

A. MARVIN.

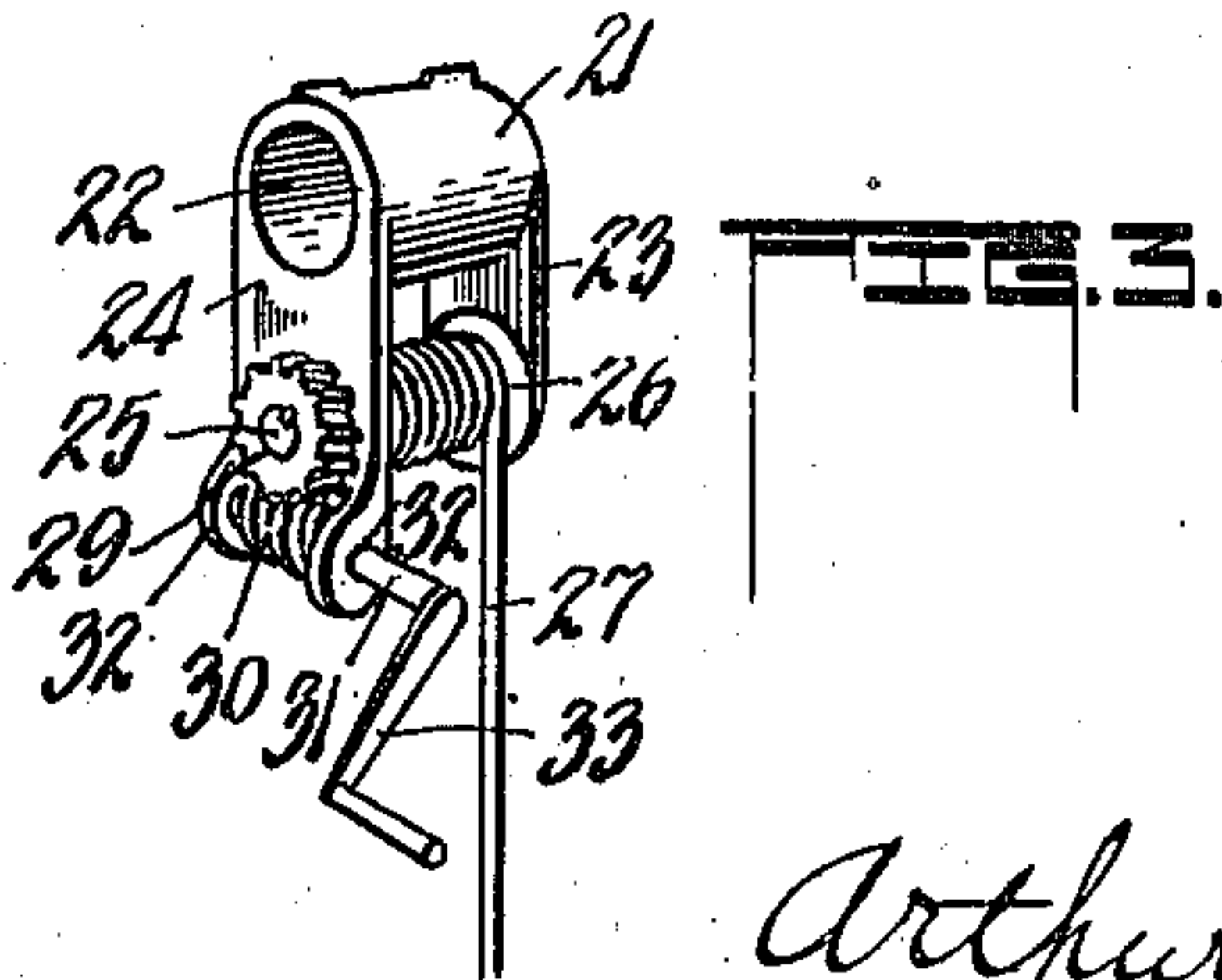
