2 Sheets—Sheet 1.

A. B. ALLEN.

Car-Brake.

No. 205,987. Patented July 16, 1878.

Fig. 1.

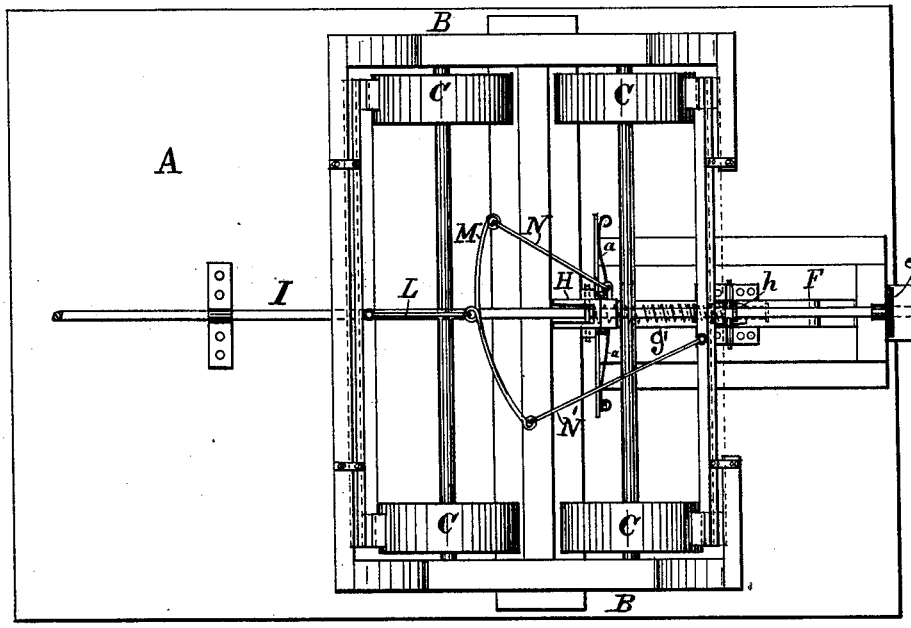


Fig. 2.

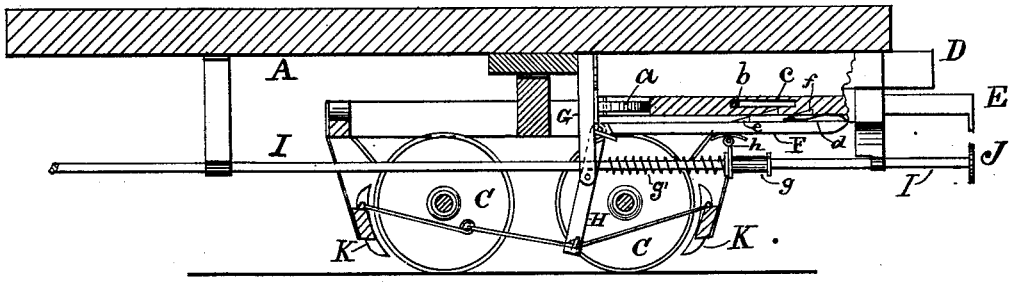
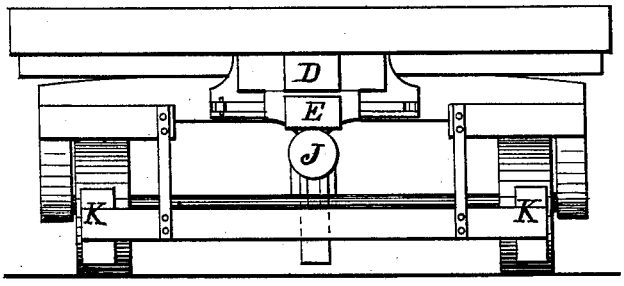


Fig. 3.



WITNESSES.

Frank M. Burnham.

H. A. Daniels.

INVENTOR.

Aaron B. Allen

By Myers & Co.

Attys.

A. B. ALLEN.

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Fig. 4.

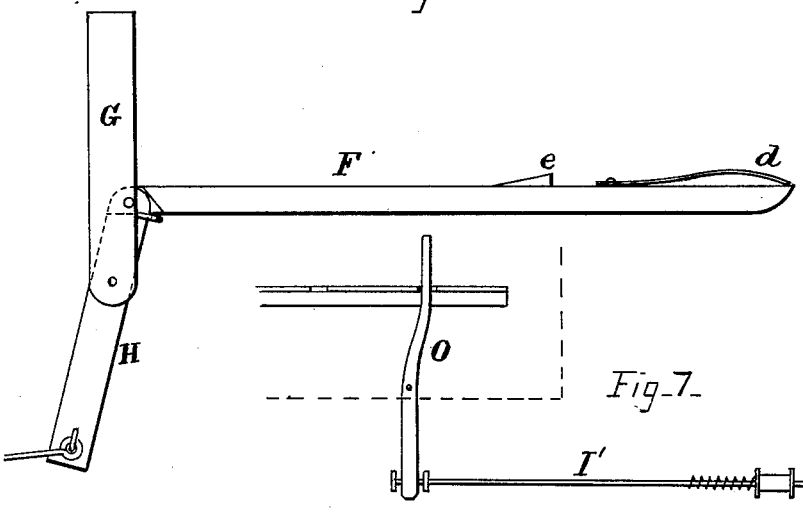


Fig. 7.

