(No Model.)

S. A. WEATHERSBY.

CAR COUPLING.

No. 459,029. Patented Sept. 8, 1891.

Fig. 2.

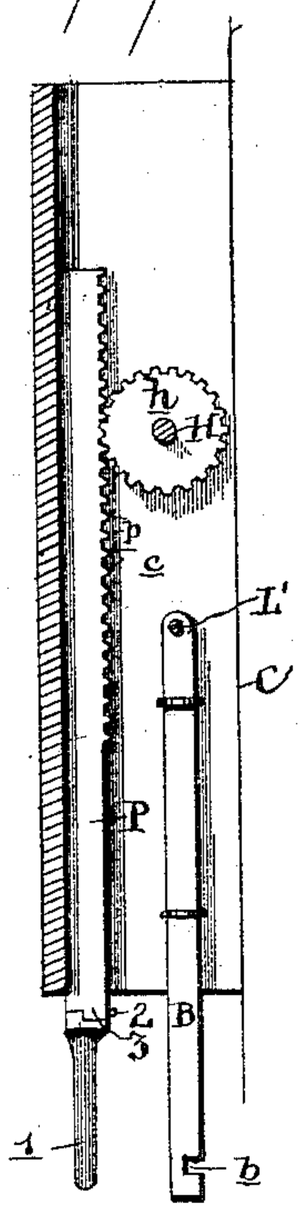


Fig. 1.

