G. M. BRAHAM & J. LILL.

CAR BRAKE.

APPLICATION FILED MAR. 6, 1909.

957,408.

Patented May 10, 1910.

3 SHEETS—SHEET 1.

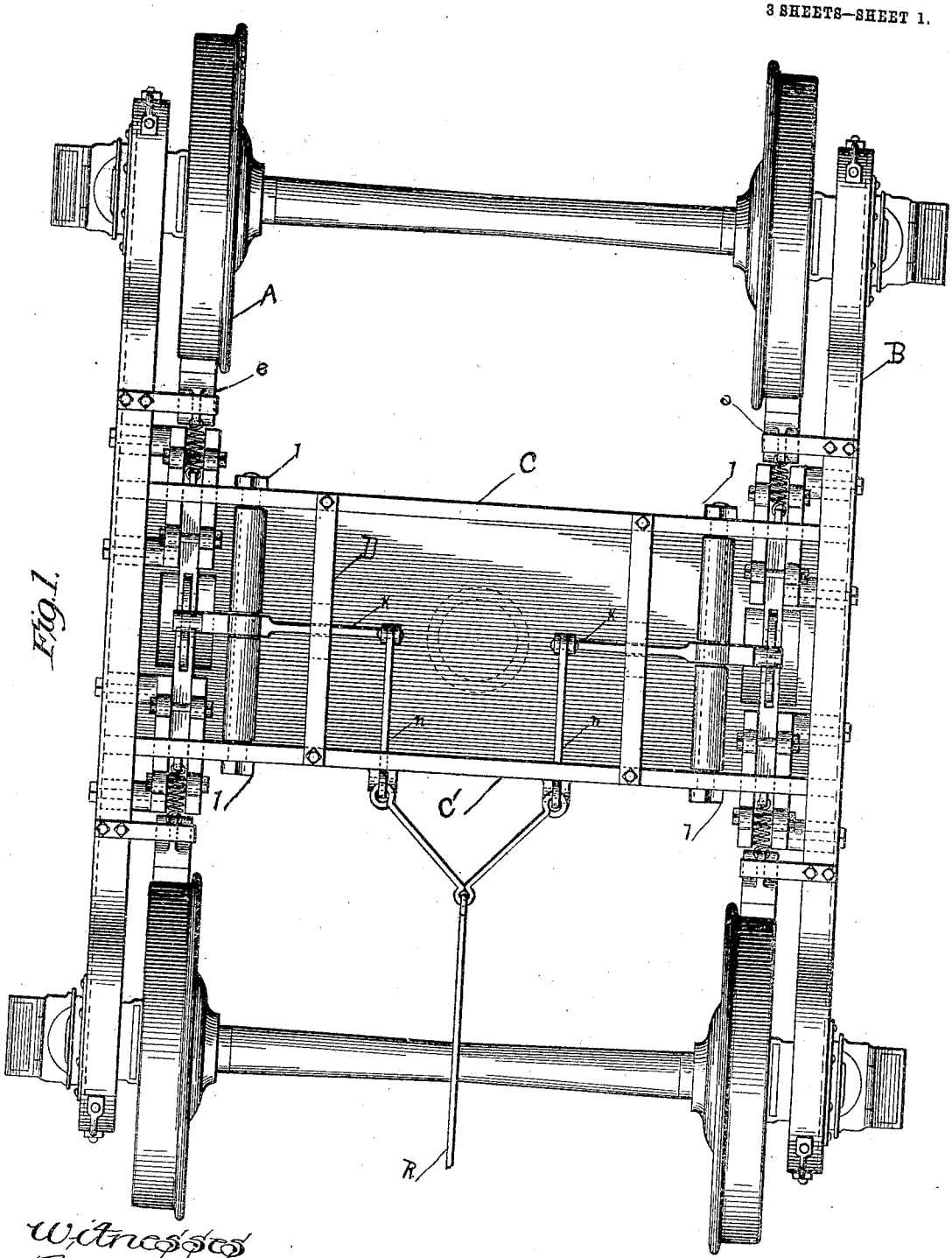

Fig. 1.

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3 SHEETS—SHEET 2.

Fig. 2.

