J. J. FITZGERALD.

CABLEWAY.

APPLICATION FILED OCT. 7, 1909.

969,356.

Patented Sept. 6, 1910.

4 SHEETS—SHEET 1.

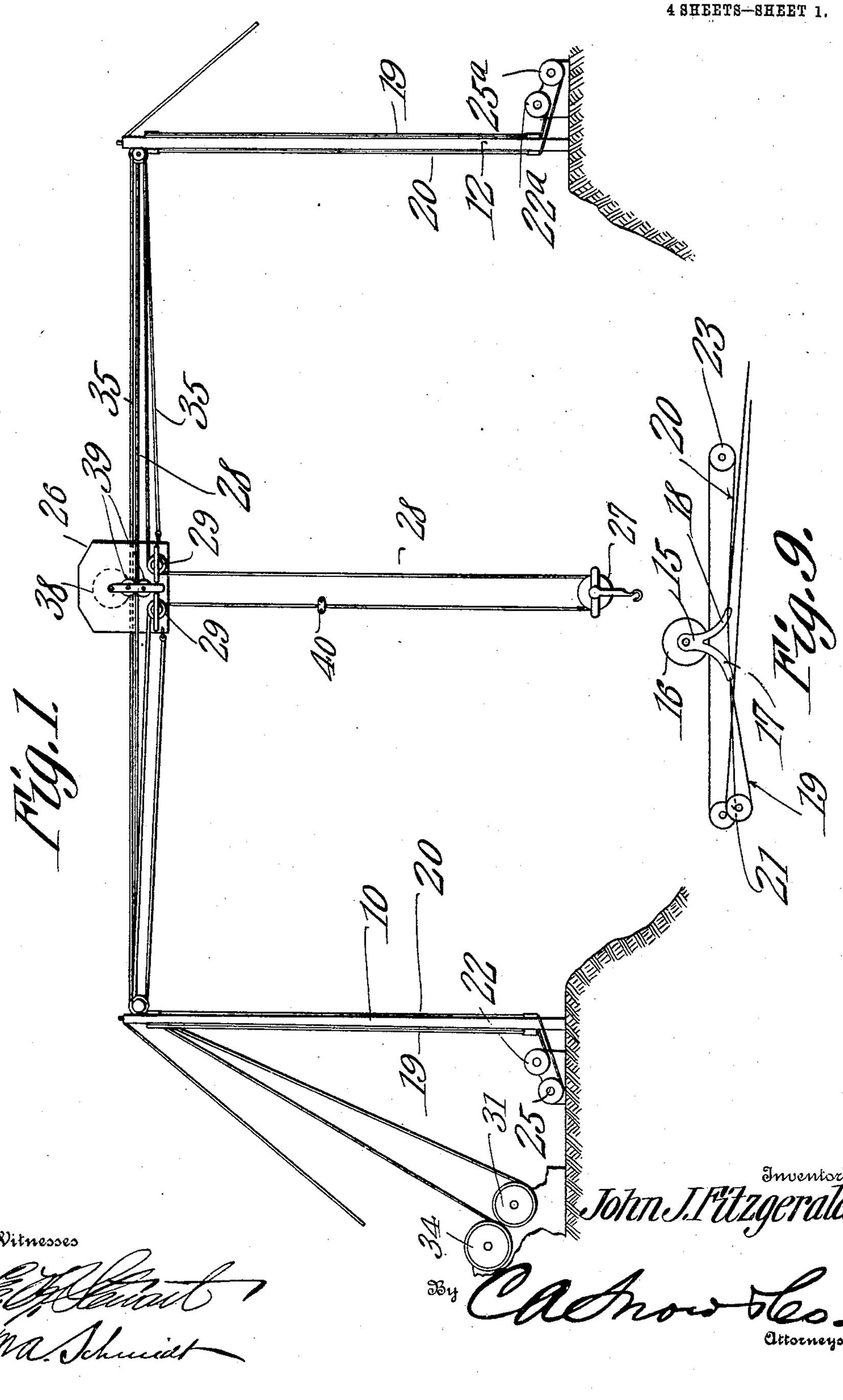

Fig. 1.

