

P. GREFFIN.
 CAR BUFFER.
 APPLICATION FILED MAR. 18, 1911.

1,002,263.

Patented Sept. 5, 1911.
 2 SHEETS—SHEET 1.

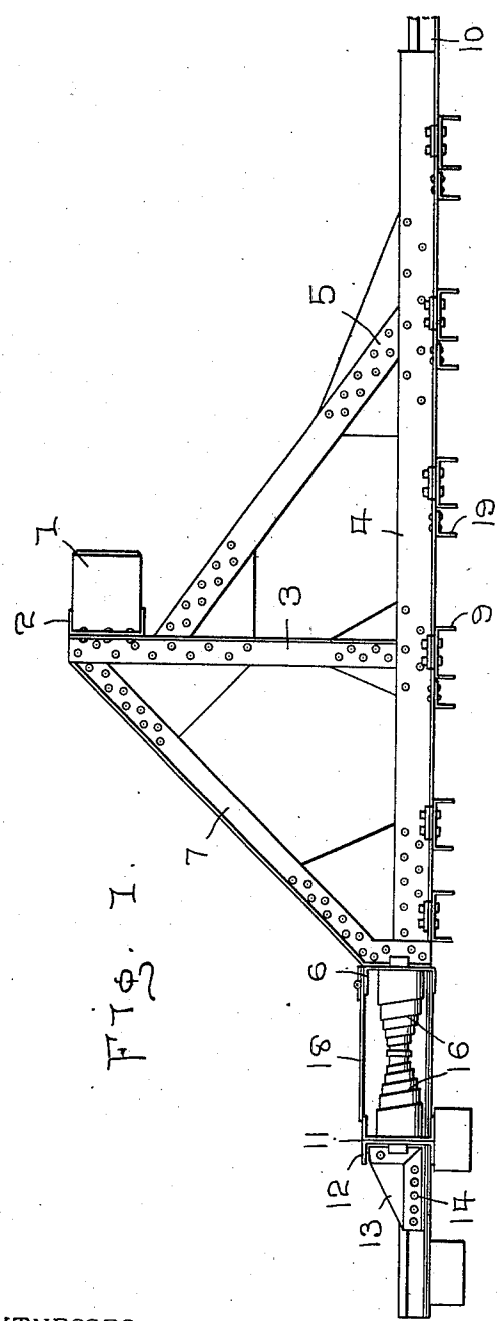


Fig. 1.

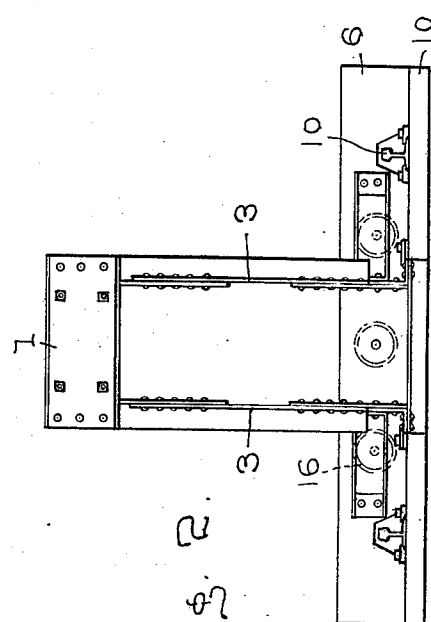


Fig. 2.

