

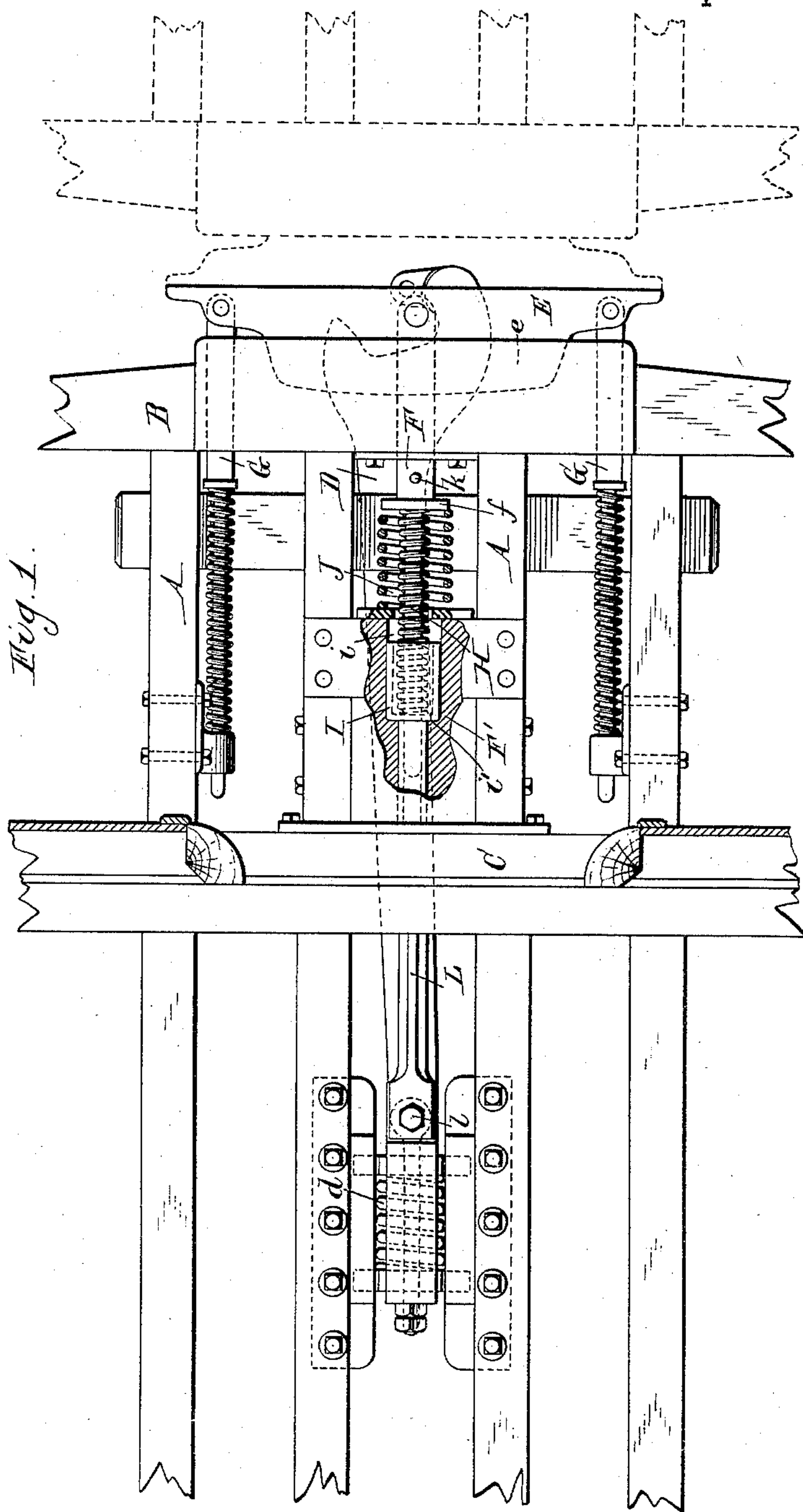
(No Model.)

2 Sheets—Sheet 1.

T. A. BISSELL.  
CAR BUFFER.

No. 482,538

Patented Sept. 13, 1892.



Witnesses:

Emil Neuhart.

Fred. C. Geyer.

T. A. Bissell Inventor

By Wilhelm Krumm.

Attorneys.

