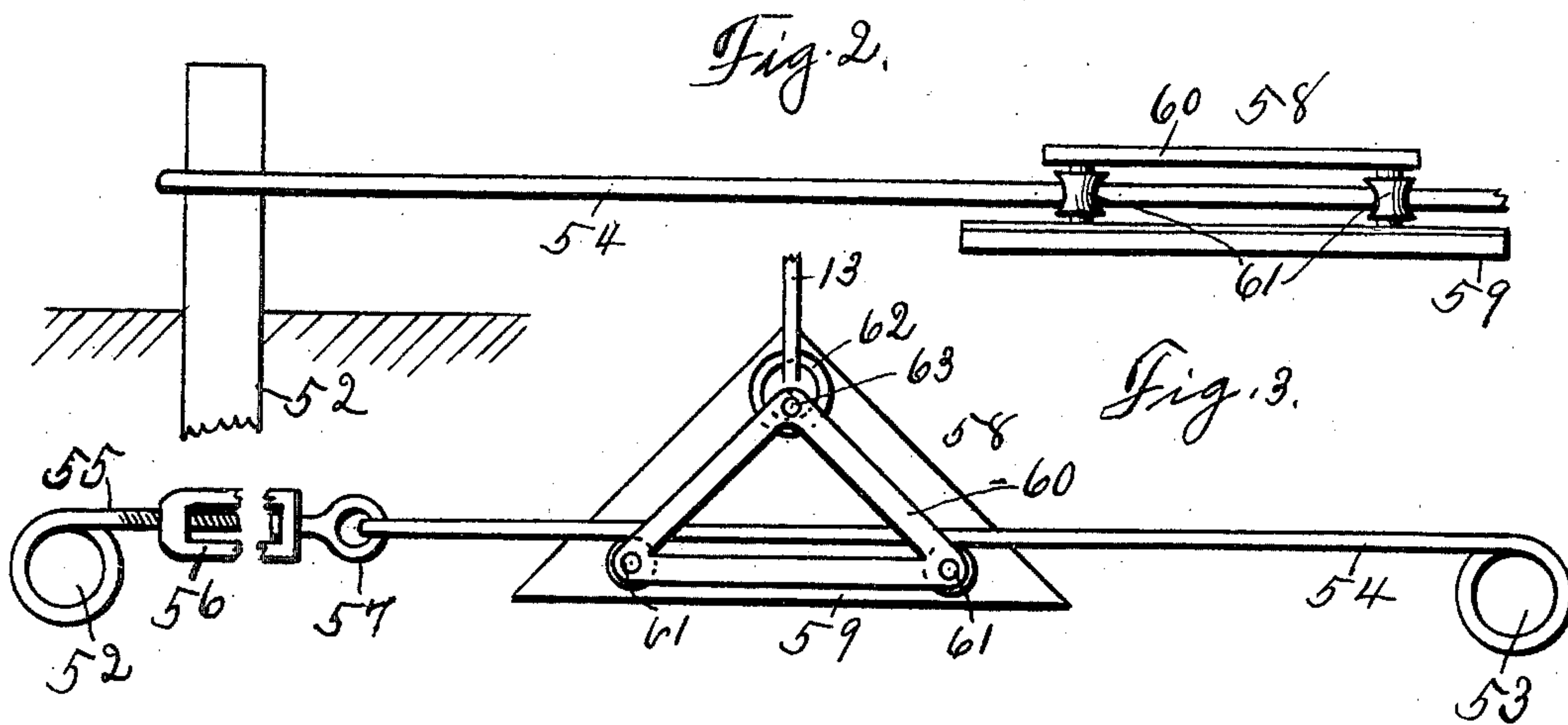
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2 Sheets—Sheet 2.



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UNITED STATES PATENT OFFICE.

CLYDE J. EASTMAN, OF FORT WORTH, TEXAS.

CABLE-POWER.

SPECIFICATION forming part of Letters Patent No. 681,632, dated August 27, 1901.

Application filed July 16, 1900. Serial No. 23,767. (No model.)

To all whom it may concern:

Be it known that I, CLYDE J. EASTMAN, a citizen of the United States, residing at Fort Worth, in the county of Tarrant and State of Texas, have invented certain new and useful Improvements in Cable-Power, of which the following is a specification.

This invention relates to cable-power obtained by means of movable windlasses driven by steam or other motive power; and the object is to obtain a powerful draft for use in agricultural purposes, drawing heavy plows and reaping-machines, hauling heavy loads of ore or coal in mining, moving houses, and for drawing heavy loads of any description.

