

No. 607,920.

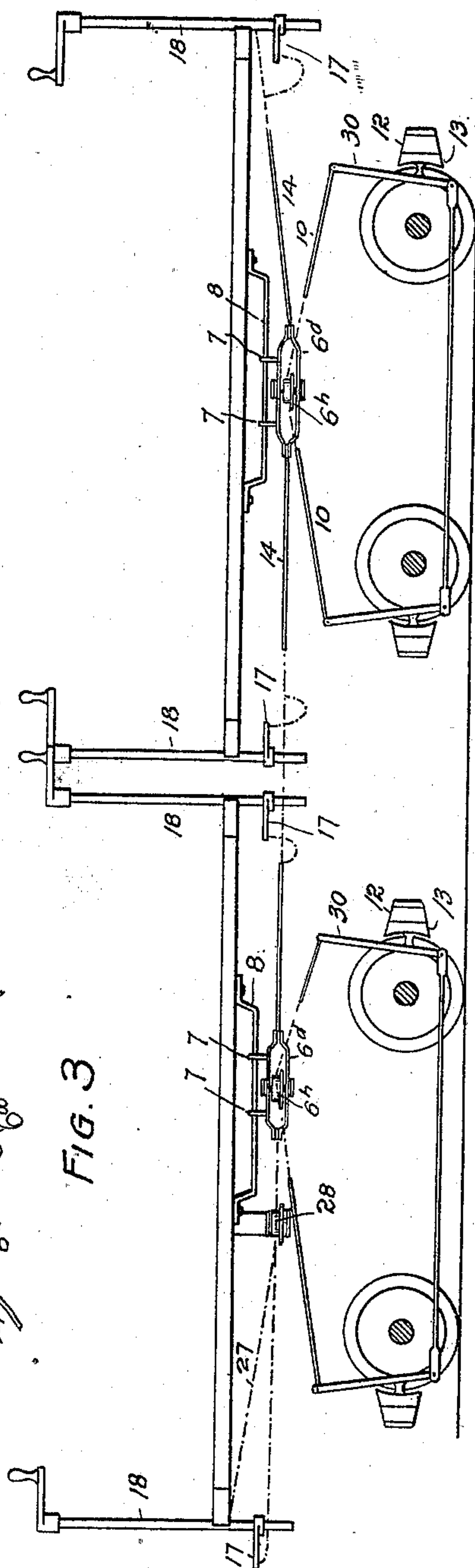
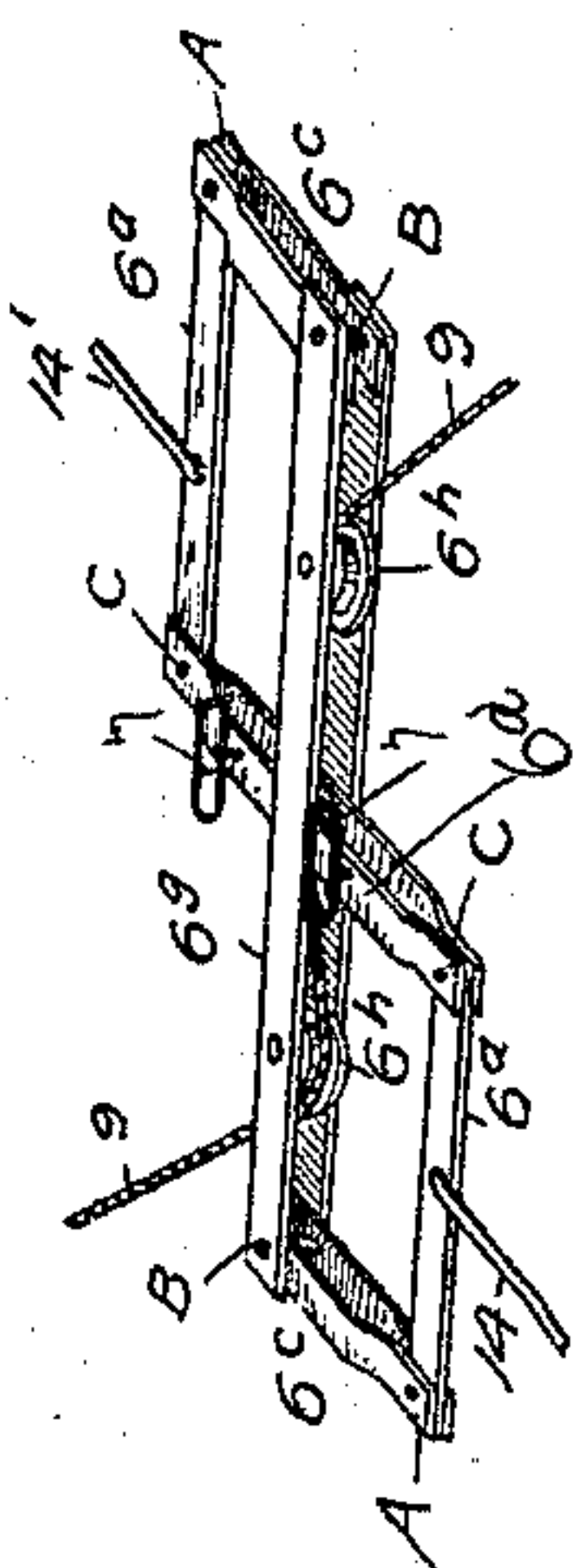
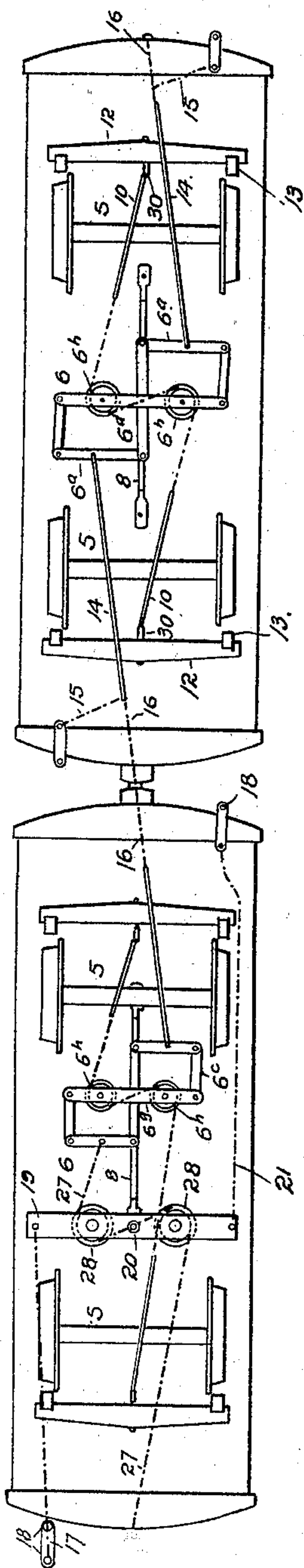
Patented July 26, 1898.