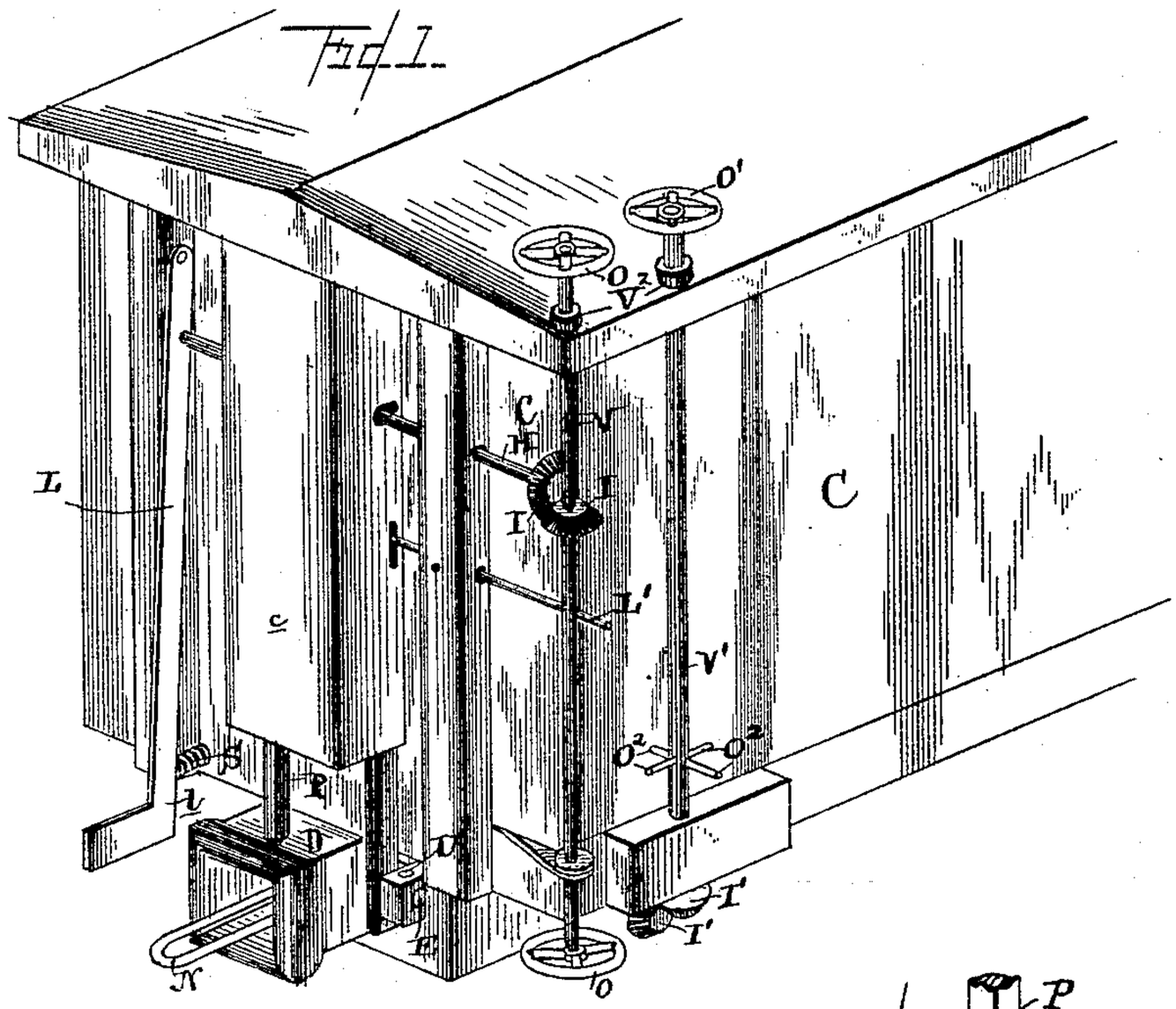


Fig. 5.

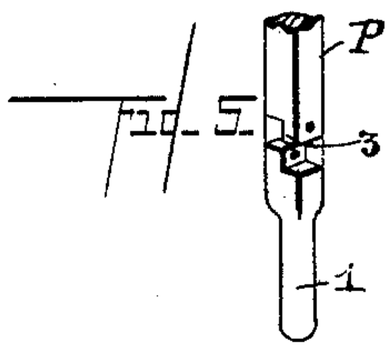


Fig. 3.

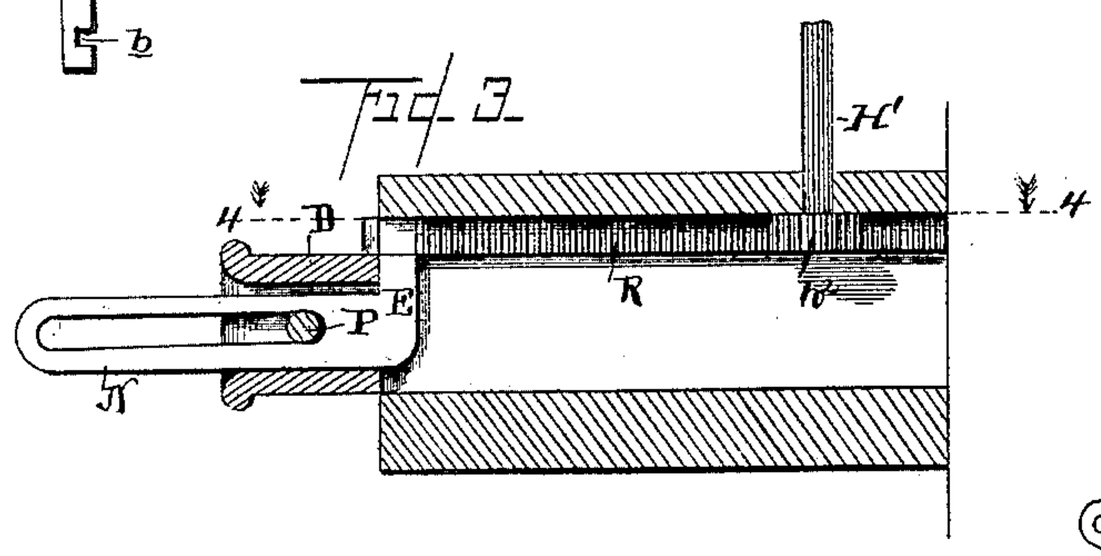


Fig. 6.

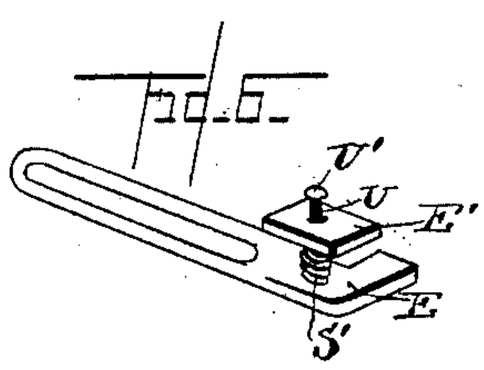
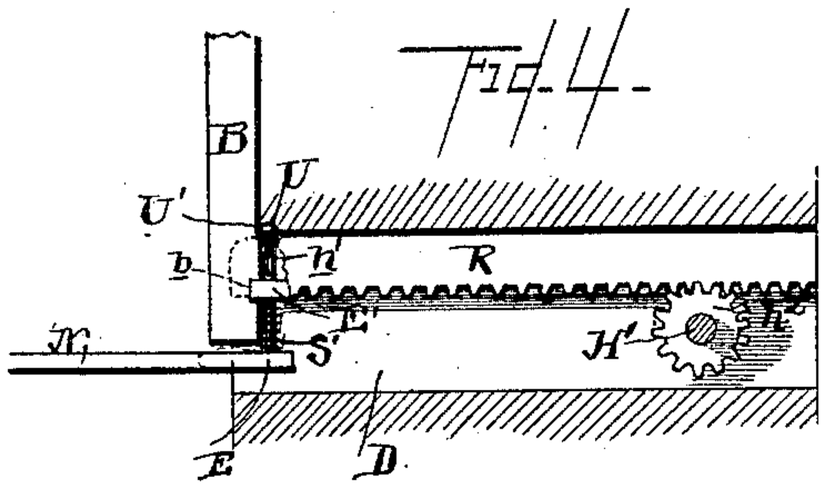


