

No. 755.883.

PATENTED MAR. 29, 1904.

H. JONES.
CAR BRAKE.

APPLICATION FILED SEPT. 1, 1903.

NO MODEL.

2 SHEETS—SHEET 1.

Fig. 1.

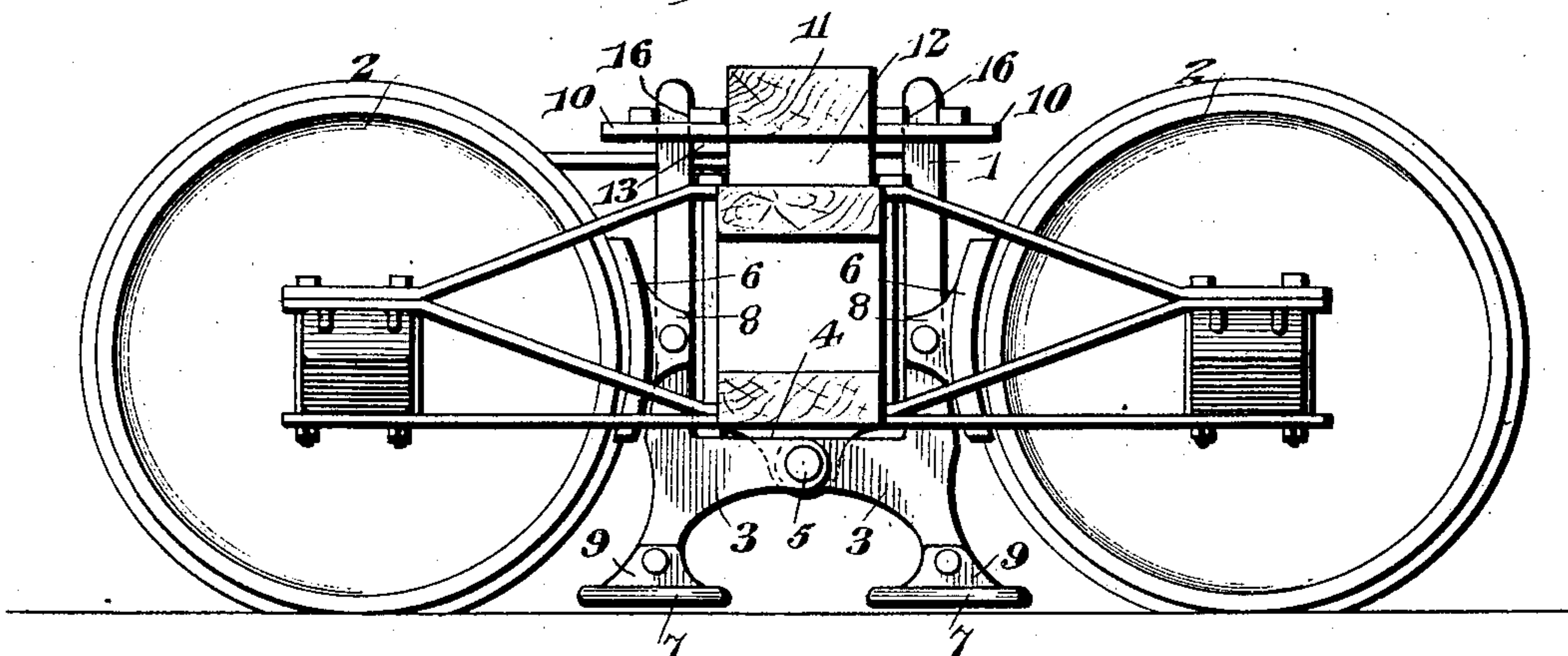
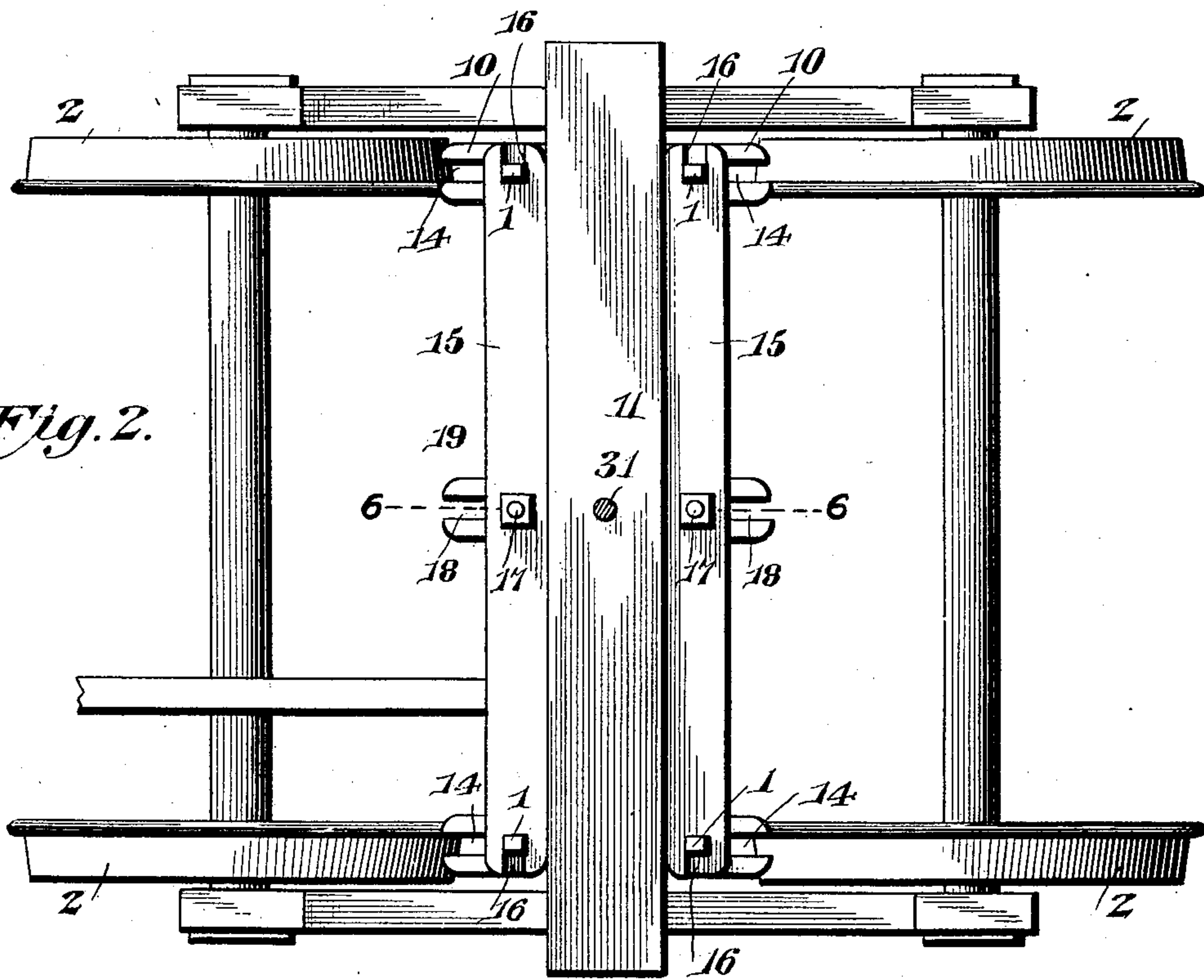


