(No Model.) 3 Sheets—Sheet 1.

H. C. WILLIAMSON.

CAR TRUCK AND BRAKE.

No. 567,428. Patented Sept. 8, 1896.

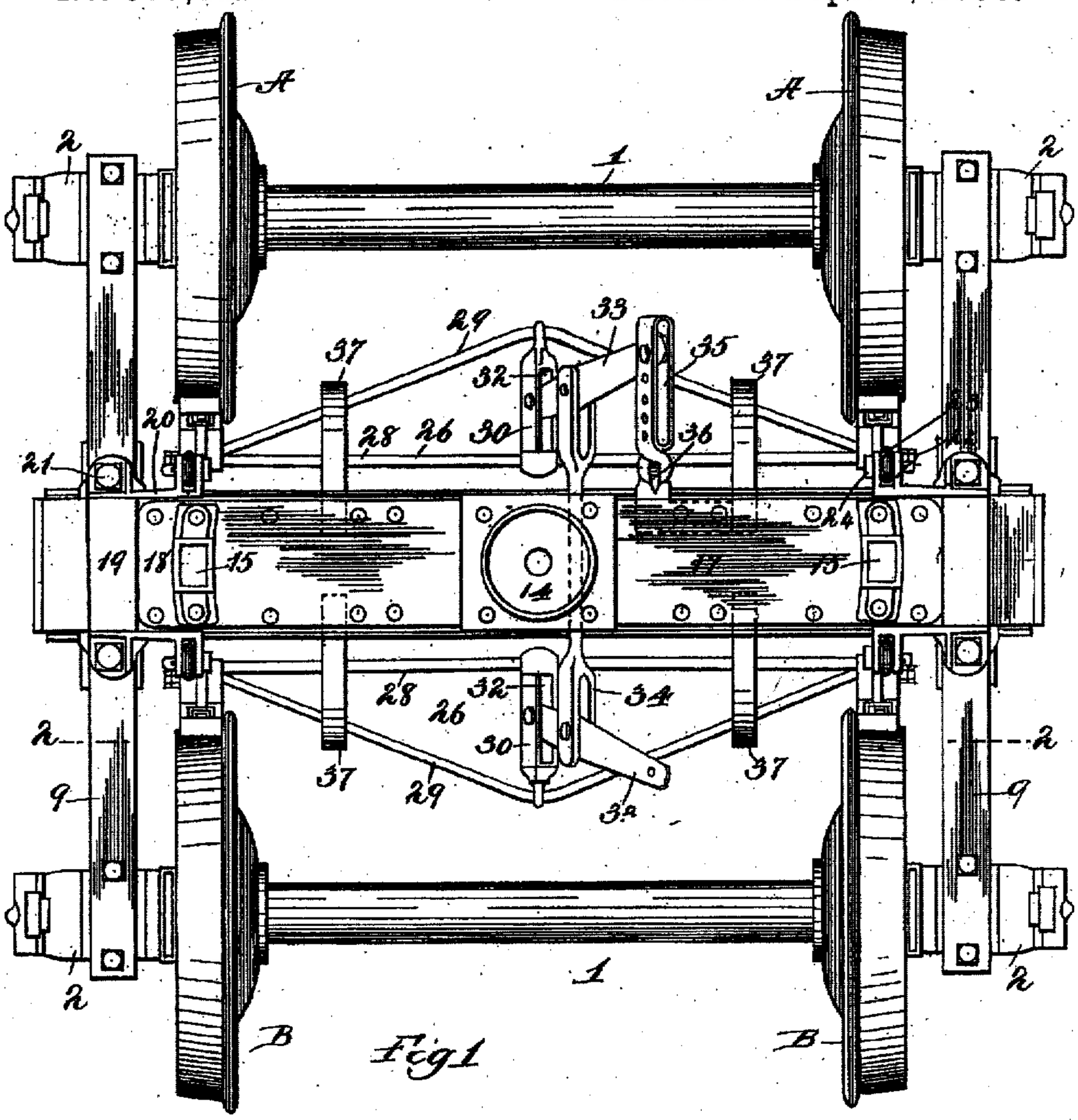

Fig 1

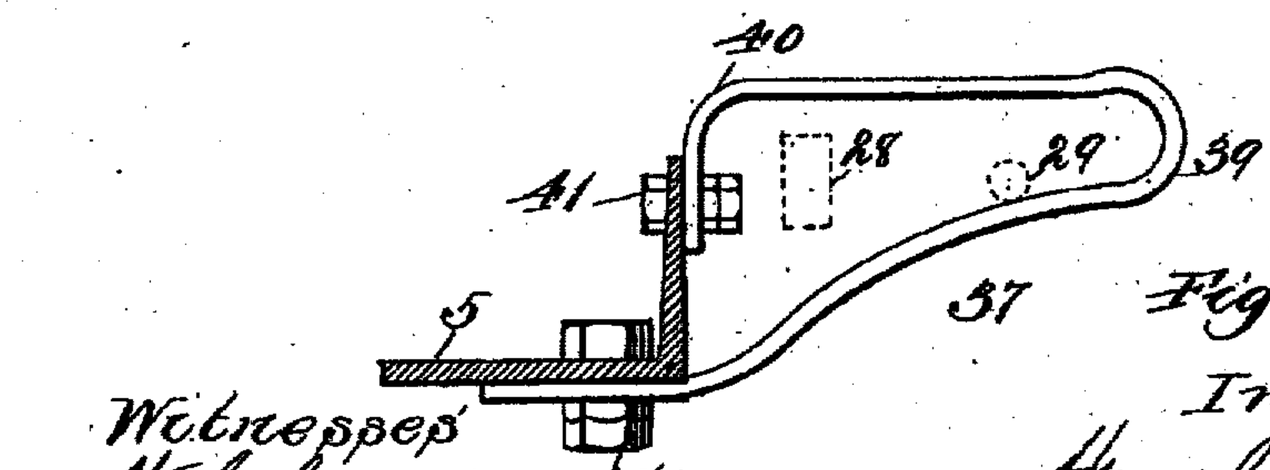

