

W. L. AUSTIN.

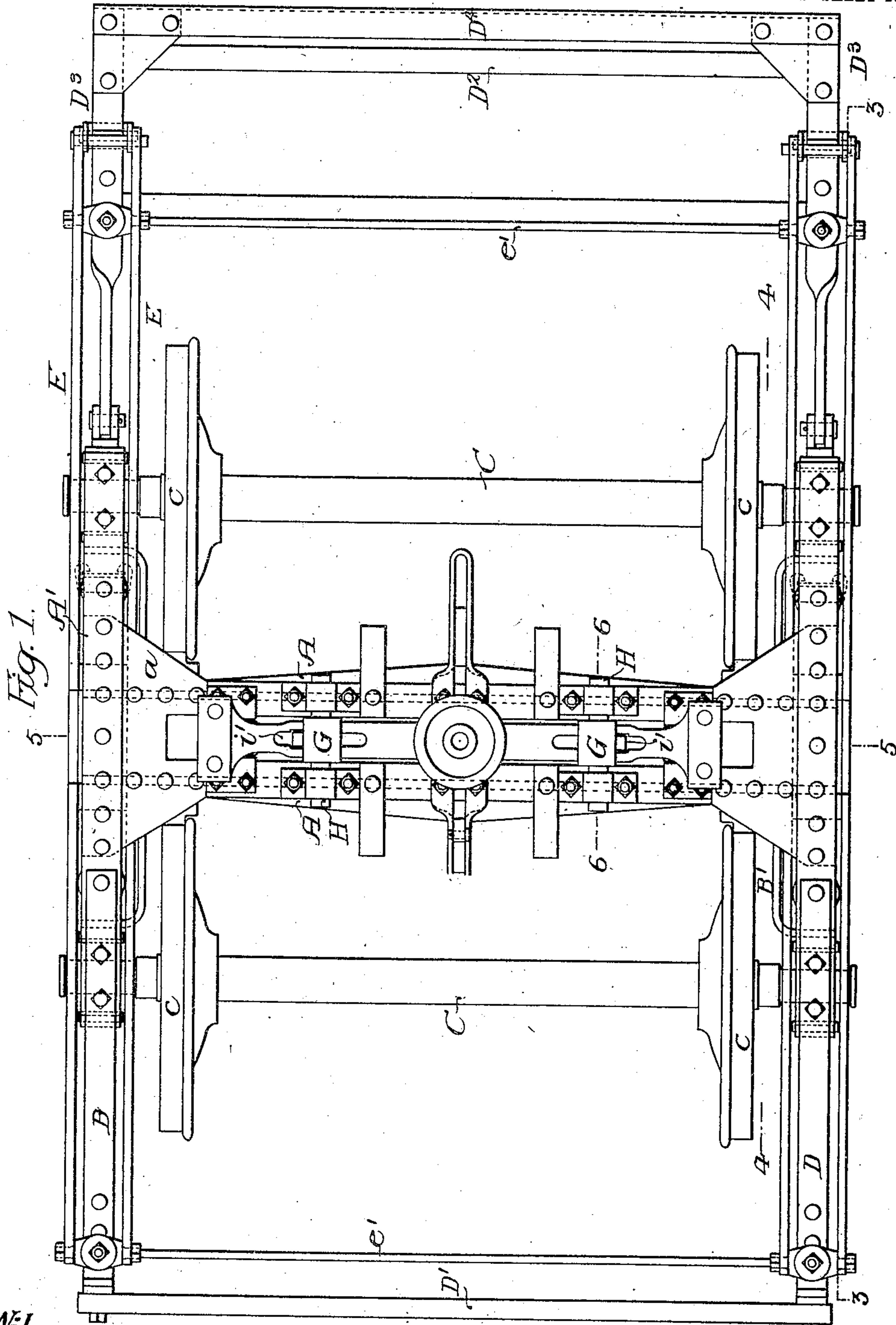
CAR TRUCK.

APPLICATION FILED OCT. 9, 1908.

951,043.

Patented Mar. 1, 1910.

