

(No Model.)

2 Sheets—Sheet 1.

G. E. GAY & J. H. PARSONS.
CAR BRAKE.

No. 501,333.

Patented July 11, 1893.

Fig. 1.

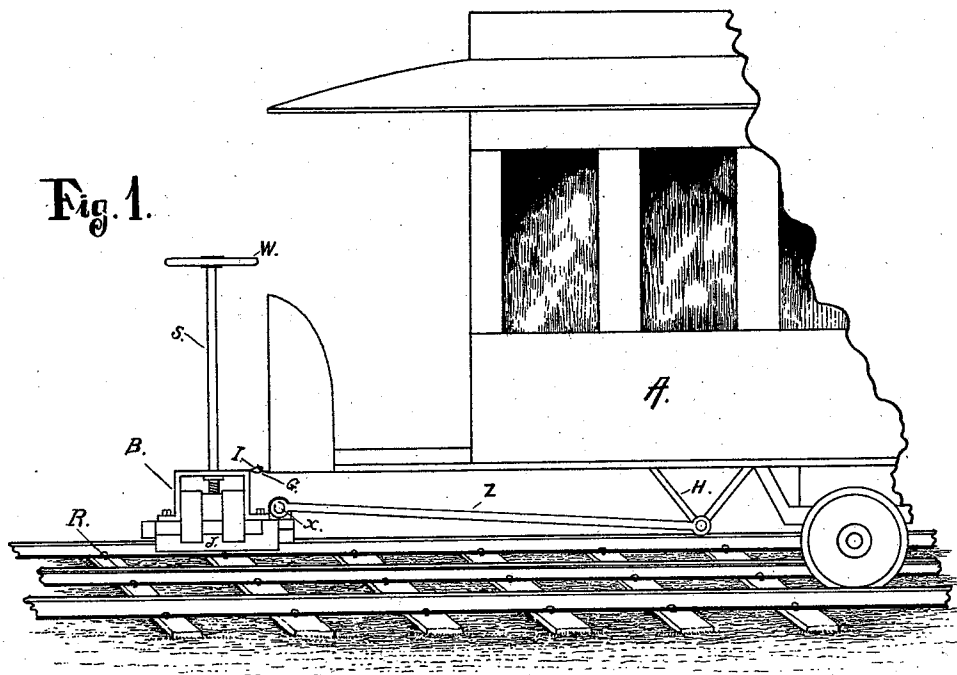
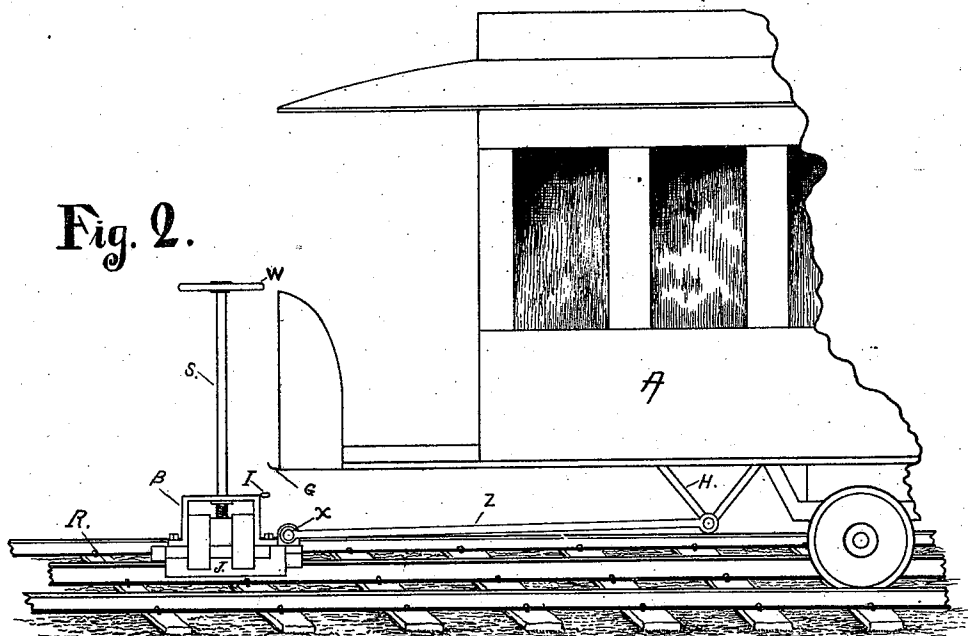


Fig. 2.



Witnesses.

