

D. S. STAUFFER.

CAR BRAKE.

APPLICATION FILED JULY 30, 1910.

Patented May 30, 1911.

2 SHEETS-SHEET 1.

994,041.

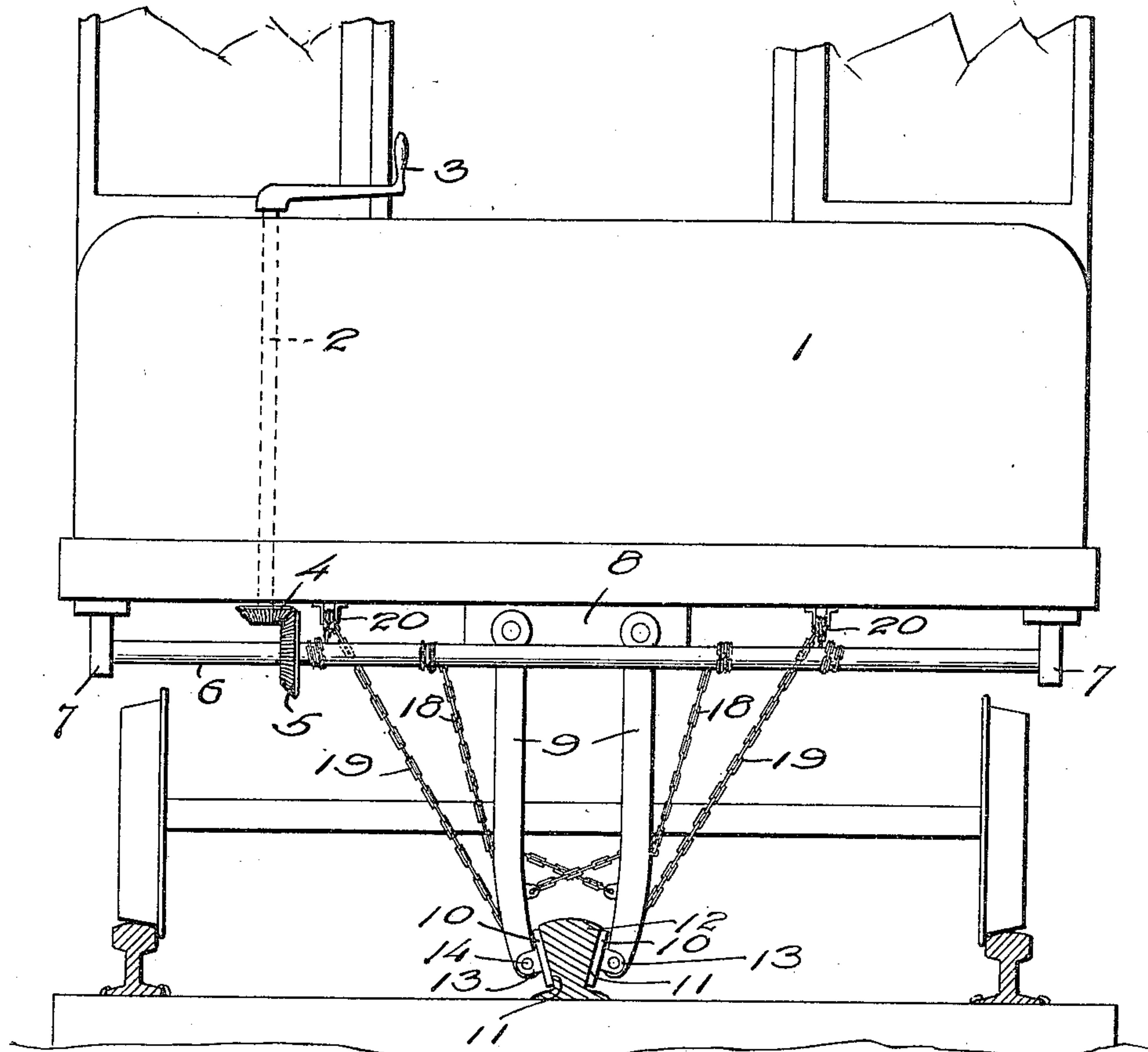


FIG. 1.