3 SHEETS—SHEET 1.



Witnesses
William H. Poirer
Augustus B. Lippe

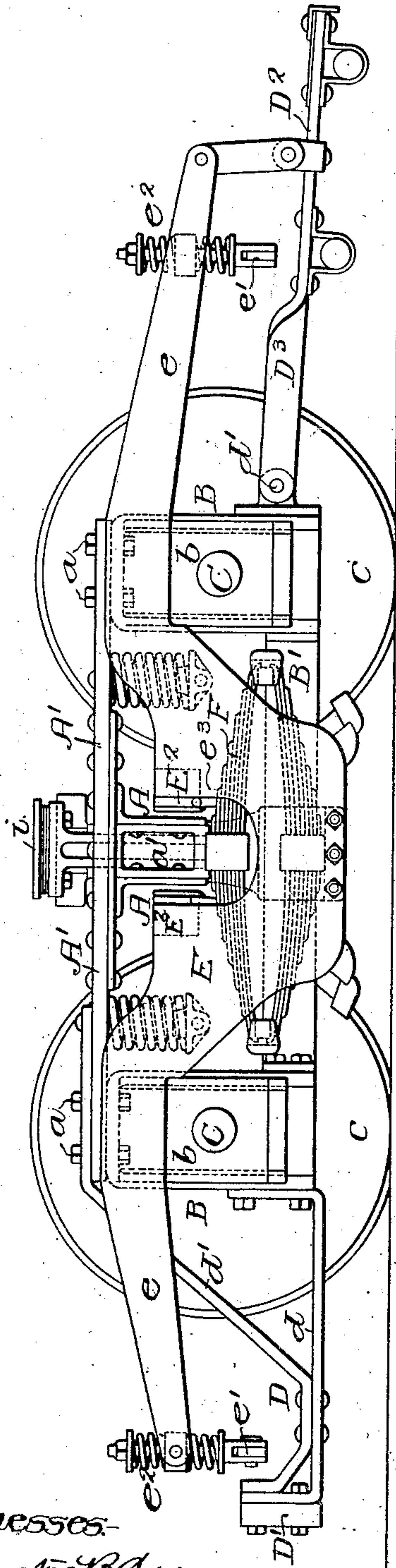
Inventor { William L. Austin.
by his Attorneys.
Korwood & Kowm

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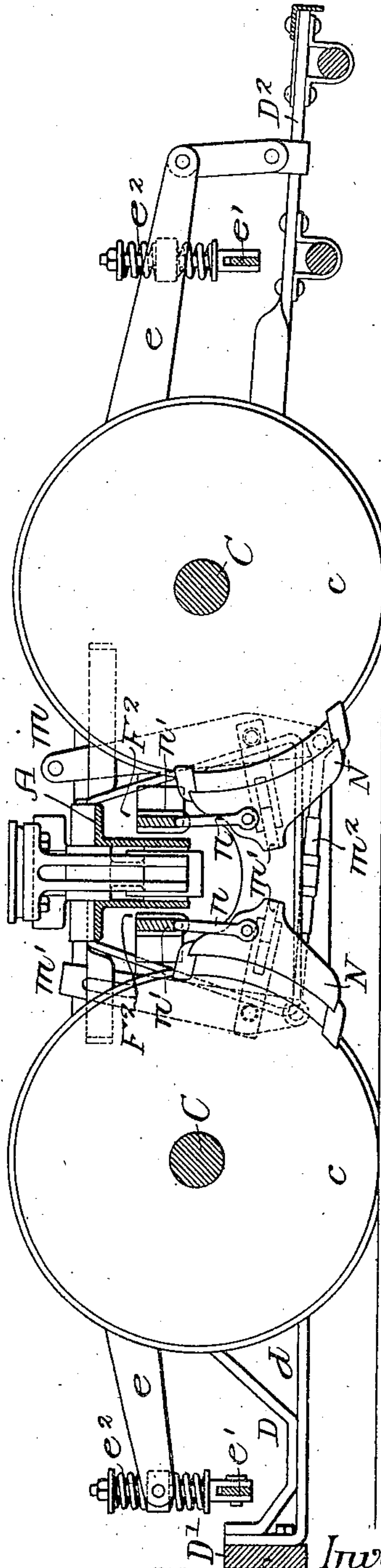
3 SHEETS—SHEET 2.

Fig. 2.



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Fig. 4.



Inventor:
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W. L. AUSTIN.
CAR TRUCK.