Fig. 4.



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UNITED STATES PATENT OFFICE.

SARAH ANN WEATHERSBY, OF KILLEEN, TEXAS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 459,029, dated September 8, 1891.

Application filed May 7, 1891. Serial No. 391,934. (No model.)

To all whom it may concern:

Be it known that I, SARAH ANN WEATHERSBY, a citizen of the United States, residing at Killeen, in the county of Bell and State of Texas, have invented a new and useful Car-Coupling, of which the following is a specification.

This invention relates to car-couplings, and more especially of that class known as "pin-lifters;" and the object of the same is to effect certain improvements in car-couplings of this class.

To this end the invention consists of the details of construction hereinafter more fully described and claimed, and as illustrated on the sheet of drawings, wherein—

Figure 1 is a general perspective view of the end of a car with my improved car-coupling attached. Fig. 2 is a vertical section through the pin-casing. Fig. 3 is a bottom plan view with parts removed to show the means for moving the link longitudinally. Fig. 4 is a longitudinal section on the line 4 4 to show the means for raising and lowering the link. Fig. 5 is a perspective detail of the lower end of the preferred form of pin. Fig. 6 is a similar view of the link.

Referring to the said drawings, the letter C designates the body of the car, to the end of which is secured a hollow casing *c*, and P is the pin-body, which moves vertically within said casing, where it is provided with teeth *p*, as shown. The lower end 1 of the pin is preferably detachably connected with the body P by a transverse bolt 2, and has a shoulder 3 bearing against the lower end of the body, as seen in Fig. 5, whereby when the pin becomes worn or broken it may be replaced without removing the body P.

H is a horizontal shaft having a gear *h*, which meshes with the teeth *p*.

V is a vertical shaft having operating hand-wheels O at its upper and lower ends, and I I are intermeshing bevel-gears connecting these shafts, this arrangement permitting the pin to be operated from the top of the car or from the ground, as will be clear.

The letter L designates an approximately L-shaped arm whose upper end is pivoted to the car-body and whose lower end turns forwardly, as seen at *l*. The inner end of the horizontal shaft is journaled in this arm and the lower end of the latter is pressed forward by a spring S; but when two cars come together the end *l* is driven to the rear against the force of the spring S and the inner end of the shaft H is moved inwardly to a sufficient extent to disengage its gear *h* from the teeth *p* of the pin, when the latter will fall by gravity through the link.

The letter D designates the draw-head, which is connected by any suitable means to the car-body, and within this draw-head moves the link N, whose rear end has a lateral extension E, provided with an upwardly-projecting pin U, fixed in said extension.

E′ is a plate above the extension E and having a hole loosely embracing the pin U below the head U′ of the latter, and S′ is an expansive spring coiled around the pin between the extension and plate, all as best seen in Fig. 6.

R is a rack-bar sliding in suitable guides alongside the draw-head D and having a hole *h′* through its front end, which loosely engages said pin U above the plate E.

V′ is a vertical shaft having an operating-wheel O′ at its upper end and preferably having handles O^2 near its lower end.

H′ is a horizontal shaft journaled beneath the car-body and having a gear h^2 engaging the rack R, and I′ I′ are intermeshing bevel-gears which connect these two shafts. Thus it will be seen that when the vertical shaft V′ is turned by an operator on the top of the car or upon the ground the rack-bar R, and with it the link N, will be moved longitudinally within the draw-head D. The two vertical shafts V and V′ preferably have collars V^2 resting on the upper bearings and supporting the shafts, as shown.

L′ is a lever pivoted to the end of the car, its outer extremity standing within convenient reach of an operator and its inner end connecting with a vertically-moving bar B, which has a notch *b* near its lower end. This notch is adapted to receive the lateral extension E of the link N when the latter is moved forwardly, and at this time by properly manipulating the outer end of the lever L′ the link may be raised or lowered to properly guide its outer end into the mouth of an approaching draw-head.