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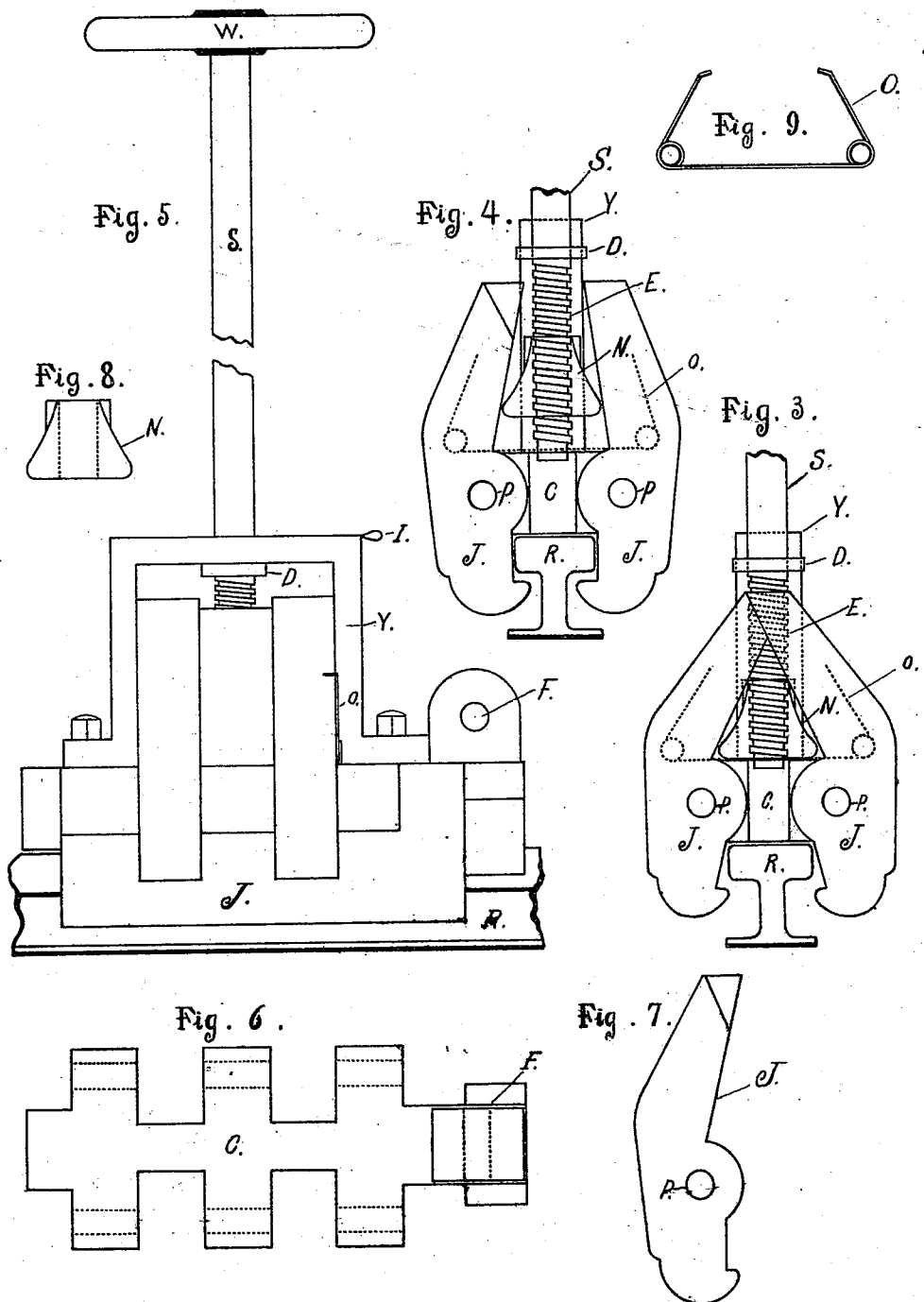
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UNITED STATES PATENT OFFICE.

GEORGE E. GAY AND JOHN H. PARSONS, OF AUGUSTA, MAINE.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 501,333, dated July 11, 1893.

Application filed October 31, 1892. Serial No. 450,571. (No model.)

To all whom it may concern:

Be it known that we, GEORGE E. GAY and JOHN H. PARSONS, citizens of the United States, residing at Augusta, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Safety-Brakes for Cars, of which the following is a specification.

The object of our invention is to provide a safety brake which can be depended upon to hold cars upon steep grades, or icy, or slippery rails. It is a well known fact that, even with the best forms of ordinary brakes, where-in pressure on the wheels has been relied upon to stop the car, it has been found during the winter, and upon other occasions when the rails are slippery, or when the rails are in good condition but the grade is too steep, that such brakes have failed to accomplish the desired results, for the reason that the wheels would often slide on the rails, thereby endangering life and property. To avoid these serious objections we have invented the following described safety brake.

Our improved brake consists of a pair of rail-gripping jaws pivoted or hinged to a shoe, the lower ends of said jaws being adapted to grip the rail, preferably a center rail, and the upper ends of said jaws being inclined inward or toward each other, and a nut or screw threaded block placed between the upper ends of the jaws, and a screw threaded staff or shaft having its lower end resting on the shoe and having on its upper end a crank or wheel whereby the staff may be turned, raising the nut or block and thereby throwing apart the upper ends of the jaws, consequently throwing the lower ends of the jaws inward so as to grip the rail.