Fig. 5.

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(No Model.) 3 Sheets—Sheet 2.

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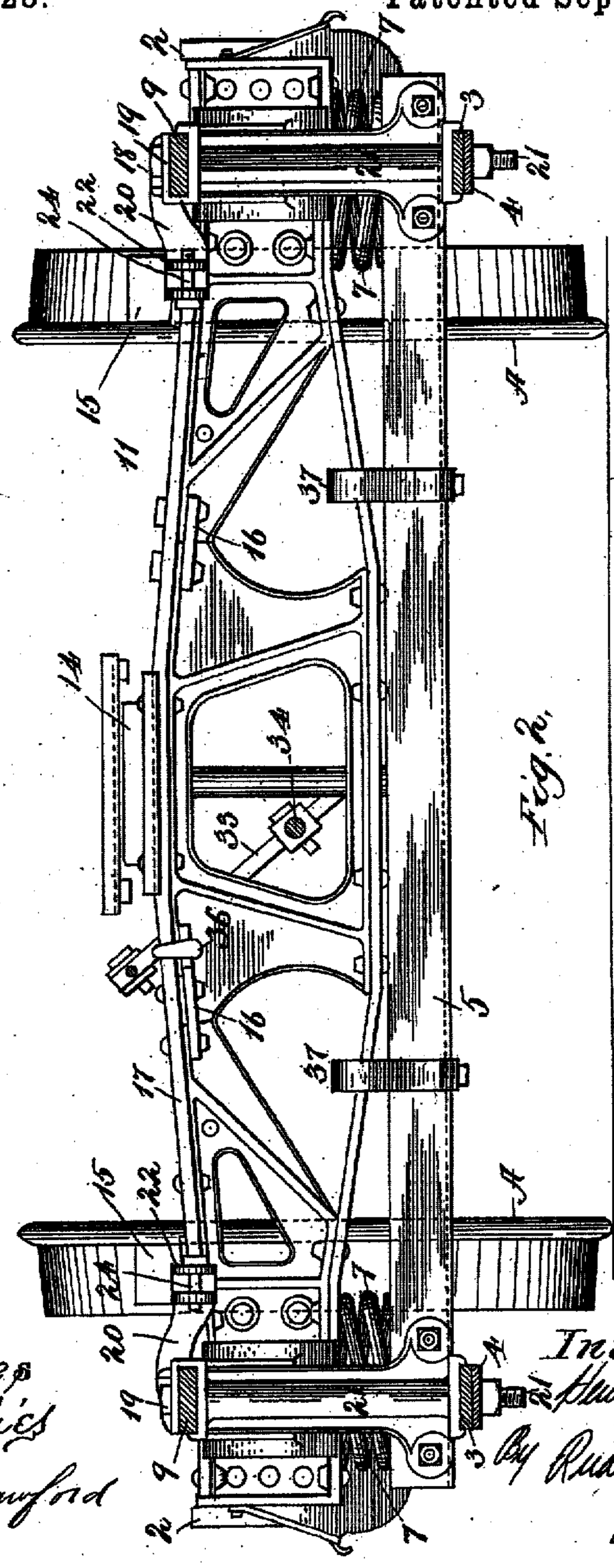