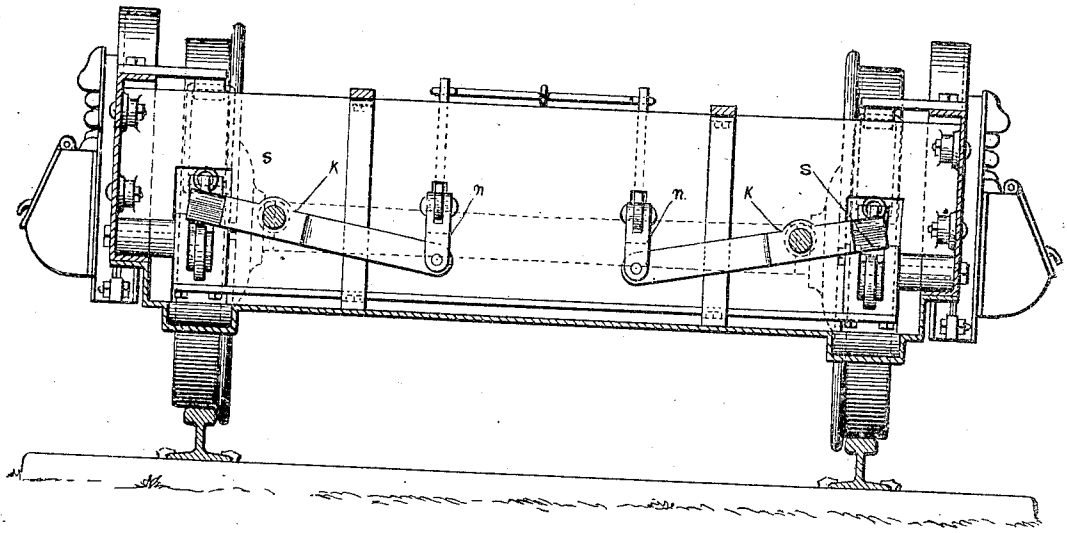


Fig. 3.

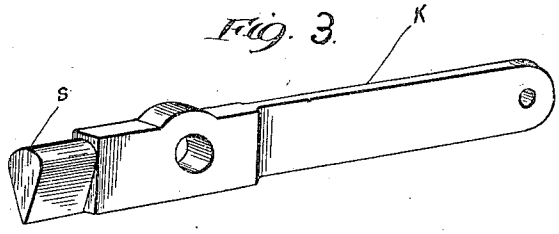
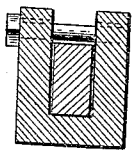


Fig. 4.



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3 SHEETS—SHEET 3.

