T. L. McKEEN.

PLATFORM BUFFER FOR RAILWAY PASSENGER CARS.

APPLICATION FILED AUG. 9, 1909.

1,029,938. Patented June 18, 1912.

2 SHEETS—SHEET 1.

Fig. 1.

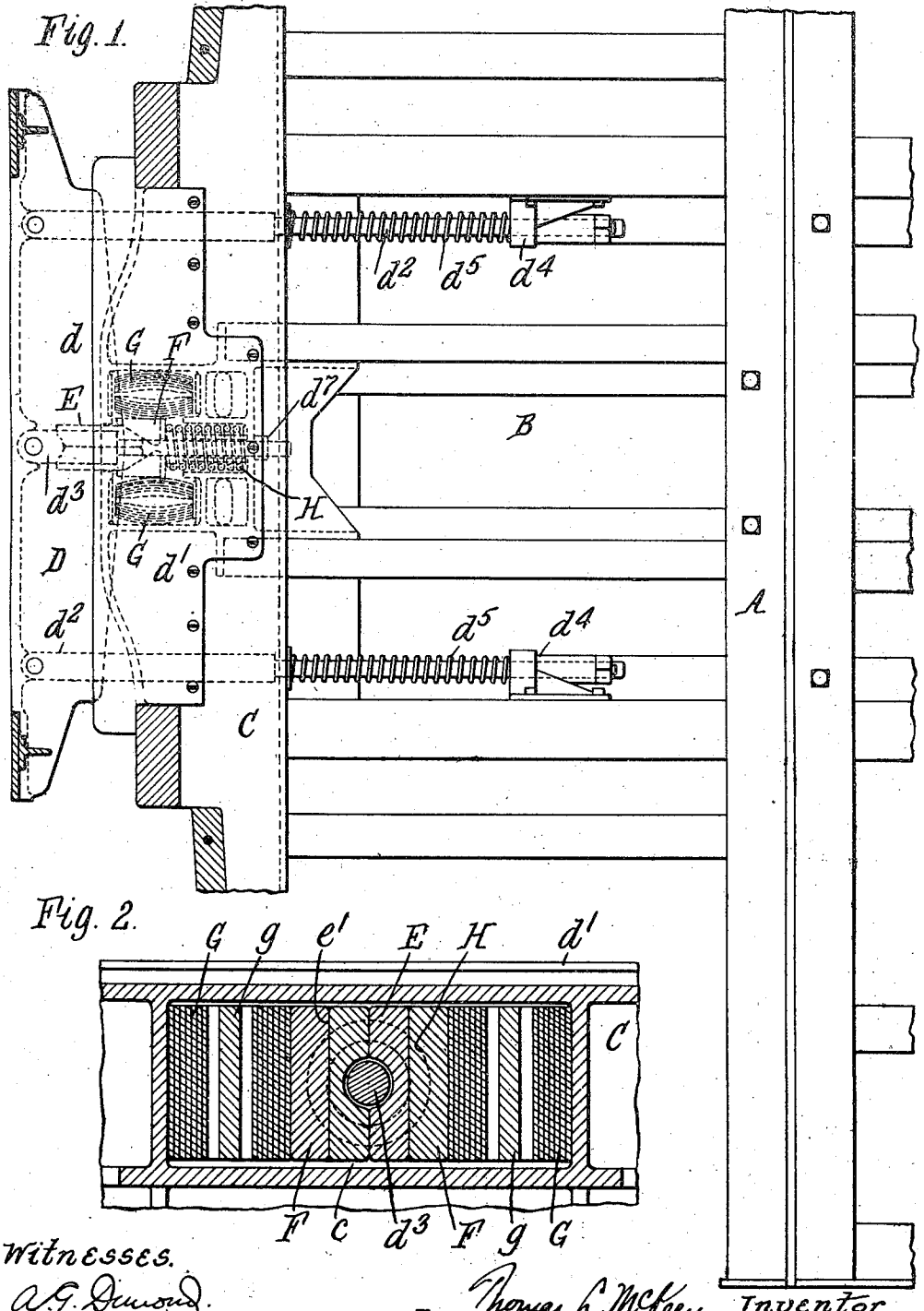

Fig. 2.

Witnesses.

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2 SHEETS—SHEET 2.

Fig. 3.

