

(No Model.)

E. EBI.
CAR BRAKE.

No. 265,773.

Patented Oct. 10, 1882.

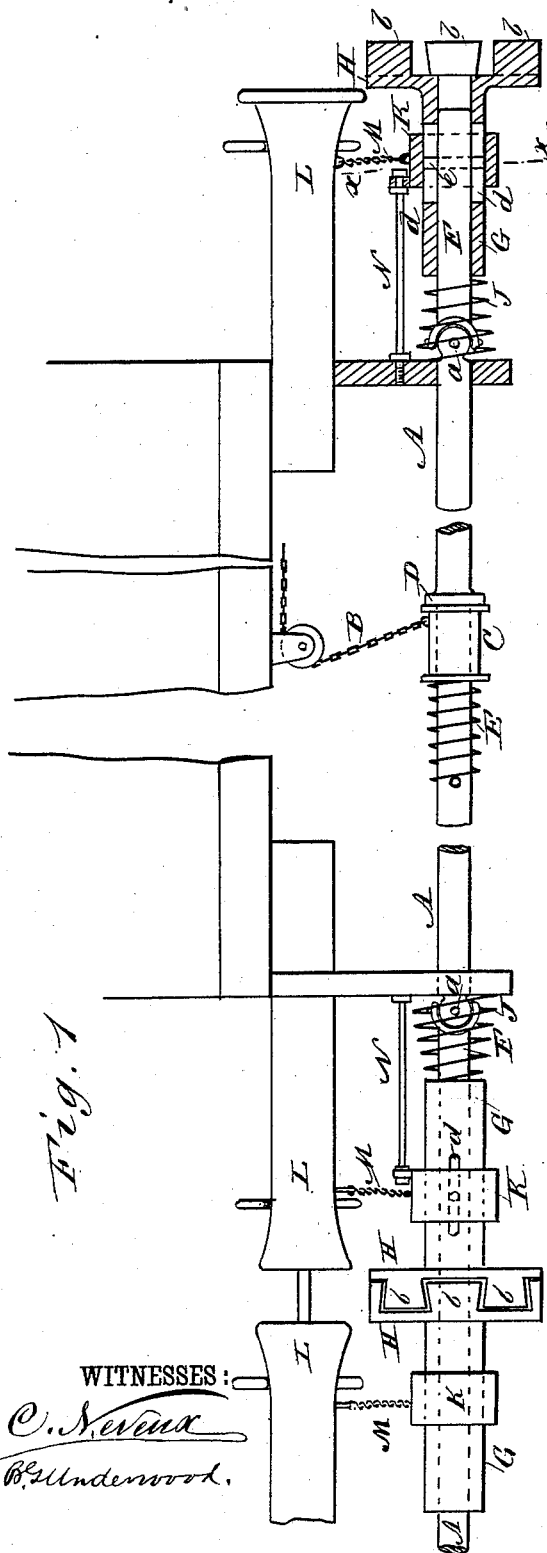


Fig. 3

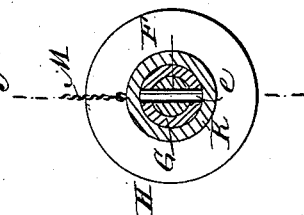
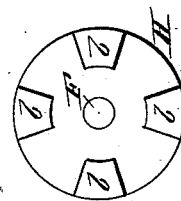


Fig. 2



WITNESSES:
C. Severn
B. Underwood.

INVENTOR:
E. Ebi.
BY *Munn Ko*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

EDWARD EBI, OF CEDAR RAPIDS, IOWA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 265,773, dated October 10, 1882.

Application filed March 11, 1882. (No model.)

To all whom it may concern:

Be it known that I, EDWARD EBI, of Cedar Rapids, in the county of Linn and State of Iowa, have invented a new and Improved Brake-Rod, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved device for applying all the brakes of a train simultaneously.

10 The invention consists in a rotating brake-rod journaled below the car-bottom and provided at the ends with clutch-plates longitudinally movable on the brake-rod, whereby the ends of the brake-rods will be locked together automatically when the cars are coupled.

