(No Model.)

B. F. SMITH.

CAR BRAKE.

No. 260,618. Patented July 4, 1882.

fig. 1.

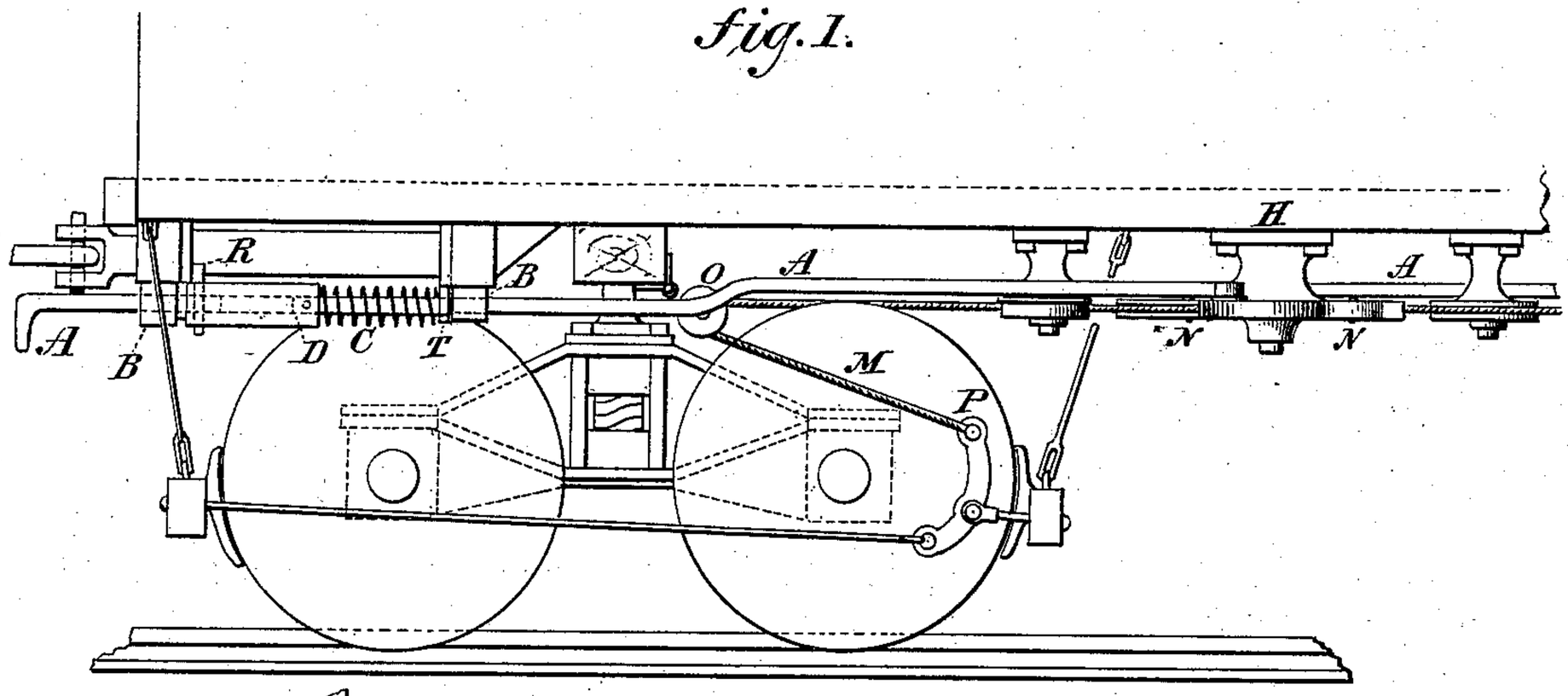


fig. 4.