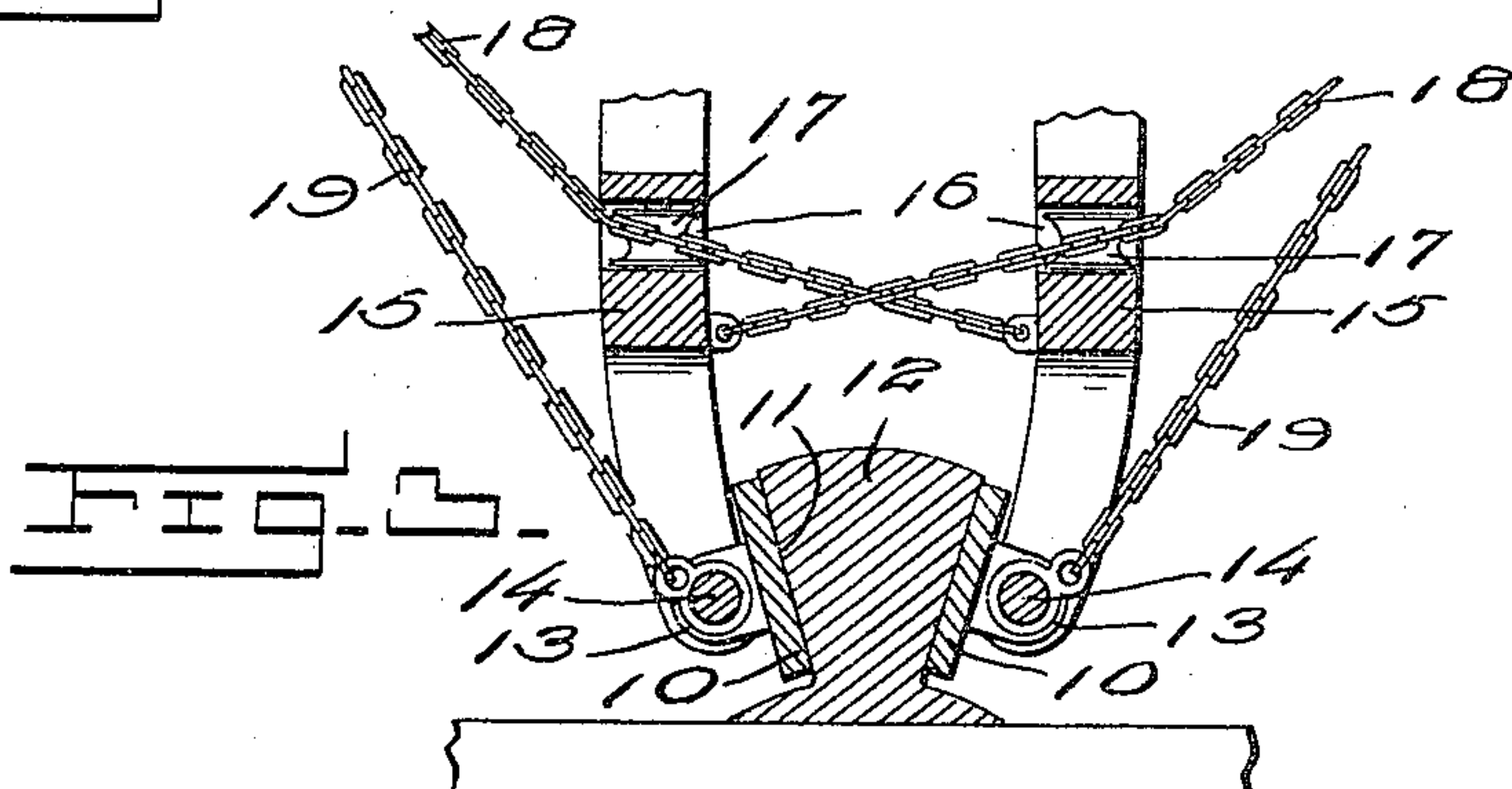


FIG. 2.