With a car-coupling of the above construc-

tion the operating-wheel O is turned to raise the pin and the operating-wheel O′ is turned to move the link outwardly, so as to guide it into the mouth of the approaching draw-head; but if the link in the latter draw-head is used when it is driven into the draw-head in question and the lower end *l* of the lever L is driven to the rear the pin P will fall through both links; or, if preferred, the link N may be retracted entirely within the draw-head and the ordinary link may be used. The spring S′ between the extension E and the plate E′ permits the link to yield vertically, as may be necessary in railway travel. The advantages of this construction are believed to be obvious, and its operation will be readily understood by any person at all familiar with mechanics and accustomed to operating cars.

Considerable change in the details of construction may be made without departing from the spirit of the invention.

What is claimed as new is—

1. In a car-coupling, the combination, with a casing secured to the car-body and a pin having an elongated and toothed shank moving in said casing, of a vertical shaft having operating-wheels, a horizontal shaft having a gear engaging said toothed shank, and intermeshing gears between said shafts, as and for the purpose set forth.

2. In a car-coupling, the combination, with a casing secured to the car-body, a pin having an elongated and toothed shank moving in said casing, a lever pivoted at its upper end to the car-body and having a forwardly-bent lower end adapted to be struck by an approaching car, and a spring pressing said lower end normally forward, of a vertical shaft having operating-wheels, a horizontal shaft journaled at its inner end in said lever and having a beveled gear at its outer end, a beveled gear on said vertical shaft meshing with that on the horizontal, and a gear on the latter shaft normally engaging said toothed shank, as and for the purpose set forth.

3. In a car-coupling, the combination, with a draw-head, a link moving longitudinally therein, and a rack-bar connected to said link, of a vertical shaft having operating wheels and handles, a horizontal shaft having a gear engaging said rack-bar, and intermeshing gears between said shafts, as and for the purpose set forth.

4. In a car-coupling, the combination, with a draw-head having a slot at one side, a link within the draw-head having a lateral extension moving in said slot, and means, substantially as described, for adjusting said extension longitudinally within the slot, of a lever pivoted to the car-body and a vertical bar connected to the inner end of said lever and having a notch engaging said extension when the link is moved forwardly, as and for the purpose set forth.

5. In a car-coupling, the combination, with a draw-head having a slot at one side, a link within the draw-head having a lateral extension projecting through said slot, an upwardly-projecting pin at the outer end of said extension, a bar having a hole loosely engaging said pin, and means, substantially as described, for adjusting the bar longitudinally of the car, of a lever pivoted to the car-body and a vertical bar pivotally connected to the inner end of said lever and having a notch in its rear face engaging said extension when the link is moved forwardly, as and for the purpose set forth.

6. In a car-coupling, the combination, with a draw-head having a slot at one side, a link within the draw-head having a lateral extension projecting through said slot, an upwardly-projecting pin at the outer end of said extension, a rack-bar having a hole loosely engaging said pin, a horizontal shaft having a gear engaging said rack-bar, a vertical shaft having operating-handles, and intermeshing gears between said shafts, of a vertically-moving bar having a notch engaging said extension when the link is moved forwardly and means for moving said bar, as and for the purpose set forth.

7. In a car-coupling, the combination, with a draw-head having a slot at one side, a link within the draw-head having a lateral extension projecting through said slot, an upwardly-projecting pin at the outer end of said extension, a bar having a hole loosely engaging said pin, and means for adjusting the bar longitudinally of the car, of a vertically-moving bar having a notch in its rear face engaging said extension when the link is moved forwardly and means for moving this bar vertically, each and all as and for the purpose hereinbefore set forth.

8. In a car-coupling, the combination, with a draw-head having a slot at one side, a link within the draw-head having a lateral extension projecting through said slot, an upwardly-projecting pin at the outer end of said extension, a plate above said extension, a spring between said extension and plate, a bar having a hole loosely engaging said pin above the plate, and means, substantially as described, for adjusting the bar longitudinally of the car, of a lever pivoted to the car-body and a vertical bar pivotally connected to the inner end of said lever and having a notch in its rear face engaging said extension when the link is moved forwardly, as and for the purpose hereinbefore set forth.

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

SARAH ANN WEATHERSBY.

Witnesses:

JOHN RICHARD DEEN,

WILLIAM BARCLAY MITCHELL.