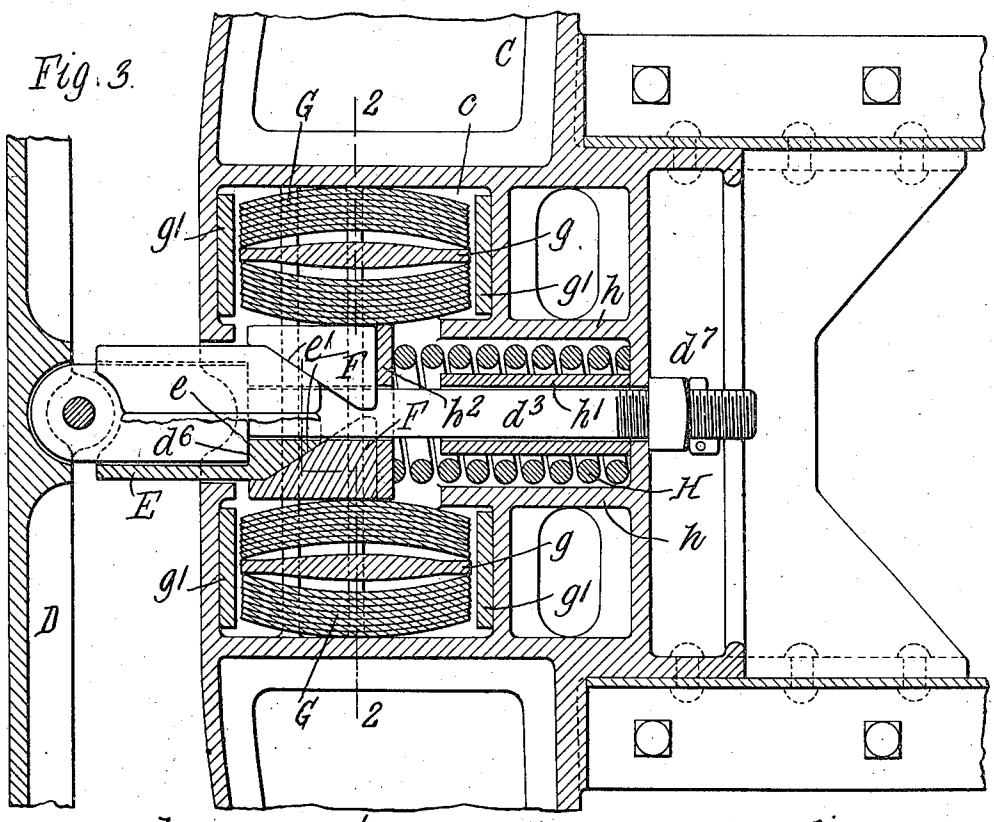


Fig. 4.

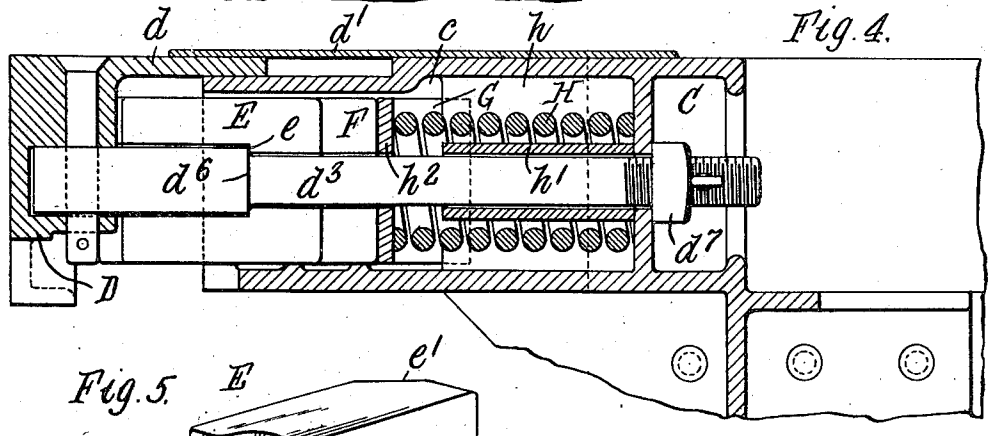
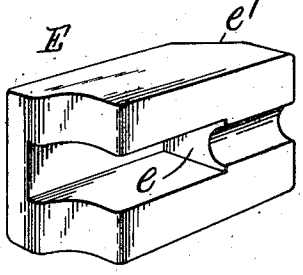


Fig. 5.