Other objects and advantages will be fully understood from the following description and claims.

Reference is had to the accompanying drawings, which form a part of this application.

Figure 1 is a plan view of the carriage and the driving mechanism. Fig. 2 is a rear elevation of a trolley-yoke for automatically adjusting the cable. Fig. 3 is a plan view of the same, showing also means for taking up the slack of the stay-cable. Fig. 4 is a rear elevation of the carriage, the cable being cut away. Fig. 5 is a detail view of a friction-roller.

The means for producing the power are mounted on a carriage or platform 1, and the platform is mounted on two pairs of wheels 2 and 3. The wheels 2 turn on the axle 4. The steering of the carriage is accomplished with these wheels. A shaft 5 is mounted in hangers 6, and chains 7 are attached to this shaft and to axle 4. A cog 8 is mounted on shaft 5, and a worm gear-wheel 9 is mounted on a hand-shaft 10, which has suitable bearings 11 and a hand-wheel 12 for operating the shaft. When the carriage is moving, the direction can be changed by turning the wheel 12, and the direction to which the carriage will be turned depends on the turning of the hand-wheel. Turning in one direction will cause the carriage to change the direction and turning the hand-wheel in the opposite direction will start the carriage in the opposite direction. The chains 7 are wound off and onto the shaft 5 and the axle 4 during the steering. The power is derived from the cable 13 and the windlasses 14 and 15, with

means for driving the windlasses. The windlasses are mounted in bearings 16. The power for driving the windlasses may be derived from any suitable source. In the drawings a steam-engine 17 is shown in conventional form. This engine is provided with a balance-wheel 18 and a shaft 19. A cog-wheel 20 is mounted on the shaft 19 for driving a cog-wheel 21, mounted on a shaft 22. Bevel-pinions 23 and 24 are mounted on the shaft 22. These pinions drive the bevel-cogs 25 and 26, which are mounted rigidly on the shafts of the windlasses 15 and 14. Shaft 22 is provided with suitable bearings 27. The cable 13 is wound around each windlass several times and in operation winds off and on both windlasses at the same time. Two windlasses are used to prevent slipping of the cable on the windlasses. Means are provided for converting the carriage into a traction-engine. This is necessary in order that the carriage can be moved from place to place. A lever 28 is provided for throwing the cog 21 in and out of mesh with cog 20. A cog 29 is mounted on a shaft 30, which is provided with bearings 31. Bevel-pinions 32 and 33 are mounted on shaft 30 for driving a bevel-cog 34, which is mounted on shaft 35. This shaft is provided with bearings 36. The bevel-cog has integral therewith a cog-wheel 37 for driving a cog 38, mounted on axle 39 of the wheels 3. By these means power may be transmitted from the engine to the wheels 3. A lever 40 is provided for throwing the cog 29 in and out of mesh with the cog 20 of the engine 17. By the mechanism thus described it will be seen that the power of the engine can be exerted on the wheels of the carriage. The two pinions 32 and 33 are used for driving the carriage in different directions. For moving in one direction the pinion 32 is thrown in mesh with the bevel-cog 34, and for moving in the opposite direction pinion 35 is thrown in mesh with that cog. A lever 41 is provided for throwing the pinion 35 in and out of mesh with the cog 34, and a lever 42 is provided for throwing the pinion 32 in and out of mesh with cog 34. In operation the cog 29 is to be out of mesh with the cog 20 of the engine; but when the carriage is to be moved the cog 21 is thrown out of mesh with the cog 20 and the cog 29 is to be thrown in