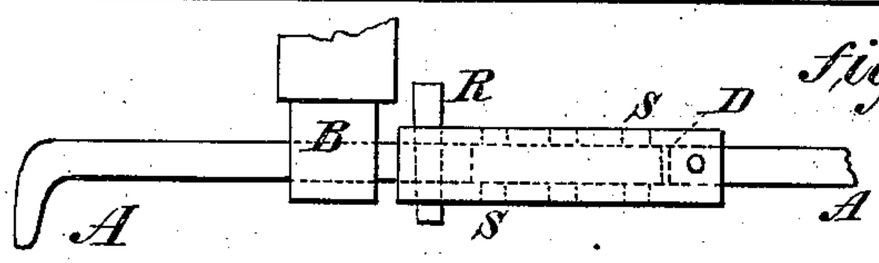


fig. 3.

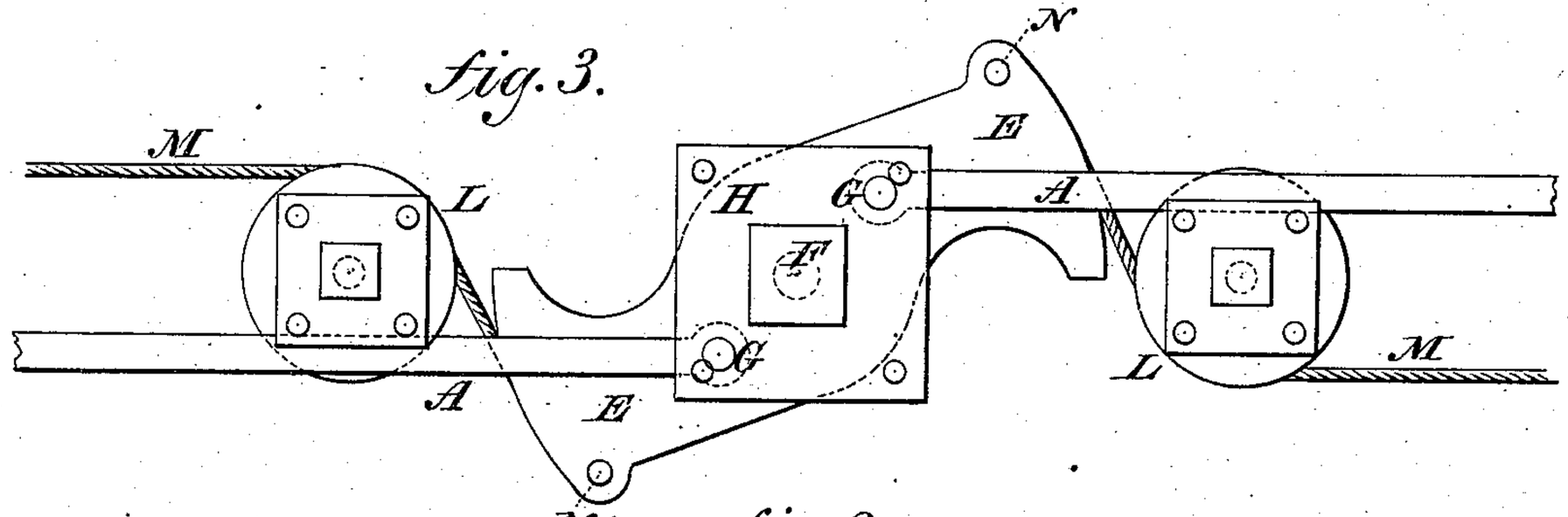
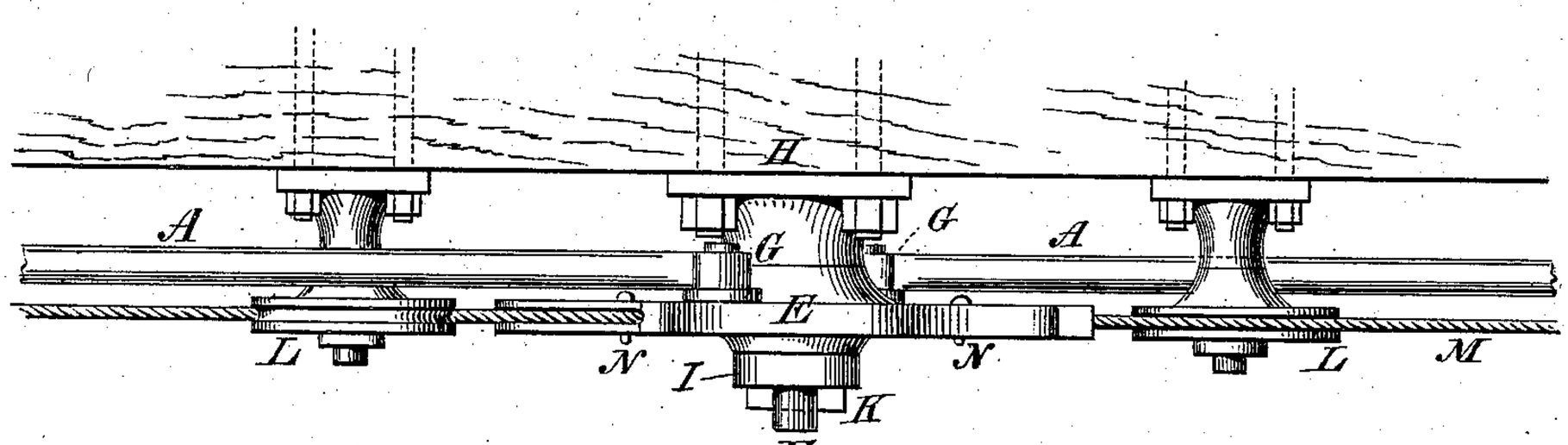