Witnesses.
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UNITED STATES PATENT OFFICE.

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PLATFORM-BUFFER FOR RAILWAY PASSENGER-CARS.

1,029,938. Specification of Letters Patent. Patented June 18, 1912.

Application filed August 9, 1909. Serial No. 511,880.

To all whom it may concern:

Be it known that I, THOMAS L. McKEEN, a citizen of the United States, residing at Easton, in the county of Northampton and State of Pennsylvania, have invented a new and useful Improvement in Platform-Buffers for Railway Passenger-Cars, of which the following is a specification.

This invention relates more particularly to improvements in friction buffing devices for the platforms of railway passenger cars, and the primary object of the invention is to produce an efficient friction platform buffer which is of compact construction adapting it to be located in a hollow cast platform end sill of the dimensions ordinarily used, and which opposes only a light resistance to the initial movement of the buffer head necessary for coupling two cars, but gives a great final resistance to supplement the buffing action of the draft gear of the car.

Another object of the invention is to produce a platform buffer of simple and comparatively inexpensive construction, in which the usual center-supporting stem for the buffer plate operates the buffer wedge and also serves to retain the parts of the buffer in place in the platform end sill.

In the accompanying drawings, consisting of two sheets: Figure 1 is a fragmentary sectional plan of a passenger car floor frame provided with a buffer embodying the invention. Fig. 2 is a fragmentary transverse section of the buffer in line 2—2, Fig. 3. Fig. 3 is a horizontal section, on an enlarged scale, thereof. Fig. 4 is a central longitudinal sectional elevation thereof. Fig. 5 is a perspective view of one of the wedge blocks detached.

Like reference characters refer to like parts in the several figures.

A represents the car end sill, B the platform frame, C the platform end sill, and D the buffer head or plate of a railway passenger car. The platform end sill preferably consists of a hollow casting provided at its middle portion with a buffer chamber *c* in which the friction buffing device is contained. The buffer plate or head D is provided with the usual top plate *d* extending beneath the threshold plate *d'* on the platform and is pivoted, as usual, to the outer ends of side and center supporting stems or rods d^2 and d^3 respectively, extending through suitable openings in the platform end sill, the side stems passing through guides d^4 on the platform frame and being provided with righting springs d^5 for keeping the buffer head parallel with the platform end sill. The center stem d^3 preferably has a rectangular outer portion terminating in a rearwardly facing shoulder d^6 for operating the buffer wedge, and a reduced inner or rear extension which passes through a hole in the rear wall of the buffer chamber and is provided with a nut and key, or other securing device d^7, at its inner end.

Except as above noted, the parts thus far described may be of any usual or suitable construction.

E represents a wedge which is arranged to move longitudinally of the car in the buffer chamber *c* of the platform end sill. The wedge preferably consists of two like halves which project out through the opening in the front wall of the platform end sill for the center buffer stem d^3 and embrace the rectangular outer portion of the center stem, being provided at their inner sides with shoulders *e*, see Fig. 5, against which the shoulder of the center stem abuts for shoving the wedge inwardly when the buffer head is moved inwardly in buffing. The parts of the wedge are provided at their inner ends with opposite inclined faces *e'* which bear against and are adapted to slide on correspondingly inclined faces on friction blocks F which are arranged at opposite sides of the wedge E and are movable both inwardly and outwardly and laterally or crosswise of the car in the buffer chamber *c*. The formation of the wedge in halves, as described, enables them to be made of steel forgings, which is an advantage. Springs G G, arranged between the friction blocks F and the end walls of the buffer chamber *c*, and a spring H, arranged in the buffer chamber in rear of the friction blocks, press the friction blocks against the friction faces of the wedge. Each spring G preferably consists of two sets of bowed spring plates or leaves arranged with their concave faces toward each other and their opposite convex faces bearing respectively against the outer faces of the friction blocks and the end walls of the buffer chamber. Preferably a separating plate *g*, having opposite convex faces, is placed between the two sets of leaves of each spring G to prevent the springs from being strained in action sufficiently to injure them, and wear

plates g' are provided for the ends of the springs to bear against. The spring H is preferably a light coil spring surrounding the center stem d^3 in a pocket in the rear part of the buffer chamber. The walls h of this pocket, together with a sleeve h' surrounding the stem d^3 inside of the spring, arrest the rearward movement of the friction blocks before the coil spring H can be driven solid. A washer h^2 is preferably placed between the rear ends of the friction blocks and the adjacent end of the coil spring H.

