

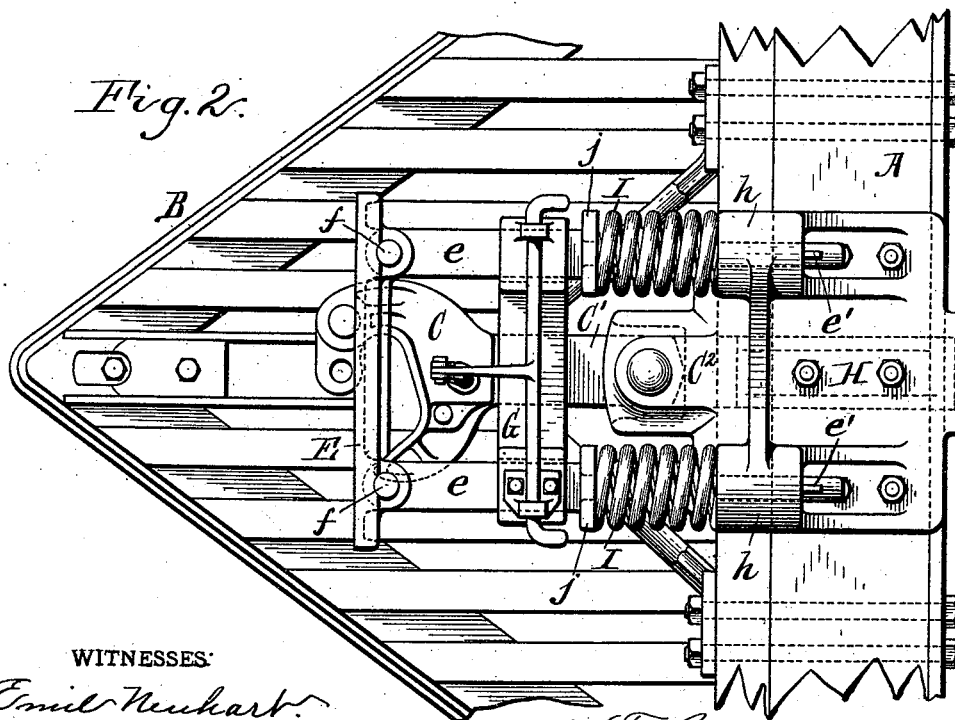
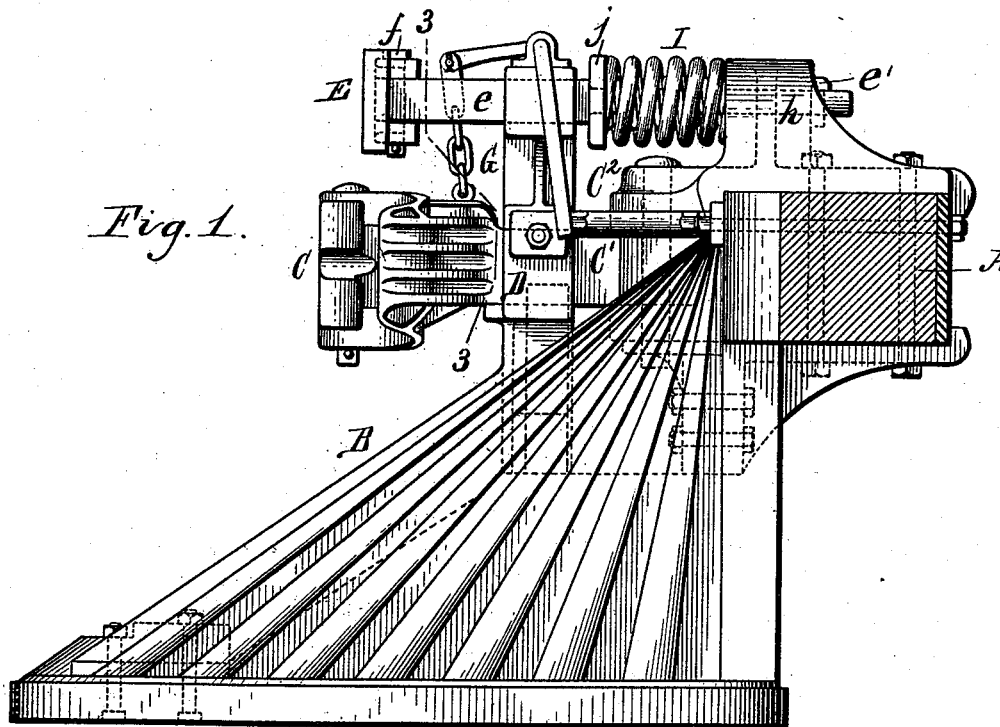
(No Model.)