Witnesses  
*R. R. Cunningham*  
*D. S. Stauffer*

Inventor  
*D. S. Stauffer,*

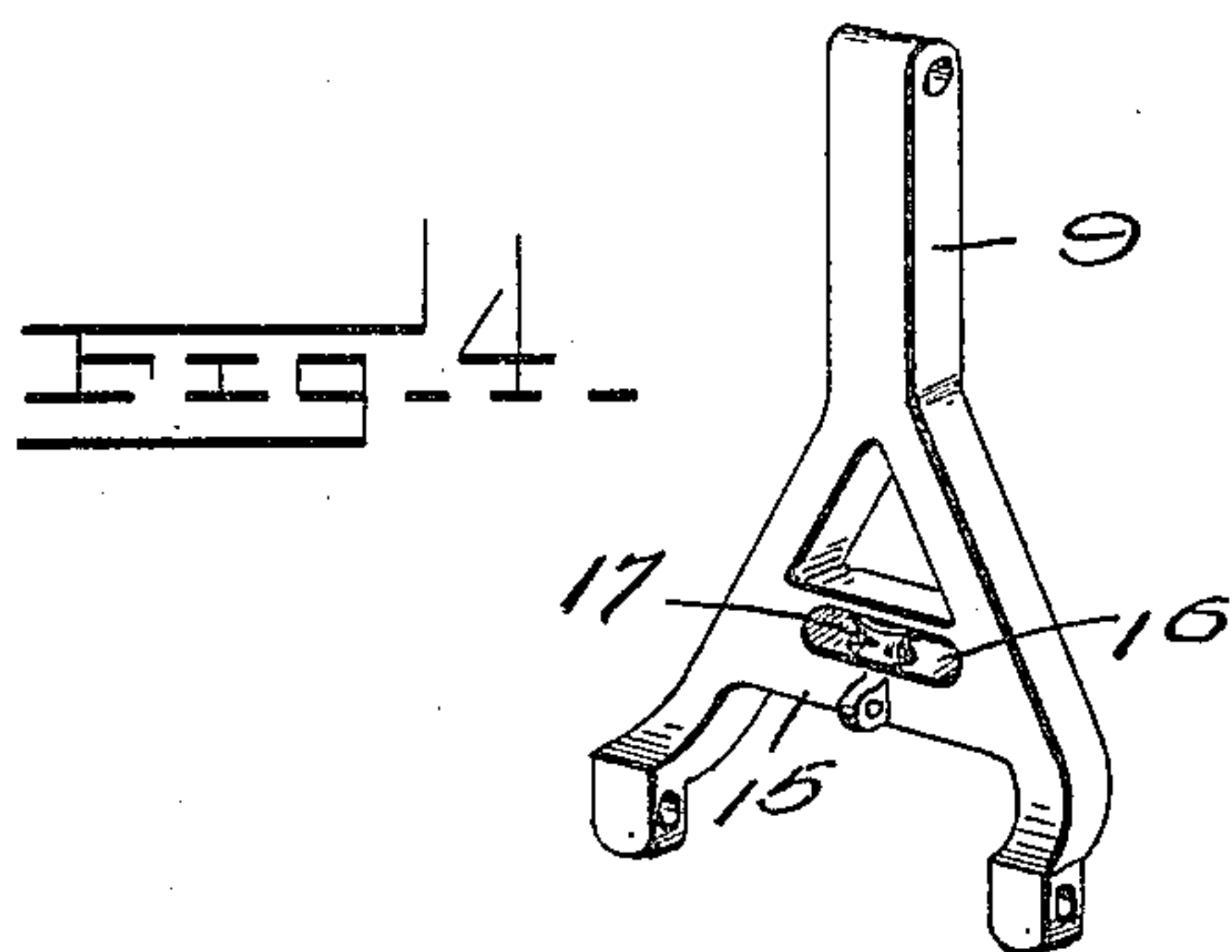
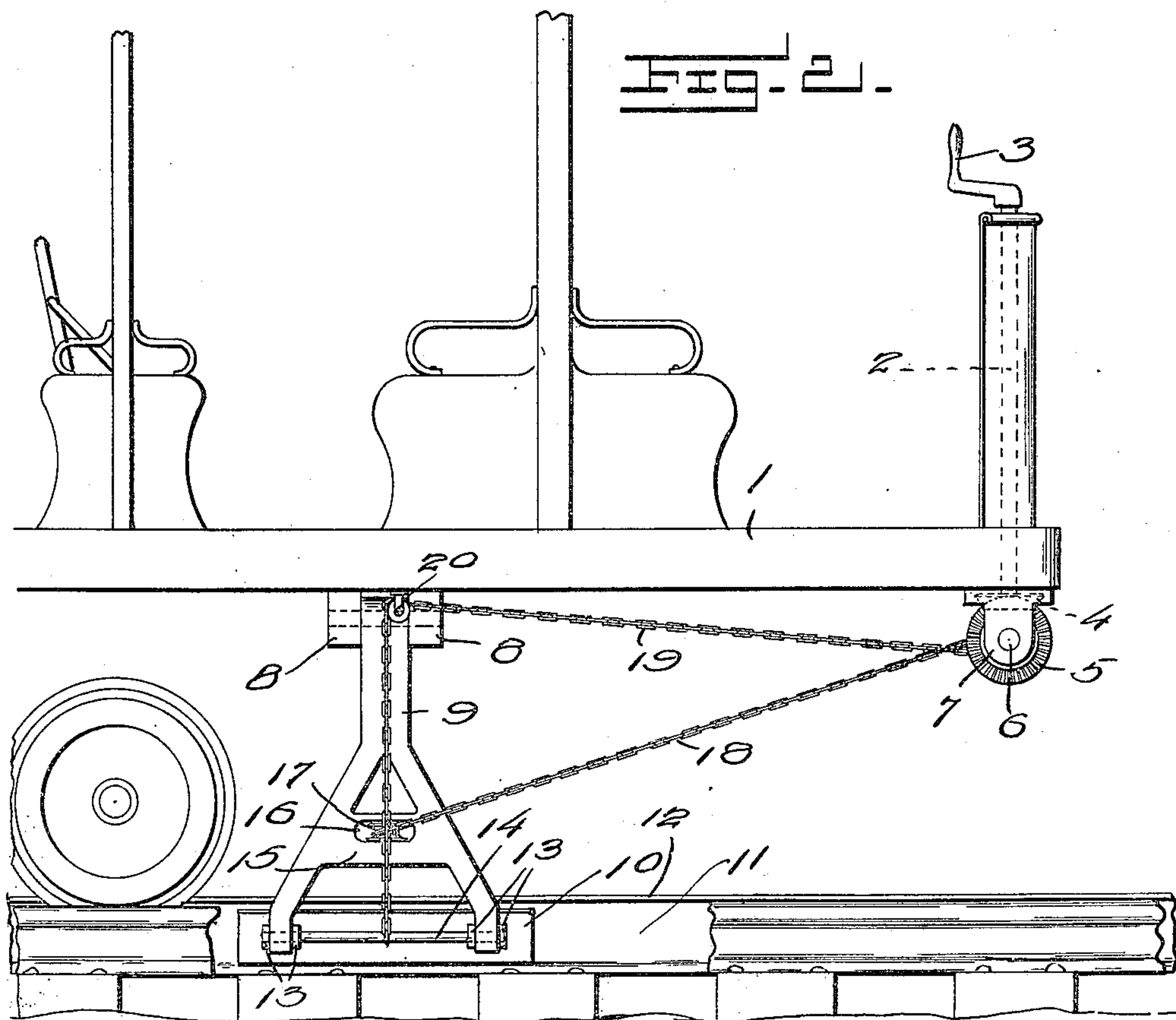
By *Howard & Chandler*  
Attorneys