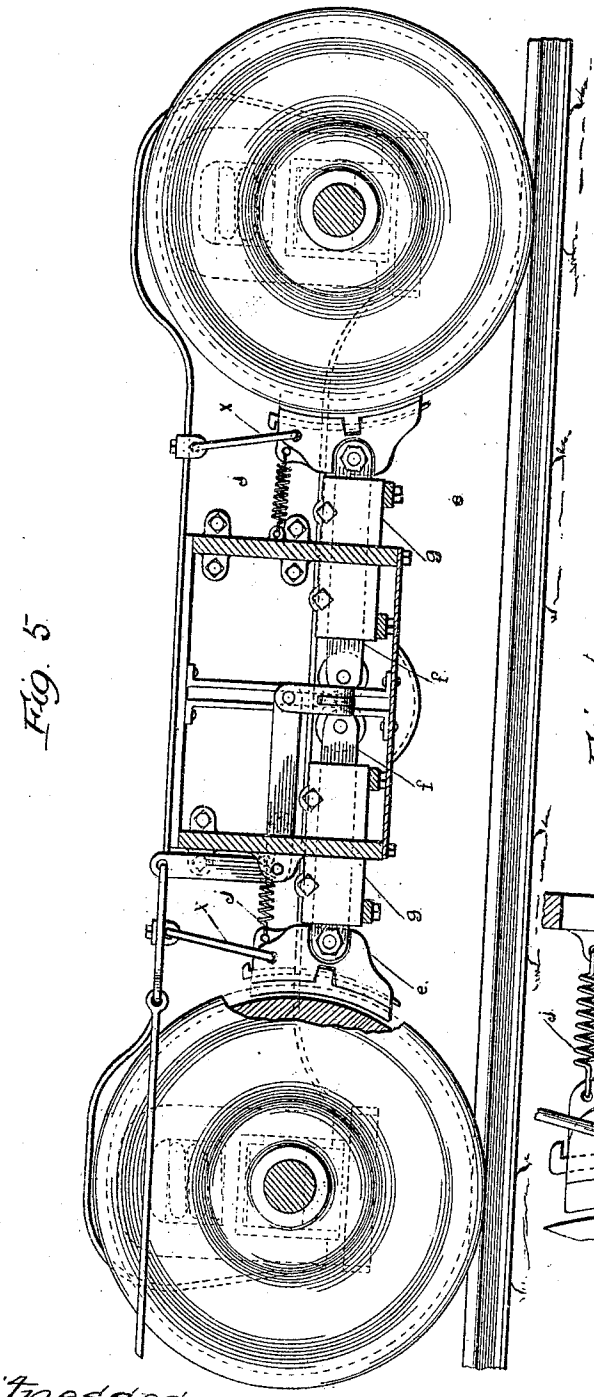

Fig. 5

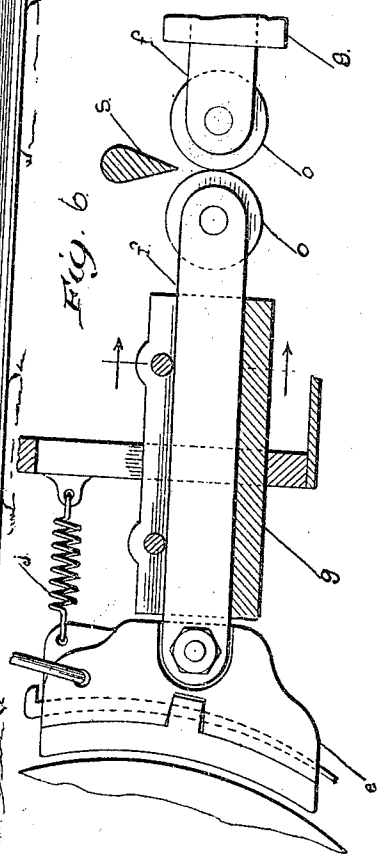

Fig. 6

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UNITED STATES PATENT OFFICE.

GEORGE M. BRAHAM AND JOHN LILL, OF HAMMOND, INDIANA.

CAR-BRAKE.

957,408. Specification of Letters Patent. Patented May 10, 1910.

Application filed March 6, 1909. Serial No. 481,869.

To all whom it may concern:

Be it known that we, GEORGE M. BRAHAM and JOHN LILL, citizens of the United States, residing at Hammond, in the county of Lake and State of Indiana, have invented certain new and useful Improvements in Car-Brakes; and we 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.

This invention relates to improvements in railway car brakes, and more particularly to the manner in which the brakeshoe is carried and operated.

The object of this invention is to suspend each brakeshoe independently from the truck and to provide a means for positively operating the brakeshoes when desired. The operating mechanism is so constructed as to be wholly carried by the truck in such a manner that it cannot become detached therefrom and fall upon the ties. The advantages of such a construction are obvious. The brake beam in general use is dispensed with so that by this construction no accidents can occur by the brake beam becoming detached and falling upon the railroad ties.

While the preferred forms of this invention are illustrated upon the accompanying sheets of drawing, yet it is to be understood that minor detail changes may be made without departing from the scope thereof.

Figure 1 is a top plan view of a car truck to which this invention is applied. Fig. 2 is a transverse view partly in section. Figs. 3 and 4 are detail views. Fig. 5 is a side elevation with parts broken away. Fig. 6 is an enlarged detail view with parts broken away and in section.

