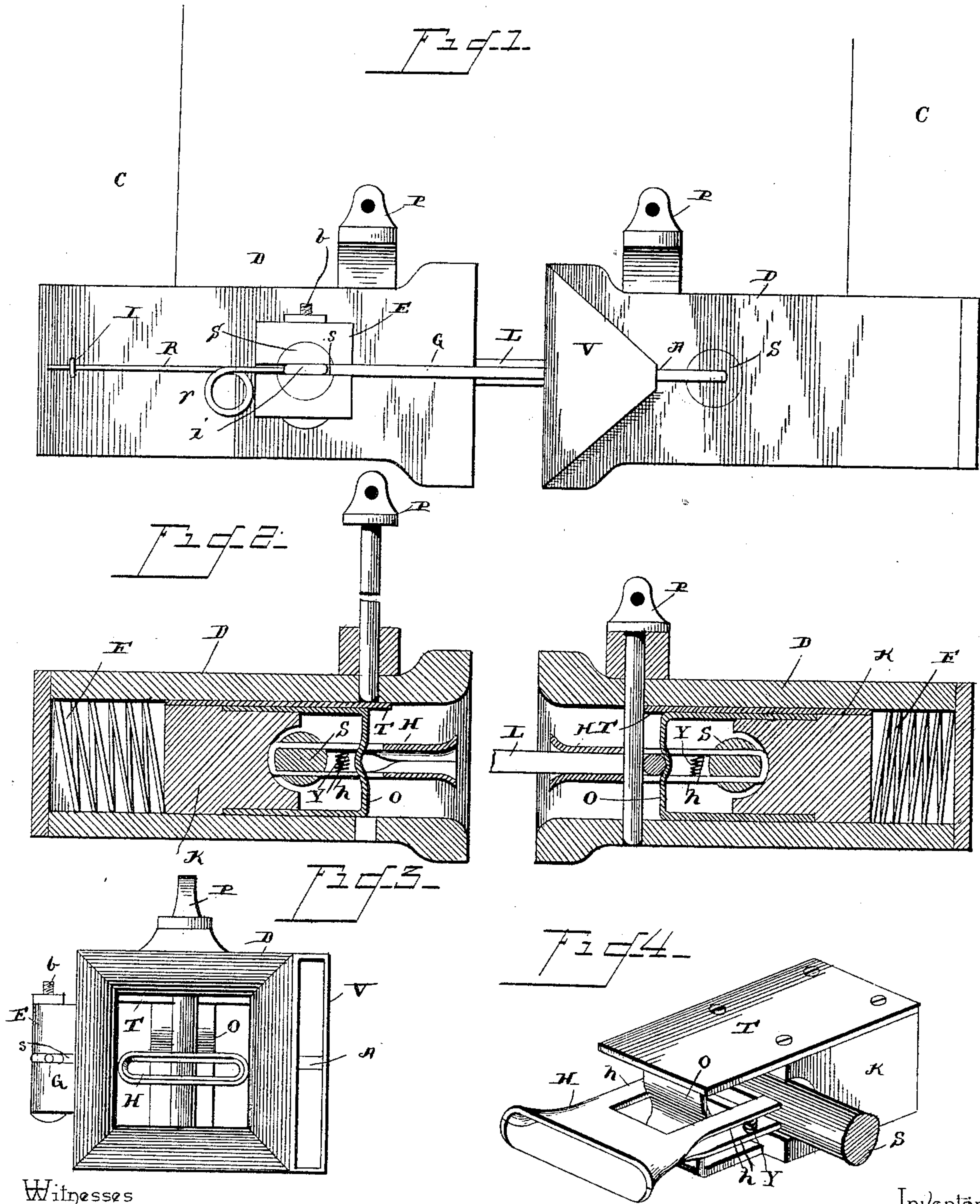


(No Model.)

D. BOWLES.  
CAR COUPLING.

No. 432,971.

Patented July 29, 1890.