mesh with that cog 20. Brackets 43, provided with braces 44' for antifriction-rollers 44, are on the front part of and on the back part of the carriage. These rollers prevent friction on the cable 13, and they also hold the cable in the proper position when the carriage is slightly turned. Means are provided for applying additional friction to the cable 13. A friction-roller 45 is mounted adjacent to the windlass 15, and one may be mounted adjacent to the windlass 14. This roller is mounted in spring-pressed bearings 46. These bearings are mounted in casings 47. The bearings are mounted on springs 48, which are attached to blocks 48'. Blocks 48' rest on cams 49, which are mounted on a shaft 50, and this shaft is provided with a handle or lever 51. When the lever is moved, the cams will cause the roller 45 to press the cable 13 against the windlass. Means are provided for automatically adjusting the cable 13. The cable is to be attached firmly at each end to stationary objects relative to longitudinal movement. There must be no yielding of the object toward the cable. In case this power is used for plowing, two posts 52 and 53 are inserted in the ground at each end of the field and the posts of each end are to be about two hundred feet apart. A stay-cable 54 is attached to each post and means are provided for taking up the slack of the stay-cables. A rod 55 is attached to one post, and a turnbuckle 56 is provided with a ring 57, having a swivel connection with the turnbuckle. If the slack is very great, the stay-cable can be passed around the post another time. The power-cable is attached to the stay-cable by means of a trolley-yoke 58. The trolley-yoke consists of a frame or base 59, a triangular frame 60, antifriction pulley-wheels 61, journaled in said frame and base, and a ring 62 for securing the power-cable 13. This ring is secured in the trolley-yoke by means of a bolt 63, passing through the base 59 and the frame 60. It will be understood that the trolley-yoke can move on the stay-cables however much power may be exerted on the power-cable. Thus lateral adjustment is provided for the ends of the power-cable, and this adjustment is perfectly automatic. The power is obtained through the cable by driving the windlasses with a suitable motive power. The object to be moved is to be attached to the carriage in any suitable way. The power may be utilized to draw a dozen or more plows, or it may be used to move houses or other heavy objects.

The illustrations show the carriage provided with four wheels. It is obvious that any number of wheels may be used. Even a less number of wheels than the illustrations show can be used without departing from the invention. It is also obvious that one of the windlasses may be dispensed with and the invention will be the same in principle. Various other changes may be made in the as-

sembling of the various parts without departing from the spirit of the invention.

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

1. Apparatus for obtaining cable-power comprising a carriage, one or more windlasses mounted on said carriage and a cable passing one or more times around said windlasses, means for driving said windlasses, and means of securing the ends of said cable capable of lateral automatic adjustment in either direction.

2. In an apparatus for obtaining cable-power provided with a cable, a carriage, and windlasses mounted on said carriage for moving on said cable; means for securing the ends of said cable at the end of the distance to be traversed by said windlasses and means for permitting lateral automatic adjustments of the ends of said cable in either direction.

3. In an apparatus for obtaining cable-power provided with a carriage, a cable, one or more windlasses mounted on said carriage and capable of traveling on said cable, and means for driving said windlass or windlasses; trolley-yokes for securing the ends of said cable and means for allowing lateral automatic adjustments of said yokes in either direction.

4. In an apparatus for obtaining cable-power provided with a carriage, a cable, one or more windlasses mounted on said carriage and capable of traveling on said cable, and means for driving said windlass or windlasses; trolley-yokes for securing the ends of said cable and stay-cables for permitting lateral movement of said yokes in either direction, said stay-cables being secured firmly and at right angle to the power-cable.

5. In an apparatus for obtaining cable-power provided with a carriage, a cable, one or more windlasses mounted on said carriage and capable of traveling on said cable, and means for driving said windlass or windlasses; means for disconnecting the driving means of said windlass or windlasses and means for connecting said driving means with gearing for driving the wheels of said carriage and the gearing for driving the wheels of said carriage whereby said carriage has movement independent of said cable.

6. In an apparatus for obtaining cable-power provided with a carriage, windlasses mounted on said carriage, a cable passing around said windlasses, and means for driving said windlasses whereby said carriage is propelled; means for shifting said driving means from said windlass propulsion to means for driving said carriage by tractive power and the means for driving said carriage by tractive power.

7. In an apparatus for securing cable-power provided with a carriage, a cable, one or more windlasses mounted on said carriage and capable of traveling on said cable, and means

for driving said windlass or windlasses; laterally-movable trolley-yokes for securing the ends of said cable and stationary tracks for permitting automatic adjustment of said cable by means of said trolley-yokes.

5 8. In an apparatus for obtaining cable-power provided with a carriage, windlasses mounted on said carriage, a cable passing around said windlasses, and means for driving said windlasses whereby said carriage is propelled; means for shifting said driving means from said windlass propulsion to means for driving said carriage by tractive power, means for driving said carriage by tractive power, and means for steering said carriage.

15 9. In an apparatus for obtaining cable-power provided with a carriage, windlasses mounted on said carriage, a cable passing

around said windlasses, and means for driving said windlasses whereby said carriage is propelled; means for securing the ends of said cable and permitting automatic lateral adjustment thereof consisting of posts inserted in the ground, stay-cables attached to said posts, means for taking up the slack of said stay-cables and trolley-yokes attached to the ends of said first-named cable and adapted to run on said stay-cables.

In testimony whereof I set my hand, in the presence of two witnesses, this 12th day of July, 1900.

CLYDE J. EASTMAN.

Witnesses:

ANNE N. SIMPSON,
W. B. PADDOCK.