

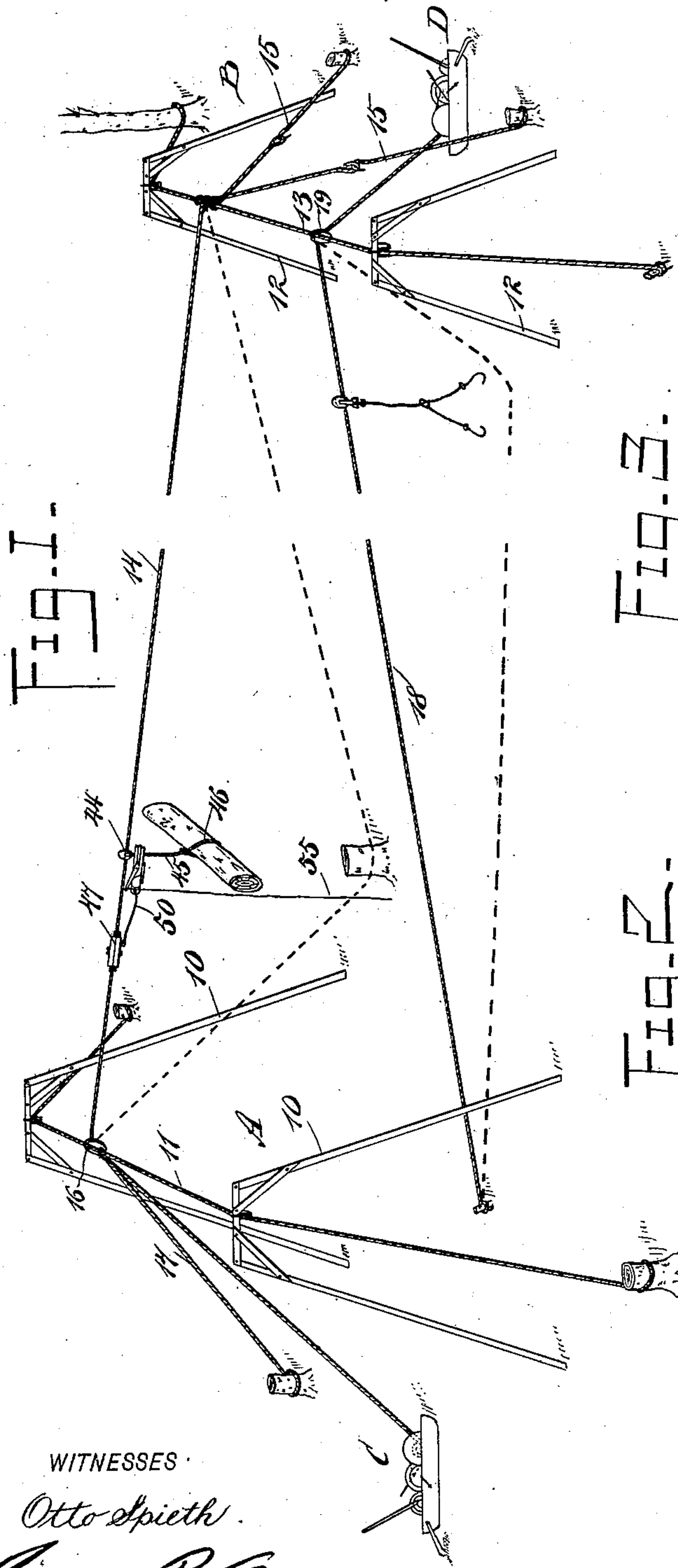
(No Model.)

2 Sheets—Sheet 1.

M. F. KOHINKA.  
LINEWAY.

No. 601,099.