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(No Model.) 3 Sheets—Sheet 3.

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CAR TRUCK AND BRAKE.

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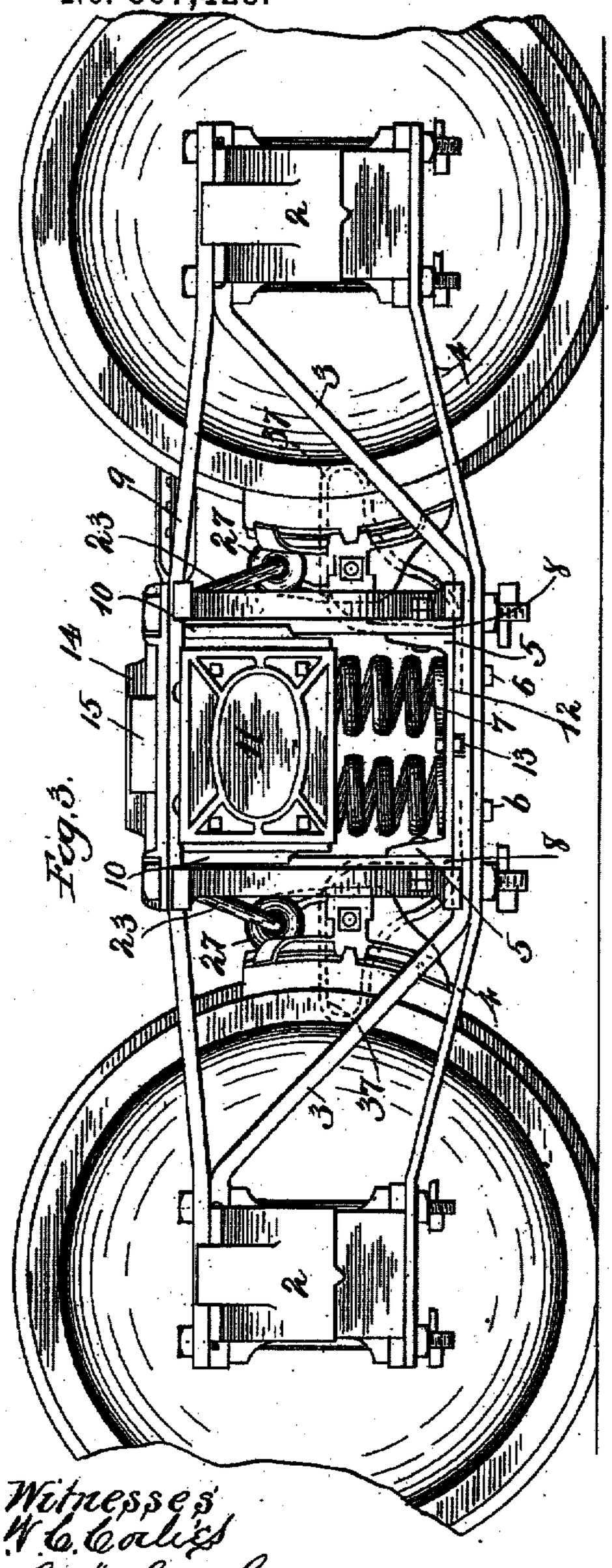