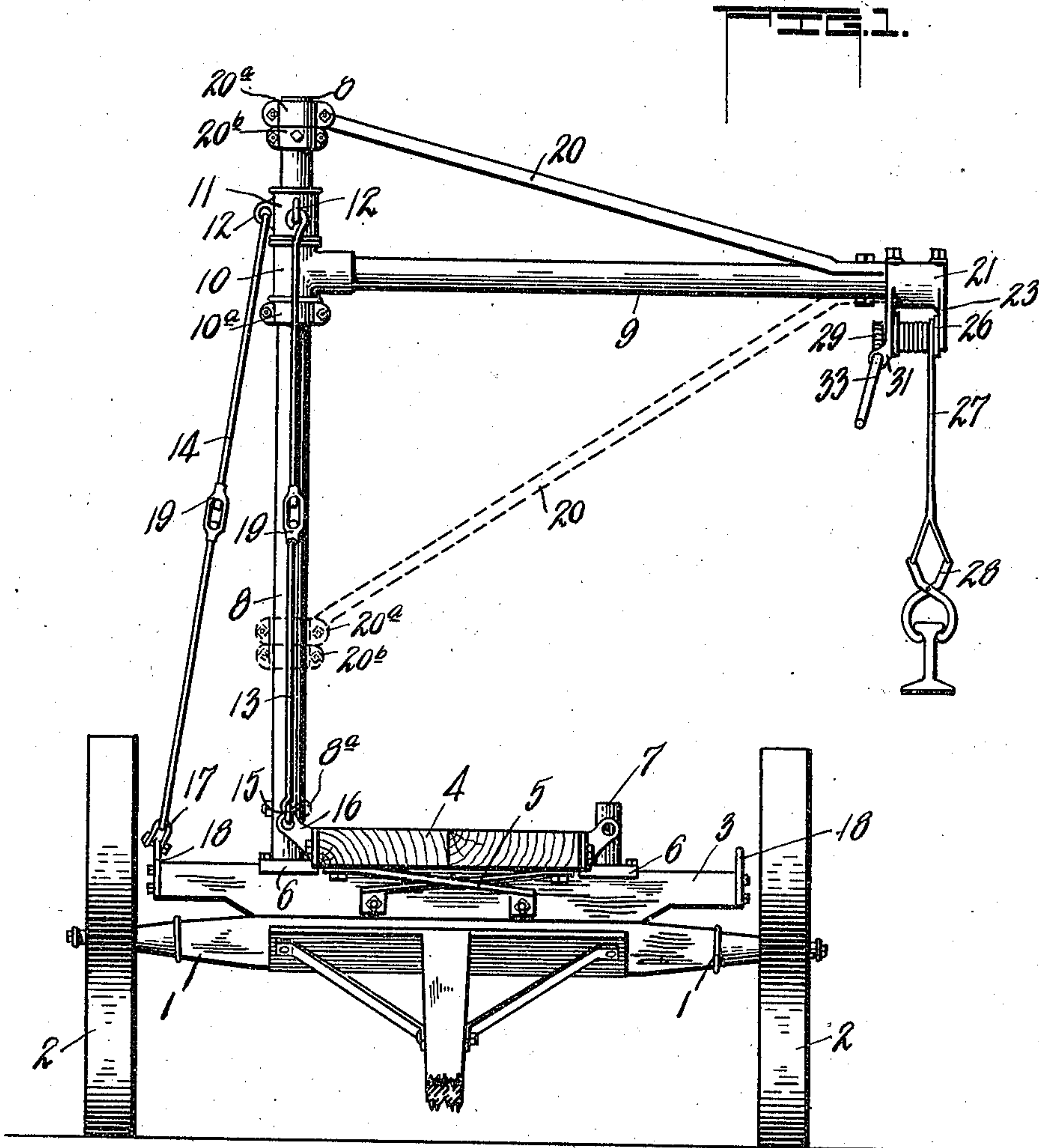
TRUCK.