2 Sheets—Sheet 1.

W. F. RICHARDS.
LOCOMOTIVE BUFFER.

No. 524,072.

Patented Aug. 7, 1894.



WITNESSES:

Emil Neuhart.
Chas. F. Burkhardt.

W. F. Richards. INVENTOR.
By Wilhelm & Bonner. ATTORNEYS.

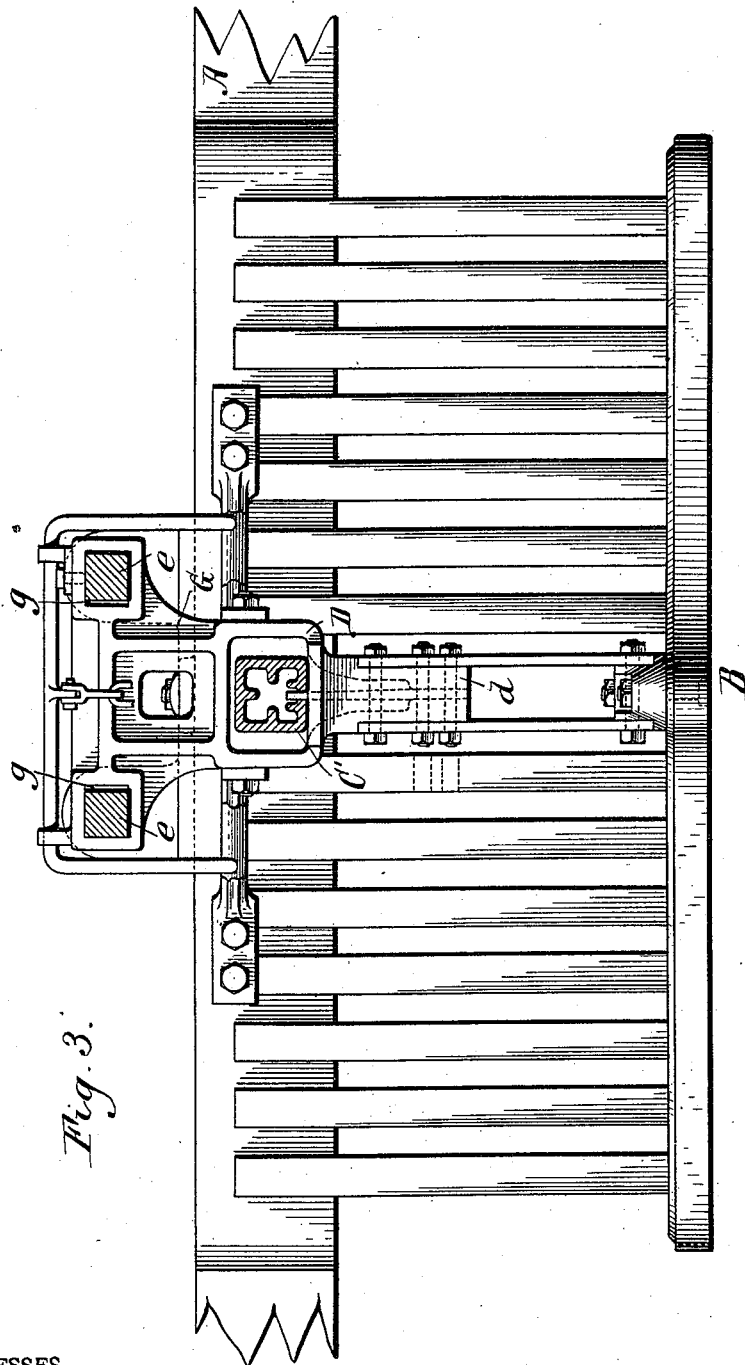
(No Model.)

2 Sheets—Sheet 2.

W. F. RICHARDS.
LOCOMOTIVE BUFFER.

No. 524,072.

Patented Aug. 7, 1894.



WITNESSES

Emil Neuhart.
Chas. F. Burkhardt.