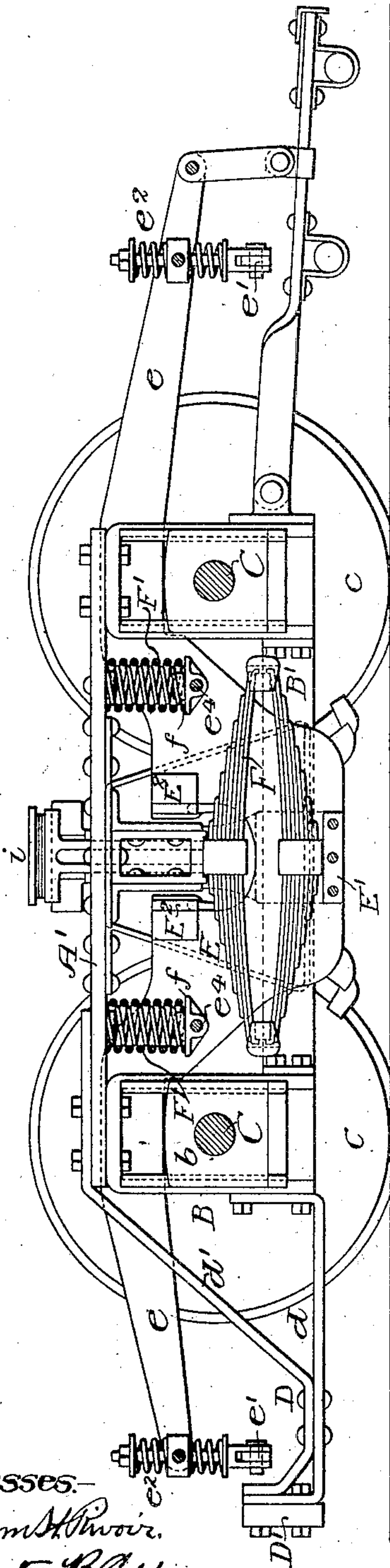
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3 SHEETS—SHEET 3.

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Fig. 3.



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Fig. 7.

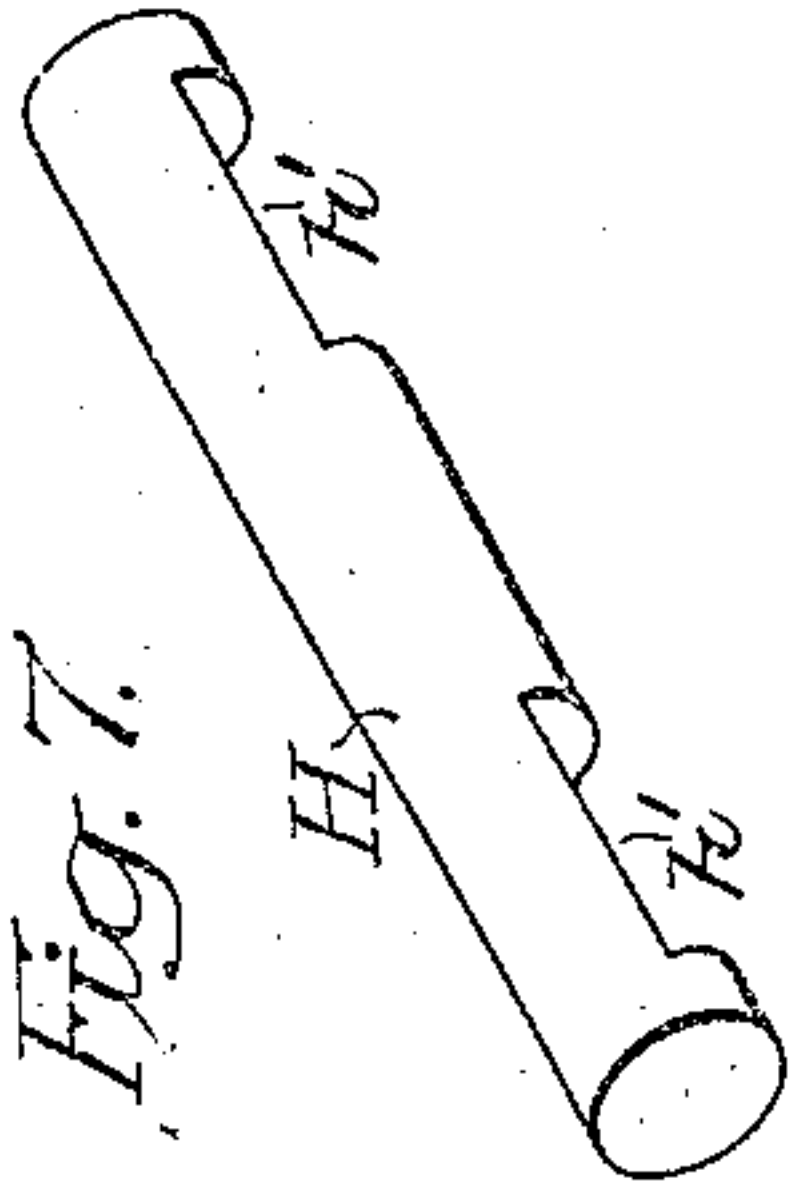


Fig. 5.

