T. L. McKEEN.

CAR BUFFER.

APPLICATION FILED AUG. 3, 1908.

985,533.

Patented Feb. 28, 1911.

Fig. 1.

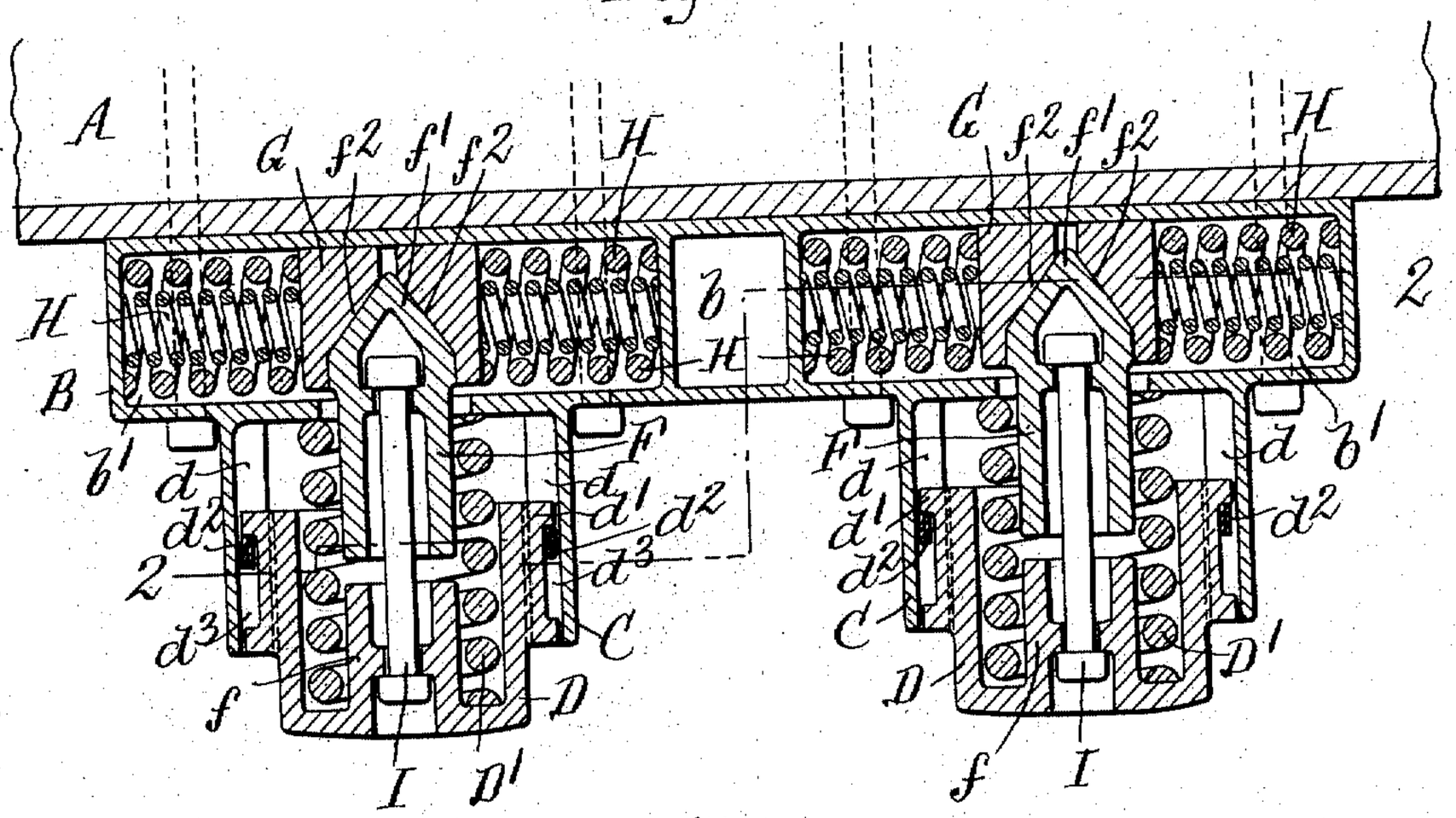


Fig. 2.

