No. 780,474. PATENTED JAN. 17. 1905.

G. E. BARTH.

TRUCK.

APPLICATION FILED MAR. 1, 1904.

2 SHEETS—SHEET 1.

FIG. 1.

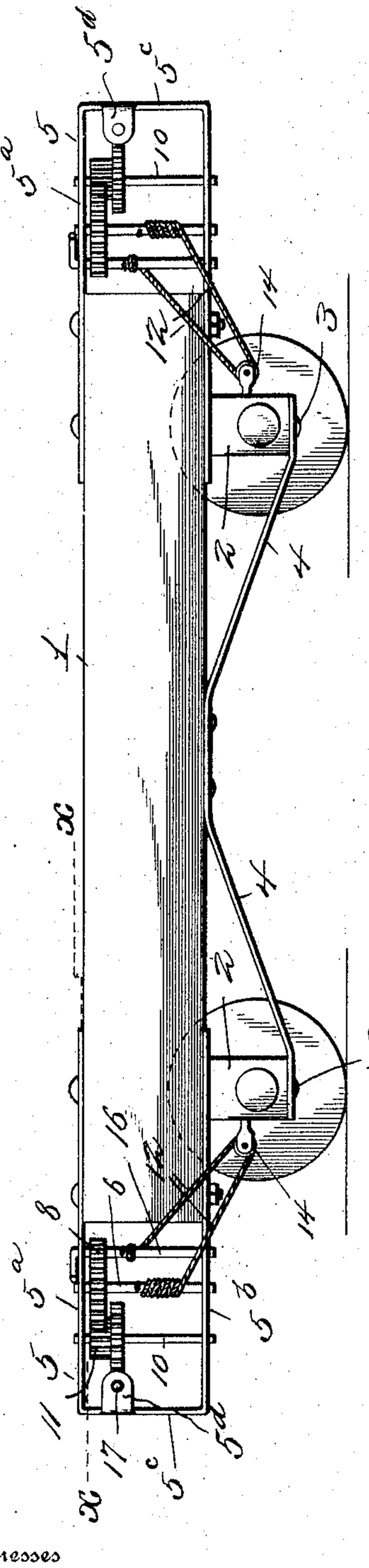
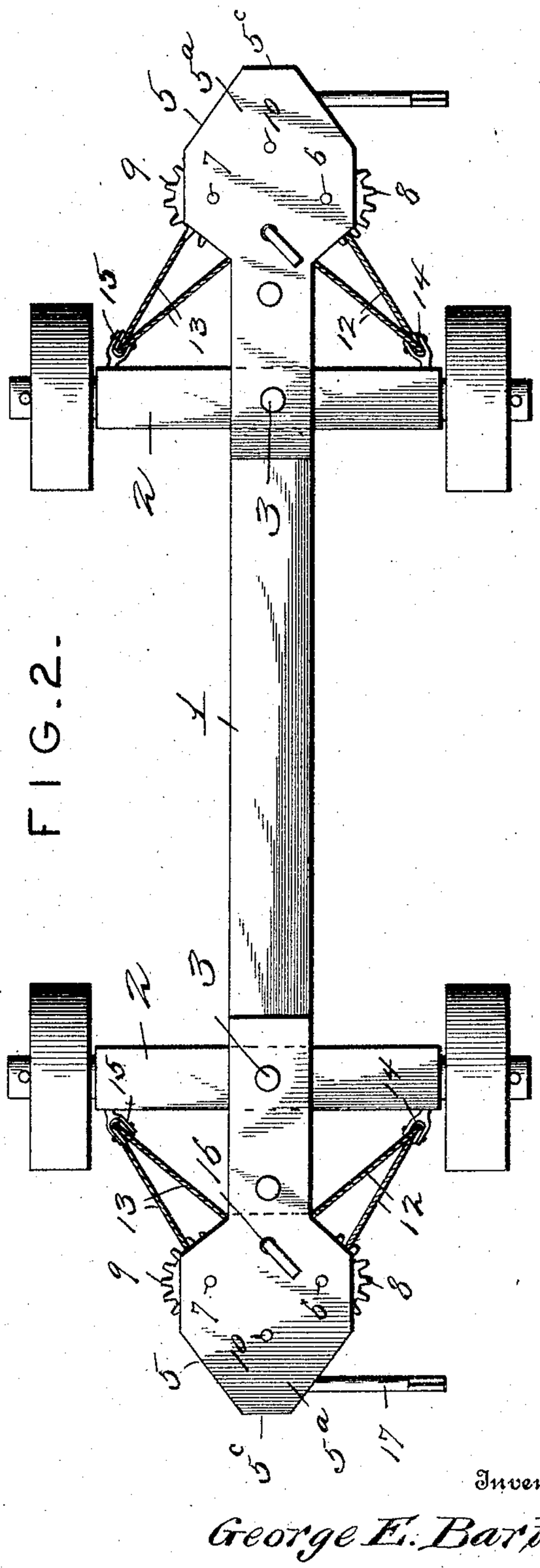