Fig. 5.

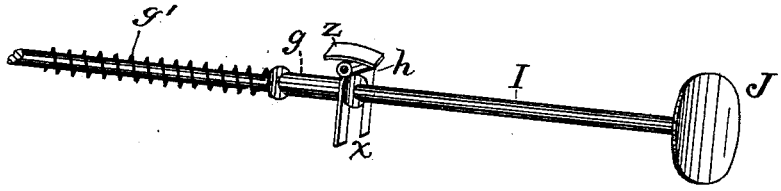
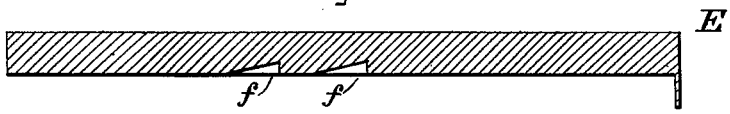


Fig. 6.



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INVENTOR.

Aaron B. Allen

By Myers & Co.

Attys.

UNITED STATES PATENT OFFICE.

AARON BURR ALLEN, OF BARRY, ILLINOIS.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **205,987**, dated July 16, 1878; application filed November 24, 1877.

To all whom it may concern:

Be it known that I, AARON BURR ALLEN, of Barry, in the county of Pike and State of Illinois, have invented certain new and useful Improvements in Car-Brakes; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to car-brakes; and consists in certain improvements in the construction of the same, as hereinafter described, the object of this invention being to provide a brake for railway-cars which shall be self-adjusting and safe in its operation.

In the accompanying drawing, Figure 1 represents, in plan, a part of the bottom of a car and truck provided with my improved brake. Fig. 2 is a vertical longitudinal section. Fig. 3 is an end view. Fig. 4 shows the part termed the "brake-arm" and the lever connecting with it. Fig. 5 represents part of the bumper-rod and connecting parts. Fig. 6 shows, in section, the part termed the "brake-head." Fig. 7 illustrates the operation of certain parts.

Referring to the drawing, A designates the car-bottom, and B the truck, with wheels C. D indicates the buffer, under which is located the brake-head E, within a suitable support, to allow it a sliding movement, said brake-head being adjustable, and provided with a spring, *a*, at the rear end thereof. When in its usual position, the brake-head extends about four inches beyond the buffer D; and when the train is extended or drawn out, one brake-head touches or nearly touches another; but when the train closes, as in descending or stopping, one brake-head forces another in before the buffers can strike, relieving the cars from the shock of sudden jamming. A bolt, *b*, passing through the slot *c* in the brake-head, limits its adjustment.

F is a brake-arm, which is located under the brake-head E, as shown in Fig. 2, and has its rear end coupled to a pivoted lever, H, which swings in the stud or hanger G, fixed to the bottom of the car. A small spring, *d*, is fastened to the arm F, to hold it apart from the brake-head E. The spring *d*, however, yields to pressure when the parts E and F are brought into connection by means of the catch *e* on the arm F and one of the notches *f* on the brake-head, as hereinafter stated.

Under each car is placed lengthwise a rod, I, extending from end to end, and being loosely supported to allow it a sliding movement. Each end of the rod has a head, J, these rods I under the several cars of a train being all on a line, and the heads J coming in contact when the cars are brought closer together, as when a train is slacking up.

A sliding spool, *g*, on rod I engages the anchor *h*, pivoted under the brake-arm F, as shown, so that when the spool bears against the bifurcated part *x* of the anchor the segmental part *z*, turning, presses the arm F up against the brake-head, so that the projection *e* catches in one of the notches *f*, and a connection is formed between E and F as the former moves back.

The spiral spring *g'* is designed to readjust the spool *g* into position and holds it steadfast.

The brake-shoes K are connected with the swinging lever H by means of the bow M and the rods L, N, and N', so as to be brought to the wheels by movement of the lever.

In Fig. 7 is shown the means of operating the rods I from the engine by means of a lever, O, connecting with rod I', having a head, J, and located on a line with the rods I.

I claim—

1. The rod I, with head J, anchor *h*, with bifurcated adjunct *x*, spool *g*, spiral spring *g'*, and brake-arm F, substantially as shown, and for the purpose specified.

2. The adjustable brake-head E, with slot *c* and bolt *b*, spring *d*, and brake-arm F, substantially as shown and described.

3. The brake-arm F, with catch *e* and spring *d*, hanger G, swinging lever H, and brake-head E, with notches *f*, substantially as set forth.

4. The swinging lever H, hanger G, with

brake-arm F, bow M, rods L N N′, spring *a*, and shoes K, substantially as specified.

5. The buffer D, brake-head E, brake arm F, with notch *e* and spring *d*, pivotal lever H, hangers G, and rod I, with anchor *h*, spiral spring *g*′, and bifurcated part *x*, substantially as shown, and for the purpose specified.

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

AARON BURR ALLEN.

Witnesses:

CELL HARVEY,

E. C. MURPHY.