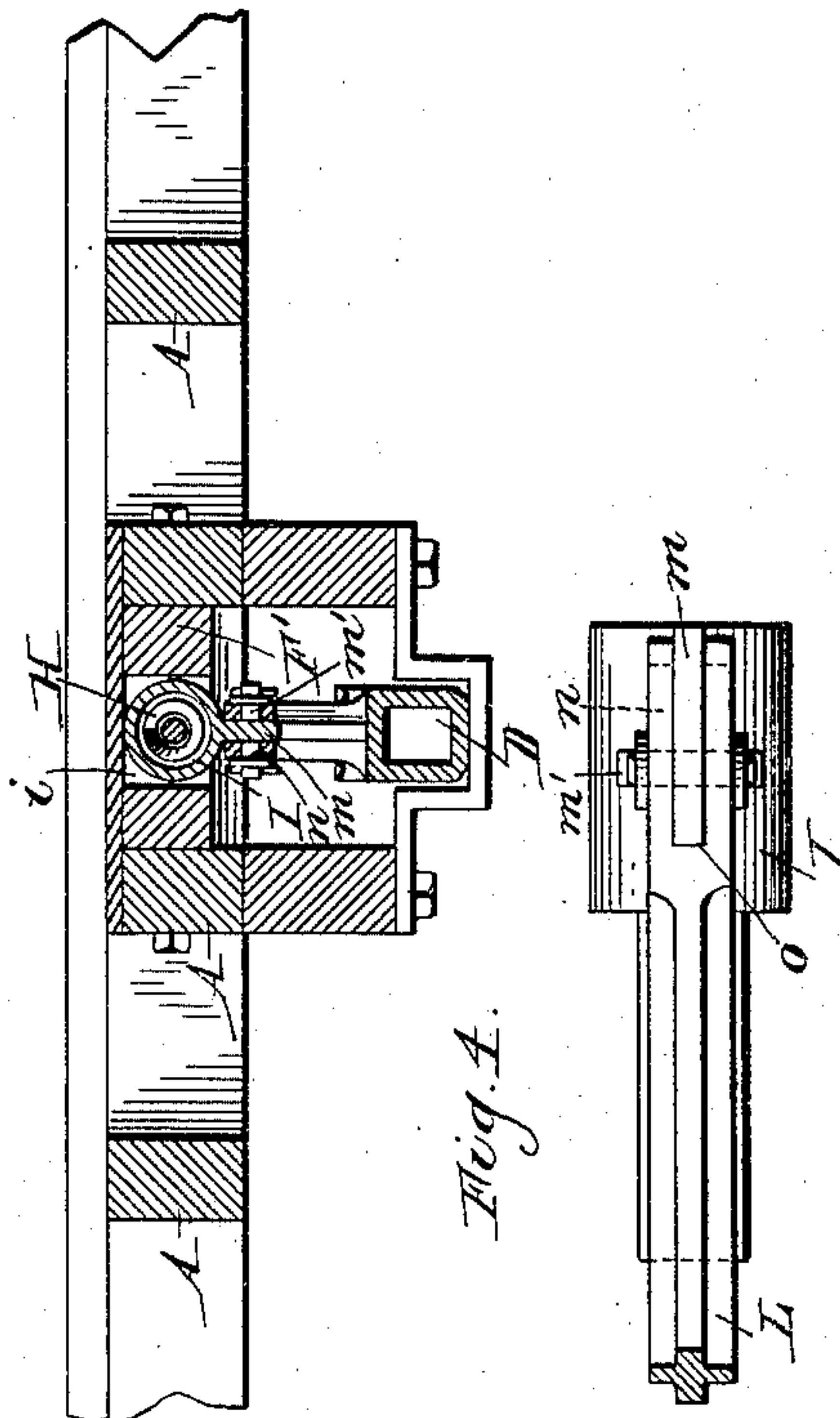
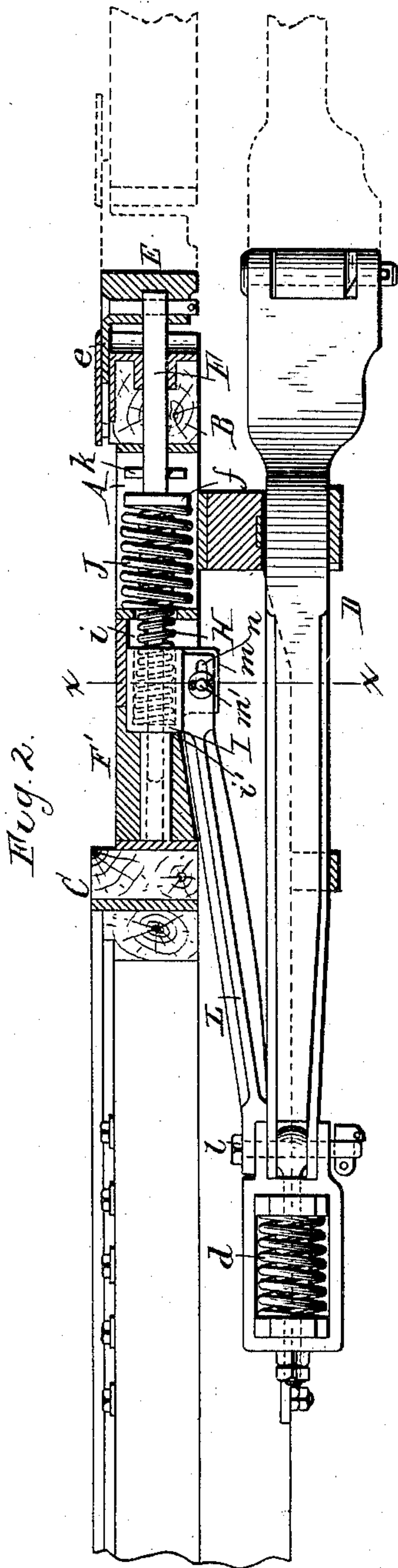
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2 Sheets—Sheet 2.