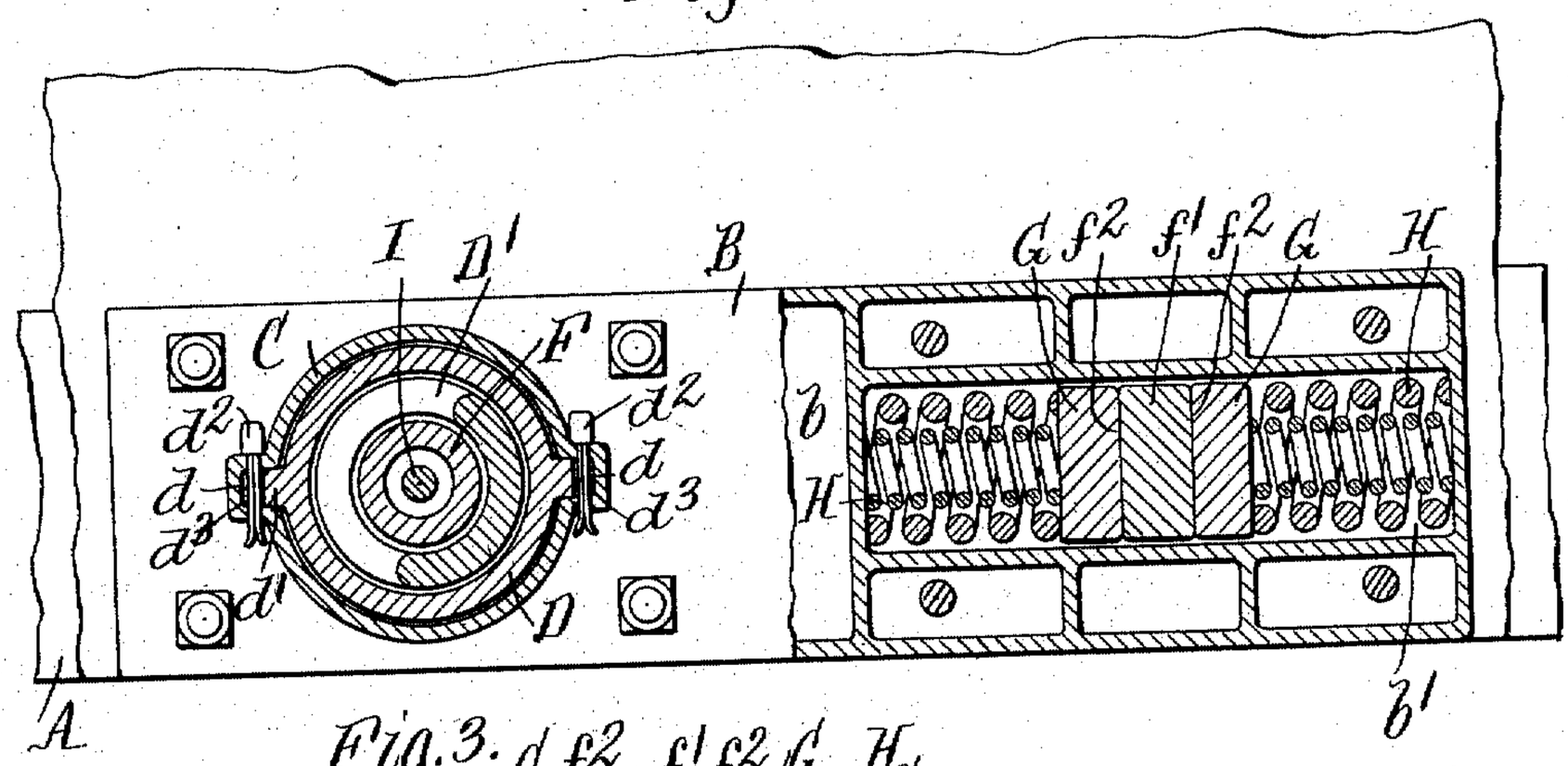
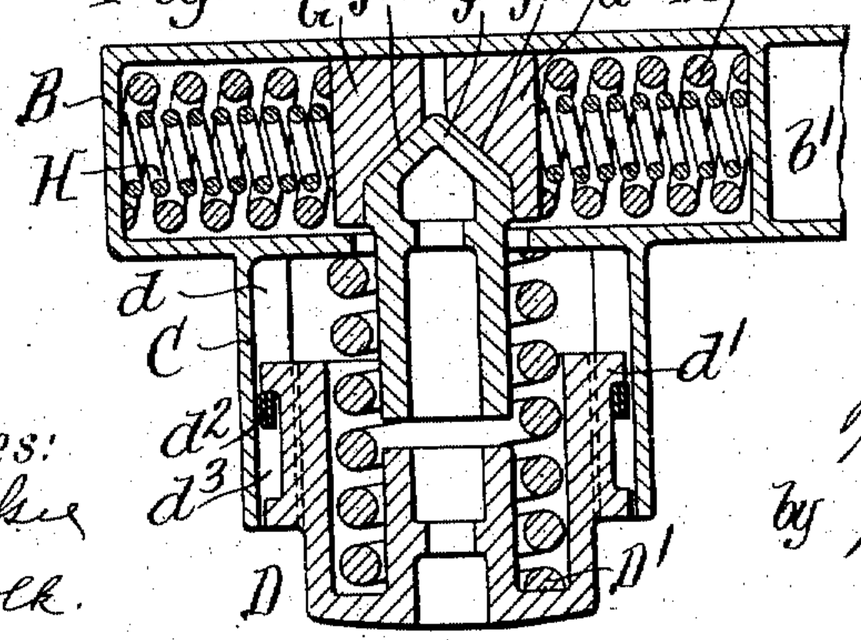