W. F. Richards. INVENTOR.
By Wilhelm St. Bonnet.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLARD F. RICHARDS, OF BUFFALO, ASSIGNOR TO THE GOULD COUPLER COMPANY, OF NEW YORK, N. Y.

LOCOMOTIVE-BUFFER.

SPECIFICATION forming part of Letters Patent No. 524,072, dated August 7, 1894.

Application filed February 12, 1894. Serial No. 499,891. (No model.)

To all whom it may concern:

Be it known that I, WILLARD F. RICHARDS, a citizen of the United States, residing at Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Locomotive-Buffers, of which the following is a specification.

This invention relates to a buffer for locomotive pilots and it has the object to diminish the force of shocks in rear end collisions and to lessen the liability of telescoping cars.

In the accompanying drawings consisting of two sheets:—Figure 1 is a side elevation of a locomotive pilot provided with my improvement. Fig. 2 is a fragmentary top plan view thereof. Fig. 3 is a vertical cross section in line 3—3, Fig. 1.

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

A represents the pilot beam of the locomotive to which the pilot B, is secured in the usual manner.

C is the drawhead, and C' its shank, which is preferably pivoted at its rear end to a bracket C² secured to the pilot beam, and supported in front of its pivot in a yoke D arranged above the ridge of the pilot and connected with the latter by an upright shank d.

E is a buffer or transverse buffer plate arranged above the drawhead and carried by longitudinal bars or stems e e which are attached at their outer ends to the buffer plate, preferably by vertical pivot bolts f. These stems are guided near their front ends in openings g arranged in the upper portion of the standard G which is preferably formed on, or secured to the upper side of the yoke D. The rear portions of the buffer stems are guided in perforated lugs h arranged on a plate H secured to the upper side of the pilot beam. This plate is preferably formed integrally with the bracket C², as shown.

The front portions of the buffer stems are preferably square in cross section, while their rear portions are cylindrical, the openings in which the stems are guided being correspondingly shaped. Withdrawal of the buffer stems from their guides is prevented by keys e' secured to the stems in rear of the perforated lugs h.

I represent heavy buffer springs surrounding the stems e and bearing at their rear ends against the perforated lugs h and at their front ends against collars j which are arranged loosely on the stems and abut against the shoulders at the junction of the round and square portions of the stems. These buffer springs resist the inward movement of the buffer plate and should be very powerful, say of ten tons resistance each, so as to materially diminish the force of the concussion in case of a collision, particularly a rear end collision.

In the normal condition of the buffer, its resisting springs are uncompressed and the buffer stands a short distance in rear of the front end of the drawhead so as to come into action only in case of a heavy shock which overcomes the resistance of the usual buffer spring on the shank of the drawhead of the car. In order to utilize the action of the buffer to the best advantage, the same is arranged at substantially the same elevation as the cross sills and longitudinal timbers of railway cars. By this arrangement the pilot buffer, in case of a rear end collision, squarely strikes the buffer or end sill of the car platform, and the strain caused by the shock is received principally by the frame timbers, thereby lessening the liability of telescoping the cars.

I claim as my invention—

1. The combination with the pilot and the pilot beam of a locomotive, of a transverse buffer plate arranged above the pilot, guides arranged behind the buffer plate and secured to the pilot and the pilot beam respectively, supporting stems carrying the buffer plate and arranged in said guides, and buffer springs which resist the inward movement of the buffer plate, substantially as set forth.

2. The combination with the pilot of a locomotive, of a buffer plate arranged above the pilot, a standard rising from the pilot and having guide openings, stems carrying the buffer plate and guided in the openings of said standard, and buffer springs surrounding said stems and bearing at their rear ends against abutments on the pilot beam, substantially as set forth.

3. The combination with the pilot and the
pilot beam of a locomotive, of a transverse
buffer plate arranged above the pilot, a sup-
porting yoke for the drawhead shank secured
5 to the pilot, a standard arranged on said yoke
and having guide openings, perforated lugs
secured to the pilot beam, stems carrying the
buffer plate and guided in said openings and
perforated lugs and buffer springs surround-

ing said stems and abutting at their rear ends to
against said lugs, substantially as set forth.
Witness my hand this 7th day of February,
1894.

WILLARD F. RICHARDS.

Witnesses:

JNO. J. BONNER,
E. R. DEAN.