Witnesses

*Geo. E. French.*

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By *his* Attorneys,

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# UNITED STATES PATENT OFFICE.

DAVID BOWLES, OF MARYVILLE, TENNESSEE, ASSIGNOR OF ONE-HALF TO  
WILLIAM P. HASTINGS, OF SAME PLACE.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 432,971, dated July 29, 1890.

Application filed April 23, 1890. Serial No. 349,090. (No model.)

*To all whom it may concern:*

Be it known that I, DAVID BOWLES, a citizen of the United States, residing at Maryville, in the county of Blount and State of Tennessee, have invented a new and useful Car-Coupling, of which the following is a specification.

This invention relates to car-couplings, more especially of that class known as "gravity link supports;" and the object of the invention is to provide means whereby cars having draw-heads standing at considerably different heights may be automatically coupled. This object I obtain by the present invention, which consists of a draw-bar having its front end formed in the shape of an ordinary draw-head, a draw-head proper mounted within the draw-bar on a transverse pivot through the same, a guide-rod extending forwardly from said transverse pivot at one side of the draw-bar, and the shield at the other side of the draw-bar, having a flaring mouth adapted to receive a similar pin carried by the opposite draw-head, as well as of devices for supporting the ordinary coupling-pin, constructed, preferably, as herein described, and certain auxiliaries tending to enhance the value of the whole, all as hereinafter more fully described, and illustrated in the drawings, in which—

Figure 1 is a side elevation, and Fig. 2 a longitudinal section, of the draw-bars of two cars as connected by my improved coupling. Fig. 3 is a front elevation of one of the draw-bars. Fig. 4 is an enlarged perspective view of the draw-head removed, the pin-support being also shown in its proper position.

Referring to the said drawings, C is the car-body, having the draw-bar D connected thereto in the usual or any preferred manner. The front end of the draw-bar D is flared similarly to the draw-head of other car-couplings, and a coupling-pin P passes through a vertical hole in the draw-bar to engage the link L in a manner which will be clearly understood. The pin may be lifted by hand or by any of the well-known devices for that purpose, which I have not deemed it necessary to illustrate.

Within the draw-bar D is located a strong

buffer-spring F, and in front of this spring is a block K, pressed normally forward thereby. The block carries a loop O, having a tongue T at its upper side, which stands normally below the hole in the upper side of the draw-bar and supports the pin P in elevated position. When, however, the loop O and block K are forced rearwardly against the tension of the spring F, the pin P slips down in front of the tongue T and drops through the link in a manner which will be clearly understood, the length of the tongue permitting the end of the link to pass sufficiently to the rear before the pin descends, so that the latter will drop through the link.

In the sides of the draw-bar D is journaled a horizontal shaft S, around which the loop O passes, as seen in Fig. 4, and connected to this shaft, at either side of the loop, by spring-arms h is the draw-head H of my improved car-coupling, which draw-head is preferably composed of upper and lower members slightly flared at their front ends and connected by springs Y in any suitable manner so as to yield slightly, for a purpose hereinafter set forth.

One end of the shaft S is enlarged, as shown at E, and passing vertically through said enlarged end and through a horizontal slot s therein is a bolt b. Upon the body of this bolt is mounted the eye i in the rear end of a guide-rod G, that extends forwardly from said end E to a considerable distance in front of the draw-head, and by which the latter may be moved up and down within the mouth of the draw-bar, as will be understood. Extending rearwardly from the enlargement E is a rod R, having a spring r formed in its body and its rear end loosely engaging a staple or eye I in the side of the draw-bar D, by means of which the draw-head is maintained normally at about the vertical center of the mouth of the draw-bar. On the other side of the draw-bar, at its front end, is secured a shield V, of V shape, whose front end stands forwardly along the side of the draw-bar and whose rear end or apex A is open. When two cars of this construction approach each other, the tips of the guide-rods G enter the shields V and pass through the open apices,



thereby turning the guides, the shafts S, and the draw-heads H, so that the latter are brought into exact alignment with each other, and the link can thus readily couple the cars.