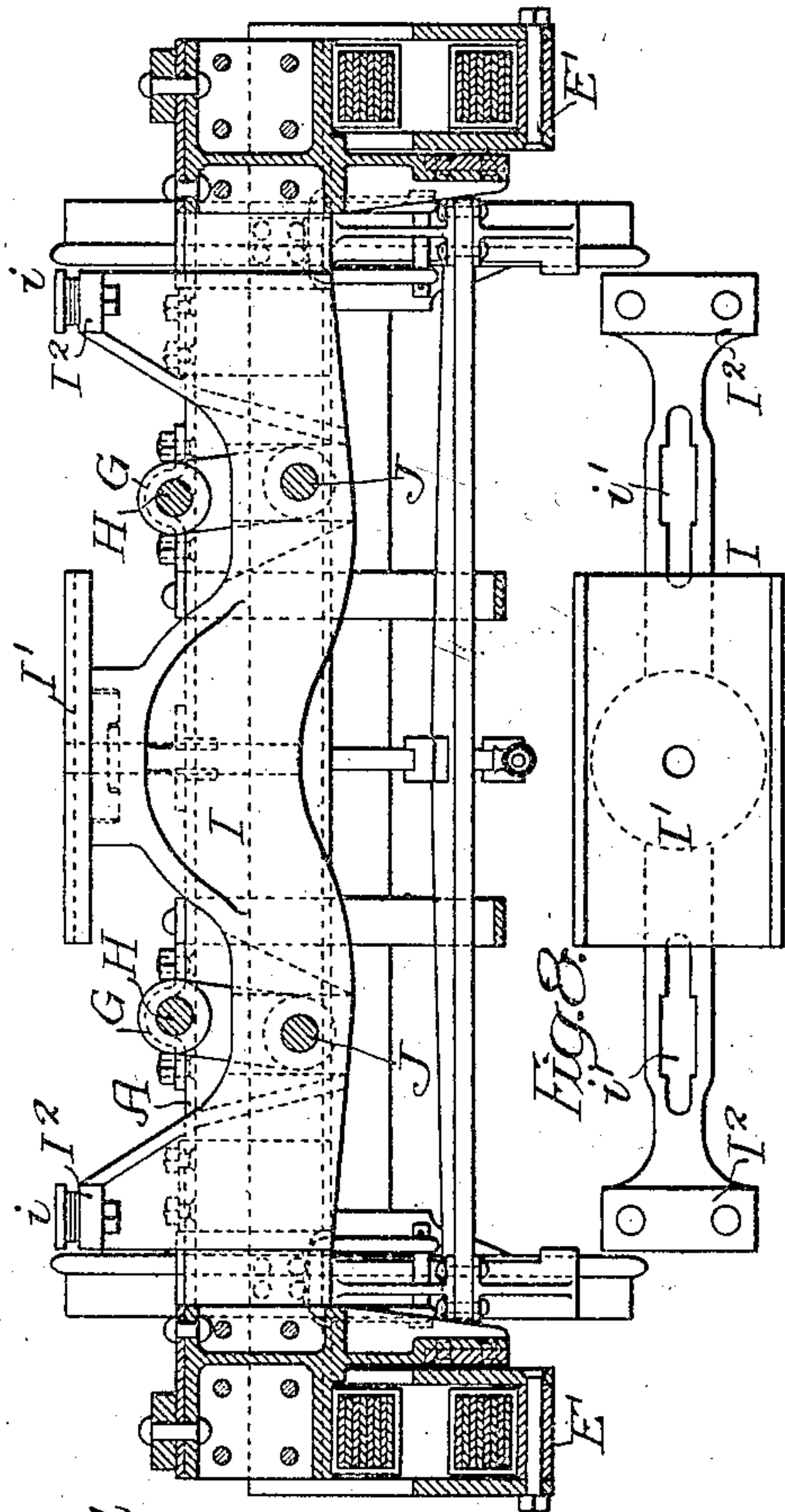


Fig. 6.