APPLICATION FILED OCT. 12, 1907.

964,039.

Patented July 12, 1910.

2 SHEETS—SHEET 1.



Witnesses:

Miles A. Fuller

Laura E. Clagpool

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Arthur Marvin

By John H. LaPorte

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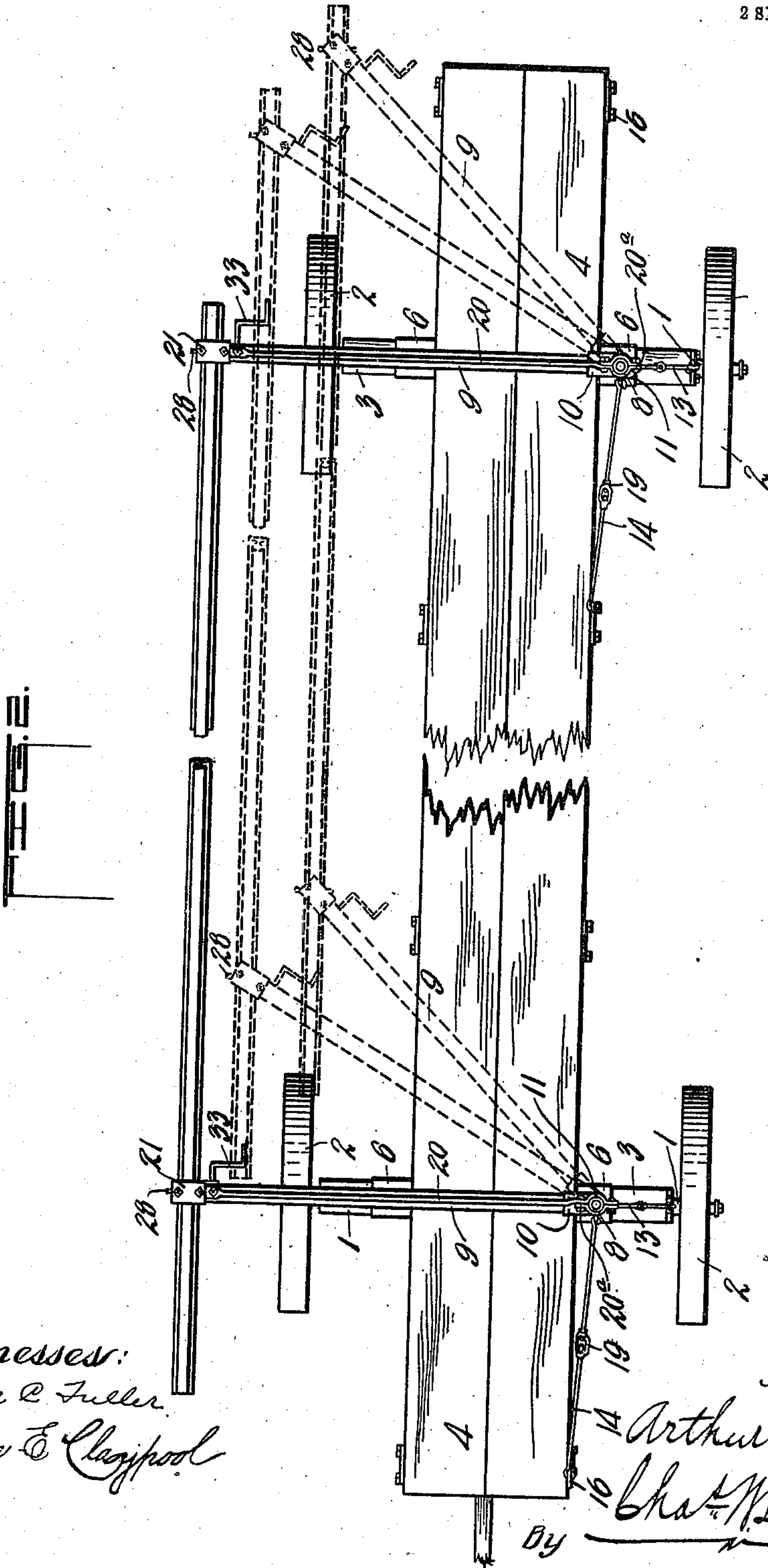
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Witnesses:  
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# UNITED STATES PATENT OFFICE.