Fig. 2.



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2 SHEETS—SHEET 2.

Fig. 3.

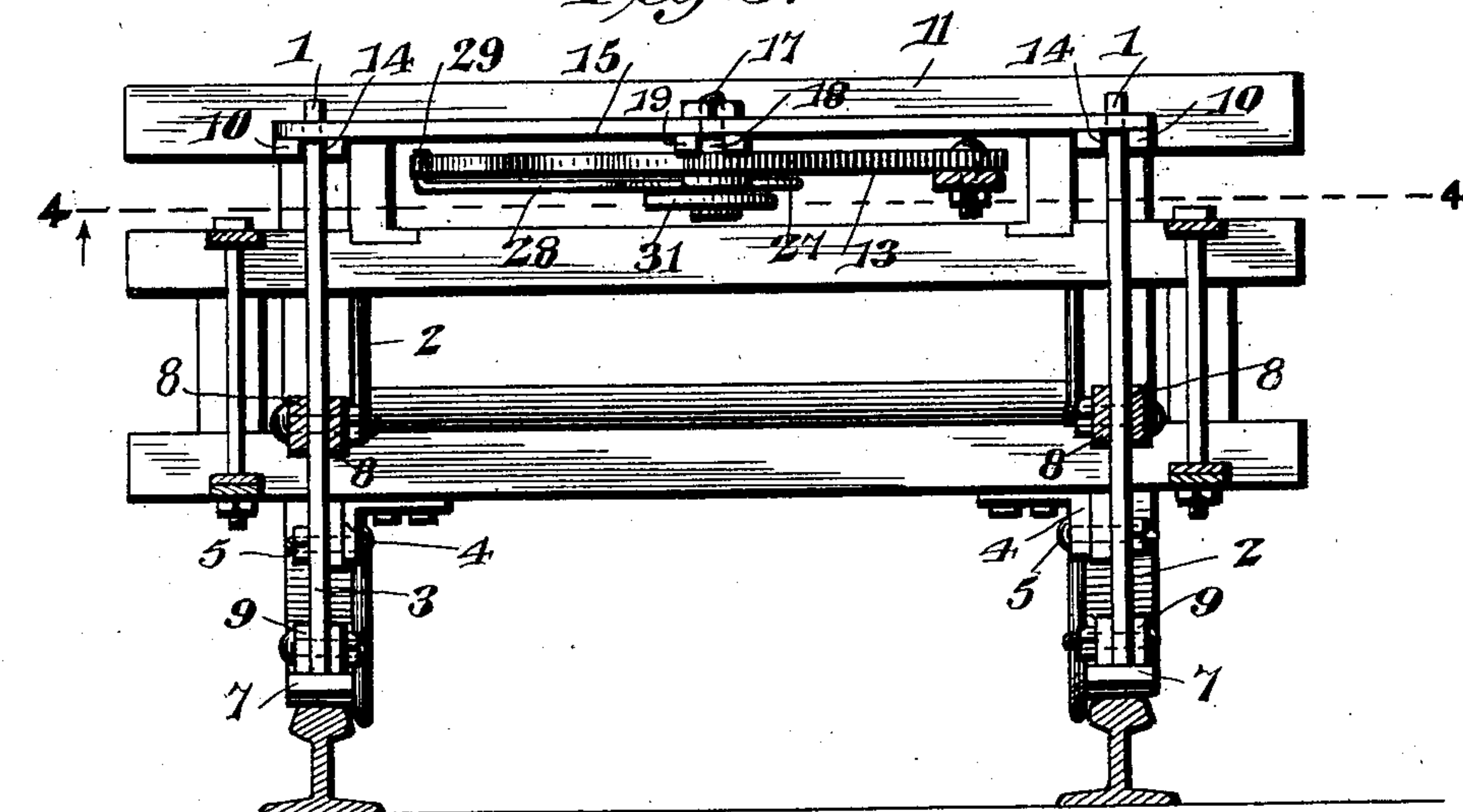


Fig. 4.