Fig. 2.

Witnesses

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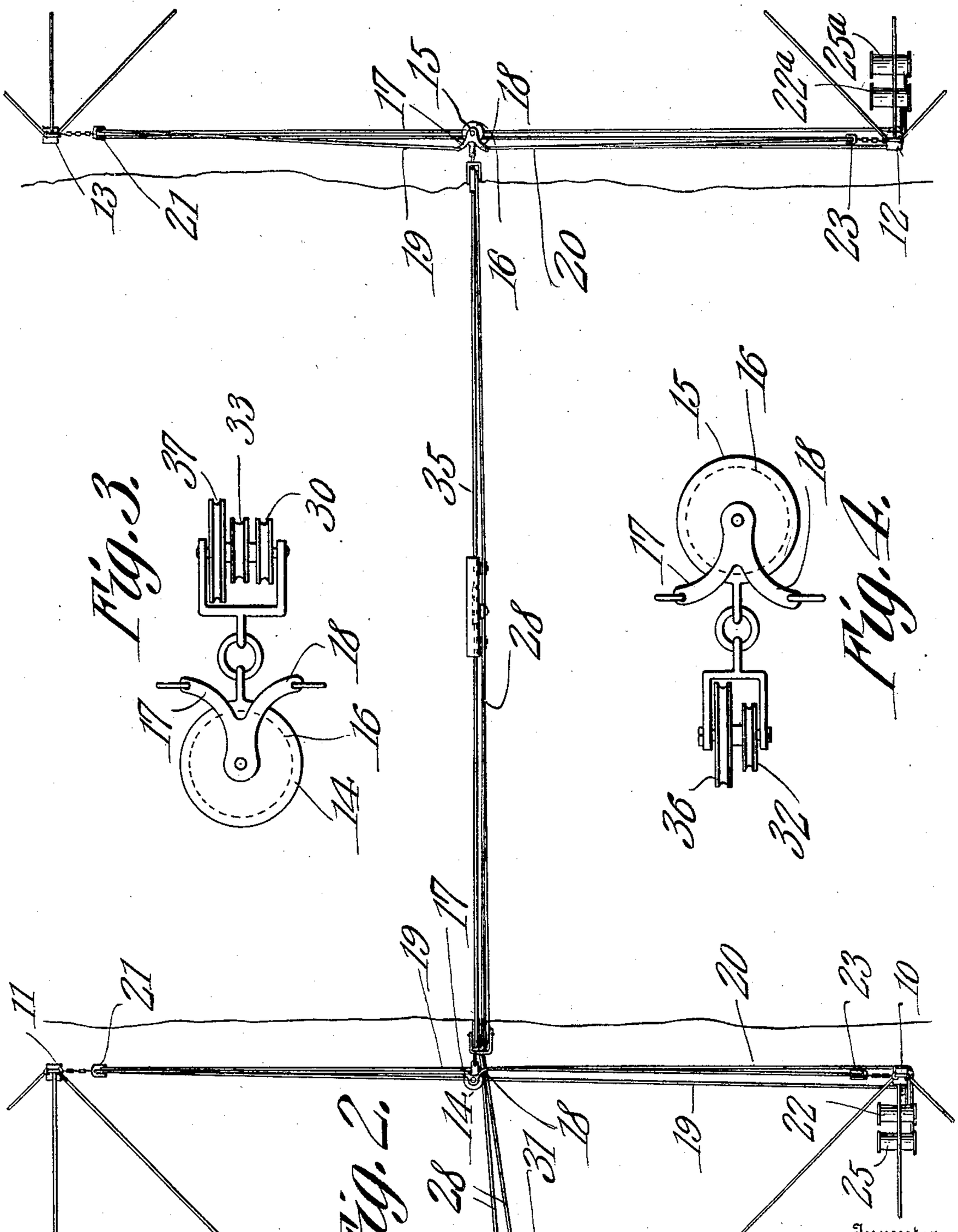

Fig. 3.

Fig. 4.