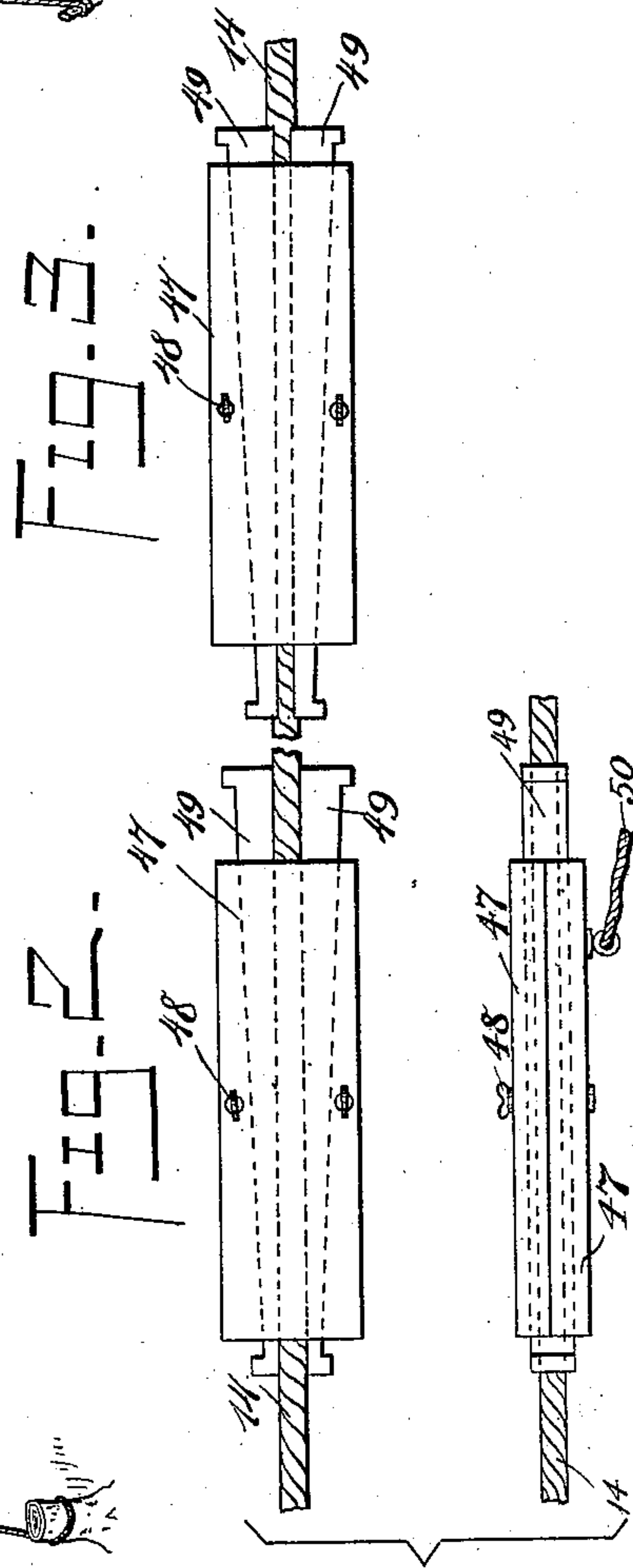
Patented Mar. 22, 1898.



WITNESSES

Otto Spieth.

Isaac B. Orin



*INVENTOR*

M. F. Kohinka

BY

*Murray*  
ATTORNEYS.

(No Model.)

2 Sheets—Sheet 2.

M. F. KOHINKA.  
LINEWAY.

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Fig. 4.