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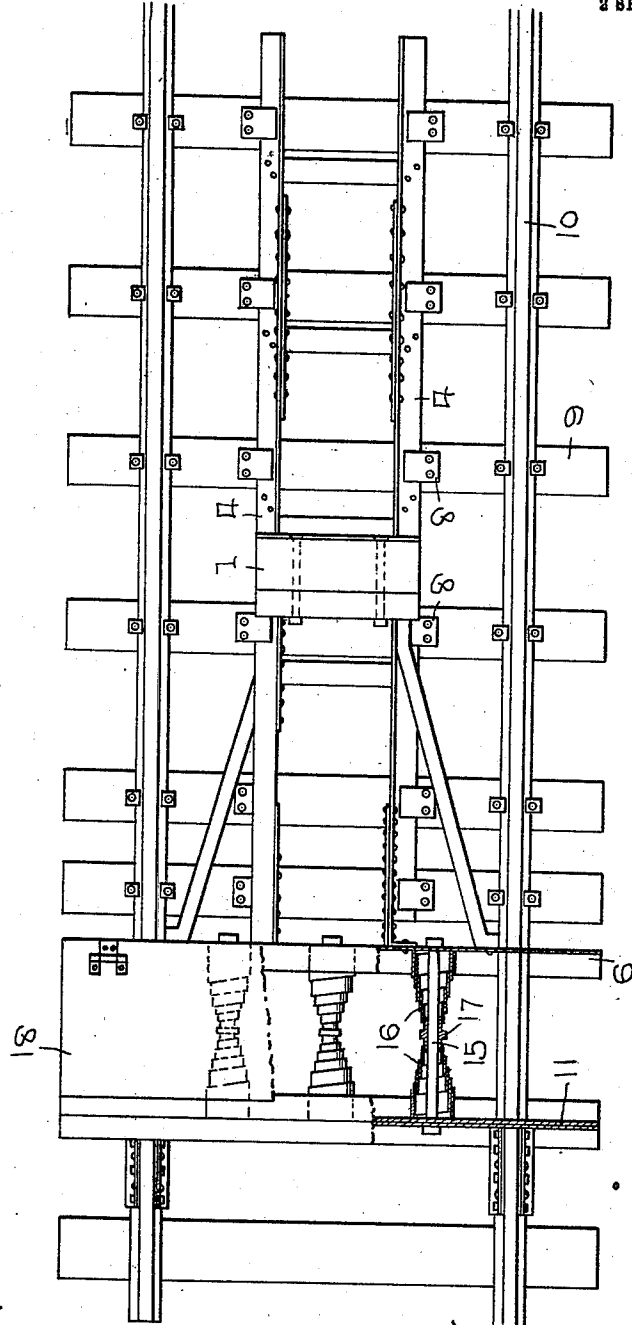
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Fig. 3



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PHILIPP GREFFIN, OF WAVERLY, IOWA.

CAR-BUFFER.

1,002,263.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, PHILIPP GREFFIN, a subject of the Emperor of Germany, residing at Waverly, in the county of Bremer and State of Iowa, have invented certain new and useful Improvements in Car-
5 Buffers; 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
10 make and use the same.

This invention relates to car buffers and has for an object to provide a buffer which will be of durable construction and positive
15 in operation.

Another object is to construct a buffer provided with compression springs inclosed and protected by a suitable casing connected to the rails of the track.

Another object is to provide a buffer of the above stated character which will offer resistance upon the first impact and which will offer a stronger resistance to a sudden heavy impact than to a light and steady
25 pressure thereagainst.

A further object is to provide a buffer of the above stated construction having the spring casing secured to the rails in such a manner that an extremely hard and sudden
30 impact against the buffer proper will serve to sever connections between the casing and the rails and allow the entire buffer or car stopping mechanism to slide a short distance along the track until prevented by engagement of a portion of the mechanism with the
35 ties of the track, which engagement will prevent further movement and cause the springs to be compressed to their fullest extent.

In the accompanying drawings forming a part of this application, Figure 1 is a side
40 elevation of the buffer connected to a track near the end thereof. Fig. 2 is a front view looking directly at the buffer proper, and, Fig. 3 is a top plan view partly in section.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the buffer proper carried by the U-shaped beam 2 connected to the uprights 3
50 at the upper ends of the latter. The lower ends of the uprights 3 are secured to the L-shaped slide bars 4, to which are also connected some distance in front of the uprights 3, the lower ends of the brace bars 5, which
55 have their upper ends secured to the uprights 3 below the buffer 1. The rear ends

of the slide bars 4 are bent at right angles and secured to the U-shaped front end 6 of the spring casing to be later described. The lower ends of the rearwardly and down-
60 wardly slanting brace rods 7 are also secured to the front 6. The upper ends of the brace bars 7 are connected to the upper ends of the uprights 3. The slide bars 4 are adapted to slide within the guides 8 carried by the
65 transverse inverted U-shaped supporting members 9, which are similarly connected with the rails 10 for slidable movement therebeneath. Spaced from the front 6 and facing the latter is the U-shaped rear end 11
70 of the spring casing. Rigidly connected to the rear end 11 is the reverse U-shaped member 12 having secured thereto near its opposite ends and upon both sides of the rails 10, the brackets 13. The brackets 13 are con-
75 nected with the rails by bolts or other fastening means 14 passing therethrough and through the rails. The ends 6 and 11 of the spring casing are connected and held in spaced relation by means of the bolts or pins
80 15 extending parallel with the rails 10. Mounted upon each bolt 15 is a double compression spring 16, the halves of which are separated by the collar 17, each half extending from the collar 17 to the inner surface of
85 the casing. As it will be understood, the rear end 11 of the casing is stationary, while the front end 6 is slidable longitudinally of the track. The rails 10, as will be seen, pass through openings in the ends 6 and 11, the
90 purpose of which will later appear. Hingedly secured to the front end 6 upon its upper surface is the top 18, the free edge of which rests upon the top surface of the rear end 11. Secured to the under side of the
95 slide bars 4 are the L-shaped stop members 19 which are forced against the sides of the transverse members 9 and carry the latter toward the end of the track, when an unusually sudden and strong impact is re-
100 ceived by the buffer 1.