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*D. S. Stauffer,* Inventor

By Howard & Chandler  
Attorneys

Witnesses  
 J. H. Cunningham  
 R. H. Ballard.



# UNITED STATES PATENT OFFICE.

DANIEL S. STAUFFER, OF RICHLAND CENTER, PENNSYLVANIA.

## CAR-BRAKE.

994,041.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed July 30, 1910. Serial No. 574,665.

*To all whom it may concern:*

Be it known that I, DANIEL S. STAUFFER, a citizen of the United States, residing at Richland Center, in the county of Bucks and State of Pennsylvania, have invented certain new and useful Improvements in Car-Brakes, of which the following is a specification.

This invention relates to improvements in car brakes, and more particularly to those wherein a hand brake is employed and adapted to be operated directly by manual power in the usual manner.

The object of the invention is to provide a very simple, practical and efficient construction in a device of the character described, whereby upon rotation of the rotatable staff in one direction the brake shoes will be properly adjusted and set, said brake shoes being positively and simultaneously released by turning said staff in the opposite direction.

A further object of the invention is to provide a third rail especially designed for the purpose and centrally located between the ordinary traffic rails upon which the car moves, said third rail having oppositely inclined contacting surfaces with which the brake shoes are frictionally brought in contact, which construction will not only perform the functions previously described but will positively prevent the jumping or derailment of the wheels of the car from traffic rails.

With these and other objects in view, the present invention consists in the combination and arrangement of parts which will be hereinafter more fully described and particularly pointed out in the appended claims, it being understood that the changes in the specific structure shown and described may be made within the scope of the claims without departing from the spirit of the invention.

In the drawings: Figure 1 is an end view of a car with the complete invention applied thereto, Fig. 2 is a side elevation of the same with a car partly broken away, Fig. 3 is a vertical section of the brake shoes and contacting rail, and Fig. 4 is a perspective view of one of the brake arms.

Referring to the drawings: 1 represents a car of the ordinary construction to which the invention is readily and conveniently applied.

Mounted in the forward end of the platform of the car in the usual manner is a brake staff 2 to the upper end of which is attached a brake handle 3 of the ordinary construction, and fixed to the lower end of said staff below the platform of the car is a bevel pinion 4 which is adapted to mesh with a similar pinion 5 secured to a transverse shaft 6 mounted in suitable bearings 7 properly positioned at opposite sides of the platform below the lower surface thereof.

Secured to the under surface of the frame work of the car body and positioned at a suitable distance from either end thereof are two blocks 8 which are separated a suitable distance from one another and between which are movably secured and properly spaced the upper ends of two arms 9 the lower ends of which are forked for the purposes hereinafter to be described, the said arms being also separated a suitable distance from one another for the practical operation of the device as will appear from the description to follow.

Hingedly carried by the lower forked ends of the arms 9 are brake shoes 10 the inner smooth contacting surfaces of which are adapted for frictional engagement with the oppositely inclined surfaces 11 of the centrally located rail 12 as clearly shown in Fig. 1 of the drawings.

The contacting brake shoes 10 are attached to the lower forked ends of the arms 9 by ears 13 forming a part of said shoes and by shafts 14 which are passed through said ears and through the lower forked ends of said arms.

Positioned at a suitable distance from the lower terminal forked ends of the arms 9 are transverse connecting portions 15 which are provided with slots 16, and mounted in said portions within the slots referred to are pulleys 17 over which the operating chains pass for setting the brakes in a manner hereinafter to be described.

Secured to the arms 9 at a suitable distance above the brake shoes 11 are attached



the ends of two chains 18 which pass over the pulleys 16 carried by said arms and crossed intermediate of the latter, the opposite ends of said chains being attached  
 5 directly to the transverse shaft 6, whereby upon rotation of said shaft the said brake shoes are brought into frictional and binding contact with the opposite inclined surfaces of the intermediate or third rail 12.  
 10 Also attached to the arms 9 on the opposite faces thereof are the ends of two chains 19 which pass upwardly and are directed over pulleys 20 fixed or properly secured to the lower frame work of the body of the car,  
 15 the opposite ends of said chains being also secured to the transverse shaft 6 the two pairs of chains referred to being secured to the shaft 6 in such a manner as to be wound in opposite directions upon the  
 20 proper rotation of the brake staff 2 when it is desired to set or release the brake shoes 10 from the rail 12.