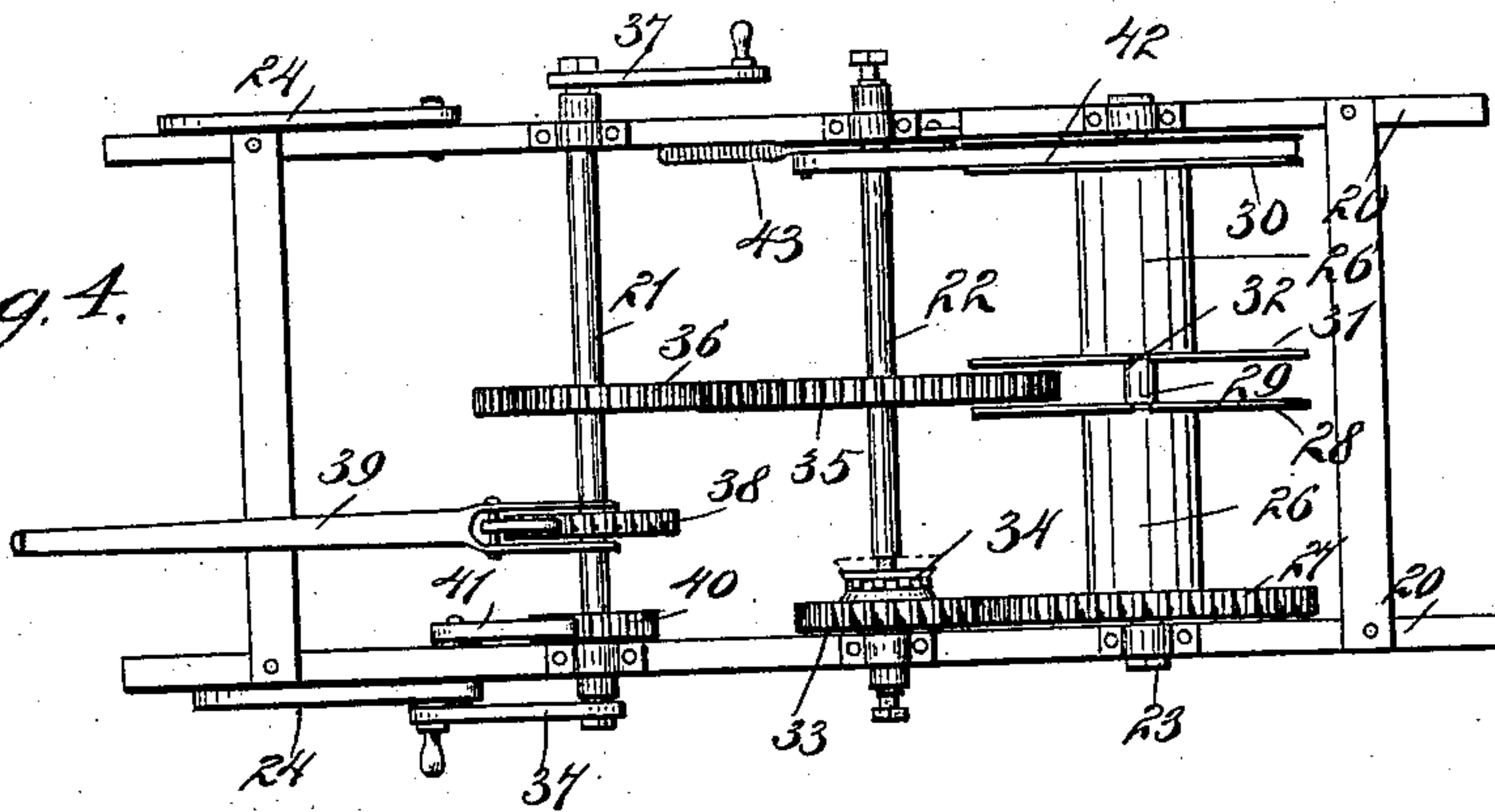


Fig. 5.

