

No. 725,274.

PATENTED APR. 14, 1903.

S. P. McGOUGH.
RAILWAY BUMPER.

APPLICATION FILED JULY 2, 1902.

NO MODEL.

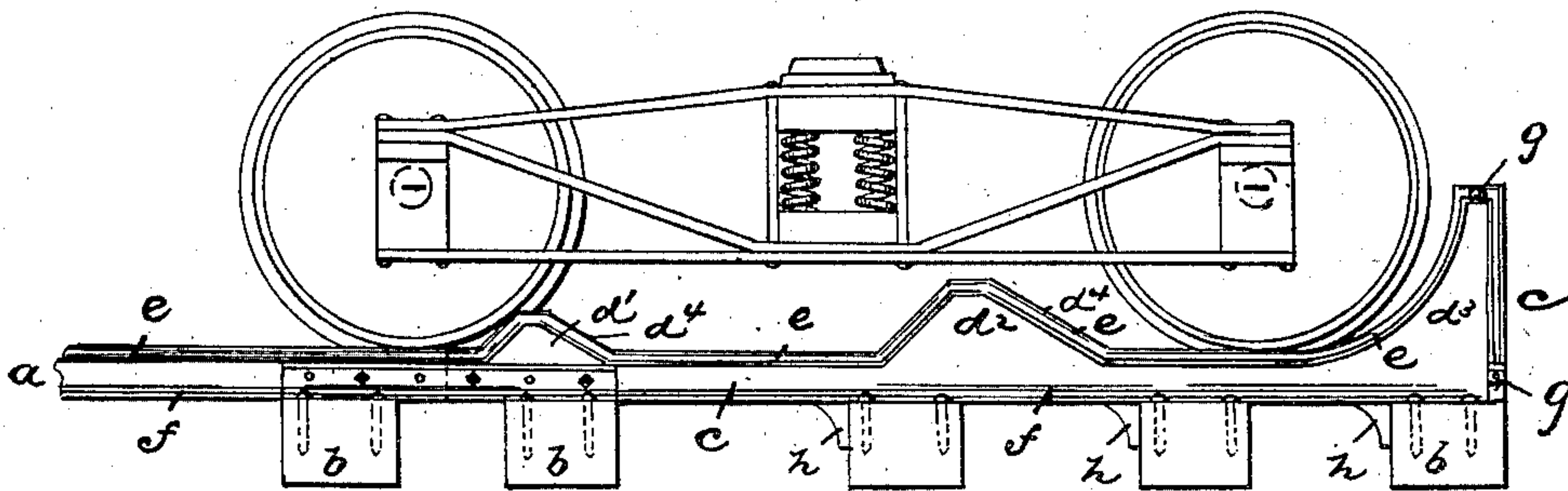


Fig. 1.

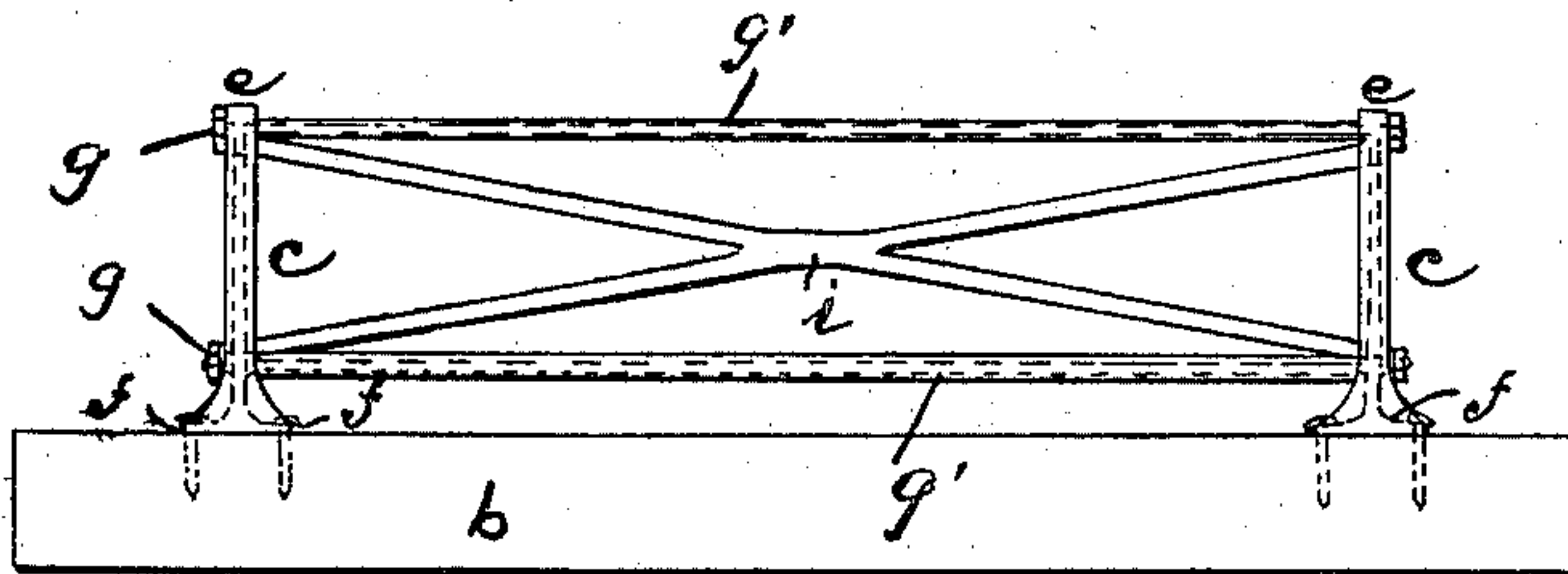


Fig. 2.