Witnesses

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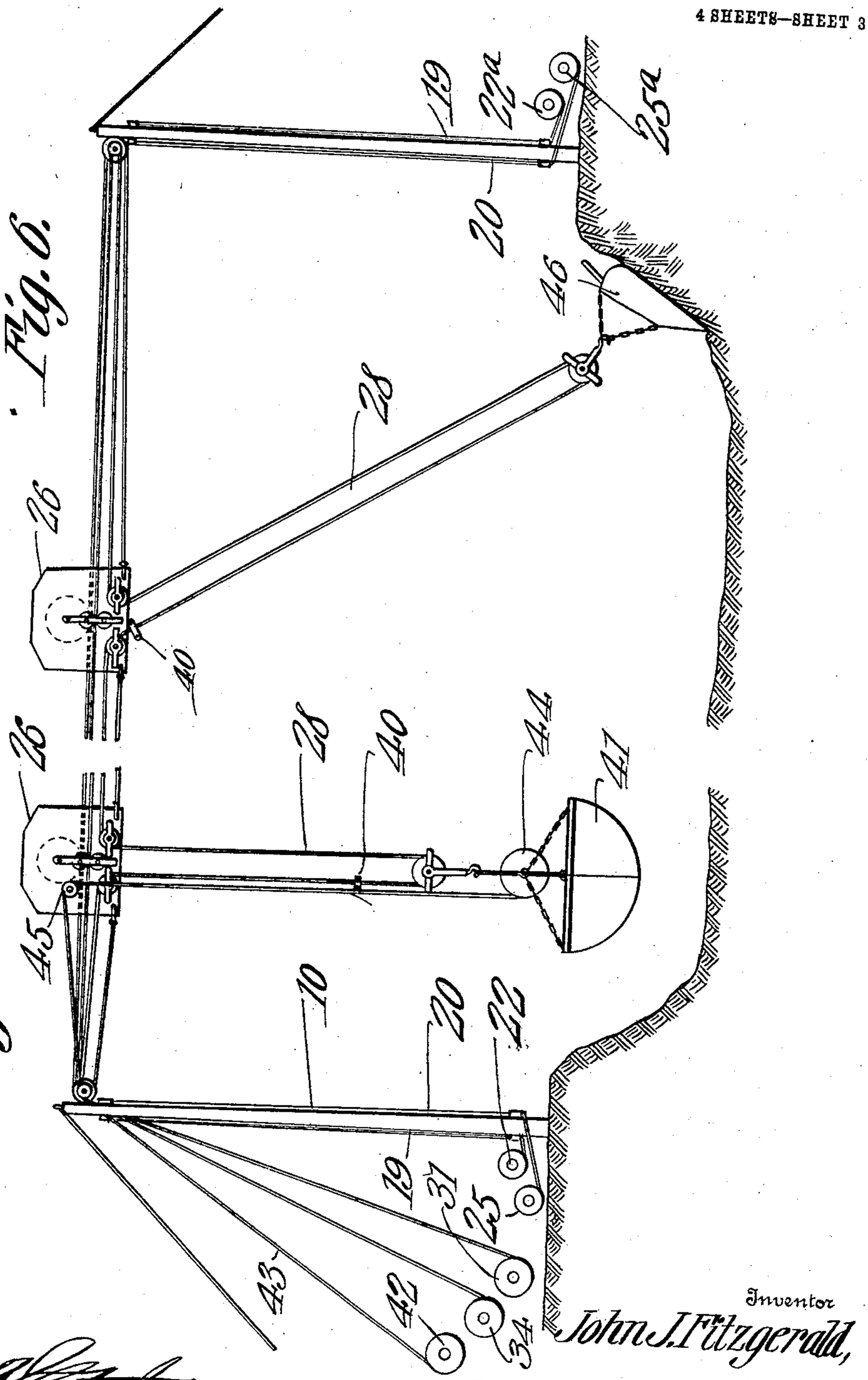