15 The invention also consists in parts of construction and combinations of the same, as will be fully described hereinafter.

20 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 elevation of a car provided with my improved brake-rod, parts being broken and parts shown in section. Fig. 2 is a front elevation of the notched end clutch-plate on my improved brake-rod. Fig. 3 is a cross-sectional elevation on line *x x*, Fig. 1.

30 A rod, A, extending longitudinally below the bottom of the car, is journaled in the cross-pieces of the trucks in the car-frame or in hangers projecting from the bottom of the car. The brake-chain B is attached to a friction-sleeve, C, loosely mounted on the rod A, which sleeve C is pressed against a collar or annular ridge, D, of the rod A by a spring, E. A short rod, F, is coupled by means of a universal joint, *a*, to each end of the rod A, and on each rod F a sleeve, G, is mounted, provided at its outer end with a clutch disk or plate, H, having its outer surface provided with a series of projections, *b*, fitting in recesses between like projections in other like plate on the other car. This sleeve G is provided with longitudinal slots *d*, into which a transverse pin, *e*, of the rod F passes, so that the rod F must turn with the sleeve G; but the sleeve G can move longitudinally on the jointed rod F. A spring, J, coiled around the rod F, pushes the sleeve G toward the outer end of the rod F. The sleeve G rests in ring or sleeve K, suspended from the draw-head L by means of a chain,

M, and is held to prevent longitudinal movement by a rod, N.

The rods A can be rotated by means of gear-wheels from the car-axes whenever the brakes are to be applied, or by means of some suitable separate motor or device.

The operation is as follows: If the cars are coupled, the surfaces of the disks or plates H will be pressed against each other by the spring J. If the projections *b* of one plate are not in the recesses of the opposite plate, they will be pressed into such recesses by the springs J as soon as the rods A are rotated. If the projections *b* of one plate or disk H are in the recesses of the other plate, the two plates or disks will be locked together, and if one rod A is turned the other rod A will be turned with it. In this manner the rods A of all the cars of a train of cars can be rotated simultaneously. The spring E presses the sleeve C against the collar D, and the friction produced is sufficient to rotate the sleeve C with the rod A, and thereby the chain B will be wound on the sleeve C, and the brakes will be applied. As the sleeves G are movable longitudinally, they will adjust themselves automatically, and the springs J will always keep the adjoining surfaces of the two clutch plates or disks H together. The projections *b* are preferably made flaring from the surface of the plate or disk H outward, as shown in Fig. 1, as they will then lock together better. The rods A of the several cars are coupled automatically as soon as the cars are coupled.

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

1. The combination, with the brake-rod A, of longitudinally-sliding sleeves G, provided with clutch-plates H on their outer ends, substantially as and for the purpose set forth.

2. The combination, with the brake-rod A and the jointed rods F, of the longitudinally-sliding and spring-pressed sleeves G, provided with the clutch-plates H on their outer ends, substantially as and for the purpose set forth.

3. The combination, with a brake-rod, A, of the jointed rods F, the sleeves G on these rods F, and the clutch plates or disks H at the ends of the sleeves G, substantially as herein shown and described, and for the purpose set forth.

4. The combination, with the brake-rod A, of

the jointed sections F, the springs J, the sleeves G, and the clutch plates or disks H at the ends of sleeves G, substantially as herein shown and described, and for the purpose set forth.

5 5. The combination, with the brake-rod A, of the jointed sections F, the springs J, the sleeves G, provided with clutch plates or disks H, the sleeves K, and the suspending-chain M, substantially as herein shown and described, and
10 for the purpose set forth.

6. The combination, with a brake-rod, A, of the jointed sections F, the sleeves G, provided with clutch-plates H, the springs J, the sleeves K, the chains M, and rods N, substantially as

herein shown and described, and for the pur- 15
poses set forth.

7. The combination, with the brake-rod A, of the rods F, connected to the brake-rod by a universal joint, and provided with the studs e, the sliding sleeves G, provided with the lon- 20
gitudinal slots d, and the clutch-plates H at their outer ends, substantially as and for the purpose set forth.

EDWARD EBL.

Witnesses:

W. W. HIGLEY,
M. A. HIGLEY.