ARTHUR MARVIN, OF EL PASO, ILLINOIS, ASSIGNOR TO MARVIN MANFG. COMPANY,  
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TRUCK.

964,039.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed October 12, 1907. Serial No. 397,109.

*To all whom it may concern:*

Be it known that I, ARTHUR MARVIN, a citizen of the United States, residing at El Paso, in the county of Woodford and State of Illinois, have invented certain new and useful Improvements in Trucks; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to trucks or loading apparatus and has reference to a type of truck which, upon its opposite ends, supports interchangeably, masts to which are attached derrick arms, revolubly mounted in connection with the masts of said truck. Each truck is provided with a pair of masts and derrick arms, and their relation to each other when raising an object to the truck or removing an object therefrom, is such that the derrick arms move parallel and in unison, which greatly facilitates in the easy handling of the object to be placed upon or removed from the truck.

The object of the present invention is to provide for the outer end of the derrick arm of each mast, a bracket suitably constructed to support raising and lowering mechanism, such as a drum and gearing for operating the same, to the drum being connected a cable or other flexible member, to which, at its free end, is connected tongs or some other suitable gripping means or hooks which engage with the object to be raised to or removed from the truck.

For a further and full description of the invention herein and the merits thereof, and also to acquire a knowledge of the details of construction of the means for effecting the result, reference is had to the following description and drawings hereto attached.

While the essential and characteristic features of the invention are susceptible of modification, still the preferred embodiment of the invention is illustrated in the accompanying drawings, in which:—

Figure 1 is an end elevation of one form of truck upon which is mounted a mast, to the end of the derrick arms of which, is connected a raising and lowering means; Fig. 2 is a plan view of the truck and attachment shown in Fig. 1, except that it is drawn to a smaller scale; the length of the truck requiring that it be shown broken in two, and

in dotted lines in said figure, the parallelism of the derrick arms is very clearly shown, and Fig. 3 is a perspective of the bracket attached to the outer end of the derrick arm and supporting the drum and gearing for operating the same.

Like numerals of reference indicate corresponding parts throughout the figures.

The truck to which my improvements are shown attached, comprises a running gear, the axles of which are correspondingly referred to as 1, having connected therewith, the ground wheels 2. Bolsters which preferably have a pivotal connection with said axles, are correspondingly referred to as 3, and connected with said bolsters and forming a support for the object to be transported by the truck, is a suitable frame 4, which may be braced in connection with the bolsters, in any suitable manner, although no means is shown; except that in Fig. 1 crossed brace rods 5 are shown, which form a brace between the outer end of the frame 4 and the bolsters 3. To each of the bolsters 3, upon opposite sides of the frame support 4, and preferably adjacent to the said support, as shown in Fig. 1, are attached plates 6, from which extend the short studs 7. Adapted to be interchangeably attached to the studs 7 on the opposite ends of the bolsters 3 are davits, which consist, preferably, of the upright members or masts 8, which at their lower ends may be telescopically connected with said studs and fixed against rotation in any suitable manner, although I have shown bolts 8<sup>a</sup> securing the same to said studs. A derrick arm, indicated as 9 is shown extending laterally from each of said masts or uprights 8, which at their inner ends are connected with couplings 10, rotatably mounted on the masts 8, and retained in proper position on said masts by the collar 10<sup>a</sup>; and to that portion of the masts or uprights 8, which projects through the coupling 10 and above the same a suitable distance, is attached a sleeve or collar 11, which is preferably adjacent to the coupling 10, with the end of the upright projecting therethrough, and said sleeve is provided with a plurality of eyes 12, which may be connected the guy rods 13 and 14, for sustaining the uprights or masts 8, in a vertical position, as shown in Fig. 1. The lower ends of the guy rods 13, in their present positions, have a detachable connec-



tion with a link 15, connected with a bracket or arm 16, secured to the sides of the supporting frame 4, at or near the ends thereof; while the guy rods 14, at their lower ends, are connected with links 17 which are detachably connected to arms or brackets 18, secured to the ends of the bolsters 3, and each of said guy rods are provided with turn buckles 19 for maintaining said rods taut, and thereby sustaining the uprights or masts in the positions desired.