Witnesses

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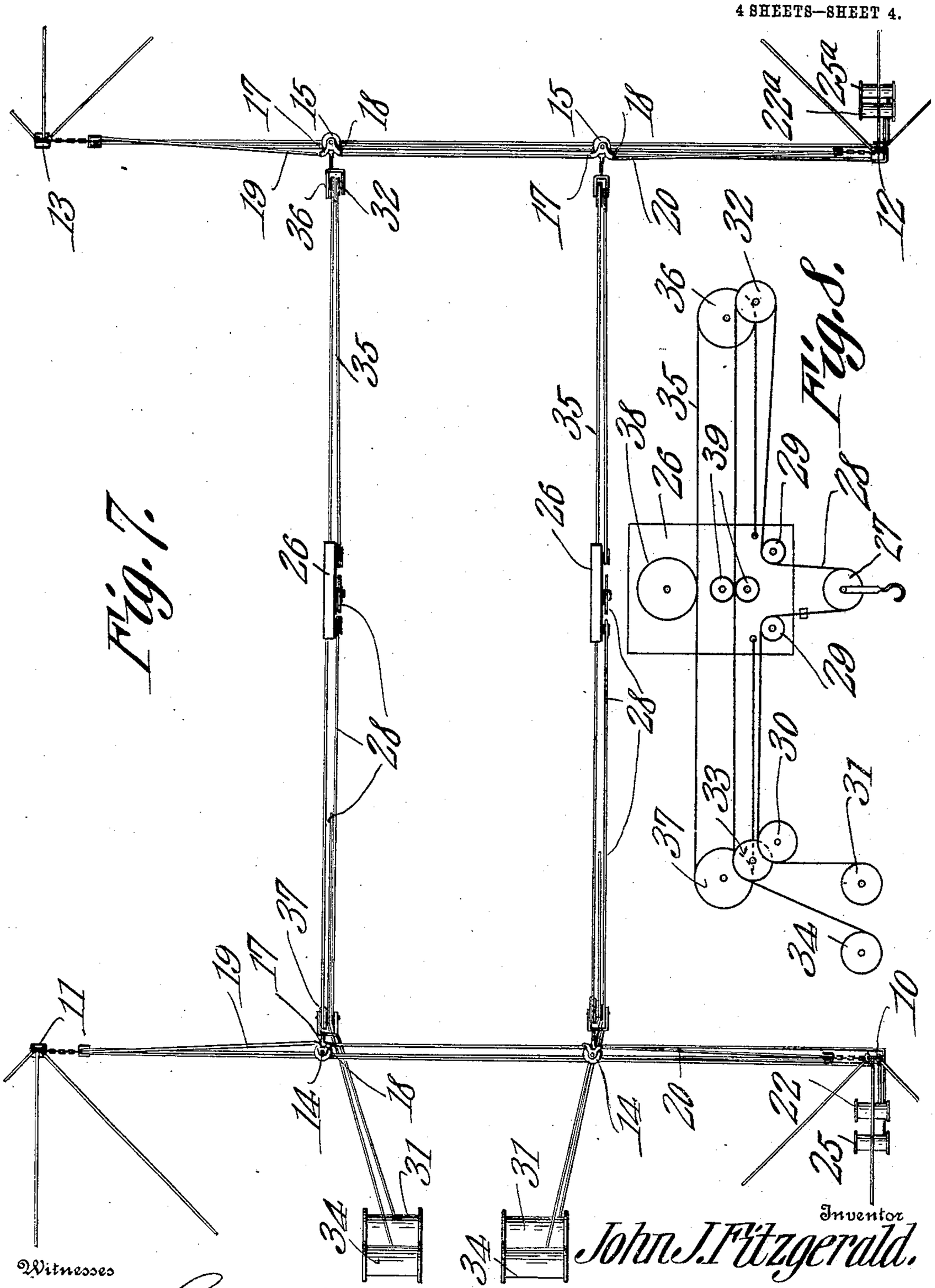

Fig. 1.

Fig. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN J. FITZGERALD, OF NORTH WALPOLE, NEW HAMPSHIRE.

CABLEWAY.

969,356. Specification of Letters Patent. Patented Sept. 6, 1910.

Application filed October 7, 1909. Serial No. 521,529.