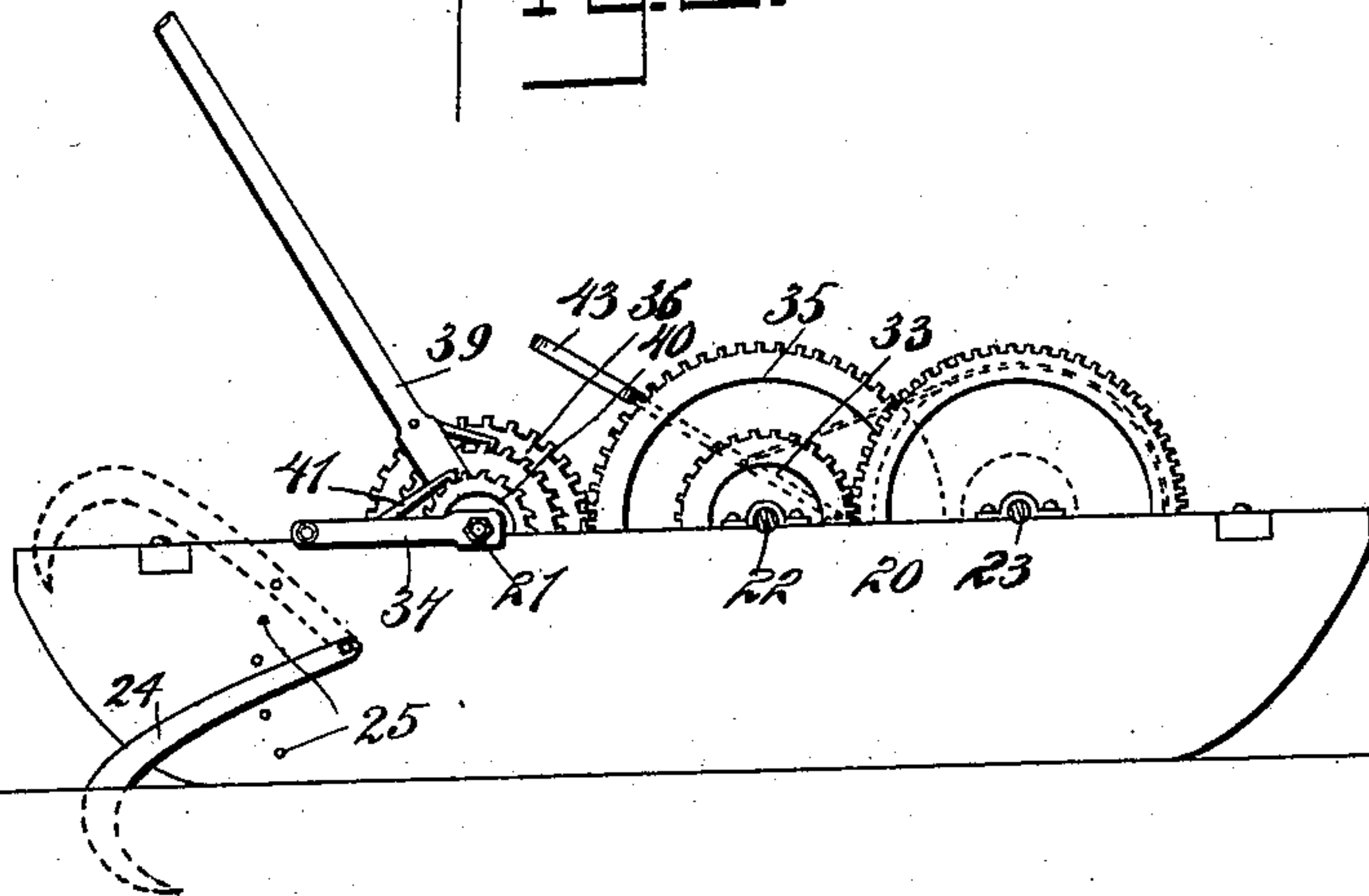


Fig. 6.