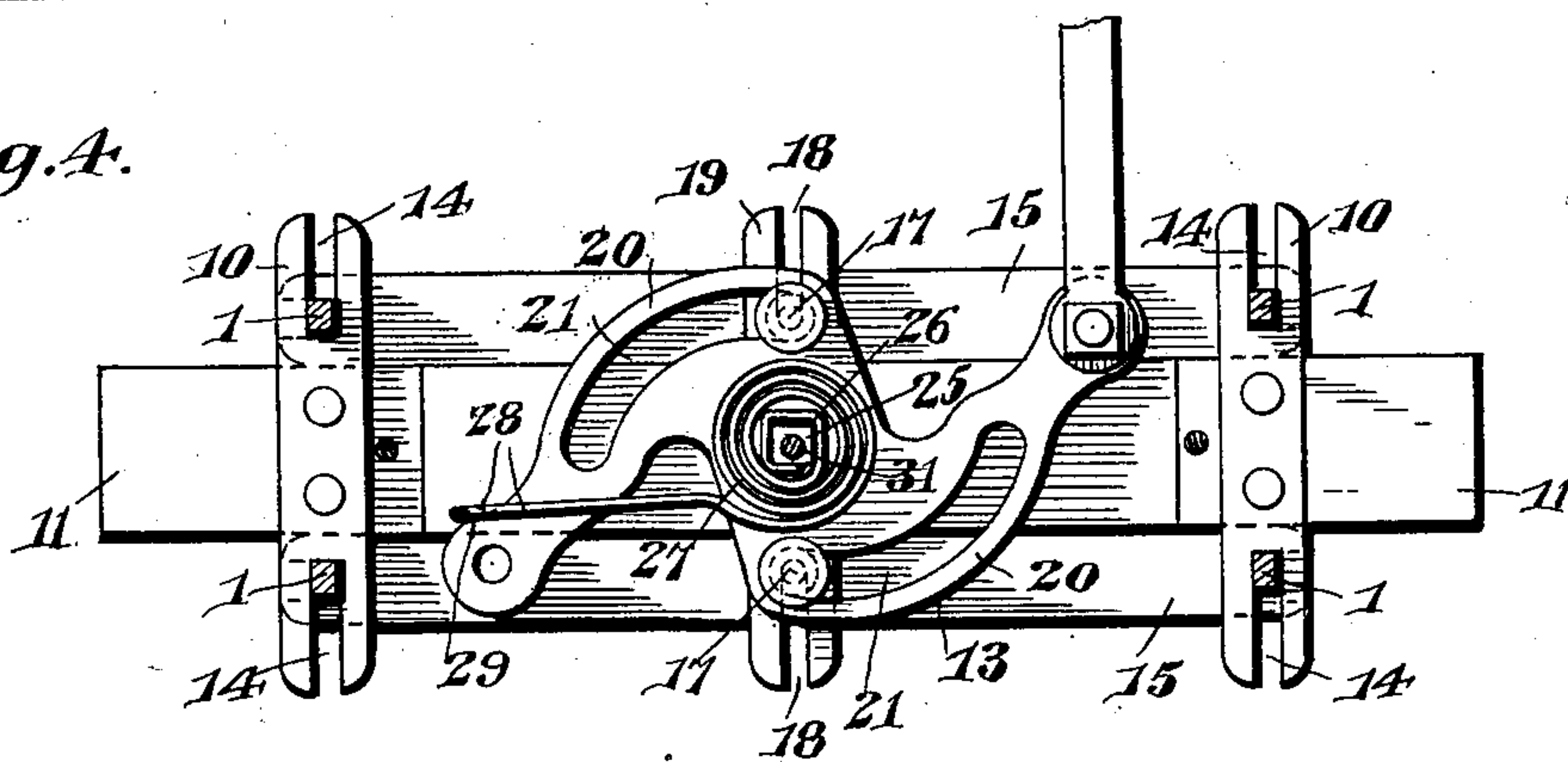


Fig. 5.