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SAMUEL P. MCGOUGH, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE CONTINUOUS RAIL JOINT COMPANY OF AMERICA, A CORPORATION OF NEW JERSEY.

RAILWAY-BUMPER.

SPECIFICATION forming part of Letters Patent No. 725,274, dated April 14, 1903.

Application filed July 2, 1902. Serial No. 114,125. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL P. MCGOUGH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Bumpers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as 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.

The objects of this invention are to more gradually retard the momentum of a car or train of cars than can be accomplished by the bumpers or buffers heretofore ordinarily arranged at the terminals of railway-tracks, to secure preliminary retardations to the cars before they receive their final check, to reduce the cost of construction and facilitate the establishment of the bumpers at said terminals, to enable the cars to be again drawn forward by the locomotive-engine without the use of jacks or other similar tools or appliances should the inertia of the backwardly-moving train cause the rearmost car to mount and override the obstruction, to secure greater strength and durability, whereby the bumper, while being inexpensive, will continue to serve its purpose efficiently for a longer period, and to secure other advantages and results, some of which may be herein-after referred to in connection with the description of the working parts.

The invention consists in the improved railway bumper or buffer and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth, and finally embraced in the clauses of the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the figures, Figure 1 is a side elevation of my improved device, and Fig. 2 is a rear end view.

In said drawings, *a* indicates the railway-rail, arranged upon ties or sleepers *bb* in any suitable manner. At the terminals of said rails are bumpers *c c*, of my improved con-

struction, each consisting, preferably, of integral castings having a plurality of graduated obstructions $d' d^2 d^3$, the series of obstruction increasing in elevation or vertical projection toward the terminal of the road, and the said obstructions preferably alternating with short extensions of level tread-surface. The final bumping obstruction d^3 preferably extends up to the horizontal plane of the car-wheel axles, and thus affords a positive stop for the wheels, while the obstructions $d' d^2$ terminate below such plane, the first obstruction of the series being the lowest. The obstructions $d' d^2$ are so inclined at their rearward sides, as at d^4 , as that the wheels will readily ride up the inclines when drawn forwardly by the locomotive force. The forward sides are also preferably inclined; but the inclines serve more particularly to provide more ample strength and are formed on lines more nearly approaching a vertical line. The head *e* of the rail providing the tread-surface for the wheels extends in its irregular course over said obstructions, so that the car-wheels will have a proper bearing and will not jump from the track. The flanges *f* of rails and bumpers extend in the usual horizontal course and rest upon the ties or sleepers and are spiked there-to in any usual manner. I prefer to cast at the bottoms of said bumpers braces or stays *h* to engage the forward sides of the ties, whereby the resistance of the bumpers to the impact of the car-wheels will be materially increased. The parallel bumpers, especially where they project considerably above the normal level of the track, are braced or tied together by suitable bolts *g*, extending through tubular studs *g'*, to prevent any lateral displacement tending to permit derailment. Preferably an auxiliary cross-shaped brace *i* also extends between said bumpers.

It will be noticed upon examination of Fig. 1 that the upwardly-projecting obstructions are somewhat closer together than the distance between the axles of the car-wheels, and in the construction shown the second wheel from the rear will engage the foremost obstruction before the rearmost wheel will strike the final obstruction. I thus secure increased retardation efficiency at a saving of

material in that I obtain three impacts in the construction shown on the two bumping obstructions $d^1 d^2$.

By the construction thus described the car-
5 wheels striking the first obstruction are checked, yet mount the obstructions if moving with sufficient velocity, then strike upon the second, and, if not stopped, finally the terminal obstruction d^3 , where the further
10 passage or movement is positively prevented.

Having thus described the invention, what I claim as new is—

1. The improved bumper or buffer having a straight or alined flange adapted to rest on
15 the ties and having integral with said flange a series of stationary buffing obstructions arranged in the passage of the wheels substantially as set forth.

2. The combination with the track, of a
20 bumper presenting a series of obstructions which gradually increase in degree of projection, the obstructions being disposed at considerable distances apart and alternating with level tread-surfaces, substantially as set
25 forth.

3. The combination with the track, of a bumper consisting of an extension of said track, and a series of integral projections with tread-surfaces for the car-wheel substantially
30 as set forth.

4. The improved bumper having a plurality of projections with inclined rearward sides

of greater length than the forward sides serving as buffers, substantially as set forth.

5. The combination with the truck having
35 a plurality of wheels arranged one in front and at a distance from the other, of a track providing plurality of buffing projections or obstructions disposed at a greater distance apart than the distance between the points of
40 contact of said wheels with the track, whereby the second wheel will engage one of the obstructions before the first or forward wheel engages the terminal obstruction, substantially
45 as set forth.

6. The improved bumper having integral obstructions with inclined tread-surfaces at the rear sides thereof up which the wheels may ride in their forward movements, substantially
50 as set forth.

7. The improved bumper having a horizontal and straight flange and a tread-surface interrupted in course by a series of obstructions, and having braces depending from the under side to engage the sides of the ties or
55 sleepers, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 25th day of June, 1902.

SAMUEL P. MCGOUGH.

Witnesses:

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M. A. GROVE.