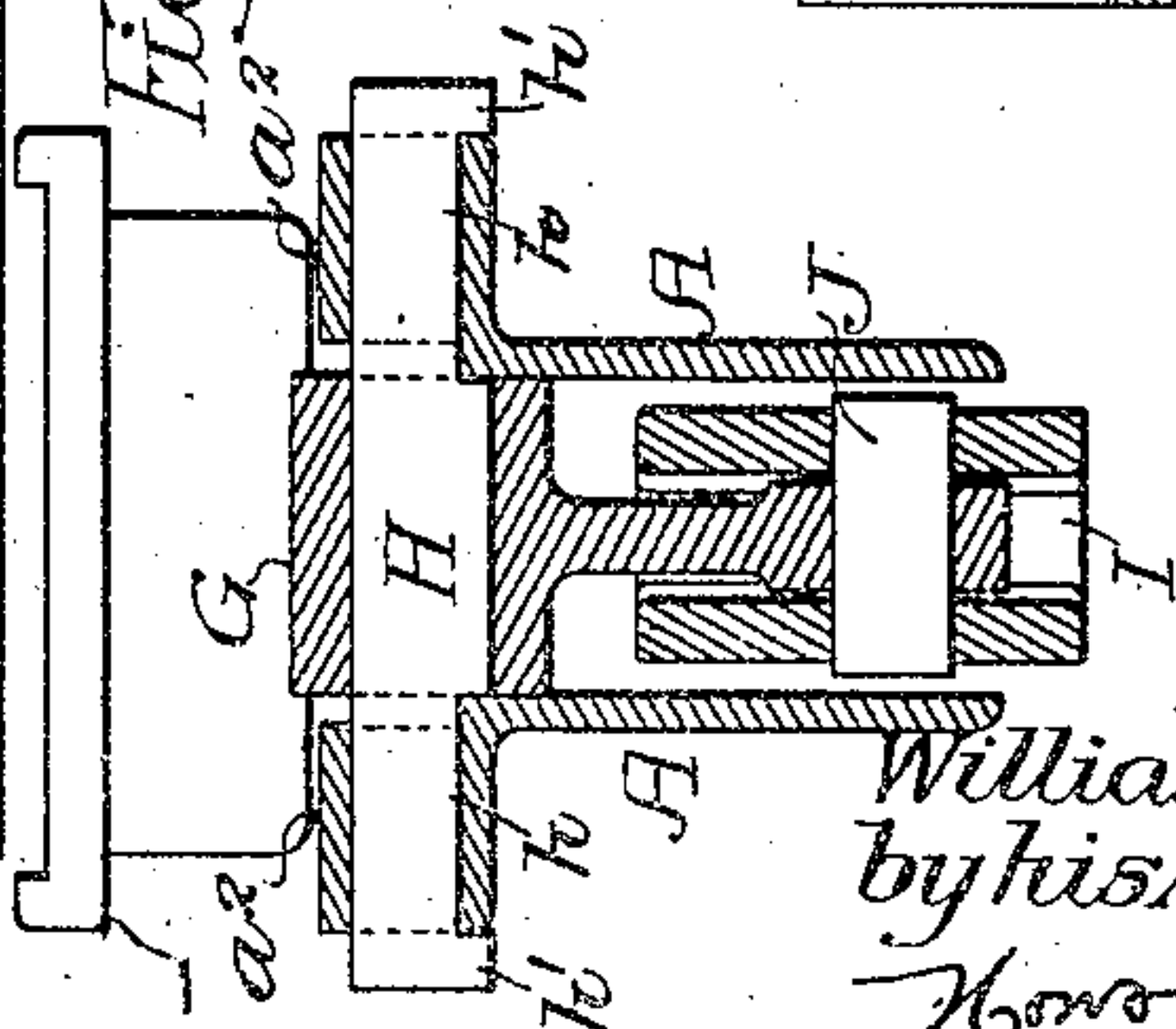
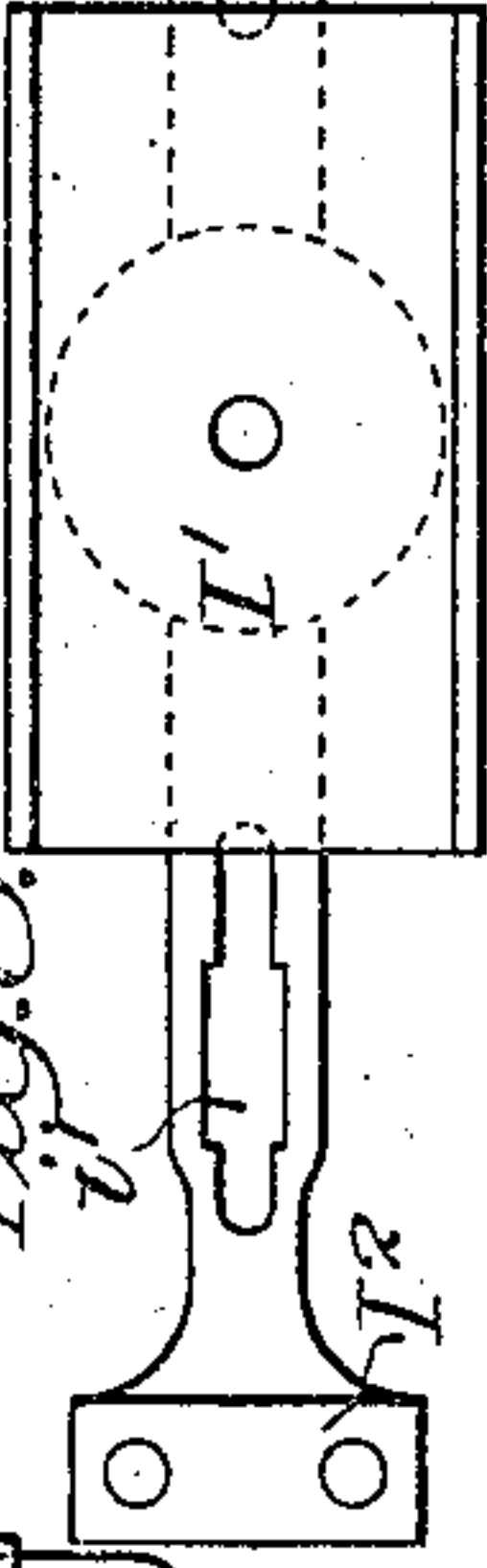