Should an engine or car come in contact with the buffer 1 and force said buffer rearwardly, the springs 16 will be compressed by means of the front end 6 being forced
105 against the springs. This compression of the springs would offer resistance and absorb the shock caused by the impact, and if the car is traveling at a low speed, the result would be that the car would stop and move
110 away from the buffer 1 without causing any serious damage. Should a train running at

high speed knock against the buffer 1, thus causing an unusual sudden and strong impact, the buffer would move rearwardly and carry the parts connected thereto, as before described. If the shock should be strong enough to result in breaking the bolts 14 and thus freeing the rear end 11 of the spring casing, the entire casing and all of the parts connected thereto would move toward the end of the track. As soon as the rear end 11 of the spring casing moves a slight distance, the L-shaped stop members will engage the sides of the transverse sliding bars 9 and compel the latter to also move toward the end of the track, offering still more resistance. After the slide bars 9 have been forced to move a short distance, they will come in contact with the ties supporting the rails 10 and by the latter, be prevented from further movement. This will prevent the buffer and all of the parts connected therewith from further movement and the reaction of the springs 16 will force the buffer 1 in a forward direction against the object which caused the buffer only a few moments before to move rearwardly. Thus, it will be seen, that the shock of the impact will be absorbed and the train brought to a stop gradually, preventing any serious damage to the rolling stock and any passengers who may be on the train.

During the compression and re-action of the springs 16, the cover 18 slides back and forth upon the upper surface of the rear end 11 and the member 12. By means of the bolts 15 being of the proper length, the edge of the cover 18 is prevented from sliding off of the inner edge of the rear end 11 and thus causing damage to the spring casing. Should, however, it be desired to inspect the springs and the interior of the spring casing, access may be had to these parts by raising the cover 18 upon its hinge. The weight of the cover 18 will hold the same normally in closed position.

From the above paragraphs, it will be seen that I have provided a car buffer and stopping mechanism composed of a comparatively small number of parts of simple formation. It will also be seen that this buffer car stopping mechanism will be durable and effective in operation.

What I claim is:—

1. A car stopping mechanism, comprising uprights carrying at their upper ends a buffer supporter, a buffer secured to said buffer supporter, brace members for said uprights, certain of said brace members extending in a forward direction and having their lower ends connected with slide bars,

certain of said brace bars extending in a rearward direction and having their lower ends secured to the front of a spring casing, slide bars below said buffer, said slide bars having the lower ends of the uprights connected therewith and the lower ends of the forwardly extending brace bars, a spring casing having a front end and a rear end, the front end having the lower ends of the rearwardly extending brace bars connected therewith, compression springs within said casing, connections between the ends of said casing, and connections between the rear end of said casing and a track.

2. A car stopping mechanism, comprising slide bars, standards connected to said slide bars, brace members connected to said slide bars and said standards, said slide bars positioned between the rails of a track, compression springs, a casing for said compression springs, one end of said casing being rigidly connected with the rails of the track, the opposite end of said casing being connected with brace bars having their upper ends connected to the upper ends of the standards, transverse slide members slidably connected to said rails, stop members carried by the slide bars and adapted to engage the transverse members and force the latter rearwardly, said casing being provided with openings for the rails of the track, and protectable connections between the rear end of said casing and the rails of the track.

3. A car stopping mechanism, comprising slide bars positioned parallel with the rails and inwardly thereof, transverse members beneath said slide bars and said rails, means carried by said transverse members to slidably receive said slide bars, said transverse members connected with said rails for slidable movement longitudinally of the track, a buffer supported above said slide bars and connected therewith, means for bracing said buffer, a spring casing rearwardly of said slide bars, a portion of said casing being connected with said slide bars, springs within said casing adapted to be compressed by pressure applied to said buffer, a hinged top for said casing, and means for engaging said transverse members and forcing them to their limit to check the movement of said car stopping mechanism.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PHILIPP GREFFIN.

Witnesses:

ROY HERRMANN,
CARL HIRLEMAN.