Fig. 3.

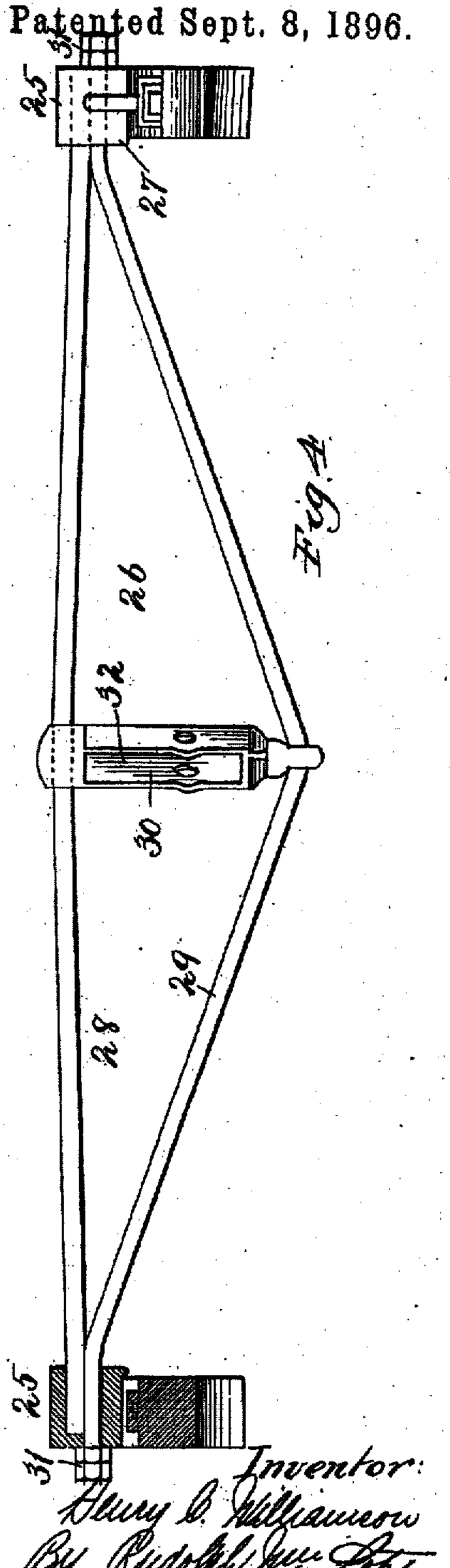

Fig. 4.

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UNITED STATES PATENT OFFICE.

HENRY C. WILLIAMSON, OF MICHIGAN CITY, INDIANA.

CAR TRUCK AND BRAKE.

SPECIFICATION forming part of Letters Patent No. 567,428, dated September 8, 1896.

