

H. C. GRANT.

TRUCK.

APPLICATION FILED NOV. 8, 1909. RENEWED JAN. 30, 1911.

1,001,587.

Patented Aug. 22, 1911.

2 SHEETS—SHEET 1.

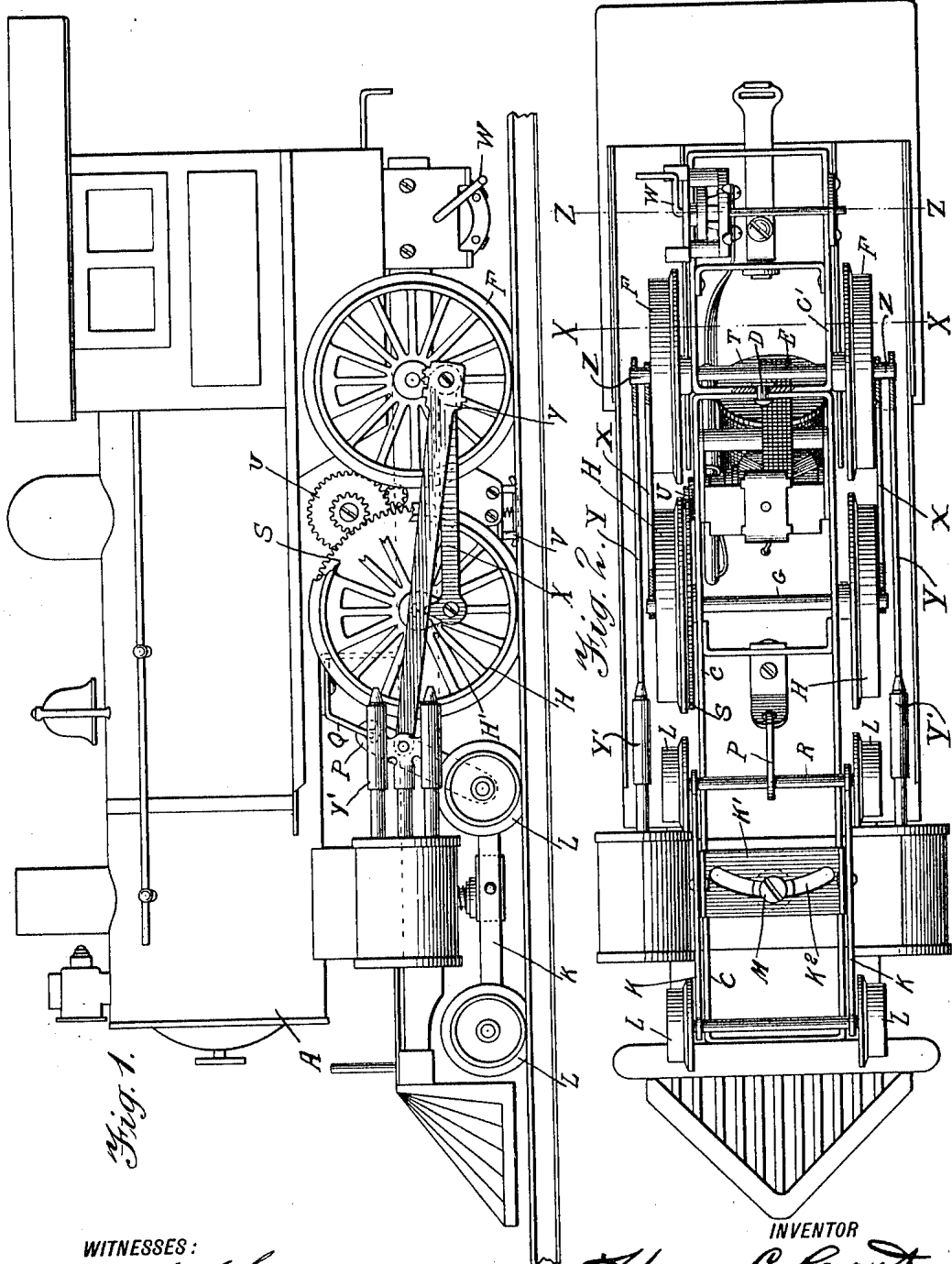


Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 3.

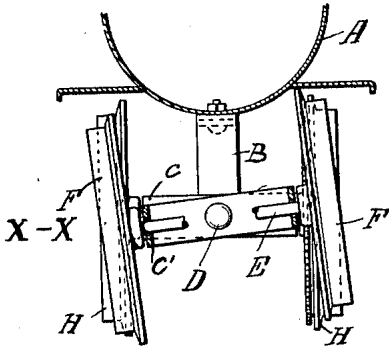


Fig. 4.

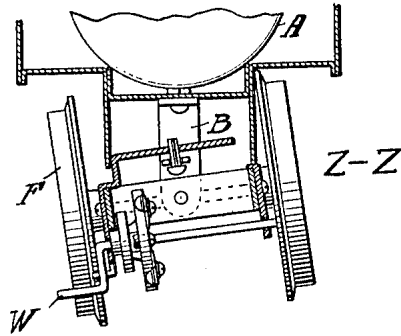
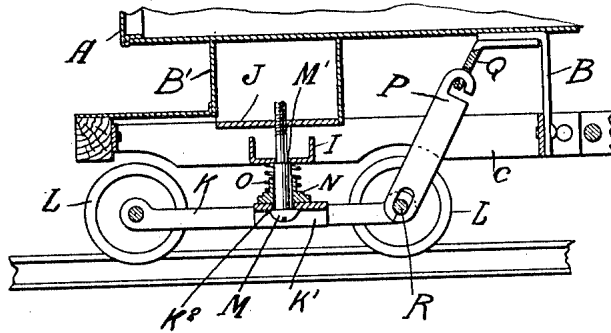


Fig. 5.