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No. 482,538.

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Witnesses:

Emil Neuhart.  
Fred. C. Geyer.

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Attorneys.



# UNITED STATES PATENT OFFICE.

THOMAS A. BISSELL, OF BUFFALO, NEW YORK.

## CAR-BUFFER.

SPECIFICATION forming part of Letters Patent No. 482,538, dated September 13, 1892.

Application filed March 15, 1892. Serial No. 424,975. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS A. BISSELL, a citizen of the United States, residing at the city of Buffalo, in the county of Erie and State of New York, have invented a new and useful Improvement in Car-Buffers, of which the following is a specification.

This invention relates to railway-cars which are provided with a yielding buffer or platform extension which bears against the platform of an adjoining car, so as to close the space between the cars and form a practically-continuous platform between the same. Such platform extensions are usually provided with a heavy buffer-spring which resists any violent shocks of the cars and a lighter spring which serves, principally, to project the platform extension and keep it in yielding contact with the platform of an adjoining car. In coupling and uncoupling the cars the resistance of this extension-spring must be overcome, and it is therefore desirable that the tension of the spring at such times should be as light as possible.

The object of my invention is to provide the buffer-platform with simple means which will permit the use of a comparatively-light extension-spring, so as to enable the cars to be easily coupled and uncoupled, and which will insure sufficient outward movement of the platform extension to keep the same in reliable contact with the platform of an adjoining car in all positions of the cars.

In the accompanying drawings, consisting of two sheets, Figure 1 is a sectional top plan view of the platform of a railway-car provided with my improvement, the flooring being omitted to expose the parts below. Fig. 2 is a central longitudinal section of the platform. Fig. 3 is a transverse section in line *x x*, Fig. 2. Fig. 4 is a bottom plan view of the socket or rear abutment of the platform-extension spring and the adjacent portion of the connecting bar or link on an enlarged scale.

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

A represents the longitudinal timbers of the stationary car-platform, B the end or cross-timber thereof, and C the end sill of the car.

D is the draw-bar of the car, arranged under the stationary platform and which is provided with the usual buffer-springs *d*, which

permit of a limited longitudinal movement of the bar.

E represents the buffer or movable platform extension, which preferably consists of a transverse vertical buffer-plate having at its upper end a horizontal threshold-plate *e*, extending inwardly over the end timber B.

F is the buffer bar or stem, which supports the platform extension E and which is guided with its outer portion in an opening formed in the end timber B and with its inner portion in an opening formed in a buffer-block F', secured between the longitudinal timbers of the stationary platform, as shown in Fig. 1. The platform extension is preferably pivoted centrally to the outer end of the buffer-bar, as shown, so as to enable it to assume a position at an angle to the end timber B in rounding curves, the pivoted extension being held in its normal position by yielding stay-rods G of any ordinary construction.

H represents the spiral spring whereby the extension-platform is projected and which surrounds the buffer-bar F. This spring bears with its outer end against a collar or shoulder *f*, formed on the buffer-bar, and with its inner end against a longitudinally-movable follower or abutment I. This abutment preferably consists of a cylindrical socket, which surrounds the buffer-bar F, and is arranged in a recess *i*, formed in the buffer-block F', in axial line with the buffer-bar. The socket I receives the inner portion of the extension-spring H and bears with its inner end against the shoulder *i'*, formed at the inner end of the recess *i*. The socket is provided in its bottom or closed inner end with an opening, through which the buffer-stem passes.

J is the main buffer-spring of the platform extension, which sustains any heavy shocks which overcome the resistance of the lighter extension-spring. This buffer-spring surrounds the buffer-stem and the extension-spring between the collar *f* of the stem and the outer end of the buffer-block F' and is shorter than the extension-spring, so as not to come into action under ordinary circumstances.