Application filed June 29, 1896. Serial No. 597,606. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. WILLIAMSON, a citizen of the United States, residing at Michigan City, in the county of La Porte and State of Indiana, have invented certain new and useful Improvements in Car Trucks and Brakes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a novel construction in a car truck and brake, the object being to provide a durable, safe, and efficient truck and brake; and it consists in the features of construction and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings, illustrating my invention, Figure 1 is a top plan view of a truck and brake constructed in accordance with my invention. Fig. 2 is a vertical sectional view of the same, taken on the line 2 2 of Fig. 1. Fig. 3 is a side elevation of the same. Fig. 4 is a detail view in elevation of the brake-beam I employ. Fig. 5 is a detail sectional view of the safety-loop for holding the brake-beam.

Referring now to said drawings, A and B indicate the car-wheels, mounted upon axles 1, running in bearings in the car-axle boxes 2, mounted in the usual manner between the ends of the arch-bars 3 and tie-bars 4 of the truck. At their middle portions said arch and tie bars 3 and 4 support a channel 5, which takes the place of the spring-plank of the ordinary wood trucks. Said channel 5 is secured to said arch and tie bars by means of countersunk bolts 6, which pass downwardly through said channel 5 and through said arch and tie bars 3 and 4. In this manner the even surface of the web of the channel 5 remains intact to receive the bearing-springs 7.

Guide-bars 8 are secured to the sides of the channel 5 by means of lock-nuts or rivets. Said guide-bars 8 extend upwardly to the upper arch-bar 9 and are adapted to be engaged by the guide-flanges 10 on the ends of the bolster 11. Said bolster 11 is constructed in accordance with Letters Patent No. 550,011, granted to me November 19, 1895, and is supported upon the bearing-springs 7, which are secured to the webs of the channel 5 by means of plates 12, which are secured to said channel by means of the bolts 13. Similar spring-plates are also secured to the upper ends of the springs and form seats for the bolster. The truck center plate 14 and side bearings 15 are preferably secured to said bolster by means of rivets, which are less liable to work loose than bolts. The construction of said bolster 11 is slightly modified, inasmuch as the struts are elongated and the ends of the middle and end struts connected by means of a plate 16, passing over the joint between the same, and secured by means of rivets passing through the flanges of said struts and the compression member 17 of said bolster 11.

Heretofore inside brakes have been hung very low, owing to the necessarily-limited space between the channel and the treads of the wheels. By means of my construction of the brake-beams I do not require as much space as has heretofore been required for the beam and brake-shoes, and am, therefore, enabled to hang the same above the lower face of the channel. In this manner the brake-shoes and brake-beams are protected from injury from obstructions on the track, such as detached portions of cars, defective crossing-planking, and the like. The greatest danger to the brake shoes and beams, however, arises from the detached portions of cars, which frequently cause derailment.

By means of my construction I overcome all of the above defects. I employ what I term a "brake-shoe anchor" 18, from which the brake-shoes depend. The said brake-shoe anchor 18 consists of a plate 19, provided with inwardly-extending arms 20, which is secured to the upper arch-bar 9 of the truck, preferably by means of the column guide or transom-casting bolts 21. Said arms 20 are provided at their inner ends, in alinement with the treads of the wheels, with outwardly-extending lugs 22, between which the brake-shoe hangers 23 are pivotally mounted by means of bolts 24 passing through openings in said lugs 22 and through the eyes of the hangers 23. The brake-shoes, or more properly the brake-heads 25 on the ends of the brake-beams 26, are provided with eyes 27, through which the hooks of the brake-shoe hangers 23 pass and support said brake-shoes and brake-beams. Said brake-shoe hangers depend from said brake-shoe anchor at an

incline toward the tread of the wheel, so that when the brakes are released they will be caused by gravity to move away from the treads of the wheels. The brake-shoes proper are removably secured to said brake-heads in the usual manner. By means of this construction it will be noted that the brake-shoes are dependent from a rigid portion of the truck, whose movements correspond with the movements of the wheels, thus insuring the vertical immovability of the brake-shoes with relation to the wheels.