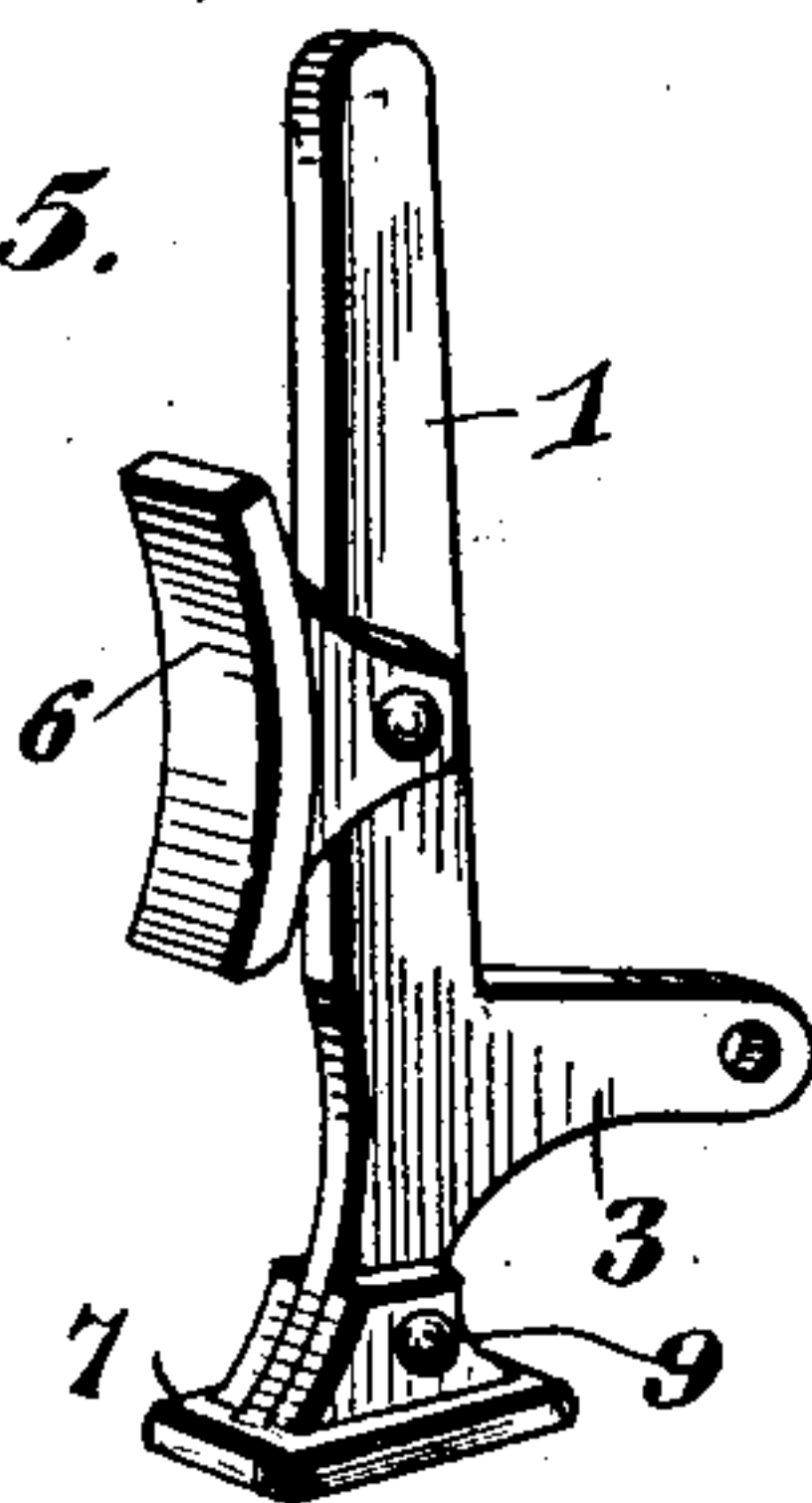


Fig. 6.