FIG. 2.



Witnesses

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2 SHEETS—SHEET 2.

FIG. 3.

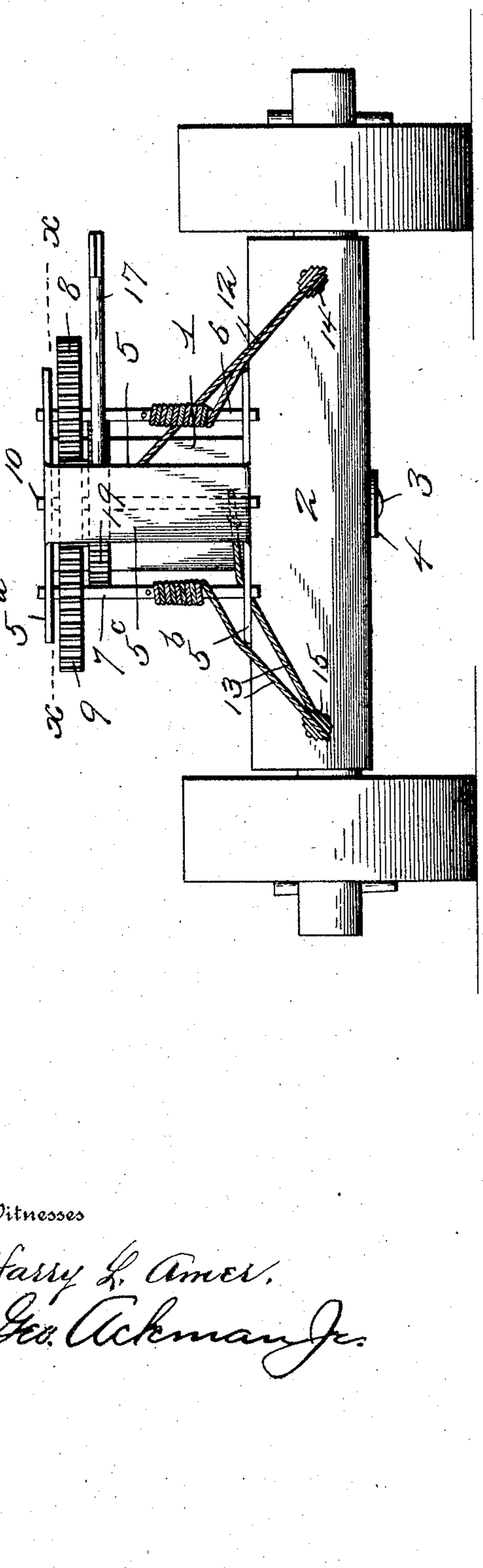
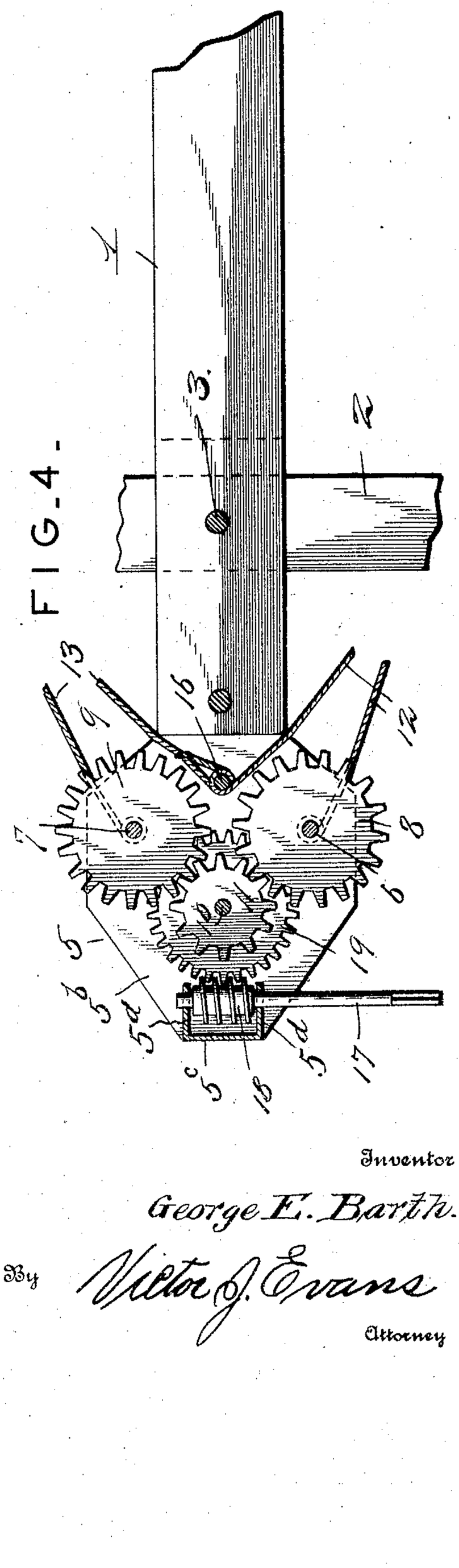