The outer ends of the derrick arms are braced by the superimposed diagonal braces 20. The preferred arrangement of the braces is to connect the outer ends thereof, with the derrick arms 9, and to connect the inner ends of said braces to collars or suitable couplings 20<sup>a</sup> revolubly mounted on the masts 8 and retain said collars or couplings 20<sup>a</sup> in their desired positions in connection with said masts, by collars 20<sup>b</sup>, as shown in Fig. 1, so that the connection of the braces 20 with the masts 8 will allow the derrick arms to be swung in several directions and into different positions. The braces, however, instead of being connected in the manner shown in full lines in Fig. 1 may be attached as shown in dotted lines in said figure, and retained in suitable position on the mast substantially in the manner illustrated in full lines. The opposite ends of each of said bolsters 3 are provided with the brackets or arms 18, and the forward opposite sides of the opposite ends of the supporting frame 4, have attached thereto, the brackets or arms 16. This duplicate arrangement of the brackets or arms 16 and 18, at the opposite end of the truck, together with the duplication of the plates 6 with the studs 7, on the opposite ends of each of the bolsters, enables me to provide for an interchangeable connection of the uprights or masts 8, with the said bolsters upon the opposite sides of said supporting frame, and for bracing the same in the manner hereinbefore explained. This is very desirable when it is desired to elevate objects from the ground to the truck or removing an object therefrom, as there are times when it would be inconvenient to reverse the position of the truck, and with such an arrangement as I provide, the reverse of the davits may be very quickly and conveniently made. I provide in connection with said davits, a raising and lowering mechanism, as well as a means, capable of being manually operated for actuating said raising and lowering means. Said raising and lowering means embodies a bracket 21 having a tubular body portion 22 capable of being telescoped on to the outer end of the derrick arm 9, and secured thereto by being bolted or in any other way. This bracket is provided at its opposite ends with the depending supports 23 and 24, spaced apart as

shown, and preferably integral with the tubular body portion of said bracket, and each forms a bearing in which is journaled the opposite ends of a short shaft or spindle 25, on which is mounted a drum 26, capable of having wound thereon, a cable or flexible member 27, to the lower end of which, is attached tongs 28 or some other suitable gripping means or hooks which are capable of being connected to an object which it is desired to elevate to the supporting frame of the truck or to be removed therefrom.

On one end of the short shaft or spindle 25 and adjacent to the outer face of the support 24 of the bracket 21, is carried a worm wheel 29 which is shown in mesh with a worm 30, carried on a short shaft or spindle 31 between ears 32 of the support 24, in which the spindle 31, is journaled, and to one end of said spindle 31 is attached or may be secured, a crank 33 by means of which the drum 26 may be manually operated through the gearing shown, although, if desired, some other power means may be applied for operating the said gearing. It is also apparent that by use of the worm gearing for operating the spindle, it in itself, forms a lock for sustaining an object in an elevated position, when the same has been raised through the operation of the drum and the hoisting means 27, should the mechanism be released by the operator at any time before the object has been deposited on the truck or placed upon the ground or some other suitable support for receiving the same.