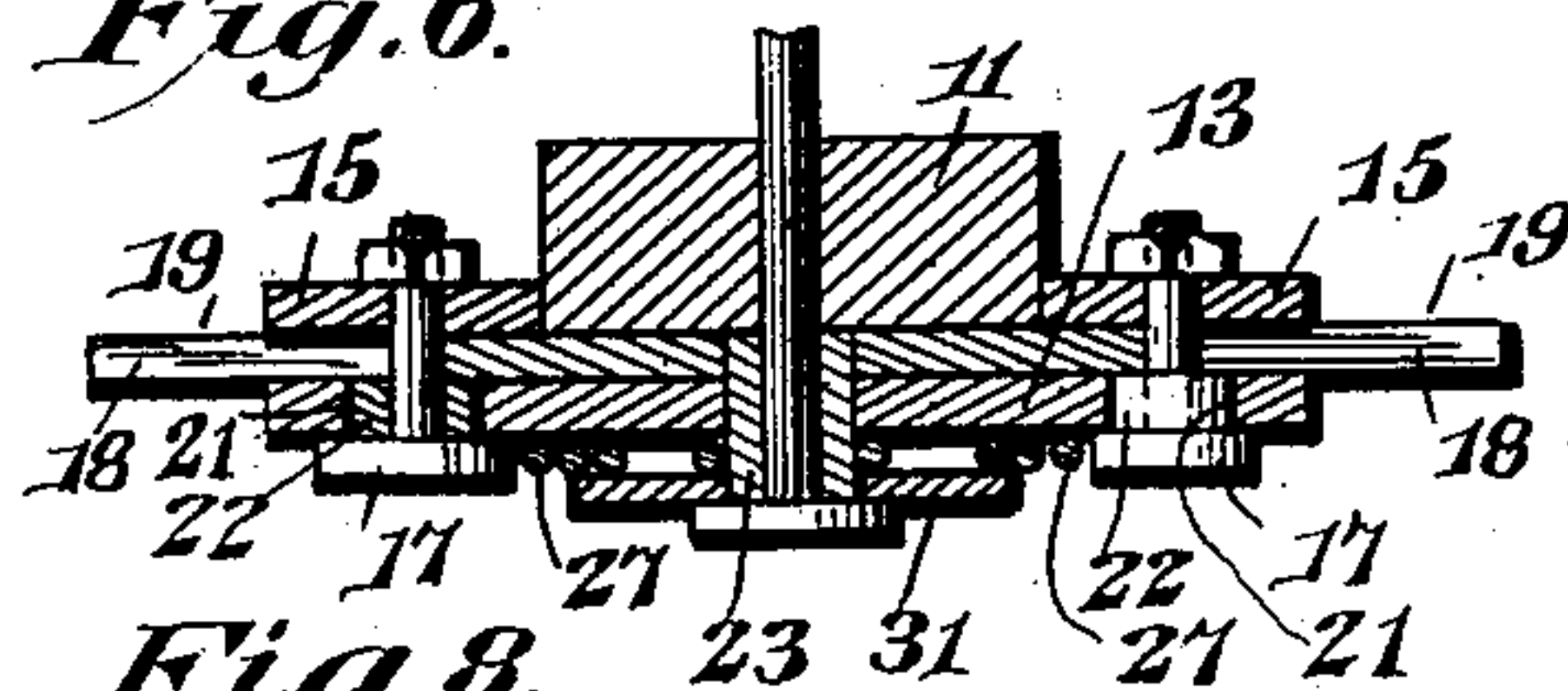


Fig. 7.