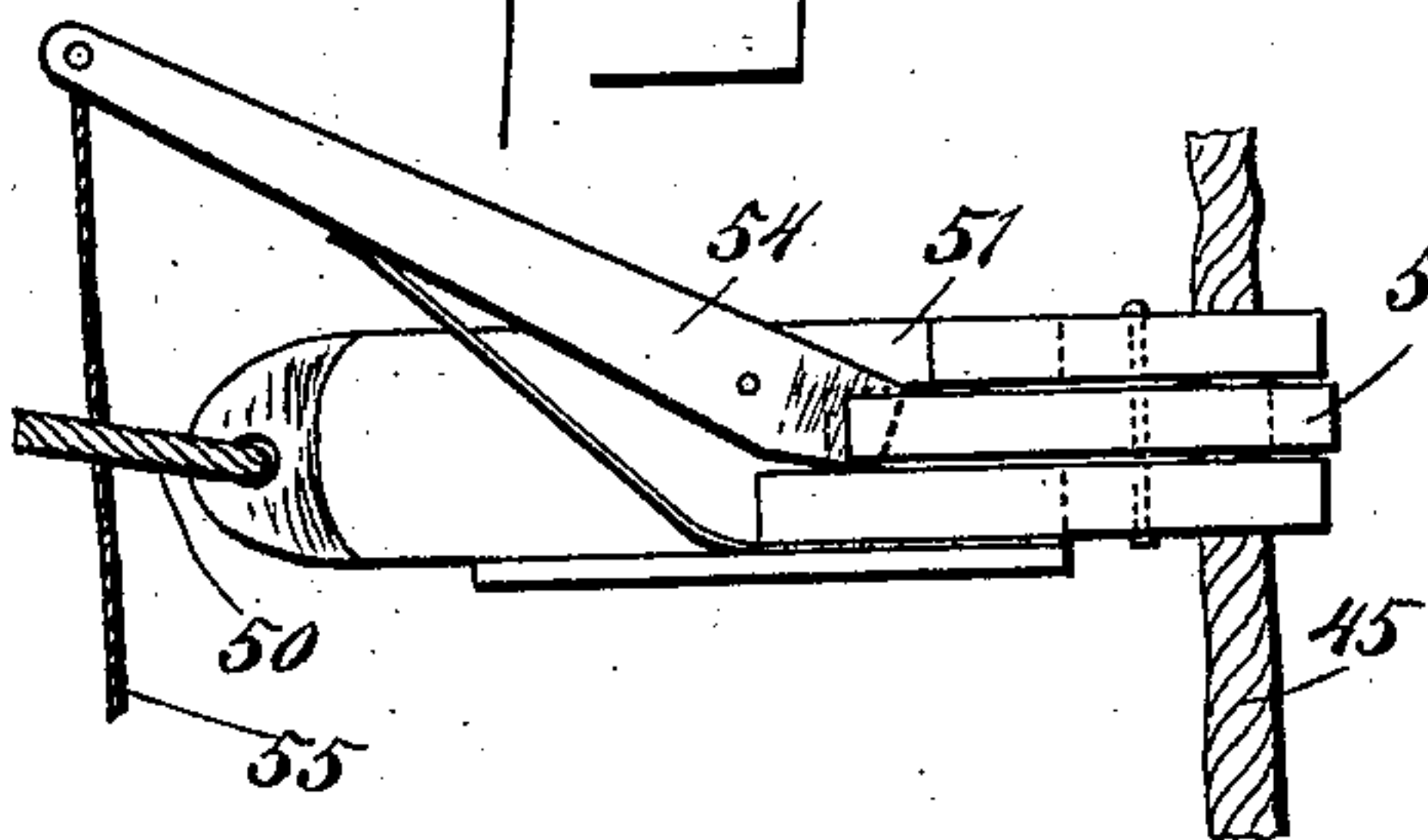
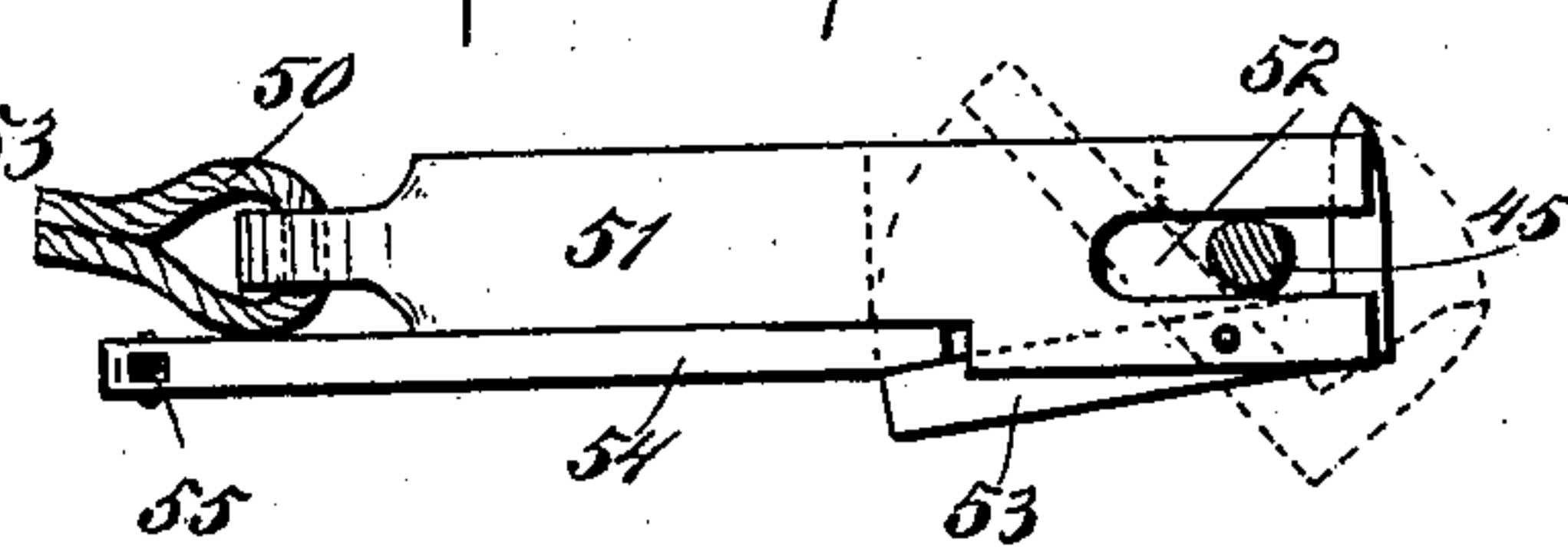


Fig. 7.