FIG. 4.



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UNITED STATES PATENT OFFICE.

GEORGE ERNEST BARTH, OF REDLAKE FALLS, MINNESOTA.

TRUCK.

SPECIFICATION forming part of Letters Patent No. 780,474, dated January 17, 1905.

Application filed March 1, 1904. Serial No. 195,970.

To all whom it may concern:

Be it known that I, GEORGE ERNEST BARTH, a citizen of the United States, residing at Redlake Falls, in the county of Red Lake and State of Minnesota, have invented new and useful Improvements in Trucks, of which the following is a specification.

This invention relates to that class of trucks designed for moving buildings or heavy structures.

One object of the invention is to provide a truck having such form and construction that when used in plural, as required in moving buildings, the cross-beams supporting the building will each be supported by a pair of trucks in such manner as to allow ready oscillation of each truck, thereby providing for a yielding of the trucks in relation to the cross-beam and prevent the jar incident to moving buildings over rough and uneven ground from being imparted to the building being moved.

A further object is to provide a truck of the above character with mechanism of a simple and practical nature by means of which the axles may be turned with facility and firmly held in the desired position for guiding, and especially to insure the independent adjustment of each axle, so that it will be possible with the use of these trucks to turn a building end for end in little more than the space covered by the building.

Primarily the invention consists in a plurality of trucks designed to operate in pairs to support on each pair one of the load-carrying cross-beams, each truck having a single reach-beam adapted to support the cross-beam at a point centrally between the axles and provide for vertical as well as lateral oscillation of each truck.

The invention further consists in making the truck-axle at each end with a separate winding-shaft engaged by a cable and providing a system of gears whereby motion will be imparted to the shafts in opposite directions, and thus cause one cable to wind and the other to simultaneously unwind, each cable winding and unwinding equally and providing reliable means for maintaining the axle in whatever position it may be adjusted.

The invention further consists in the novel features of construction and arrangement of parts, all as hereinafter described, and specifically pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a view in side elevation of the improved truck. Fig. 2 is a top or plan view of the same. Fig. 3 is a view in end elevation. Fig. 4 is a top view of a portion of a truck, showing a horizontal section taken on the line x x through the supporting-frame of the guiding mechanism.