5 When a car of this construction approaches a car having the ordinary pin-and-link coupling, the bolt *b* may be loosened a trifle and the guide-rod G turned so as to stand transversely or laterally away from the draw-bar  
10 in order that it will not strike any part of the ordinary car.

The pin P may rest upon the tongue T, as above described, and the approaching link L, as it is guided into the draw-head H, slightly  
15 separates the members thereof against the force of the springs Y, passes in rear of said members, strikes the loop O, pushes it rearwardly against the force of the spring F, and allows the pin P to fall, the latter passing in  
20 front of the loop and its tongue, between the shaft S and the members H of the draw-head, and between the spring-arms *h*, which support said members H, and also passing through the link L, as will be understood.

25 What I claim is—

1. In a car-coupling, the combination, with the draw-bar, a horizontal shaft journaled therein, a spring for holding said shaft in normal position, and a draw-head carried by  
30 said shaft, of a guide-rod extending from one end of said shaft forward of the draw-head, and a V-shaped shield secured to the opposite side of the draw-bar with its open mouth forward, all substantially as described.

35 2. In a car-coupling, the combination, with the draw-bar, a horizontal shaft journaled therein, and a draw-head carried by said shaft within the open mouth of the draw-bar, of means, substantially as described, for auto-  
40 matically guiding said draw-head into alignment with that of an approaching car, as set forth.

3. In a car-coupling, the combination, with the draw-bar, a horizontal shaft journaled  
45 therein, and a draw-head carried by said shaft within the open mouth of the draw-bar, of means, substantially as described, for guiding said draw-head into alignment with that of an approaching car, and a spring-actuated  
50 pin-support in rear of said draw-head adapted to be forced to the rear by the approaching link and to be thereby moved from beneath the lower end of the pin, as set forth.

4. In a car-coupling, the combination, with  
55 the draw-bar, a horizontal shaft journaled

therein, spring-arms leading forwardly from said shaft within and at the sides of the open mouth of the draw-bar, and a draw-head carried by the free ends of said arms, of means, substantially as described, for guiding said  
60 draw-head into alignment with that of an approaching car, a spring-actuated block in rear of said shaft, and a vertical loop carried thereby, said loop surrounding the shaft and standing between said spring-arms and normally  
65 supporting the pin, as set forth.

5. In a car-coupling, the combination, with the draw-bar, a horizontal shaft journaled therein, and a draw-head carried by said shaft within the open mouth of the draw-bar, said  
70 draw-head comprising upper and lower members having outwardly-bent front ends, and springs connecting said members, of means, substantially as described, for raising and lowering said draw-head within the open  
75 mouth of the draw-bar and into alignment with a similar draw-head on an approaching car, as set forth.

6. In a car-coupling, the combination, with the draw-bar having a flaring mouth and a  
80 vertical hole through its body, the movable draw-head within said draw-bar having a vertical aperture through its body, and the pin adapted to drop through said hole and aperture, of a spring-actuated pin-support moving  
85 within said draw-bar and in said aperture, and a tongue at the upper edge thereof adapted to close the hole through the upper side of the draw-bar, substantially as described.

7. In a car-coupling, the combination, with  
90 the draw-bar, a horizontal shaft journaled therein and having an enlargement at one end provided with a horizontal slot, a spring for holding said shaft in normal position, and a draw-head carried by said shaft, of a guide-  
95 rod extending forwardly of the draw-head and having an eye in its rear end seated in said horizontal slot, a bolt passing vertically through said enlargement and engaging said eye, and a V-shaped shield secured to the op-  
100 posite side of the draw-bar with its open mouth forward and its apex slightly open, all substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature  
105 in presence of two witnesses.

DAVID BOWLES.

Witnesses:

S. M. MORTON,  
B. A. MORTON.