To all whom it may concern:

Be it known that I, JOHN J. FITZGERALD, a citizen of the United States, residing at North Walpole, in the county of Cheshire and State of New Hampshire, have invented a new and useful Cableway, of which the following is a specification.

The object of the present invention is to provide a simple and practical overhead cable system for excavating, dredging, and other operations, characterized by a traveling track cable which is movable along the place of work, so that every part thereof is accessible.

Another object of the invention is to provide a carriage equipped with a fall block which is hauled back and forth at will on the track cable, the fall block being hoisted or lowered by a cable which also serves as the hauling line of the carriage.

Another object of the invention is to adapt the apparatus for a dumping bucket, as well as a scraper.

With these objects in view the invention consists in a novel construction and arrangement of parts to be hereinafter described and claimed, reference being had to the drawings hereto annexed in which—

Figure 1 is an elevation of the apparatus; Fig. 2 is a plan view; Figs. 3 and 4 are enlarged plan views of the carrier hereinafter referred to; Fig. 5 is an elevation showing the apparatus equipped for a dumping bucket; Fig. 6 is an elevation showing the apparatus equipped for a scraper; Fig. 7 is a plan view of an apparatus provided with two transverse track cables on each of which a load-carrier is mounted; Figs. 8 and 9 are diagrammatic views showing the arrangement of cables forming the tracks.

Referring more particularly to the drawings, 10 and 11 denote two masts rising to a suitable height, and spaced apart, and located on one side of the place of excavation or other work, on the other side of which are located two masts 12 and 13, respectively. These masts support parallel extending track cables on which are mounted for travel thereon, carriers which support a transverse track cable on which a load-carrier is mounted.

The two carriers which travel on the parallel track cables are indicated at 14 and 15, respectively, and each comprises a suitable frame in which is mounted a grooved wheel 16, and from the frame project arms 17 and 18, respectively, having eyes at their extremities for attachment of the cables which form the track. The cables which form the track extending between the masts 10 and 11 are indicated at 19 and 20. One end of the cable 19 is made fast to the arm 17 and passes over one of the sheaves of a doubleblock 21 mounted on top of the mast 11. From this block the cable 19 passes across to the mast 10, and is led over suitable guide sheaves thereon to a drum 22. One end of the cable 20 is connected to the arm 18 and passes over a sheave 23 mounted on top of the mast 10. From this sheave the cable 20 passes across to and around the other sheave of the doubleblock 21, and is then carried back across to the mast 10 it being first made fast to the arm 18, and is led over suitable guide sheaves on said mast to a drum 25. This arrangement makes the track double without leaving a strain on the drum 25, when the carrier is not in operation. The cables constituting the track between the masts 12 and 13 are connected to the carrier 15, and mounted in the same manner as the cables 19 and 20, each being also provided with a winding drum, said drums being indicated at 22^a and 25^a. The wheels 16 of the carriers are mounted for travel on that portion of the cables 20 located between the sheaves 21 and 23, and upon winding said cable on the drums 22 and 22^a and paying out the cables 19 from the drums, 25 and 25^a, and vice versa, the carriers are hauled along the track cables between the two pairs of masts. The track cable on which the load carrier travels, extends between and is supported by the carriers 14 and 15, and said cable and load-carrier therefore may be shifted fom one end of the place of excavation or other operation to the other, and as the load carrier is also movable across the same, every portion thereof is accessible to the carrier.

The load-carrier comprises a frame 26 from which a fall block 27 is suspended. The two ends of the fall rope 28 pass over pulleys 29 carried by the frame 26, and ex-

tend in opposite directions. One end of the fall rope passes over one of the sheaves 30 of a treble-block mounted on the carrier 14, and is wound on a drum 31. The other end of the fall rope extends to, and passes over one of the sheaves 32 of a double-block mounted on the carrier 15, and thence passes across to, and over a sheave 33 of the treble-block, and then down to a drum 34. The track cable 35 of the load-carrier is connected at its ends to opposite ends of the frame 26. One end of this cable passes to, and over a sheave 36, of the double-block, and then across to and over a sheave 37 of the treble-block, and then back to the frame. On the frame is mounted a grooved wheel 38 which travels on the cable 35, and on the frame is also mounted a pair of grooved wheels 39, which are set close together edgewise, and between which is received that portion of the fall rope which extends between the sheaves 32 and 33 whereby a double supporting track for the load-carrier is had.