The advantage of supporting the raising and lowering means on the outer end of the derrick arm 9, is, that it is not necessary to run a flexible hoisting means, such as a cable or chain, over sheave wheels or pulleys, journaled on the derrick arm, and down to the raising and lowering mechanism, which, with such an arrangement would be placed on the mast or some suitable support from the frame; also, that by placing the hoisting means on the end of the derrick arm, it is placed conveniently for the operator in his manipulation of the drum for raising and lowering an object, and decreases the cost in the manufacture of the truck, which is an item to be considered when considering the commercial value of the device.

In the drawings, the truck has been shown more particularly for use in the handling of railroad rails and has proved very desirable for that purpose, although the said truck is designed for handling any heavy objects, particularly of great length, which may be difficult to handle by hand and unwieldy in transportation; and it will be noted that in the handling of long and unwieldy objects, such as rails or drags, that when the hooks or gripping means of the cables or hoisting members have been connected with the same,



and the gearing operated for elevating such objects to a desirable height, for placing the same on the truck, or when it is desired to move an object from the truck, that the derrick arms will swing in unison and in parallelism as shown in dotted lines in Fig. 2, whereby the object is maintained parallel with the frame support of the truck, so that when the object is above the frame of the truck, and it is lowered, it will drop upon said frame in the position in which it is desired to place the same.

Having thus fully described my invention, what I claim and desire to secure by Letters Patent of the United States, is:—

1. A running gear, comprising front and rear axles, a bolster mounted on each axle, a supporting frame connecting said bolsters and axles centrally thereof, a mast for each bolster, capable of having an interchangeable connection with opposite ends thereof, but fixed against rotation, raising and lowering means, and a support for said raising and lowering means, revolubly connected with said masts.

2. A running gear, comprising front and rear axles, a bolster mounted on each axle, a supporting frame connecting said bolsters and axles centrally thereof, a mast for each bolster, capable of having an interchangeable connection with opposite ends thereof, but fixed against rotation, a derrick arm revolubly connected with each of said masts, a bracket on the ends of said derrick arms, and raising and lowering means supported by said brackets.

3. A running gear, comprising front and rear axles, a bolster mounted on each axle, a supporting frame connecting said bolsters and axles centrally thereof, a mast for each bolster, capable of having an interchangeable connection with opposite ends thereof, but fixed against rotation, a derrick arm and a brace therefor, each revolubly connected at their inner ends with said masts, a bracket for the outer ends of each of said derrick arms, a drum for each bracket, and gearing for each drum.

4. In combination, an axle, a bolster mounted thereon, a mast, means for mounting said mast on said bolster and locking it against rotation, a derrick arm connected to

swing on said mast, a drum mounted on the end of said arm, gearing for operating said drum, and hoisting means connected with said drum. 55

5. In combination, a wheeled support, a mast suitably supported on said support, a derrick arm swingably attached to said mast, a bracket secured to the outer end of the arm, a drum journaled in said bracket, gearing operatively connected with the drum, flexible hoisting means connected with the drum, and means for operating said gearing. 60

6. In combination, a wheeled support, a pair of masts, a derrick arm swingably attached to each mast and capable of being swung in unison and also in parallelism, means for bracing said derrick arms, a bracket mounted on the outer end of each arm, a drum and hoisting means connected therewith, revolubly supported on said bracket, worm and worm-wheel gearing in operative connection with said drum and hoisting means, and means for operating said worm and worm-wheel. 65

7. In combination, a wheeled support, a davit adapted to have an interchangeable connection with said support, a bracket mounted on the extreme end of the swingable portion of said davit, a drum revolubly mounted on said bracket, means for operating said drum containing locking means for holding the same, and raising means connected with said drum. 70

8. In combination, a wheeled support, a mast suitably mounted on said support, a derrick arm carried at right angles from said mast and swingably connected thereto, a superimposed brace connecting the derrick arm and the mast and swingable with said mast, a bracket secured to the outer end of said arm and having bifurcated extensions, a drum suitably journaled in the extensions of said bracket, flexible hoisting means connected with said drum and means for operating the drum. 75

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

ARTHUR MARVIN.

Witnesses:

L. K. EVANS,  
R. A. TAYLOR.