*k* is a stop-pin secured to the buffer-stem on the inner side of the end timber B, and which limits the outward movement of the platform extension by striking said sill.



L is a coupling bar or link, which connects the abutment-socket I of the extension-spring with the draw-bar D, and whereby said abutment is caused to take part in the outward movement of the draw-bar and further compress the extension-spring. This coupling-bar is attached at its inner end to the draw-bar by a bolt *l* or other means, while its front end is bifurcated and straddles a lug *m*, formed on the underside of the socket I. The bifurcated end of the coupling-bar is attached to the lug *m* by a transverse pin *m'*, formed on or secured to the lug and arranged in longitudinal slots *n*, formed in the jaws of the bifurcated bars. These slots permit the outer end of the coupling-bar to move inwardly on the pin of the lug *m* without imparting a corresponding movement to the socket I. The shoulder *o* at the inner end of the bifurcated portion of the coupling-bar is so arranged as to bear against the inner end of the lug *m* when the draw-bar is moved outward, as shown in Fig. 4, so as to relieve the pin of the lug from strain.

When a car containing my improved buffer mechanism is coupled to another car, its extension-platform is pressed inward a short distance beyond the position which it occupies when uncoupled. When the car is set in motion, its draw-bar is pulled outward to a certain extent, and this movement is transmitted to the abutment-socket I of the extension-spring by the connecting-bar L, the shoulder of which strikes the lug of the socket, and thereby moves the latter outwardly. This outward movement of the socket causes the extension-spring to be further compressed between the end of the socket and the collar *f* of the draw-bar, thereby increasing the resistance of the spring and causing it to move the platform extension outwardly and keeping it in reliable contact with the platform of the adjoining car. The reduction in the tension of the extension-spring which has heretofore occurred by the separation of the cars, due to the outward movement of the draw-bars, is thus compensated by the increased compression of the spring, caused by the outward movement of its abutment-socket, thereby equalizing the pressure of the spring in all positions of the platform extension and maintaining it at the proper tension to sufficiently project the platform extension, whether the cars are separated to a greater or less extent. As the extension-spring is compressed and further tensioned as soon as the car is set in motion, the initial tension of the spring may be comparatively light and just sufficient to project the platform extension, thus offering but a slight resistance to the inward movement of the platform extension when the car is at rest, and enabling the car to be easily coupled and uncoupled. My improved buffer mechanism also permits the extension-spring to be used after it has become partially set, because as soon as the car is set in motion the

outwardly moving abutment-socket of the spring compresses the latter to the requisite degree for properly projecting the platform extension. When the draw-bar of the car is moved inward, the coupling-bar L slides inward on the lug of the abutment-socket, as hereinbefore described, so that the socket and the extension-spring are not affected by the inward movement of the draw-bar.

I claim as my invention—

1. The combination, with the stationary platform of a railway-car, the longitudinally-movable draw-bar, and a buffer or platform extension movable on the stationary platform, of a follower-socket guided on the stationary platform, a spring for projecting the buffer or platform extension, bearing with its inner end against the bottom of the follower-socket, and a coupling-bar attached at one end to said socket and at its opposite end to the draw-bar, substantially as set forth.

2. The combination, with the stationary platform of a railway-car and the longitudinally-movable draw-bar, of a buffer or platform extension movable on the main platform, a movable abutment or follower guided on the main platform, a spring for projecting the buffer or platform extension, bearing against said abutment, and a coupling-bar attached at one end to the draw-bar and having its other end movably attached to said abutment and provided with a shoulder bearing against said abutment, substantially as set forth.

3. The combination, with the stationary platform of a railway-car and the longitudinally-movable draw-bar, of a buffer or platform extension movable on the main platform, a movable abutment or follower having a pin or projection, a projecting spring for the buffer or movable platform, bearing against said abutment, and a coupling-bar attached at one end to the draw-bar and having at its other end a longitudinal slot in which the pin of the abutment is arranged, substantially as set forth.

4. The combination, with the stationary platform of a railway-car and the longitudinally-movable draw-bar, of a buffer or platform extension movable on the main platform, a movable abutment or follower having a pin or projection, a projecting spring for the buffer or movable platform, bearing against said abutment, and a coupling-bar attached at one end to the draw-bar and having at its other end a longitudinal slot in which the pin of the abutment is arranged, and a shoulder bearing against the abutment, whereby the latter is caused to move outward with the draw-bar, substantially as set forth.

Witness my hand this 8th day of March, 1892.

T. A. BISSELL.

Witnesses:

JNO. J. BONNER,  
ALICE G. CONNELLY.