

W. HARKINS.
Car-Coupling.

No. 226,170

Patented April 6, 1880.

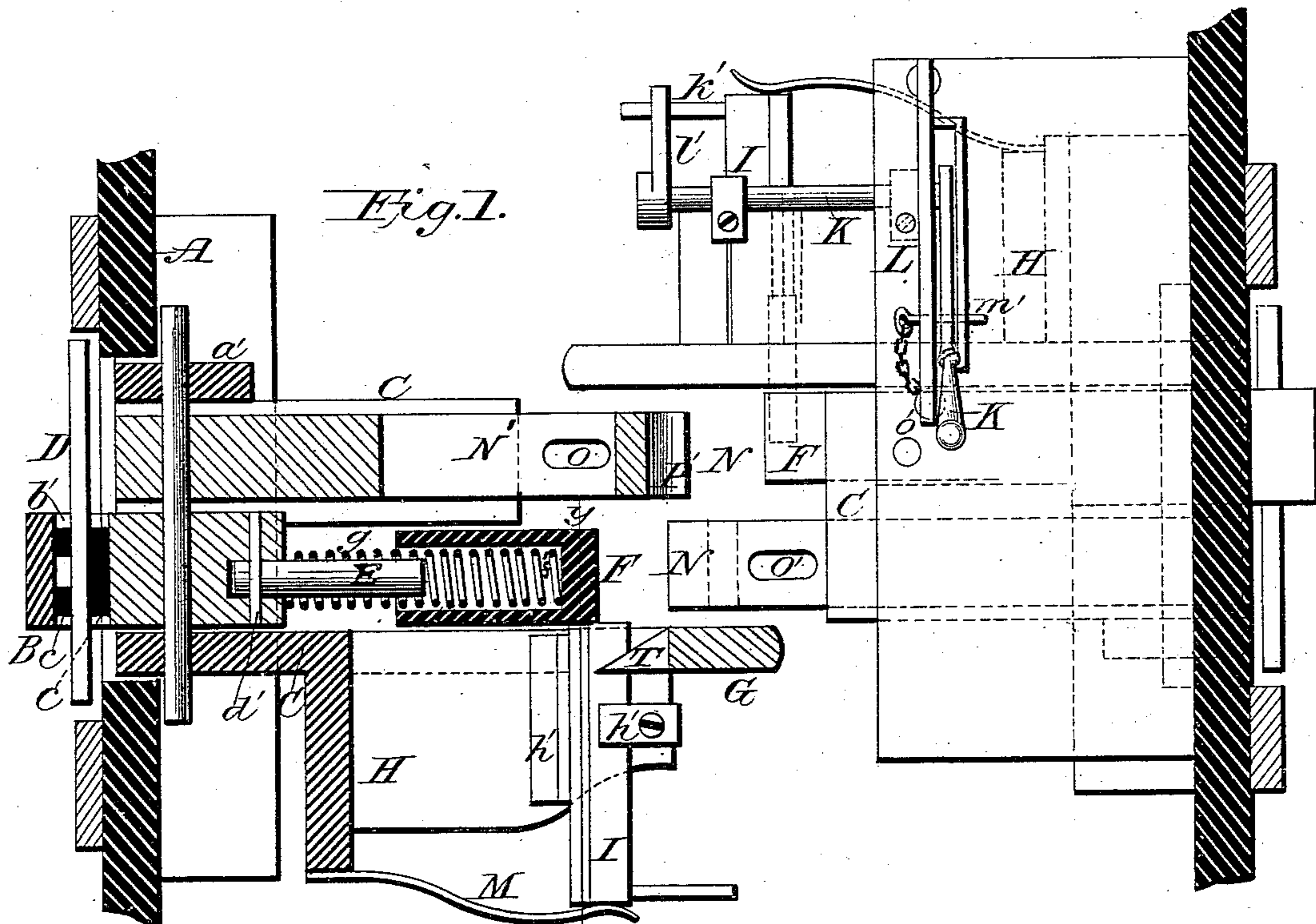
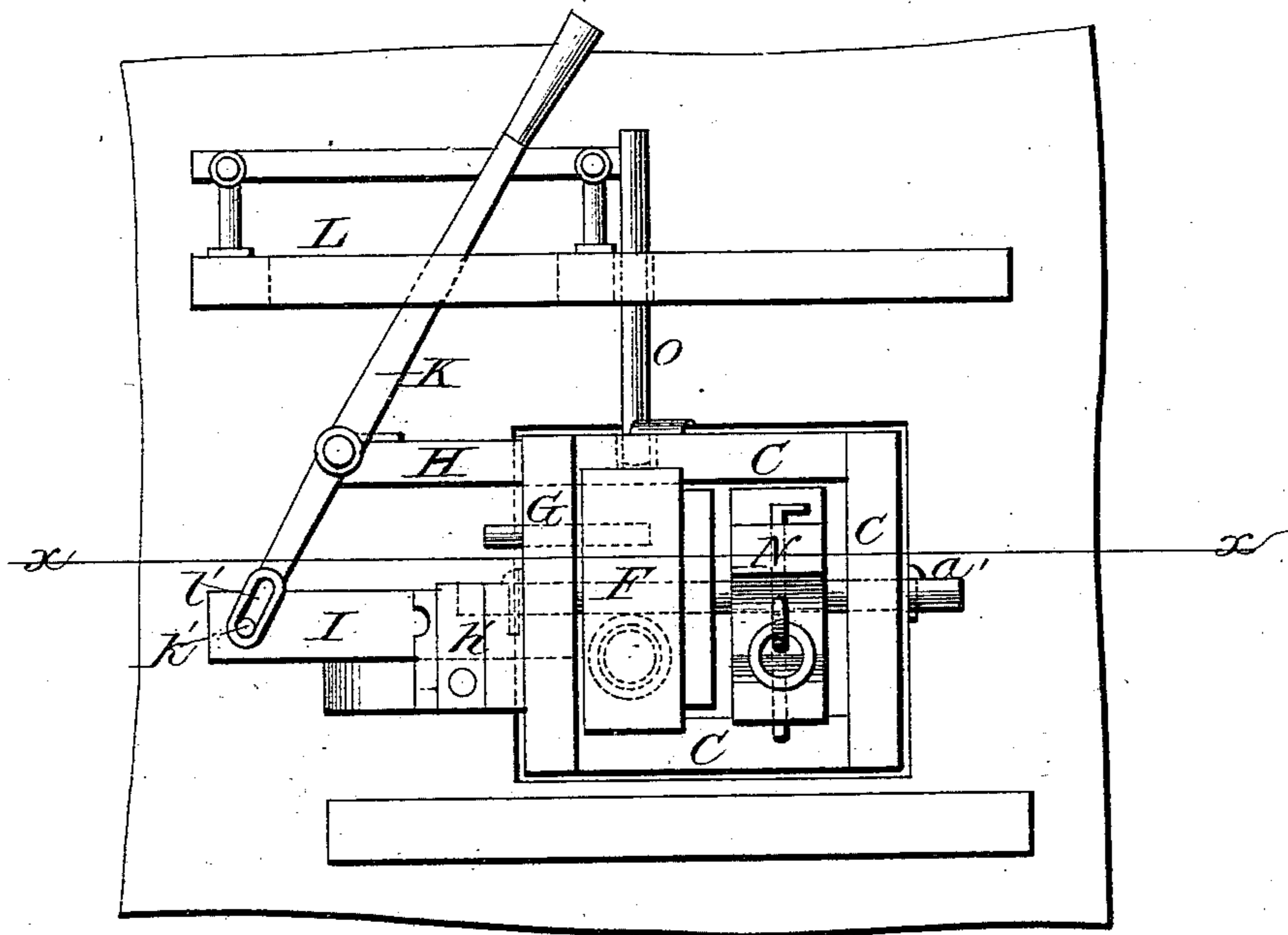