WITNESSES:

*Otto Spieth.*  
*Isaac B. Brenz*

INVENTOR

*M. F. Kohinka.*

BY

*Wm. B. ...*

ATTORNEYS.



# UNITED STATES PATENT OFFICE.

MARTIN F. KOHINKA, OF SCOTIA, CALIFORNIA.

## LINEWAY.

SPECIFICATION forming part of Letters Patent No. 601,099, dated March 22, 1898.

Application filed July 8, 1897. Serial No. 643,820. (No model.)

*To all whom it may concern:*

Be it known that I, MARTIN F. KOHINKA, of Scotia, in the county of Humboldt and State of California, have invented a new and Improved Lineway, of which the following is a full, clear, and exact description.

This invention is a lineway by which timber may be lifted and transported and deposited at any desired point along the lineway.

My invention is generally characterized by a line run when taut at an inclination, so that a carriage may roll along the line, and upon the relaxation of the tension of the line the carriage may be dropped to the ground.

This specification is the disclosure of one form of my invention, while the claims define the actual scope of the conception.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the invention. Figs. 2 and 3 are views showing the clamp for holding the carriage at the starting-point. Fig. 4 is a plan view of the winch which I employ to manipulate the line. Fig. 5 is a side elevation thereof, and Figs. 6 and 7 are views illustrating the restraining device for the carriage.

The fundamental principle of the invention is a line along which the carriage rolls when the line is taut. It is necessary that the line be inclined when taut. This inclination may be attained either by running the line from the top of a hill or mountain to a valley at the base thereof or, if the land be level, by means of trestles of different heights. This latter arrangement is that shown in the drawings.

The trestle A is composed of two arched structures 10, connected at their tops by a line 11, run horizontally between them and anchored, respectively, at the sides of the structures 10, as shown. The trestle B has two arched structures 12, similar to the structures 10, excepting that their height is considerably less than that of the structures 10. The trestle B also has a line or cable 13 run horizontally across the tops of the structures 12 and anchored to convenient objects, as explained with reference to the cable 11.

The trestles A and B carry the main line 14.

One end of the line 14 is attached to the cable or line 13 and held from shifting thereon by guides 15. The line or cable 14 passes from the cable 13 over a block 16 on the line 11 and thence to a winch C, situate adjacent to the trestle A. The block 16 is braced by a guy 17, which opposes the lateral influence exerted by the winch C. This arrangement holds the line or cable 14 in an inclined position when the cable is taut. The carriage rolling on the line 14 will carry its load from one trestle to the other. By relaxing the tension of the line 14 the line with the carriage will drop to the ground and the load may thus be deposited at any point between the two trestles. In practice the trestles will be situated a distance apart that will be determined by the conditions under which the apparatus is used. By making the trestles sufficiently high the lineway may be run over a comparatively great distance.

A person standing by the winch C controls the condition of the line 14. When the carriage has reached the trestle B, it must be returned. This is effected by a haul-back line 18, one end of which is anchored at the trestle A. The line 18 passes from said anchored end over a block 19 on the cable 13 and thence to a winch D. When the line 18 is taut under the action of the winch D, the carriage on the line will roll back to the trestle A.

The winches C and D are of duplicate construction and are illustrated in detail in Figs. 4 and 5. The winches consist of two side rails 20, forming runners on which the winch may be drawn from place to place. The side boards 20 are rigidly connected with each other by means of shafts 21 and 22 and the shaft 23 of the winding-drum. Each side board 20 is provided with a pivoted anchor 24, adapted to engage the earth to hold the winch in place. The anchors may be held in various positions by means of pins locking into holes 25, formed in the side boards 20. The drum of the winch consists of two sections 26. One section 26 of the drum is provided at its outer end with a spur-gear 27 and at its inner end with a flange 28, having a slot running radially on the periphery of the flange to the surface of the said section 26. The other section 26 of the drum is provided at its outer end with a brake-wheel 30 and at