Fig. 3.



Witnesses:
A. L. McKee
E. A. Volk.

Inventor.
Thomas L. McKeen.
by Wilhelm Parker & Hard,
Attorneys

UNITED STATES PATENT OFFICE.

THOMAS L. McKEEN, OF EASTON, PENNSYLVANIA.

CAR-BUFFER.

985,533. Specification of Letters Patent. **Patented Feb. 28, 1911.**

Application filed August 3, 1908. Serial No. 446,579.

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 Car-Buffers, of which the following is a specification.

This invention relates to improvements in freight car buffers of that kind which consists of spring-backed buffer heads mounted in sockets on the ends of the car for receiving and taking up the buffing blows thereon.

One object of this invention is to construct a car buffer of this character in which frictional resistance is added to the resistance of the buffing spring, thus greatly increasing the resisting capacity of the buffer and thereby relieving the buffing shocks upon the coupler and permitting the use of a lighter draft gear than would otherwise be necessary.

Further objects of the invention are to provide a simple and compact buffing gear in which the friction mechanism is arranged so that it can be located inside of a buffer block or "deadwood" of the usual dimensions, and which can be readily applied to cars now in use, and is so designed that the parts thereof will readily release and return to their normal position when the buffing pressure is removed.

In the accompanying drawings: Figure 1 is a sectional plan of a car buffer embodying the invention, showing the same attached to the end of a car. Fig. 2 is a sectional elevation thereof in line 2—2, Fig. 1. Fig. 3 is a fragmentary sectional plan of a modified form of construction.

Like letters of reference refer to like parts in the several figures.

A represents the end sill of a car, and B a casing or hollow casting which is secured on the car in place of the usual "dead block" or buffer block. This casing is long and narrow, being of substantially the same dimensions as the usual "dead block", and is divided by suitable partitions into a central chamber b and end chambers b' b', in which are contained the frictional resistance means to be hereinafter described.

The casing B is provided on its front wall, adjacent to its ends with projecting cylindrical sockets C which are preferably formed integrally therewith. A hollow or tubular buffing head D is slidably mounted in each of the sockets C and a suitable buffer spring D′ is arranged within the socket and head to resist the inward movement of the head. The socket C is provided on opposite sides thereof with longitudinal ways d in which guide lugs d' on the buffer head D slide; and pins or keys d^2 passing through holes in the ways d and slots d^3 in the guide lugs, hold the buffer head on the socket and prevent it from turning therein. The slots d^3 are long enough to allow the required sliding or endwise movement of the buffer head in the socket. This construction of the buffer head and socket is not new.

Each buffing head D is provided on its inner side with a central post f and directly behind this post and separated therefrom by an intervening space is a buffer stem F which is located within the buffer spring D′ and extends rearwardly through a hole in the front wall of the casing B into the pocket b', where it is provided with a wedge f' having converging friction faces f^2. Friction blocks G are arranged within each pocket b' on opposite sides of the wedge f' and have inclined faces in engagement with the inclined faces of the wedge. The blocks G are movable laterally in the pocket b', that is, crosswise of the car, and coil springs H are located between these blocks and the ends of the pocket and serve to press the blocks at all times yieldingly against the inclined faces of the wedge. The springs H preferably consist of the usual inner and outer light and heavy coils, but if desired, single coil springs may be used.