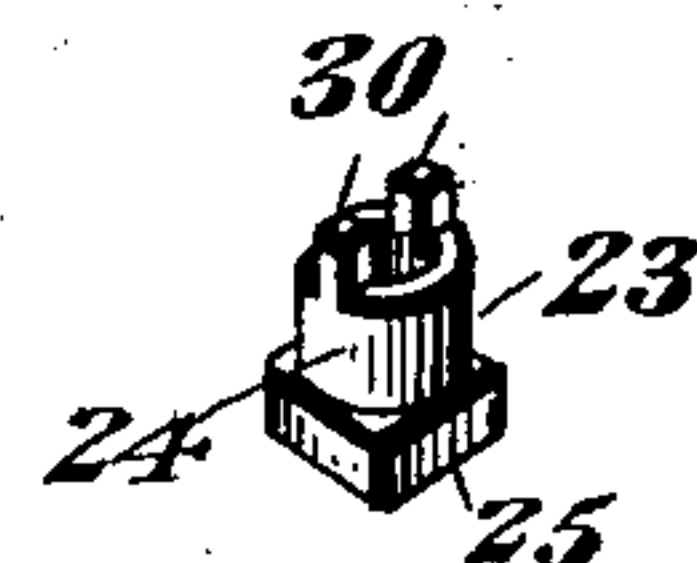


Fig. 8.



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UNITED STATES PATENT OFFICE.

HUGH JONES, OF EDWARDSDALE, PENNSYLVANIA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 755,883, dated March 29, 1904.

Application filed September 1, 1903. Serial No. 171,567. (No model.)

To all whom it may concern:

Be it known that I, HUGH JONES, a citizen of the United States, residing at Edwardsdale, in the county of Luzerne and State of Pennsylvania, have invented a new and useful Car-Brake, of which the following is a specification.

The invention relates to improvements in car-brakes.

10 The object of the present invention is to improve the construction of car-brakes and to provide a simple and comparatively inexpensive one of great strength and durability designed particularly for use on railway-cars
15 and capable of being readily applied to any truck of the ordinary construction and of effectively engaging both the track and the wheels, whereby a car or train may be quickly brought to a standstill.

20 A further object of the invention is to provide a car-brake of this character adapted to be operated by any ordinary brake-operating mechanism and capable of enabling a pair of brake-levers, each having a track-engaging
25 shoe and a wheel-engaging shoe, to be simultaneously actuated or operated at each side of a truck.

The invention also has for its object to provide simple and effective means for automatic-
30 ally throwing the brake-shoes out of engagement with the track and the wheels when the brake-operating mechanism is released.

With these and other objects in view the invention consists in the construction and novel
35 combination and arrangement of parts herein-after fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in the form, proportion, size, and
40 minor details of construction within the scope of the claims may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

45 In the drawings, Figure 1 is a side elevation of a truck provided with a car-brake constructed in accordance with this invention. Fig. 2 is a plan view. Fig. 3 is a transverse sectional view. Fig. 4 is a horizontal sectional view on the line 4 4 of Fig. 3 looking

in the direction of the arrow and illustrating 50 the arrangement of the cam-lever and the guides. Fig. 5 is a detail view of one of the upright brake-levers. Fig. 6 is a detail sectional view on the line 6 6 of Fig. 2. Fig. 7 is a detail perspective view of the sleeve on 55 which the cam-lever is fulcrumed and to which the inner end of the spring is connected.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

60 11 designate a pair of similar upright brake-levers designed to be arranged at each side of a truck and located between the wheels 2 and the central framework of the truck, as clearly shown in Fig. 1 of the drawings. The levers 1, 65 which extend from the top to the bottom of the truck, are provided at their lower portions with inwardly-extending arms 3, which are fulcrumed on a bracket 4 by a bolt 5 or other suitable pivot. The bracket 4, which is located at 70 the bottom of the truck at one side thereof, is substantially L-shaped, being composed of an upper horizontal portion and a depending vertical portion or flange, which is pierced by the pivot of the upright brake-levers 1. The 75 upright brake-levers, which may be of any desired configuration, extend above and below the pivotal point and are provided with shoes 6 and 7, arranged to engage the wheels and the track, whereby a car or train may be 80 quickly brought to a standstill. The shoe 6, which engages the wheel, has a curved engaging face to conform to the periphery of the wheel, and it is provided with parallel flanges 8, spaced apart to receive the upper 85 arm of the brake-lever and bolted or otherwise secured to the same. The track-engaging shoe 7 has a flat engaging face to fit the tread of a rail, and it is provided with upwardly-extending flanges 9, spaced apart to 90 receive the lower arm of the brake-lever and bolted or otherwise secured to the same. The brake-shoes are preferably arranged equal distances from the pivotal point of the lever, so that the brake-shoes will be applied with equal 95 force or pressure against the wheel and the track; but the arrangement of the brake-shoes may be varied to secure any desired relative