When the buffer head D is moved inwardly in buffing, the center stem shoves the wedge E inwardly and the wedge in turn pushes the friction blocks inwardly, compressing the coil spring H. The coil spring is so light compared with the leaf springs G that the friction blocks slide rearwardly on the leaf springs without spreading until the washer h^2 strikes and is arrested by the walls h of the spring pocket and the sleeve h'. This movement is sufficient for coupling the cars. The continued inward movement of the wedge spreads the friction blocks laterally and the strong leaf springs opposing this lateral movement of the friction blocks produce a great frictional resistance to the inward movement of the wedge and buffer head.

The leaf springs G, arranged as described, are preferable to coil springs because they have greater resisting capacity than coil springs of practicable size, and as the friction blocks bear centrally on their convex faces, the friction blocks will slide readily on the springs in the preliminary movement of the buffer, and shorter friction blocks can be used, which enables the necessary movement of the blocks lengthwise of the car in a platform end sill of the ordinary width. The described springs also allow an extended lateral movement of the friction blocks and consequently permit the inclined faces of the wedge and friction blocks to be given sufficient pitch to insure the releasing of the wedge without requiring a release spring for this purpose. The shouldered rectangular portion of the central buffer stem d^3 prevents the wedge from escaping through the opening in the front wall of the buffer chamber and this, without additional means, retains the friction devices in place in the platform end sill. The buffer head can, however, be readily detached and removed by removing the nuts or fastening devices for the buffer stems, and access is then had to the friction devices, which can be removed from and replaced in the platform end sill.

I claim as my invention:

1. The combination with a platform buffer head and a stationary part having a buffer chamber therein, of a wedge which is moved inwardly in said buffer chamber by said buffer head, friction blocks which are arranged at the opposite sides of said wedge and are movable both inwardly with said wedge and also laterally in said buffer chamber, springs in said buffer chamber at opposite sides of said friction blocks for opposing the lateral movement of the friction blocks, said springs being held from movement in the direction of movement of the wedge, and a spring in said buffer chamber which projects into the space between said first mentioned springs and holds the friction blocks against said wedge and permits the inward movement of said friction blocks, substantially as set forth.

2. The combination with a platform buffer head, and a platform end sill having a buffer chamber therein, of a wedge which is moved inwardly in said buffer chamber by said buffer head, friction blocks which are arranged on opposite sides of said wedge and are movable inwardly with said wedge and also laterally in said buffer chamber, bowed leaf springs arranged in said buffer chamber lengthwise relative to the movement of the buffer head at opposite sides of said friction blocks for opposing the lateral movement of the friction blocks, a coil spring which projects into the space between said first mentioned springs in said buffer chamber and which holds said friction blocks against said wedge and permits the inward movement of the friction blocks, means for limiting the inward movement of the friction blocks, and means for holding the springs from movement in the direction of movement of said wedge, substantially as set forth.

3. The combination with a platform buffer head, and a platform end sill having a buffer chamber therein, of a wedge which is moved inwardly in said buffer chamber by said buffer head, friction blocks which are arranged on opposite sides of said wedge and are movable both inwardly and laterally in said buffer chamber, a spring in said buffer chamber in rear of said friction blocks which holds the friction blocks against said wedge, means for limiting the inward movement of said friction blocks, and springs in said buffer chamber at opposite sides of said friction blocks for opposing the lateral movement thereof, said last mentioned springs having greater resistance than said spring in rear of said friction blocks, whereby said friction blocks are first moved rearwardly against the action of said first mentioned spring and then laterally against the action of the springs at their opposite sides, substantially as set forth.

4. The combination with a platform buffer head, and a platform end sill having a buffer chamber, of a center stem for said buffer head, a two-part wedge which em-

braces said stem and is provided with parts engaged by parts on said stem whereby said wedge is moved inwardly in said buffer chamber by said stem, friction blocks which are arranged on opposite sides of said wedge and are movable inwardly and laterally in said buffer chamber, a spring which holds said friction blocks against said wedge and permits the inward movement of the friction blocks, means for limiting the inward movement of the friction blocks, and springs in said buffer chamber at opposite sides of said friction blocks for opposing the lateral movement of the friction blocks, substantially as set forth.

Witness my hand this 5th day of August, 1909.

THOMAS L. McKEEN.

Witnesses:
C. B. HORNBECK,
A. L. McGEE.