Fig. 2.



Witnesses:

Louis Heyl
Frederick Heyl

Inventor:

Wm. Perkins.

UNITED STATES PATENT OFFICE.

WILLIAM HARKINS, OF DUNKIRK, NEW YORK.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 226,170, dated April 6, 1880.

Application filed December 8, 1879.

To all whom it may concern:

Be it known that I, WILLIAM HARKINS, of Dunkirk, in the county of Chautauqua and State of New York, have invented an Improved Car-Coupler, of which the following is a specification.

Figure 1 represents a transverse section on line *x x*, Fig. 2, showing the devices attached to a suitable draw-head, and also a plan of the same. Fig. 2 is a front view of the same.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide a safe and effective device for coupling cars.

The invention consists of a novel construction and arrangement of a draw-bar, buffer, and spring, of a coupling-key and propelling-spring, and of a lever for reversing the key in uncoupling, and of certain other novel parts that are hereinafter fully described.

In the drawings, A represents the end of a car. B is the draw-bar, to which the draw-head C is attached, pivoted by the pin *a'*, or otherwise. The draw-bar B itself is secured to the car A by a horizontal bar, D, that passes through a slot, *b'*, in the rear end of said bar B, and on either side of this horizontal bar D, within the slot *b'*, are fixed the elastic cushions *c c*, to relieve the concussion; but I do not wish to be confined to the use of the draw-bar B, as any other form can be used.

Held by pin *d'*, in a socket in the front end of the draw-bar B, is the shank E of the buffer F, and in this buffer F is the socket *f'*, in which is set one end of the helical spring *g*, whose other end encircles the shank E, and this supports the buffer F. The buffer F slides in grooves in the draw-head C, to prevent lateral motion.

The key I, at its outer end, is provided with a pin, *k'*, that engages in a slot, *l'*, in the lower end of the lever K, by which means the key I may be retracted for uncoupling. The lever K is shown with its two arms separated by a straight rod, in order to secure greater convenience in its management by bringing the handle nearer the end of the car. It is also shown supported on the frame H; but a continuous lever may be used instead, and the lever may be supported and fulcrumed on the

platform or other part of the car instead, in which case the upper or supporting portion of frame H may be dispensed with. The slot may be dispensed with, and the lever end used for a like purpose; and if operated by hand the lever may be dispensed with.

L is the guide-rail for the handle of the lever K to move in, and the pin *M'* is provided to hold the handle of the said lever in a set position.

M is a strong flat spring, with its free end pressing against the outer end of the key I; and this spring is so made that it throws the key I forward sufficiently for coupling when freed, as hereinafter described. When set and ready for coupling the said key I is held back or retracted by the buffer F, the spring *g* being so made as to secure this action.

In coupling, the entering bar N of the opposite coupler will strike the buffer F and force it back, so as to liberate the key I, which, by the spring M, is instantly thrown forward to enter the slot *N'*, and thus hold the cars coupled.

It will be seen that the buffer F performs the double office of check to the key I when set for coupling and of a buffer when coupled.

This arrangement, together with the use of a lever with separated arms for withdrawing the key, are points of advantage, as far as I know, novel, and not possessed by any other device of the kind.

I disclaim a vertically-slotted draw-head in combination with a horizontal sliding bolt, substantially as described in Morgan and Ger- ry's Patent No. 121,252.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the buffer F with the key I, coupling-bar N, spring M, and draw-head C, having the extended arm G and frame H, substantially as specified.

2. The combination of the draw-head C, having the extended arm G and frame H, the coupling-bar N, spring M, key I, and buffer F with the draw-bar of a car, substantially as described.

3. The combination of the buffer F, having the shank E and helical spring *g*, with the ver-

tical coupling-bar N, draw-head C, horizontal key I, and lateral spring M, substantially as specified.

4. The combination of the lever K with the coupling-key I, having pin k' , spring M, draw-head C, and coupling-bar N, substantially as described.

5. The combination of the draw-head C, having the horizontal key I, lateral spring M, and vertical coupling-bar N, with the buffer F, having the helical spring g and shank E, and the draw-bar of a car, substantially as specified.

6. The combination of the lever K, having its two arms separated by an intermediate rod, substantially as shown, and for the purpose specified, with the horizontal key I, the draw-

head C, and the vertical coupling-bar N, substantially as specified.

7. The above-described combination of devices to secure an automatic car-coupling, consisting of the buffer F, with the shank E and helical spring g , key I, spring M, coupling-bar N, and draw-head C, substantially as specified.

8. The combination of the draw-head C, having the key I, spring M, coupling-bar N, and buffer F, with the lever K, pin M' , and guide-rail L, substantially as specified.

WILLIAM HARKINS.

Witnesses:

LOUIS HEYL,
FREDERICK HEYL.