fig. 2.



F

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BENJAMIN F. SMITH, OF ALABASTER, MICHIGAN.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 260,618, dated July 4, 1882.

Application filed March 13, 1882. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN F. SMITH, of Alabaster, in the county of Iosco and State of Michigan, have invented a new and Improved Automatic Car-Brake, of which the following is a full, clear, and exact description.

My invention relates to an improvement in automatic car-brakes for railway-cars, the object being to provide a device which shall permit the engineer or others handling cars in motion to avail themselves of the momentum of such moving cars to cause them to be retarded in their forward motion by the application of the force of their impetus to their brakes.

A further object of my invention is to provide for the above-described application of power in an efficient manner without detriment to the usual use of the present brake, and, further, to provide for the disuse of this application when it is desired to move cars backward and forward while making up trains at stations, or otherwise.

With these ends in view, my invention consists in certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a longitudinal sectional elevation of a car provided with my improved automatic brake. Fig. 2 is a detail longitudinal elevation of the working parts of my improved automatic brake. Fig. 3 is a plan view of the same. Fig. 4 is a detail longitudinal elevation of one end of the brake-rod.

In Fig. 1 a railway-car is shown in which my invention is applied beneath the body of the car, preferably in the center of the same, or as near to it as convenience will allow, and consists of an iron rod, A, extending from each end of a car to and connecting with the brake mechanism located beneath the car near the center thereof, both in length and width. This rod has an enlarged head on its forward end to serve as a bumper. This rod is suspended or held in position by suitable straps or other device, B, and moves freely lengthwise, having a spring, C, coiled around it, and a washer, T, against which the spring operates to keep the rod forward in its place when not in action.

In the center (or near it) of the car is attached to the middle beam of the floor of the car, or otherwise and beneath the same, the mechanism shown in Figs. 2 and 3 by suitable bolts. It consists of an iron plate, E, which is pivoted to the car on the bottom by a central pin, F, and to which plate are attached the rods A by suitable pins, for which purpose the ends of rods A are enlarged and a suitable hole made in them to admit the pins. This plate E is supported by the pin F, which is fitted into the cap H and rests on a washer, I. This washer is kept in its place by the key K passing through the pin. The plate E has a grooved edge to receive the chain or ropes M. The pin F is cylindrical, with a square head, which is fitted into the cap H, and this cap H is attached to the central beam of the bottom of a car by suitable bolts. There are also attached to the central beam or bottom of the car in similar manner to plate E two grooved pulleys, L, for the purpose of giving direction to the rope or chains attached to the central plate, E.