The brake-beams 26, for which an application for Letters Patent is pending, filed March 6, 1896, Serial No. 582,083, comprise a compression member 28, whose ends are fitted in recesses in said brake-heads 25, and a tension member 29, whose screw-threaded ends pass through openings in said brake-heads 25 adjacent the recesses in which the ends of the compression member 28 are held. Said compression and tension members pass through openings in the ends of a strut 30, which extends outwardly from the middle portion of said compression member to the middle bent portion of said tension member. The tension member is secured by means of the lock-nuts 31 on the ends of the same engaging the outer faces of said brake-heads 25. The said struts 30 are provided with inclined oblong openings 32, in which the ends of the brake-levers 33 are pivoted. Said brake-levers 33 are connected together adjacent their lower ends by means of a connecting-rod 34 passing through the opening in the middle strut of the bolster 11, which is provided with bifurcated ends, in which said levers 33 are pivoted. One of said levers 33 is connected with the brake-operating devices, while the other forms a dead-lever, and is pivoted at its upper end to a link 35, which is connected with the bolster 11 by means of the hook 36, which is preferably cast in one piece with one of said plates 16. This manner of mounting the brake-levers is common and does not form part of my invention, except with relation to the point at which the connecting-rod 34 is pivoted thereto.

Secured to each side of the channel 5 are what I term "safety-loops" 37, in which the brake-beams are mounted. The one end of said safety-loops is secured to the lower face of the web of the channel 5 by means of a lock-nut 38 and is bent in an outwardly-extending curve to the point 39, thence around and straight back toward the channel to the point 40. The other end extends downwardly from this point and is secured to the outer face of the flange of said channel by means of the lock-nut 41. The tension member 29 of said brake-beam 26 rests upon the lower portion of said loop 37 and is adapted to be guided thereby in such a manner as to keep the outer face of the brake-shoe always parallel with the tread of the wheel when the brakes are released.

It will be obvious that in the event of the brake-shoe hanger breaking, said loop 37 will prevent the brake-beam from falling or moving upwardly or the position of the brake with relation to the tread of the wheel being changed.

It will also be noted that by passing the connecting-rod 24 through the opening in the middle strut of the bolster the beams will be prevented from dropping, thus forming an additional safety factor.

I claim as my invention—

1. In a car truck and brake, the combination with a brake-beam provided with brake-heads at its ends, of brake-shoe anchors rigidly mounted upon the upper arch-bars of said truck and secured thereto by means of the transom-casting bolts and connected with said brake-heads by means of movable hangers.

2. In a car truck and brake the combination with a brake-beam comprising a compression member and a tension member mounted at their ends in brake-heads situated above the lower face of the channel of said truck and between the channel and the tread of the wheel, of brake-shoe anchors rigidly mounted upon the upper arch-bars of said truck and secured thereto by means of the transom-casting bolts and connected with said brake-heads by means of hangers depending therefrom at an incline toward said brake-heads, whereby the brake-shoes will be caused by gravity to move away from the treads of the wheels when the brakes are released.

3. In a car truck and brake the combination with a brake-beam comprising a compression member and a tension member, of a loop secured to the channel of the truck and adapted to engage the tension member of the brake-beam to guide the same.

4. In a car truck and brake, a safety-loop rigidly secured to the spring-plank or transom thereof and adapted to contain the brake-beam to guide the same.

5. In a car truck and brake, a safety-loop secured to the channel thereof and adapted to contain the brake-beam, the lower portion of said loop being bent in a slightly upward direction toward the tread of the wheel and adapted to engage the brake-beam to guide the same.

6. In a car truck and brake, the combination with a brake-shoe anchor secured to the upper face of the truck and a loop secured to the channel, of a brake-beam dependent from said brake-shoe anchor and contained within said loop comprising two members one of which is adapted to be engaged by said loop to guide said brake-beam in its movements.

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

HENRY C. WILLIAMSON.

Witnesses:

CHARLES PORTER,

RUDOLPH WM. LOTZ.