its inner end with a flange 31, similar to the flange 28, and having, therefore, a radial slot 32. The sections 26 of the drum are fixed on the shaft 23 and move in unison with each other. The slots 29 and 32 of the flanges 28 and 31 are in register with each other. Loose on the shaft 22 is a pinion 33, coacting with a clutch 34, by which the pinion may be fixed to the shaft 22. The shaft 22 carries a fixed spur-gear 35, meshing with a pinion 36 on the shaft 21. The ends of the shafts 21 and 22 are squared, so that the crank-arms 37 may be used interchangeably on the shafts 21 and 22. Figs. 4 and 5 show the crank-arms 37 attached to the shaft 21. Fixed to the shaft 21 is a ratchet-wheel 38, with which a pawl-lever 39 coacts. The shaft 21 also carries a ratchet-wheel 40, coacting with a pawl 41 to prevent retrograde movement of the shaft 21. A brake-strap 42 works around the wheel 30 and is controlled by a lever 43. The line 14 is wound around the sections 26 of the drum. The drum may be wound either by the action of the crank-arms 37 on the shaft 21 or the shaft 22 or by the action of the pawl-lever 39 on the ratchet 38. The pawl-lever 39 and the ratchet attain a much greater leverage than is attained by the crank-arms 37. When it is desired to relax the tension on the line 14, the clutch 34 is moved to place the pinion 33 loose on the shaft 22, whereupon by the manipulation of the brake-lever 43 the operator may hold the line 14 taut or permit the same to be relaxed, so as to drop the load. The drum of the winch has two sections 26, so as to make room for the gear 35, such gear being fitted between the flanges 28 and 31. The slots 29 and 32 permit the cable to be wound on one section and then passed laterally through the slots to the other section. This construction produces a very compact apparatus.

The carriage and its coacting parts comprise a carriage proper and a device for holding the carriage on the inclined line prior to the starting of the carriage along the line. The carriage consists in a snatch-block 44, to which a short cable 45 is attached. The cable 45 carries tongs 46 to engage and hold the load. The snatch-block 44 runs along the line on which it is placed, and by manipulating the block the carriage may be readily changed from one line to another.

The restraining device for the carriage has a clamp composed of two semicylindrical sections 47, held by bolts 48 and carrying two wedges 49, which may be moved into the space inclosed by the sections 47, so that the line 14 may be firmly clamped and the sec-

tions 47 held immovably on the line. Fig. 2 shows the wedges 49 in loose engagement with the line 14, while Fig. 3 shows the wedges clamped against the line. To the clamp is attached a short line 50, which is also attached to a block 51, that serves to engage the cable 45, so as to hold the carriage in place. The block 51 has a vertically-disposed recess 52 therein, which may be opened and closed by a pivoted hook 53, held in closed position by a spring-pressed trip-lever 54, connected with a trip-line 55, that runs to the ground. The clamp composed of the sections 47 being held fast on the line 14 holds the carriage on the line through the medium of the block 51 and its attachments. When it is desired that the carriage proceed along the line 14, the trip-line 55 is drawn down, whereupon the lever 54 is moved to disengage the hook 53. The tendency of the carriage to roll down the incline thereupon acts on the hook 53 and swings the same, as indicated by the dotted lines in Fig. 7. The carriage is now released and will roll freely along the lineway.

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

1. The combination of a clamp, a block in connection with the clamp, a restraining-hook carried on the block, and a trip-lever coacting with the restraining-hook.
2. The combination of a block having a recess, a restraining-hook mounted on the block and capable of extending past the recess, and a trip-lever carried on the block and coacting with the restraining-hook.
3. A winch having a drum with two sections each with a flange at its inner end, the flanges being located adjacent to each other and having registering slots therein.
4. The combination of a drum, a shaft, gearing transmitting movement from the shaft to the drum, a clutch controlling the gearing, a second shaft geared with the first-named shaft, and a ratchet and pawl-lever coacting with the said second shaft.
5. The combination of two trestles or elevated structures of different height, a line attached to one of said trestles and running over the other, a winding apparatus attached to the line whereby the line may be rendered slack or taut, a second line attached to the ground at one trestle and running over the other trestle, and a winding device for said second line.

MARTIN F. KOHINKA.

Witnesses:

JOSEPH W. SHANNON,  
HARRY LITTLE.