W. E. ELLIOTT.

BRAKE MECHANISM FOR RAILWAY CARS.

(Application filed Sept. 21, 1897.)

(No Model.)



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BRAKE MECHANISM FOR RAILWAY-CARS.

SPECIFICATION forming part of Letters Patent No. 607,920, dated July 26, 1898.

Application filed September 21, 1897. Serial No. 652,444. (No model.)

To all whom it may concern:

Be it known that I, WALTER E. ELLIOTT, a citizen of the United States of America, residing at Denver, in the county of Arapahoe and State of Colorado, have invented certain new and useful Improvements in Brake Mechanism for Railway-Cars; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in brake mechanism for railway-cars; and it consists of the features, arrangements, and combinations hereinafter described and claimed, all of which will be fully understood by reference to the accompanying drawings, in which is illustrated an embodiment thereof.

In the drawings, Figure 1 is an underneath view of two cars equipped with my improved brake mechanism. Fig. 2 is a side elevation of the same. Fig. 3 is a perspective view in detail illustrating the pivoted floating frame forming an important part of my brake mechanism.

Similar reference characters indicating corresponding parts in the views, let the numeral 5 designate the car-trucks. As shown in the drawings, each truck is composed of a single pair of wheels and each car is equipped with two trucks. Between these two trucks of each car is located the floating frame 6, composed of two parts 6^a, two parts 6^c, a part 6^d, and a part 6^e. As shown in the drawings, the two parts 6^c, the part 6^e, and the part 6^d are formed double. The outer extremity of each part 6^c is pivoted to the adjacent extremity of a part 6^a, as shown at A. The opposite extremities of the two parts 6^c are pivoted to the respective extremities of the part 6^e, as shown at B. The extremities of the two parts 6^a remote from the points A are pivoted to the respective extremities of the parts 6^d, as shown at C. The two parts 6^d and 6^e cross each other, and the said frame parts form two quadrilateral figures diagonally located. The angles of these figures vary according to circumstances during the use of the device.

The part 6^e carries two sheaves 6^h, located on opposite sides of the point where the two parts 6^d and 6^e intersect. When the device 6 is in use, it is movably supported underneath the body of the car in such a manner that it will allow it to move bodily back and forth during use and as circumstances may require. As shown in the drawings, the part 6^d of each device 6 is provided with two links 7, which engage a hanger-bar 8, attached to the body of the car. The bar 8 is of sufficient length to allow the device 6 the necessary movement during use. The two sheaves 6^h are connected by a rope, chain, or cable, which passes around the sheaves on opposite sides. The respective extremities of this cable are attached to the rods 10, whose outer extremities are respectively connected with levers 30, upon which are mounted the transverse beams 12, carrying the brake-shoes 13, engaging the wheels of each truck.

Connected with each part 6^a of the device 6 is a rod 14, to whose outer extremity are attached two chains 15 and 16. The chains 15 lead to the cams 17 of the rotatable brake-staffs 18. The length of these cams is such that they will take up all the slack in the brake mechanism of a single car at a partial rotation of the staff. Hence this cam of the brake-staff is a very important feature, as it greatly facilitates the setting of the brakes. The chains 16 at the adjacent extremities of any two adjoining cars are connected in order to transmit the power between cars. If there is no adjoining car, the chain 16 is made fast to the end of the car to give the necessary resistance in operating the brake mechanism.