The ropes or chains M are attached to the central plate, E, by suitable bolts or pins, N, and lead from the plate around the guide-pulleys, to and through a sheave, O, thence to the lever of a car-brake, to which they are suitably attached, as at P, substantially as represented in the drawings.

The rod A is divided in its forward part, and on its inner section is firmly attached a sleeve, D, into which the forward portion of rod A works, for the purpose of adjusting its length, when desired, and for the further purpose of rendering the rod A inoperative when its forward end is inserted into the sleeve as far as possible.

To adjust the forward part of the rod as desired, the sleeve is slotted in several places, as at S S S, to receive the pin or key R, and a slot is likewise made in the end of the forward part of the rod A to receive the said pin or key R. Now, when the forward part of rod A is placed within the sleeve and fastened by the pin R it acts with the sleeve and rear part of rod, forming a continuous rod, A.

Having thus described my invention in detail, I describe its operation as follows: Let it be supposed a train of cars with this device is being hauled on a railway by a locomotive, and it is desired by the engineer to slow or stop the train. In such case the engineer will apply the brakes to his locomotive and retard its motion, when such retardation will cause all the cars in the train to come together with pressure on the heads of the rods A, and by such pressure they will be moved or pushed in and toward the center of each car, and thereby the plate E will be caused to rotate on its central pin, and drawing with it the ropes or chains attached to it, and these chains will apply the brakes to the wheels of each car in similar manner as they are now applied, and will check the motion of the train or cause it to come to a rest, thus rendering available the momentum of cars in motion to retard or overcome their motion.

By removing key R and pushing the adjustable ends of adjacent rods A within their sleeves D until the heads of said rods are behind the bumper or draw-heads of the cars, and securing them to prevent contact of said rods, it is evident that the automatic brake mechanism will be rendered inoperative; and, by means of rod or chain connections between the lever P and the ordinary hand-brake shaft and ratchet, the brakes of a car may be operated by hand at will in the usual manner, the application of my improvement in no way interfering with the action of such hand-brakes, whether the rods A be adjusted in either operative or inoperative position, as above described.

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

1. The combination, with a car, of a pivoted plate on the bottom of the same, longitudinally-sliding bar or rods pivoted to this plate and adapted to be operated by the adjacent car, and of ropes or chains attached to this plate and to the brakes, substantially as herein shown and described, and for the purpose set forth.

2. The combination, with a car, of a pivoted plate on the bottom of the car, longitudinally-sliding bars or rods pivoted to this plate and adapted to be operated by the adjacent car, ropes or chains attached to this pivoted plate and to the brakes, and of pulleys for guiding these ropes and chains, substantially as herein shown and described, and for the purpose set forth.

3. The combination, with a car, of the pivoted plate E, the bars or rods A, pivoted thereto, the springs C, and the ropes or chains M, attached to the plate E and to the brakes, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with a car, of the pivoted plate E, the rods or bars A, the ropes or chains M, attached to the plate E and to the brakes, and of the pulleys L and O, substantially as herein shown and described, and for the purpose set forth.

5. The combination, with a car, of the pivoted plate E, of the ropes or chains M, the bars or rods A, and devices for shortening these bars or rods A, substantially as herein shown and described, and for the purpose set forth.

6. The combination, with a car, of the pivoted plate E, of the ropes or chains M, the bars or rods A, and devices for shortening the bars or rods if the brake device is not to be operated, substantially as herein shown and described, and for the purpose set forth.

7. The combination with a car, of the pivoted plate E, the ropes or chains M, the rods or bars A, the sleeve or tubular piece D, for receiving the adjoining ends of two sections of rods or bars A, and of the key R, substantially as herein shown and described, and for the purpose of adjusting the length of the rods, as set forth.

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Witnesses:
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