From the foregoing description it will be readily seen that upon the proper rotation  
 25 of the brake staff 2 the transverse shaft 6 will be operated causing the chains 18 to be wound upon said transverse shaft and in consequence simultaneously force the two arms 9 and their respective shoes 10 toward  
 30 one another and in contact with the inclined opposite surfaces 11 of the rail 12, the friction being graduated and properly applied by the power imparted to the brake handle 3. Upon the release of the brake handle 3  
 35 the transverse shaft will be rotated in the opposite direction causing the chains 18 to be unwound therefrom and the chains 19 wound thereon, in which operation the brake shoes 10 will be gradually and simul-  
 40 taneously withdrawn from contact with the oppositely inclined surfaces 11 of the rail 12.

It will be observed from the construction shown and described that the arms 9 are  
 45 always held in a comparatively rigid position notwithstanding the position of the brake shoes with respect to the rail 12, and that the action or operation of the parts in either direction is positive and active un-  
 50 der all conditions.

It will be apparent that changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the  
 55 advantages of this invention.

What is claimed is:

1. A car brake comprising arms the upper ends of which are movably secured to the car, brake shoes secured to the lower ends  
 60 of said arms, two pairs of chains attached to said arms, and means for actuating said chains whereby the arms are simultaneously

actuated in either direction as and for the purpose described.

2. A car brake comprising a transverse  
 65 shaft suitably mounted upon a car body, arms the upper ends of which are movably secured to the latter, shoes hingedly attached to the lower ends of said arms, a third rail intermediately disposed between  
 70 the traffic rails and having oppositely inclined contacting surfaces with which the brake shoes are adapted to coöperate, pulleys carried by said arms, chains one end of each of which is attached to said arms and pass-  
 75 ing over said pulleys have their opposite ends secured to said shaft, a second pair of chains one end of each being also attached to said arms, pulleys over which the last named chains are adapted to pass the opposite ends  
 80 of said chains being also secured to the transverse shaft, the said pairs of chains being secured to the shaft in such a manner as to be wound in opposite directions there-  
 85 on, whereby the said arms are simultaneously moved in opposite directions, and means for rotating said transverse shaft.

3. A car brake comprising a brake staff, a brake handle secured to the upper end of the same, a bevel pinion secured to the lower  
 90 end of said staff, a transverse shaft suitably mounted upon the car body, a bevel pinion fixed to said shaft and meshing with the first named pinion, arms the upper ends of which are movably secured to the car body,  
 95 the lower ends of said arms being forked, brake shoes hingedly carried by the lower forked ends of said arms, a third rail located between the traffic rails and having oppositely inclined surfaces with which the  
 100 shoes are adapted to frictionally contact, pulleys carried by the forked end of said arms, a pair of chains one end of each of which is attached to the arms at a suitable distance above the shoes and passing over  
 105 said pulleys have their opposite ends attached to the transverse shaft, a second pair of chains one end of each being also attached to said arms, pulleys secured to the car body over which the last named pair of chains pass,  
 110 the opposite ends of said chains being likewise secured to said transverse shaft, the said pairs of chains being wound upon the transverse shaft in opposite directions, whereby the arms together with the shoes  
 115 carried thereby are simultaneously operated in either direction, as and for the purpose described.

4. A car brake comprising movable arms depending from the car body, shoes carried  
 120 by the lower ends of said arms, a third or intermediate rail having oppositely inclined surfaces with which the shoes are adapted to contact, a transverse shaft mounted in

suitable bearings below the car body, two  
pairs of chains having their ends attached  
to the arms and shaft respectively, one pair  
of chains being wound in the opposite di-  
5 rection upon the shaft to the winding of  
the opposite pair of chains, and means for  
rotating said shaft in either direction,  
whereby the arms are moved simultaneously

in either direction, as and for the purpose  
described.

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

DANIEL S. STAUFFER.

Witnesses:

ELMER M. STAUFFER,

FRANK C. JACOBY.

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

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