

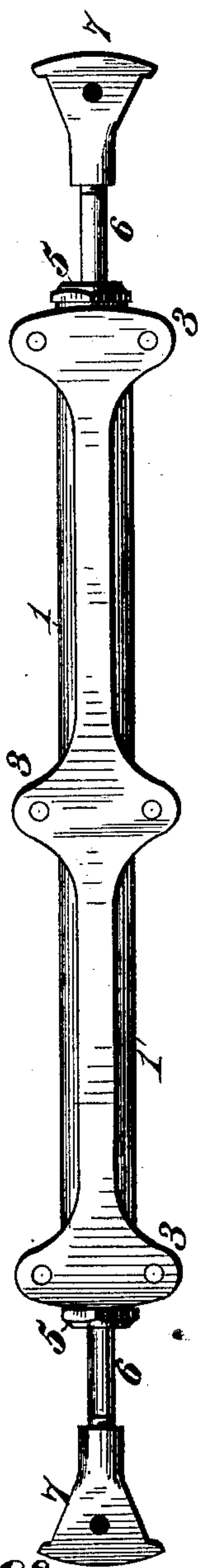
(No Model.)

I. O. PHILLIPS.  
DRAW BAR FOR CARS.

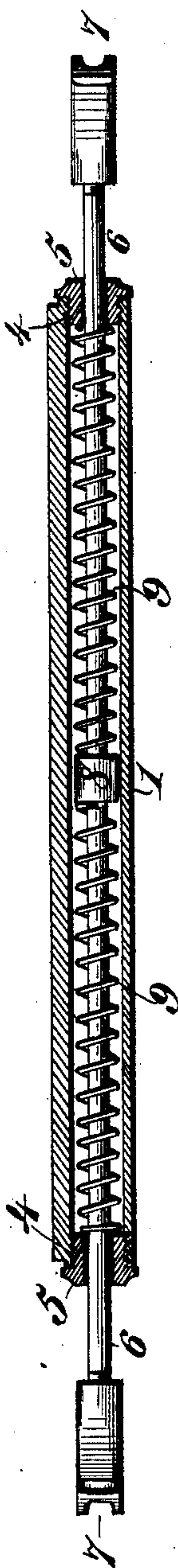
No. 363,539.

Patented May 24, 1887.

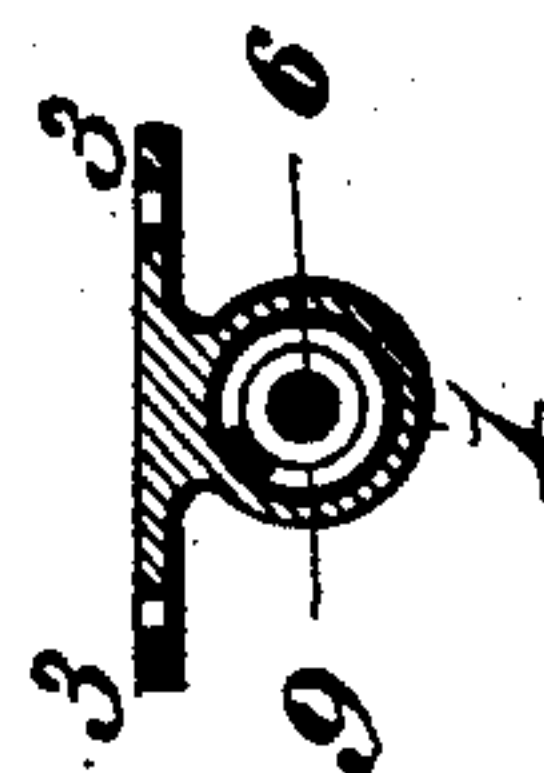
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses.

*Robert Everett.*

*Dennis Humby.*

*Inventor*  
*Isaac O. Phillips.*

*By* *James L. Norris*  
*Atty.*

# UNITED STATES PATENT OFFICE.

ISAAC OGDEN PHILLIPS, OF BROOKLYN, NEW YORK.

## DRAW-BAR FOR CARS.

SPECIFICATION forming part of Letters Patent No. 363,539, dated May 24, 1887.

Application filed February 15, 1887. Serial No. 227,739. (No model.)

*To all whom it may concern:*

Be it known that I, ISAAC OGDEN PHILLIPS, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Draw-Bars for Cars, of which the following is a specification.

This invention has for its object to provide a novel draw-bar and buffer for cars; and it consists in the features of construction and combination of devices, hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a top plan view of the draw-bar; Fig. 2, a longitudinal sectional view taken on the line *x x*, Fig. 1; and Fig. 3, a transverse sectional view taken on the line *y y*, Fig. 1.

In order to enable others skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings.

The numeral 1 indicates a cylindrical tube formed at one side with a longitudinal flat surface, 2, having laterally-projecting perforated lugs 3, so that the flat surface will rest squarely against the car-timbers, and the lugs serve to receive screws, bolts, or other devices for rigidly attaching the tube in position. The tube at each end is screw-threaded, as at 4, to receive the screw-threaded plugs 5, having cylindrical orifices, through which extends a rod, 6, which passes entirely through the tube and extends from each end thereof, one or both ends having a coupling-head, 7, of any desired construction suitable to meet the conditions required.

The rod at or adjacent to the middle of its length is formed or provided with a rigidly-attached collar, 8, of a diameter greater than the rod, so as to bear loosely against the interior of the tube. Inside the tube, between each screw-plug and the collar, is arranged a coiled or other suitable spring, 9, in such manner that the inner adjacent ends of the springs bear against the opposite sides of the collar, while the outer ends of the springs bear, respectively, against the inner ends of the screw-

plugs. The springs are thus inclosed within the tube and thereby protected, and act in opposite directions, and the devices provide a desirable draw-bar and buffer.

It will be seen that the several draw-rods 6 have longitudinal movement when their coupling-heads are brought into contact, and it is evident that any impact upon either end of any one of the connected draw-rods will be taken up by one of the springs 9; or, if a series of cars are coupled together, then the stress will be divided upon or among all the rods 6 and the springs with which they engage. So, also, if draft is suddenly exerted upon one of the coupling-heads, the inertia of the car will be taken up by the other of the two springs 6, and this will occur equally with each of the cars coupled up with the locomotive. In other words, the whole series of rods 6, when coupled together in the manner shown in Fig. 1, will have longitudinal play against the tension of the opposite springs upon side of the central collar, 8, whereby an effectual buffer and draw-head is provided for one or any number of cars.

Having thus described my invention, what I claim is—

A draw-bar and buffer consisting of a tube of substantially uniform internal diameter, and constructed with a flat longitudinal top surface extended into lateral lugs 3 and interiorly screw-threaded at each end, a detachable screw-plug, 5, screwed into each end of the said tube, and provided with a central orifice, a rod, 6, passing through the tube and plugs and having a rigid collar, 8, at or adjacent to the middle of its length, two springs, 9, on the rod bearing, respectively, against the screw-plugs and the collar, and a coupling-head, 7, on each end of the rod, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ISAAC OGDEN PHILLIPS.

Witnesses:

WM. B. HODGSDON,  
WM. D. JONES.