Fig. 8.



Inventor—
William L. Austin.
by his Attorneys—
Howell, Nowam

UNITED STATES PATENT OFFICE.

WILLIAM L. AUSTIN, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO BALDWIN LOCOMOTIVE WORKS, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

CAR-TRUCK.

951,043.

Specification of Letters Patent.

Patented Mar. 1, 1910.

Application filed October 9, 1908. Serial No. 456,978.

To all whom it may concern:

Be it known that I, WILLIAM L. AUSTIN, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Car-Trucks, of which the following is a specification.

The object of my invention is to construct a car truck in such a manner as to decrease the space between the wheels, making a truck with a very narrow wheel base and decreasing the width of the transoms and the mechanism mounted thereon by using a single link suspended at each side instead of a double link as heretofore.

The invention also relates to the equalizing beams so arranged as to give greater strength to the structure; the equalizing beams concealing and protecting the springs.

While my invention is particularly adapted for use as an electric truck, it will be understood that it can be used for other purposes without departing from the essential features of my invention.

In the accompanying drawings:—Figure 1, is a plan view of my improved truck; Fig. 2, is a side view; Fig. 3, is a longitudinal sectional view on the line 3—3, Fig. 1; Fig. 4, is a longitudinal sectional view on the line 4—4, Fig. 1; Fig. 5, is a transverse sectional view on the line 5—5, Fig. 1; Fig. 6, is a sectional view on the line 6—6, Fig. 1; Fig. 7, is a perspective view of one of the suspension pins; and Fig. 8, is a detached plan view of the bolster.

The frame of the truck C consists of two transoms A, A secured firmly to longitudinal beams A' at each side of the truck by corner braces a riveted to both the transoms and the beams in the present instance. These beams are secured to the frames B inclosing the boxes b, b for the axles C. On the axles are wheels c. Extending from one frame B to the other is a bar B' forming the lower member of the truck side frame; the bars A' forming the upper member. Extending at one end of the truck is a rigid frame D consisting of a lower member d and an inclined member d'; one secured at the lower end of the box frame B and the other secured at the upper end thereof. The frames D, D, one at each side, are connected by the beam forming a guard D'. Pivoted at d² at the opposite end of the truck is a frame D² con-

sisting of side members D³ and a cross beam D⁴. This pivoted frame supports the plows in the present instance which extend through slots in the underground conduits and carry the trolleys. This construction may be modified according to the trucks used.