pressure on the wheels and the track, as will be readily understood. When the upper ends of the upright brake-levers are swung outward away from each other, the wheel-engaging shoes are carried outward and the track-engaging shoes move downward, whereby the said shoes are caused to engage the wheels and the track simultaneously. When the upper arms of the levers are moved inward, the track-engaging shoes will be lifted from the rails and the wheel-engaging shoes will be moved inward out of engagement with the wheels. The upper ends of the brake-levers are arranged in end guides 10, secured to the lower face of a top bar or bolster 11, which is mounted upon the top of the truck upon suitable blocks 12, which space the top bar or bolster from the truck proper to provide a space for a cam-lever 13, which actuates the upright brake-levers and which is connected with the same by the means hereinafter explained. The guide-bars 10, which extend laterally from the top bar or bolster 11 and which are disposed longitudinally of the truck, are provided at their ends with guide slots or openings 14 to receive the upper ends of the brake-levers 1. The brake-levers extend above the guides 10 and are arranged in recesses or openings of connecting-bars 15, located at opposite sides of the top bar or bolster 11 and extending across the space between the opposite levers. The recesses or openings 16 of the connecting-bars 15 are arranged at the ends thereof, and the said connecting-bars are centrally connected by bolts 17 or other suitable fastening devices to the cam-lever 13. The bolts pass through openings or slots 18 of a central guide secured to the bar or bolster 11 and extending laterally from opposite sides thereof. By this arrangement the brake-levers are simultaneously operated when the connecting-bars are actuated by the means hereinafter explained. The guide bars or pieces 10 and 19 are secured to the lower face of the bar or bolster 11 in suitable recesses thereof, as clearly shown in Fig. 3 of the drawings.

The cam-lever 13, which is disposed substantially longitudinally of the top bar or bolster 11, is composed of two approximately segmental portions 20, having cam-slots 21, forming cam edges and adapted to move the connecting-bars inward and outward as the cam-lever is oscillated, the bolts 17 of the connecting-bars being extended through the slots 21 for enabling the motion of the cam-lever to be imparted to the connecting-bars. The cam-lever is centrally fulcrumed on the top bar or bolster 11 at the lower face thereof, and the inner ends of the cam-slots are located at diametrically opposite points at the center of the truck when the brake-shoes are out of engagement and the connecting-bars are at the limit of their inward movement. The guide slots

or openings of the central or intermediate guide retain the pivots or bolts of the connecting-bars in a central position, and when the cam-lever is oscillated the inner cam edges, which gradually recede from the center of the cam-lever, engage the pivots of the connecting-bars and force the latter outward, whereby the brake-shoes are carried into engagement with the wheels and the track. When the cam-lever is oscillated in the opposite direction, the outer cam edges engage the pivots and carry the connecting-bars inward. The pivots or bolts 17 at the centers of the connecting-bars are provided with sleeves 22, which are arranged within the cam-slots, and the latter are of sufficient width to permit the sleeves when in engagement with one cam edge to operate without engaging with the opposite cam edge. The heads of the bolts 17 are extended beyond the slots and engage the lower face of the cam-lever. The cam-lever is fulcrumed on a sleeve 23, having a rounded portion 24 and a squared portion 25, the rounded portion being arranged in a circular opening of the cam-lever and the squared portion being located within a rectangular loop 26 of a coiled spring 27. The coiled spring 27, which is provided with a central rectangular loop 26, has an outwardly-extending arm 28, which is connected with the cam-lever, whereby the spring is adapted to actuate the same to carry the brake-shoes out of engagement with the brake-wheels. The arm of the spring has its terminal bent at an angle to provide an engaging portion 29, which is located at one of the side edges of the cam-lever. The sleeve 23 is interlocked with the central or intermediate guide and for this purpose is provided with a pair of projections or lugs 30, which fit in corresponding recesses or sockets of the central or intermediate guide and which are retained in the same by a fastening device 31, having a flange or collar and extending through the sleeve and engaging the top bar or bolster 11. The flange, which may be constructed in any suitable manner, extends over a portion of the coiled spring and retains the same in engagement with the sleeve and with the cam-lever. The outer end of the arm of the spring may be interlocked with the cam-lever in any desired manner, and the inner end of the spring may be connected with the fulcrum of the lever or anchored in any other desired manner.

The king-bolt of a truck will in practice constitute the fastening device 31, which passes through the sleeve or fulcruming device 23; but any other suitable means may be employed for fulcruming the cam-lever on the truck.

The ends of the cam-lever may be connected in any suitable manner with any desired brake-operating mechanism for enabling the brake to be applied by hand, compressed air, or any other suitable means, and the car-brake

herein shown and described is adapted to be substituted for the car-brakes in use on railway-cars and is adapted to be operated by the brake-operating mechanism of the same.

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

1. The combination with a truck, of an upright lever located between the truck-frame and the adjacent wheel and extending from the top to the bottom of the truck, and provided between its ends with an arm fulcrumed on the truck, and brake-shoes mounted on the lever above and below the arm and arranged to engage the wheel and the track respectively, substantially as described.