The buffer posts f and stems F being normally separated from each other, the initial movement of the buffer heads is resisted by the buffer springs D′ alone and the resistance devices do not come into play until the buffer heads D have been forced inwardly a sufficient distance to bring their posts into contact with the stems F. Further movement of the buffer heads is then resisted by both the buffer springs and the friction devices within the pockets b'. The resisting capacity of the buffer, thus combining both spring and frictional resistance, is very great, and it is able to receive and withstand severe shocks which would otherwise be communicated to the draft gear and the car.

In Figs. 1 and 2, the following means are shown for readily releasing the wedges when the pressure upon the buffer heads is removed: The buffer stem F and post f

of each buffer head are hollow and are connected by a bolt I which passes loosely through them so as not to interfere with the movement of the stem and post toward each other, but limits their movement away from each other. When the buffing strain is removed, the buffer springs D′ force the buffer heads outwardly to their normal position, and the connecting bolts I draw the stems F and wedges outwardly with the heads and thus permit the friction blocks to return to their normal position under the action of the springs H. This insures a positive and ready release and return of all the parts to their normal position.

In Fig. 3 is shown a modified construction in which the friction faces f^2 of the wedges f' have a greater pitch. In this construction, the action of the springs H is sufficient to return the wedges and friction blocks to their normal position when the pressure is removed, and the connecting bolts between the buffer heads and friction stems can be dispensed with; otherwise the construction can be the same as that shown in Figs. 1 and 2.

By arranging the friction blocks and their springs to move laterally or at right angles to the direction of movement of the buffer heads, these blocks and springs can be inclosed in the opposite ends of a casing of the dimensions of the usual buffer block and the buffer mechanism as a whole thus occupies no more room than is required for the usual buffer block with the spring-actuated buffer heads thereon and thus can be readily secured to the end of a car in the place of the ordinary wooden "dead wood" or buffer block.

I claim as my invention:

1. The combination of a hollow metal casing adapted to be secured to and project forwardly from the end sill of a car and having a chamber which is of greater length in a direction transversely of the car than lengthwise thereof, and a forwardly-projecting socket, a hollow buffer head telescopically supported by said socket, a buffer spring in said socket for resisting the movement of said buffer head, a wedge within said casing which is separate from said buffer head and is actuated by said buffer head after an initial movement of said head, friction blocks which are located in said chamber and are moved laterally therein by said wedge, and springs located in said chamber for resisting the lateral movement of said friction blocks, substantially as set forth.

2. The combination of a hollow metal casing adapted to be secured to and project from the end of a car and having a front wall and a chamber which is of greater length in a direction transversely of the car than lengthwise thereof, and an integral forwardly-projecting socket, a hollow buffer head telescopically supported by said socket, a buffer spring located in said socket for resisting the movement of the buffer head, a wedge within said chamber, means extending through the front wall of said chamber into said socket for transmitting the motion of the buffer head to said wedge, friction blocks which are located in said chamber at opposite sides of said wedge and are moved laterally by said wedge, and coil springs located in said chamber at opposite sides of said friction blocks which resist the lateral movement of said friction blocks, substantially as set forth.

3. The combination of a hollow metal casing adapted to be secured to and project forwardly from the end sill of a car and having a chamber which is of greater length transversely of the car than lengthwise thereof, and a forwardly-projecting socket, a buffer head telescopically supported by said socket, a wedge located in said chamber and having a stem which projects forwardly into said socket for transmitting the movement of said buffer head to said wedge, a coil spring located within said socket and buffer head around said stem of the wedge, friction blocks which are located in said chamber and are moved laterally therein by said wedge, and springs located in said chamber for resisting the lateral movement of said friction blocks, substantially as set forth.

4. The combination of a hollow metal casing adapted to be secured to and project from the end sill of a car and having chambers in the opposite ends thereof, integral sockets projecting forwardly from said casing opposite said chambers, buffer heads movable in said sockets, springs in said sockets for preliminarily resisting the movement of said buffer heads, and separate friction mechanism located in said chambers and actuated by said buffer heads for supplementing the resistance of said springs, substantially as set forth.

Witness my hand, this 28th day of July, 1908.

THOMAS L. McKEEN.

Witnesses:
E. C. HARD,
C. B. HORNBECK.