The wheels A are mounted upon a truck provided with a transom formed of parallel vertical panels C and C^1 joining the opposite truck frames B at points between the wheels. In proximity to the center of the inner side of each wheel a brakeshoe *e* is suspended from the upper portion of the truck frame and is connected by a spring *j* to the adjacent panel of the transom which will normally retain the brakeshoe out of contact with the wheel. To the center of each brakeshoe an operating bar *f* is pivoted and mounted to slide upon a horizontal bearing carried by the side panel of the transom. The inner end of the operating bar *f* is provided with an anti-friction roller *o*. The operating bars on the same side of the truck frame are in line with each other and are of such length that when in normal position the antifriction rollers *o* upon the inner ends will touch or very nearly touch each other. On each side of the truck an operating lever *k* is pivotally mounted upon a longitudinal bearing *l* secured between the parallal panels of the transom. The outer end of the operating lever is formed in the shape of a wedge *s* by tapering the sides till they meet at the bottom thereof. The wedge shaped end of the operating lever is normally suspended above the adjacent antifriction rollers upon the ends of the operating bars upon each side of the truck frame. Upon each side of the center of the transom bell crank levers *n* are pivoted upon the outer side of one panel C^1 having one arm extending upward parallel with the panel and the other arm extending inward through the panel to a point above the inner end of each operating lever. The inner ends of the bell crank levers are connected to the inner ends of the operating levers by pivoted links and the upper outer ends of the bell crank levers are connected together and to a main operating rod R.

As above stated the spring *j* upon each brakeshoe *e* normally withdraws the brakeshoe from contact with the wheel, and the adjacent ends of each pair of operating rods *f* are in close proximity to each other. When tension is applied to the main operating rod R, the power will be transmitted through the bell crank levers *n* and connecting links to the operating levers *k* causing the wedge shaped ends *s* of the operating levers to enter between the antifriction rollers *o* on the adjacent ends of each pair of operating rods *f* thereby forcing the operating rods away from each other to transmit the power to the brakeshoes. When the tension on the main operating rod is released the parts will assume their original position.

By this construction a simple and effective wheel brake operating mechanism is provided which will positively act under all conditions and as all of the operating parts are carried by the frame or transom it is im-

possible for any of the parts to become disengaged and fall upon the ties to thereby cause an accident or derail the wheels.

What we claim is:—

1. In a device of the character described, a wheel truck, a plurality of brakeshoes on each side of the truck, an operating bar pivoted to each shoe, pivoted operating levers carried by the truck provided with wedge shaped ends adapted to contact with and actuate the operating bars, and an actuating member connected to the opposite ends of the operating levers and means to operate said actuating member.

2. In a device of the character described, a wheel truck, brakeshoes suspended from each side of the truck, horizontal operating bars mounted to reciprocate in bearings carried by the truck pivotally secured at one end to a brakeshoe and having their opposite ends terminating in proximity to each other, a pivoted operating lever provided with a wedged shaped portion adapted to engage between each of the operating bars, a bell crank lever pivoted to the truck connected at one end of the operating lever, and means to operate the bell crank lever.

3. In a device of the character described, a wheel truck having side frames and a transom composed of parallel panels, a brakeshoe suspended from the truck in proximity to the inner side of each wheel, a horizontal bearing in each panel on each side, an operating bar adapted to reciprocate in each bearing pivoted at one end to a brakeshoe and having an antifriction roller at the opposite end, said operating bars on each side being in line and terminating with rollers in proximity to each other, an operating lever pivoted between the panels of the transom on each side of the center thereof, the free end of each lever having a wedged shaped member adapted to enter between the adjacent rollers on each side, a bell crank lever pivoted to the outer side of a panel on each side of the center having an arm extended inward secured to an operating lever and an arm extending upward on the outer side of the panel, means connecting the upper ends of said levers to each other and means to apply power to said connection.

4. A vehicle brake operating mechanism comprising brake shoes, supporting means for said shoes, plunger rods connecting at one end with said brake shoes and mounted to slide toward and from each other, wedge blocks normally out of engagement with and operable between the inner ends of said plunger rods to force them apart and operating means for said wedge blocks.

5. In a device of the character described, a wheel truck, brake shoes, operating bars connected at one end to a shoe and having their free ends adjacent to each other, an independent actuating means adapted to engage the adjacent free ends of the operating bars, and means to reciprocate said actuating means into and out of engagement with the operating bar.

In testimony whereof we affix our signatures in presence of two witnesses.

G. M. BRAHAM.
JOHN LILL.

Witnesses:
P. E. JOHNSON,
G. H. JACOBSON.