2. In a brake, the combination with a truck, of a brake-lever fulcrumed beneath a truck and provided above and below the fulcrum-point with brake-shoes fixed to it, one of the brake-shoes being arranged to engage the wheel and the other the track, substantially as described.

3. In a brake, the combination with a truck, of a pair of upright brake-levers interposed between the wheel and the truck-frame and extending beneath the latter and fulcrumed thereon and provided above and below the fulcrum-point with shoes arranged to engage the wheels and the track simultaneously, substantially as described.

4. In a brake, the combination with a truck, of a pair of upright brake-levers interposed between the truck-frame and the wheels and extending from the top to the bottom of the former and provided with arms fulcrumed beneath the truck-frame said levers being provided at their lower ends with track-engaging shoes and having wheel-engaging shoes located above the arms, and means connected with the levers for simultaneously operating the same to carry the brake-shoes of both levers into engagement with the wheels and the track, substantially as described.

5. In a brake, the combination with a truck, of brake-levers provided with shoes, a cam-lever provided with opposite slots, means connected with the brake-levers and provided with portions operating in the slots of the cam-lever, and means for operating the cam-lever for positively carrying the shoes into and out of engagement, substantially as described.

6. In a brake, the combination with a truck, of brake-levers located at opposite sides of the truck, a connecting-bar between the levers, and means for guiding and actuating the connecting-bar, substantially as described.

7. In a brake, the combination with a truck, of brake-levers located at opposite sides of the truck, guides receiving the brake-levers, a connecting-bar detachably engaging the levers, and means for guiding and actuating the bar, substantially as described.

8. In a brake, the combination with a truck,

of upright levers located at opposite sides of the truck and extending to the top thereof and provided with brake-shoes, horizontal guides extending from the top of the truck and provided with slots receiving the upper ends of the levers, said levers being extended above the guides, a transverse bar supported by the guides and having slotted ends engaging the upper ends of the levers, and means for operating the transverse bar, substantially as described.

9. In a brake, the combination with a truck, of side and intermediate guides carried by the truck, upright brake-levers arranged in the guides at the sides of the truck, a transverse connecting-bar engaging the intermediate guide and the upper portions of the brake-levers, and means for actuating the transverse connecting-bar, substantially as described.

10. In a brake, the combination with a truck, of side and intermediate guides carried by the truck and extending in opposite directions from the top thereof, upright brake-levers arranged in pairs at opposite sides of the truck and having their upper arms operating in the side guides, transverse connecting-bars detachably engaging the upper arms of the brake-levers and provided with means for operating in the intermediate guides, and means for actuating the connecting-bars, substantially as described.

11. In a brake, the combination with a truck, of intermediate guides carried by the truck, brake-levers located at opposite sides of the truck, transverse bars connecting the brake-levers, a cam-lever having opposite cam-slots, and means carried by the transverse bars for engaging the intermediate guides and the slots of the cam-lever, substantially as described.

12. In a brake, the combination with a truck, of brake-levers, a transverse bar connecting the brake-levers, a guide, a lever having a cam-slot, and means carried by the transverse bar for engaging the slot of the cam-lever, substantially as described.

13. In a brake, the combination with a truck, of brake-levers, a cam-lever provided with opposite cam-slots, means connected with the levers for engaging the slots, and a coiled spring connected with the lever for holding the brake-shoes normally out of engagement, substantially as described.

14. In a brake, the combination of a truck, a cam-lever, a brake-lever operated by the cam-lever, a sleeve interlocked with a fixed portion of the truck and having a cylindrical portion to receive the cam-lever and provided also with an angular portion, a spring connected with the angular portion and with the cam-lever, and a fastening device passing through the sleeve and securing the same to the truck, substantially as described.

15. In a brake, the combination with a truck, a lever, a fulcruming device interlocked with

the truck and having a portion receiving said lever, said fulcruming device being also provided with an angular portion, a spring connected with the angular portion and with the
5 lever, means for operating the latter, and means for connecting the same with the brake-shoes to be actuated, substantially as described.

16. In a brake, the combination with a truck provided with a transverse top bar or bolster,
10 of intermediate and side guides secured to and extending from opposite sides of the top bar or bolster and provided with slots or openings, upright brake-levers having upper arms arranged in the slots or openings of the side

guides, transverse connecting-bars having recesses receiving the upper arms of the brake-levers, a cam-lever having opposite slots, means carried by the transverse connecting-bars for engaging the intermediate guides and the slots of the cam-lever, and means for operating the
20 latter, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HUGH JONES.

Witnesses:

JOHN H. SIGGERS,
GEORGE TATE.