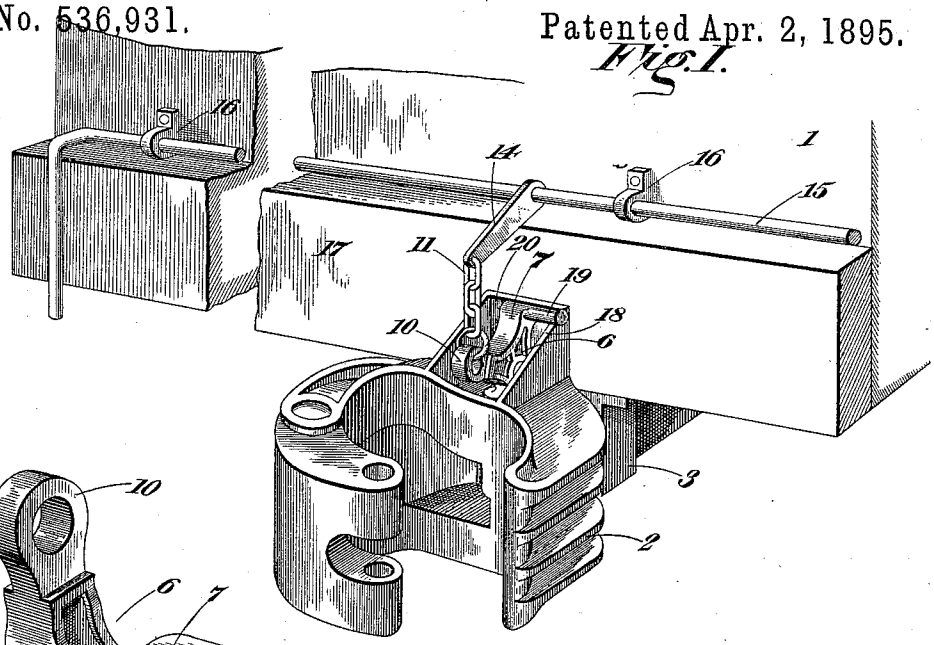
(No Model.) 2 Sheets—Sheet 1.

T. D. KLINE & H. GALLAGER.

CAR COUPLING.

No. 536,931. Patented Apr. 2, 1895.

Fig. I.



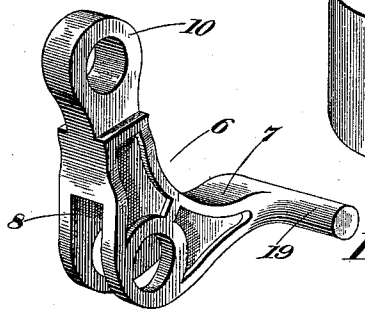
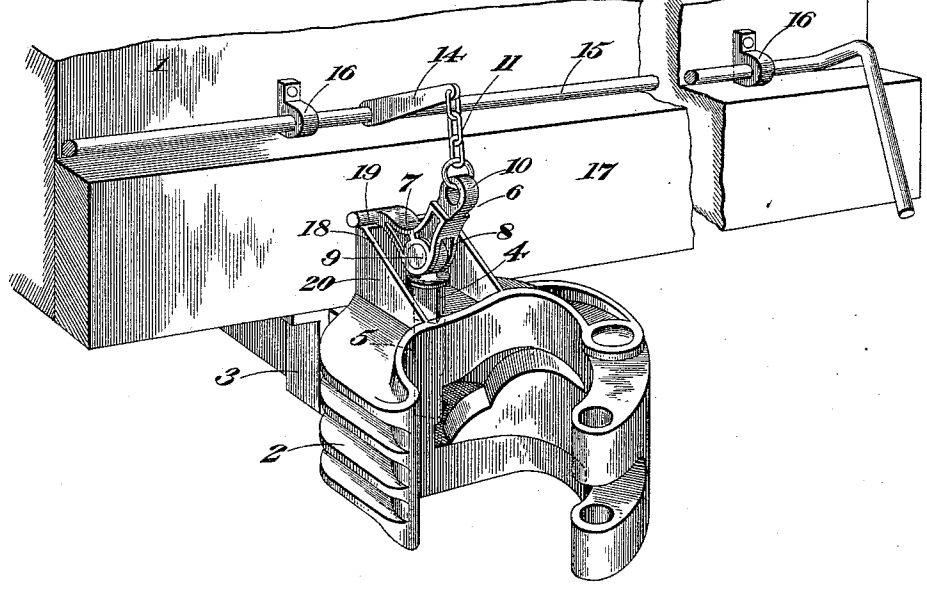


Fig. VI.

Fig. II.



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(No Model.)

2 Sheets—Sheet 2.

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Fig. III.