Resting upon the boxes b, b on each side of the main frame of the truck are a pair of flat equalizing beams E. These beams extend from one box to the other and have ends e which project beyond the wheel base of the truck and from these ends are suspended the bars e' supporting the free ends of the electric motors in the present instance. Springs e² are used to make a yielding connection between the extensions and the bars. Other forms of suspension may be used without departing from my invention. The beams are recessed at e³ at the center so as to allow the transoms a, a to extend into the side frames and these add considerable strength to the structure.

Mounted between the transoms at each end are blocks a'. These blocks are supported by the upper section of the double elliptical spring F mounted on each side of the truck between the two equalizing beams E; the lower portions of the springs resting upon a plate E' securely bolted to both equalizing beams, as illustrated in Figs. 3 and 5. These springs are arranged longitudinally in respect to the truck and are confined between the two equalizing beams, by this arrangement the springs are completely out of the way of any other mechanism of the truck and are protected by the heavy equalizing beams.

f f are spring seat plates pivotally mounted on transverse bolts e⁴ passing through both equalizing beams E and mounted between these spring plates f and the under side of the side bar A' are coiled springs F', thus the frame of the truck is connected to the equalizing beams which are supported by the box, by a double elliptical spring at each side and two coiled springs, all mounted between the equalizing beams. This construction gives additional room for the brake mechanism and for the motors and other connections.

The equalizing beams on one side of the truck are connected with those on the other side of the truck by bars E² one situated on

each side of the transom and these bars are utilized to suspend a brake shoe described hereafter.

In order to allow the equalizing beams E, E to extend down sufficiently to retain or to support the double elliptical spring F, I provide the bar B' forming the lower member of the truck frame so that the body portion of the bar will extend back of the equalizing beams; the ends bearing against the box frames B and bolted thereto. Thus while I obtain a rigid connection at the lower end of the truck frame I provide ample room for the equalizing beams and the double elliptical spring supported thereby.

Mounted between the two transoms A is a bolster I shaped as clearly shown in Fig. 5, having a center bearing plate I', and side bearing plates I², and these side bearing plates carry shoes i bolted to the side bearing plates and spacing plates are used so that the bearing plates can be adjusted at different heights, as desired. The bolster is made in a single piece in the present instance in the manner shown in Figs. 5 and 8, being solid at each end and at the center and having slots i' for the reception of the links G on each side of the center, as shown in Fig. 5. These links are mounted on pins H adapted to rest on the transom A, as shown in Fig. 6, and are confined thereto by boxes a²; the pins being cut away at h, h, as shown in Fig. 7, forming a flat surface which rests upon the transoms A, A holding them in position and the ends h' overlap the edges of the transoms to prevent longitudinal movement of the bar. The upper portion of the link G through which the pin H passes is illustrated in Fig. 6 and extends the full width of the space between the transoms, being reduced at the lower end so as to pass into the slot i' in the bolster I. A pin J extends through the opening in the bolster and through an opening in the link and is held in place by the transoms A, A.

I will now describe the brake mechanism and the method of hanging it from my improved truck, but the method itself forms no part of the present invention.

The brake shoes N, N are hung by links n, n from U-shaped hangers n' secured to the cross bars E² which are attached to the equalizing beams E, E at each side of the truck. The shoes are actuated by the levers m, m' connected to the brake beams m² and connected together by the rod m³. The lever m' is hung to the frame and the lever m is actuated by the brake operating mechanism. The brake mechanism may be varied without departing from the essential features of my invention.

Thus it will be seen that I am enabled to make a substantial and compact truck with a very narrow wheel base in which sufficient

space is allowed for the accommodation of the brake mechanism; the center portion of the truck being entirely free of mechanism so as to allow for the accommodation of the motor and its mechanism. The bolster is made very narrow and suspended from the transoms by a single link at each side of the center, making a construction especially applicable for an electric motor truck in which the motors are carried by axles and suspended at each end of the truck.