The load-carrier may be sent along its cable track in either direction by providing the fall rope 28 with an adjustable clip 40 at some point between the frame 26 and the fall block 27. This clip is so located as to engage the bottom of the frame 26 when that end of the fall rope to which it is attached, is hauled in. When the clip is fastened to the fall rope as shown in Fig. 1 of the drawings, the load-carrier will travel toward the left when the clip strikes the frame 26, upon winding the rope on the drum 31, and paying out the same from the drum 34. Upon placing the clip on the other end of the fall rope, and hauling in on that end of the fall rope which is wound on the drum 34, and paying out from the drum 31, the load-carrier will be caused to travel in the opposite direction or toward the right, when the clip strikes the frame 26. Any suitable receptacle may be suspended from the hook of the fall block. In Fig. 5 there is shown a dumping bucket 41 which may be a clam shell or other type of bucket. When such a bucket is employed, an auxiliary winding drum 42 is provided, on which is wound a line 43 passing to the mechanism 44 for operating the bucket. The frame 26 is provided with an extra pulley 45 over which this line passes, and the carrier 14 is also provided with a pulley over which said line passes. The fall block may also be equipped with a scraper 46 as shown in Fig. 6.

Fig. 7 shows an apparatus in which two transverse track cables 35 are provided, on each one of which a load-carrier travels. In this form of apparatus the hoisting devices are duplicated, and two carriers are mounted on each of the parallel track cables, the carriers of the respective cables being suitably connected, so that they will move in unison. Except as herein stated, this form of apparatus is constructed in the same manner as the one already described, and its operation is also the same.

The apparatus herein described is simple in construction, and can be easily operated, and by its employment, the load-carrier can be moved transversely as well as longitudinally of the place of work, so that all points thereof are accessible. The preferred embodiment of the invention has been shown and illustrated, but it will be understood, that various changes, as, for instance in the hoisting devices, the supporting masts for the cables, etc., may be made without a departure from the invention.

What is claimed is:—

1. In a cable way, spaced supports, a cable supported thereby, a load-carrier mounted for travel on said cable, a fall rope mounted on the carrier, a stop on the fall rope adapted to engage the carrier, and hauling devices connected to the ends of the fall rope.

2. In a cable way, spaced supports, a cable extending therebetween, a load-carrier mounted on the cable, a fall rope and its block mounted on the carrier, a stop adjustably mounted on the fall rope between the fall block and the carrier, and adapted to engage the latter, and hauling devices connected to the ends of the fall rope.

3. The combination with an elevated carrier of a track cable on which said carrier is mounted, a wheel on the carrier engageable with the cable, spaced supports, sheaves on said supports over which the cable passes, the ends of said cable being connected to the carrier at opposite ends thereof, a second set of sheaves on the supports, pulleys on the carrier, a fall rope mounted on the carrier, one end of said fall rope passing over one of the pulleys of the carrier to one of the sheaves of the supports and then to the other one of said sheaves, and the other end of the fall rope passing over the other pulley of the carrier in the opposite direction from the other end of said rope and over one of the sheaves of the supports, hauling devices connected to the two ends of the fall rope, and wheels on the carrier between which that portion of the fall rope extending between the sheaves of the supports passes.

4. The combination of a pair of spaced uprights, sheaves thereon, a carrier, a support for the carrier on which the same is mounted for travel, said carrier support comprising a cable connected to one end of the carrier, and passing over one of the sheaves of the uprights, and then across to a sheave on the other one of said uprights, and

a second cable connected to both ends of the carrier, and extending in opposite directions to the uprights and passing over the sheaves thereof, one end of the last-mentioned cable being also carried to one of the sheaves of one of said supports and passed over the same, and hauling devices connected to the ends of the two cables.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN J. FITZGERALD.

Witnesses:
GRACE F. PERRY,
FRANCIS R. BOLLES.