Our invention is clearly illustrated in the accompanying drawings, which with the letters of reference marked thereon, form a part of this specification.

In the accompanying drawings Figure 1 is a view of the end of a car having the brake raised. Fig. 2, shows end of a car with the brake down on the rail. Fig. 3, is a sectional end view of the brake with the jaws open. Fig. 4, is a sectional end view of the brake showing the jaws closed. Fig. 5, is a side view of the brake complete. Fig. 6, is a view of the shoe of the brake. Fig. 7 is a view of

one of the rail-gripping jaws. Fig. 8 shows the screw-actuated nut or block. Fig. 9 is the spring.

In the drawings the same letters of reference indicate the same parts in all the figures.

A is a car, to which the brake B is attached by means of the draw-bar Z, hanger H and pin X. The rail-gripping jaws J J are pivoted to the shoe C by means of pins P P, and have projections at the lower ends of the short arms adapted to fit under the head of the rail R to prevent the brake from being pulled up and off from the rail when in use, and have their upper, or long, arms inclined inward or toward the center of the brake. The screw actuated nut or block N is placed between the upper or inwardly inclined ends of the rail-gripping jaws J J and is used to force the upper ends of the jaws apart by being drawn toward their upper ends by means of the screw threaded staff S, consequently closing the lower ends of the jaws upon the rail R. The collar D is fastened to the staff S beneath the yoke Y to hold the staff S from moving upward. The spring O is attached to the upper ends of the jaws J J to hold them in toward the nut or block N, and consequently opening the lower ends of the jaws as the nut or block is lowered or moved toward the pivotal point where the jaws are hung. The eye I and hook G are used to hang the brake to the car when the brake is raised from the rail.

F is a hole, or eye in the shoe C through which passes the pin X to connect the brake B and draw-bar Z.

W is a crank or wheel for turning the staff S.

The action of the brake is as follows: During the normal running of the car the brake is held up, or away from the rail R by means of the eye I in the yoke Y of the brake and the hook G attached to the car A or by any other convenient method. When the car is upon an incline or grade, the brake is lowered down until the shoe C of the brake rests upon the head or top of the rail R. The staff or shaft S is then turned by the operator by means of the crank or wheel W thereby moving the nut or block N upward and away from the pivotal point upon which the jaws J. J. are hung thereby forcing the upper ends of the jaws J. J. apart and consequently closing the

lower ends of the jaws J. J. upon, and gripping the rail R. It will be seen by reference to Fig. 7, showing the jaw J with its projection at its lower end, that it is necessary that
5 the lower ends of the jaws should be opened wide enough to allow these projections to pass down over the head of the rail R when the brake is lowered on to the rail, and that the lower ends of the jaws must move through a
10 space equal to the length of the projections before the inner sides of the jaws can come in contact with the sides of the rail to grip it. It is evident that very little power will be required to close the jaws until they come in
15 contact with the sides of the rail.

In order to operate the jaws quickly until they shall have come in contact with the sides of the rail we make use of a jaw actuating nut or block N which differs in its operation
20 from a wedge applied between the upper ends of the jaws, or from a right and left hand screw, such as have been used in similar devices, in the fact that the nut or block N, when in operation, changes its point of contact with the jaws and its position relative to
25 the pivotal point where the jaws are hung, and consequently changing its leverage upon the rail-gripping jaws. By this means we are enabled to move the jaws fast when the nut or block N is near the pivotal point where the
30 jaws are hung, and as the nut or block N is moved away from this pivotal point it moves the jaws less quickly and consequently the leverage becomes much more powerful, as by
35 the time that the lower ends of the jaws have come in contact with the sides of the rail, the upper ends of the jaws have been forced apart and the operating nut or block N has been moved so far from the pivotal point where

the jaws are hung, that the nut or block has a very powerful leverage to throw the upper ends of the jaws apart and consequently causes the lower ends of the rail-gripping jaws J. J. to grip the rail R with an enormous pressure. 45

In this specification we do not attempt to describe or claim any particular method of lowering the brake on to the rail, or of raising it therefrom, as it may be lowered or raised by means of the operating staff, or by
50 means of levers, springs, weights, chains, or other convenient methods.

Having thus described the object and nature of our invention, what we claim as new, and desire to secure by Letters Patent, is— 55

In a safety brake for cars, a screw actuated nut or block, in combination with a pair of rail-gripping jaws having their upper arms inclined inward toward said nut or block, and so pivoted or hinged that, when the nut or
60 block is moved away from the pivotal point the upper arms of the rail-gripping jaws will be forced apart with a variable speed and pressure corresponding to the varying points of contact of the nut or block and the inwardly inclined upper arms of the rail-grip-
65 ping jaws substantially as described in the foregoing specification.

In testimony that we claim the foregoing as our invention we have signed our names, in
70 presence of two witnesses, this 19th day of October, 1892.

GEORGE E. GAY.
JOHN H. PARSONS.

Witnesses:

HARRY W. GOLDER,
JOHN A. GARDNER.