I claim:—

1. The combination in a car truck, of side members, two transoms spaced apart and connected to the side members, a bolster made in a single piece and having a center bearing plate and side bearing plates, and mounted between the transoms, said bolster having a slot at each side of the center, a single link at each side of the center hung from the transoms and extending into the slots of the bolster, and a pin coupling each link to the bolster.

2. The combination of a truck having transoms spaced apart, a bolster mounted between the transoms, links connecting the bolster to the transoms, a pin connecting each link to the bolster, and a pin from which each link is suspended, said suspension pins being cut away near each end so as to form flat bearing surfaces which rest upon the transoms.

3. The combination in a truck, of a frame made up of transoms and side members, said transoms being spaced apart, bars on each side of the center of the truck and resting upon the transoms, said bars being cut away near each side so as to form flat bearing surfaces and heads which prevent the longitudinal movement of the bars, and links hung from said bars coupled to the bolster.

4. The combination in a truck, of a frame consisting of side members and transoms, each side member consisting of a longitudinal bar, axle box frames, and a lower bar tying the two axle box frames, said lower bar being offset, with equalizing beams resting on the box and extending down past the lower offset bar.

5. The combination in a truck of a main frame consisting of side frames and a transom, boxes in the side frames, a set of two equalizing beams on each side of the truck between each set of which a side frame is disposed, with a longitudinally arranged elliptical spring mounted between and supported by each set of equalizing beams.

6. The combination in a truck, of a side frame, consisting of two box frames and connecting bars, two equalizing beams, one on each side of the side frame, a longitudinally arranged double elliptical spring mounted between the two equalizing beams and supported thereby and adapted to sup-

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port the main frame, said spring being mounted between the two box frames.

7. The combination in a truck, of a side frame, a box therein, two equalizing beams mounted one on each side of the side frame, a double elliptical spring mounted between the two equalizing beams and two coiled springs also mounted between the two equalizing beams, seats for the said coiled springs carried by the said beams, both the elliptical springs and the coiled springs supporting the frame.

8. The combination in a car truck, of two side frames, boxes therein, an equalizing beam on each side of each side frame, and connecting bars extending from the set of equalizing beams on one side of the truck to those on the opposite side.

9. The combination in a car truck, of two side frames, transoms connecting the said side frames, a box in the side frames, equalizing beams resting upon the box, one on each side of each side frame, transverse bars connecting one set of equalizing beams to the other and brake shoes hung from said transverse bars.

10. The combination in a truck, of two side frames, transoms connecting the two side frames, boxes in the side frames, two equalizing beams on each side of each side frame, bars connecting one set of equalizing beams to the other, a double elliptical spring on each side of the truck mounted between and carried by the equalizing bars, said elliptical spring supporting the main truck frame.

11. The combination in a car truck, of side frames, transoms connecting the side frames, boxes in the side frames, two equalizing beams, one on each side of each side frame and resting upon the boxes, a double elliptical spring mounted between and supported by the said equalizing beams and supporting the side frame, and an extension on each equalizing beam from which the motor support is hung.

12. The combination in a truck, of two

side frames, transoms connecting the two frames, boxes in the side frames, said transoms extending under the upper member of the side frames, two equalizing beams, one on each side of each side frame, a spring mounted between the lower portion of the equalizing beam and the main frame, said equalizing beam being notched to receive the extended transoms.

13. The combination in a car truck, of side frames, transoms, boxes in the side frames, two equalizing beams, one mounted on each side of the side frame and resting upon the boxes, a plate attached to each equalizing beam, a double elliptical spring longitudinally arranged resting between the two equalizing beams, and supported by the plate, and a block mounted between the two transoms resting upon the said spring.

14. The combination in a truck, of two side frames, each made of two box frames, a top connecting member, a lower connecting member, two transoms spaced apart and secured to the upper connecting member, a block mounted between the two transoms at each end, two equalizing beams at each side of the truck, one equalizing beam mounted at each side of the side frame, said equalizing beams being notched to receive the extended portions of the transoms and the blocks, a double elliptical spring mounted between each pair of equalizing beams, two coiled springs, one mounted on each side of the transoms and between each pair of equalizing beams said equalizing beams being extended at each end beyond the wheel base, and motor supports carried by the ends of the equalizing beams.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

WM. L. AUSTIN.

Witnesses:

FRED. WOOLLVEN,
W. N. TUTTLE.