Instead of employing the rod 14 and the chain 16 a single chain 27 may be used (see left half of Fig. 1) and passed around two sheaves 28, mounted on a bar 19, pivoted on the car-body, as shown at 20. The outer extremity of the chain is attached to the car end or to the corresponding chain of the adjoining car, as the case may be. In this case chains 21 lead from the respective extremities of the sheave-bar 19 to the respective cams of the brake-staffs 18, mounted on the opposite ends of the car. The pivoted sheave-bar 19 and its connections may be employed or not, as desired.

In taking up the slack in the brake mechanism of a number of cars it will be necessary that the device 6 move bodily in one direction or the other, as the case may be.

5 Hence it must have no point fast on the car to prevent this movement.

It will be observed that the parts of the floating frame are connected on the lazy-tongs principle; also, that the horizontal openings
10 in the supporting-links 7 must be of sufficient length to allow the parts 6^d the necessary movement during use.

The operation of my improved brake mechanism is as follows: As the brake-staff 18 is
15 rotated power is applied to one part 6^a of the floating frame through the instrumentality of the chain 15 and the rod 14, referring to the right-hand part of Fig. 1. This movement of the brake-staff will take up the slack
20 in the brake mechanism of the several cars, the floating frame 6 moving bodily far enough to permit this. The power exerted by a single brake-staff and acting on the adjacent floating frame is communicated to the float-
25 ing frame of the next car through the medium of another rod 14, which is connected with the other part 6^a of the floating frame and a chain 16 at the opposite end of the car, this chain 16 being connected with another
30 chain 16, located at the adjacent end of the next car, and another rod 14, which is connected with a part 6^a of the frame 6 of the second car or that farther to the left in Figs. 1 and 2. After the slack is taken up in the
35 manner described the floating frames will be actuated after the manner of a lazy-tongs construction. This movement will throw the two sheaves 6^b of each frame 6 in opposite directions and apply power to the brake-beams
40 12 through the medium of the rods 10 and the cables engaging the sheaves. If the bar 19 is used, the power exerted on the brake-staff is communicated to the extremities of the bar 19 through the medium of the chains 21, the
45 bar 19 being thus moved on its pivot, whereby its sheaves 28 are thrown in opposite directions and the power applied to the floating frames through the medium of the cable 27, engaging the sheaves 28.

50 Having thus described my invention, what I claim is—

1. In a brake mechanism, the combination with suitable devices for engaging the car-wheels, of a floating frame located between the
55 car-trucks and adapted to move bodily in the one direction or the other as may be required, said frame being composed of two crossed parts 6^d and 6^e, two parts 6^a and two parts 6^c, the extremities of the part 6^d being respectively pivoted to one extremity of each part
60 6^a, the said parts 6^a extending in opposite di-

rections from the part 6^d, each of the parts 6^c connecting one extremity of a part 6^a with one extremity of the part 6^e, two pulleys or sheaves mounted on the part 6^e and located
65 on opposite sides of the point where the parts 6^d and 6^e intersect, a suitable connection leading from each part 6^a to a similar connection on the adjoining car, or to a stationary support on the end of the same car as the case
70 may be, a suitable connection leading from the wheel-engaging devices of the trucks and engaging the pulleys or sheaves of the floating frame, a brake-staff, and a suitable connection between the brake-staff and the float-
75 ing frame for actuating the latter and setting the brakes.

2. In a brake mechanism, the combination with suitable devices for engaging the car-wheels, of a floating frame composed of six
80 members connected on the lazy-tongs principle, said frame being located between the two trucks of the car and adapted to move bodily in either direction as required, two pulleys or sheaves mounted on one of the crossed
85 members of said frame, a suitable connection leading from each of the two oppositely-disposed parts 6^a to corresponding members of the floating frame of the opposite car, or to a support on the end of the same car as the
90 case may be, a suitable connection between the wheel-engaging devices of the two trucks, said connection engaging the sheaves of the floating frame, and suitable means for actuating the floating frame and setting the brakes.
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3. In a brake mechanism, the combination with suitable devices for engaging the car-wheels, of a floating frame composed of members connected on the lazy-tongs principle, said frame being located between the two
100 trucks of the car and adapted to move bodily in either direction as required, two pulleys or sheaves mounted on one of the crossed members of said frame, a suitable connection leading from each of the two oppositely-disposed
105 parts to corresponding members of the floating frame of the opposite car or to a support on the end of the same car as the case may be, an intermediate pivoted bar having sheaves engaged by said connection, a suitable con-
110 nection between the wheel-engaging devices of the two trucks, said connection engaging the sheaves of the floating frame, and suitable means connected with the pivoted sheave-bar for actuating the floating frame
115 and setting the brakes.

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

WALTER E. ELLIOTT.

Witnesses:

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