Referring to the drawings, 1 designates the reach-beam, which constitutes the main supporting element of the truck and is formed preferably of a single timber having a much greater height than width in order that it may withstand the strain to which it will be subjected and at the same time present a bearing-surface of narrow width, so as to make ready oscillation possible between the reach-beam and the cross-beam (not shown) to be supported centrally thereon. The axles 2 are pivotally connected to the beam 1, each by a bolt 3, which also connects with the axle and under brace 4, carried by the reach-beam. In mounting the reach-beam on the axles a portion at each end is permitted to extend beyond the adjacent axle and is provided with a bearing-frame 5, in which is mounted the guiding mechanism. This frame is formed, preferably, from a single piece of heavy sheet metal and comprises upper and lower like portions 5^a and 5^b and a vertical connecting end portion 5^c. The bearing portions 5^a and 5^b lie, respectively, on and are bolted to the upper and under side of the reach-beam, the under portion 5^b furnishing also a bearing for the axles. That part of the frame 5 projecting from the reach-beam has its upper and lower portions enlarged and preferably in octagonal form to give the requisite supporting-surface for the shafts and gears of the guiding mechanism, which are located adjacent the under side of the top portion 5^a. Two vertically-arranged winding-shafts 6 and 7 are journaled within the frame 5 and are each provided with a rigidly-mounted pinion (designated, respectively, by the numerals 8 and 9) and arranged side by side, but out of of mesh. Upon a shaft 10, journaled slightly

in advance of the pinions, is carried a rigid pinion 11, which is in mesh with said pinions 8 and 9, and by reason of said gearing the winding causes the winding-shafts to rotate in same directions, so that the cable 12, connected to one end of the axle, will wind, while the cable 13, connected to the other end, will pay out, and vice versa, thereby maintaining a tautness which will give to the cable a brace or stay and prevent any yielding of the axle. To further increase the facility with which the guiding mechanism may be operated, the cables 12 and 13 are, as shown, caused to pass through pulleys 14 and 15, carried by the axles, and thence to a pin 16, inserted through the frame 5 and removable therefrom at will, thus providing ready means for the initial adjustment of the cable to the requisite degree of tautness as well as providing by the use of the pulleys for the application of the necessary power with a minimum effort. The vertical portion 5^c is formed with two inturned parallel arms 5^d, in which the main operating-shaft 17 is journaled so as to lie in a horizontal position and project from the outer side of the truck, where the crank-handle (not shown) can be readily applied to the end and have an unobstructed sweep. At its inner end the shaft 17 is provided with a worm-gear 18, rigid thereon and in mesh with a pinion 19 on shaft 10.

It will be seen from the foregoing that through the medium of the small winding-shafts, pulleys, and reducing-gear the axle is easily turned and after adjustment is prevented from moving by reason of the friction of the gear, while at the same time the turning of both axles to bring them into like angular positions may be readily gaged.

Having thus fully described the invention, what is claimed as new is—

1. In a truck having a pivoted axle, a separate cable for each end of the axle, a winding-shaft for each cable carried by the main body of the truck, and means for rotating said shafts simultaneously in same directions, substantially as and for the purpose set forth.

2. In a truck having a pivoted axle, a separate cable for each end of the axle, a winding shaft for each cable carried by the main body of the truck, a pinion for each shaft, an intermediate pinion meshing with the pinions of the winding-shafts, and means for imparting movement to said intermediate pinion, substantially as and for the purpose set forth.

3. In a truck having a pivoted axle, a separate cable for each end of the axle, a winding-shaft for each cable carried by the main body of the truck, a pinion for each shaft, an intermediate pinion meshing with the pinions of the winding-shaft, a reducing-gear moving with said intermediate pinion, and an operating-shaft having a worm-gear in mesh with said reducing-gear, substantially as and for the purpose set forth.

4. In a truck having a pivoted axle, a separate cable for each end of the axle, a winding-shaft for each cable carried by the main body of the truck, a pinion for each shaft, an intermediate pinion meshing with the pinions on the winding-shaft, a laterally-extending operating-shaft carrying a worm-gear, and a reducing-gear in mesh with said worm-gear and rotatable with said intermediate pinion, substantially as and for the purpose set forth.

5. In a truck having a pivoted axle, a pulley carried adjacent each end of the axle, a separate cable for each pulley and having one end thereof fixed in advance of the axle, a winding-shaft for each cable, and means for imparting motion to said shafts simultaneously and in same directions.

6. In a truck, the combination with a reach-beam and one or more axles pivoted thereto, of bearing members secured respectively to the upper and lower faces of said beam to project in advance thereof, vertical winding-shafts journaled in said bearing members, means for imparting motion to said shafts simultaneously and in same directions, a pulley carried adjacent each end of said axle, a separate cable for each pulley and in connection each with a winding-shaft, and means for securing the fixed ends of the cables in advance of the axles, consisting of a removable pin insertible through, and vertically supported by, said bearing members, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE ERNEST BARTH.

Witnesses:

F. A. GRADY,

J. A. KING.