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HARRY C. GRANT, OF BAYONNE, NEW JERSEY.

TRUCK.

1,001,587.

Specification of Letters Patent. Patented Aug. 22, 1911.

Application filed November 6, 1909, Serial No. 526,513. Renewed January 30, 1911. Serial No. 605,554.

To all whom it may concern:

Be it known that I, HARRY C. GRANT, a citizen of the United States, and resident of Bayonne, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Trucks, of which the following is a specification.

My invention relates to toy cars and particularly to the truck and running gear of same.

The object of my invention is to provide a truck and running gear which will permit of a considerable degree of flexibility whereby the wheels may have a certain vertical movement relative to each other, without the entire frame being moved in proportion.

A further object is to provide a toy designed to look like a steam locomotive which truck of which is so constructed as to turn sharp curves without leaving the track, and to pass over uneven rails without any of the wheels leaving contact therewith.

Referring to the drawings which form a part of this specification, Figure 1, is a side elevational view of a car and truck embodying my invention. Fig. 2, is an inverted plan view of the truck. Fig. 3, is a cross sectional view on line X—X of Fig. 2, illustrating the relative movement of the two sections of the truck frame. Fig. 4, is a cross sectional fragmentary view of Fig. 2 on line Z—Z disclosing the construction by means of which the relative movement of the frame is restricted. Fig. 5, is a side view, partly in section, of the front truck, illustrating its construction and means used to limit its lateral swinging movement.

A, indicates the car body, which in the present case is illustrated to represent a steam locomotive having the usual boiler and cab, which is supported on the truck by suitable brackets B, B', etc., which in turn are connected to the front frame C. Connected to the front frame C by a pivotal joint D, is a rear frame C', which is provided with holes in each side which serve as bearings for an axle E on which are mounted wheels F. Supported in similar holes in the frame C is an axle G on which are mounted wheels H. Connected to the front frame C is a cross piece I, and just above this a cross piece J, also connected to said front frame. Located below the center of bracket I, is the center of the front truck which comprises two side frame members

K—K provided with openings at each end in which are supported axles, each of which is provided with a wheel L—L at each end. A cross beam K' is connected at each end rigidly with the two opposite members K, and is provided with a crescent shaped opening K² through which extends a bolt M, the shank of which is reduced near its middle to form a shoulder M' which abuts the cross beam I, and the end of the bolt M is screwed into the cross piece J, thus holding the lower end of bolt M in a rigid manner. Located between the cross beam I and cross piece K' is a washer N which is free to slide on bolt M, and abutting said washer and cross beam I is a spring O which supports the cross beam I and load thereon at this point. The front truck by reason of the opening K², is free to move laterally relative to the front frame and to the pivot a predetermined distance, restricted only by the track on which the car as a whole, runs, and by a loosely held link P, which is held at one end by a bracket Q connected to bracket B, and at the other end by the axle R which axle is free to slide a certain distance when the truck is turning a curve, the link serving to limit the swinging movement beyond the proper limit.

Connected to the axle G adjacent a wheel H is a gear wheel S, which is driven by an electric motor T, supported from the front frame C, through a train of reducing gears U. The motor is driven by electricity furnished by primary battery and conducted to the motor by means of a third rail to a shoe V, and by suitable wires to the motor and return by the two side rails on which the car runs, as will be readily understood. A switch for starting, stopping, and reversing the motor is indicated by W.

Connected to a wheel H is a crank H' to which is attached a coupling rod X which extends to a crank on the wheel F and to this last named crank is connected a rod Y, the opposite end of which is connected to a piston rod, Y² and cross head Y', these parts being driven by the motor, to imitate a steam driven locomotive. It must be remembered that the joints of the last named connecting rods, etc., are very loosely made to permit the parts being driven when the front and rear frames are out of alinement with each other by reason of an uneven track or in turning a curve. When the tracks are not evenly laid, the pivotal joint

D permits the frames C and C' with their wheels H and F to swing relative to each other as illustrated in Figs. 3 and 4 whereby all four wheels will remain in contact with the rails, which is one of the most important features of my invention.

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

10 1. In a toy car, a front and rear frame pivotally connected, each frame having holes in which axles are supported and wheels connected to said axles whereby the wheels may swing as set forth, two of said wheels being provided with cranks, and a side rod connecting said cranks and having loose joints for the purpose set forth.

20 2. In a toy car, a front and rear frame pivotally connected, each frame having holes in which axles are supported and wheels connected to said axles, two of said wheels having cranks, a side rod connecting said cranks and having loose joints, and a front truck pivotally connected to said front frame.

3. In a toy car, a front and rear frame pivotally connected, each frame having holes in which axles are supported and wheels connected to said axles, two of said wheels having cranks, a side rod connecting said cranks and having loose joints, and a front truck pivotally connected to said front frame, and means for limiting its swinging movement relative to said frame.

4. In a toy car, a front and rear frame pivotally connected, each frame having holes in which axles are supported and wheels connected to said axles, two of said wheels having cranks, a side rod connecting said cranks and having loose joints, and a front truck pivotally connected to said front frame and means for driving said car.

Signed at New York in the county of New York and State of New York this sixth day of August, A. D. 1909.

HARRY C. GRANT.

Witnesses:

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A. T. SCHARPS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."