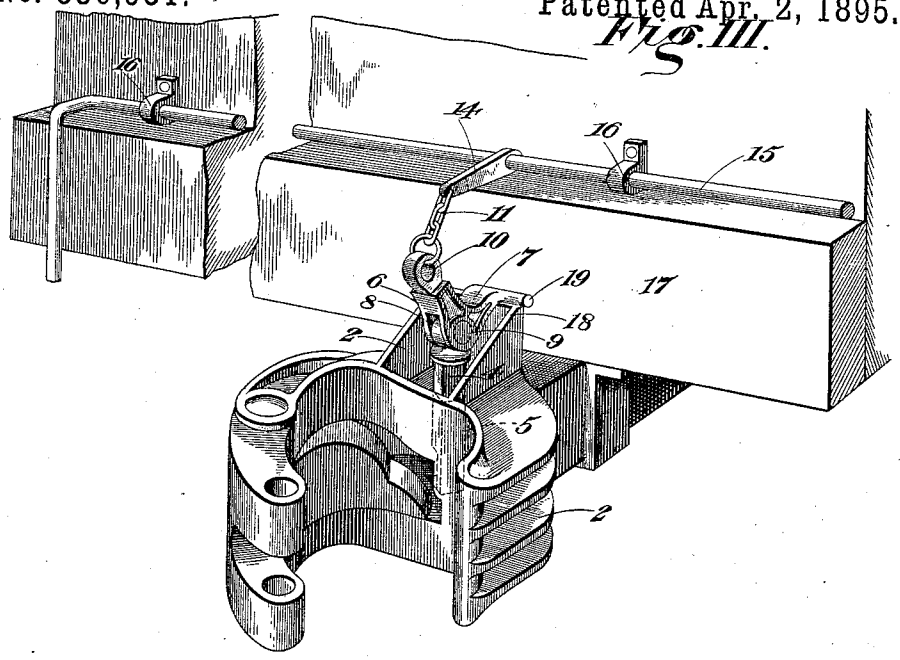


Fig. IV.

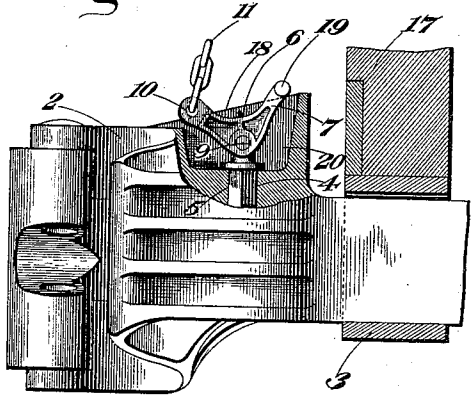


Fig. V.

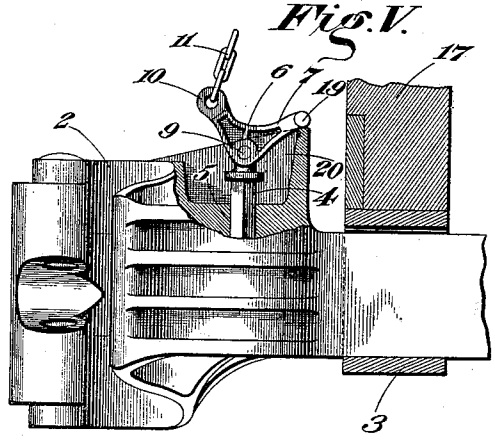
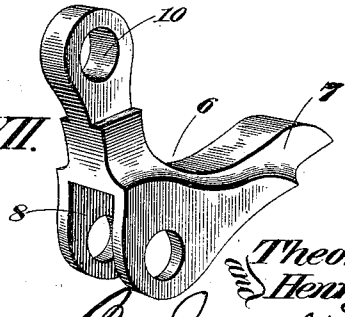


Fig. VII.



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UNITED STATES PATENT OFFICE.

THEODORE D. KLINE AND HENRY GALLAGER, OF SAVANNAH, GEORGIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 536,931, dated April 2, 1895.

Application filed December 21, 1894. Serial No. 532,613. (No model.)

To all whom it may concern:

Be it known that we, THEODORE D. KLINE and HENRY GALLAGER, of Savannah, county of Chatham, State of Georgia, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification, reference being had to the accompanying drawings.

The object of our invention is to produce an improved device for operating the coupling pins of car couplers either for the purpose of manually uncoupling or for automatically uncoupling them if, from any accident, the draw-head becomes dislodged from its bearings.

In the accompanying drawings, Figure I is a perspective view of a portion of an end of a car and coupler, embodying our invention, and showing the parts at rest. Fig. II is a similar view, showing our device as operated manually in uncoupling. Fig. III is a similar view, showing the automatic operation of the device. Fig. IV is a side elevation of a draw-head partly in section, showing the coupler fully inserted in place and the lifting lever out of operation. Fig. V is a similar view showing the lifting lever in the act of raising the coupling pin. Fig. VI illustrates in front and side elevation one form of lifting lever. Fig. VII illustrates, similarly, another form of lifting lever.

Referring to the figures on the drawings: 1 indicates an end of a car, 2 the draw-head and 3 the draw-head supporting mechanism. The draw-head is provided on its forward end with any suitable pin coupling mechanism. It may be of the simplest link and pin variety, or of the well known knuckle joint type illustrated in the drawings.

So far as our invention is concerned the only distinctive feature necessary is a vertically movable pin 4 which works in a bearing 5 in coupling and uncoupling.

6 indicates a pin lifting lever which is preferably a bell crank lever having a free supporting arm 7, a slot or recess 8 adapted to receive and pivotally retain the head of the pin 4 to which it is secured, as by a pintle 9 passing through the sides of the recess and the end of the pin. To the perforated end 10 of the lifting lever a flexible piece as a chain 11 is pivotally attached at one end, which at the other end is attached to a projecting arm 14 that extends at right angles from a rocking bar 15 secured in suitable bearings 16 to the side of the car. A supporting block 17 on the end of the car serves to limit the downward movement of the arm 14 and to prevent the chain from hanging slack and unavailable. The free arm 7 of the lifting lever is designed to rest upon a fulcrum piece 18 that forms a part of the draw-head. This fulcrum piece may be located directly behind the draw-head and, with that arrangement, the free arm 7 is directly in line with the other arm of the lever, as illustrated in Fig. VII. The lifting arm however may be operatively supported upon a fulcrum otherwise located, and a lateral supporting arm 19, as illustrated in Fig. VII of the drawings, may be substituted for that form shown in Fig. VI, the lifting lever remaining otherwise the same.

It is desirable to protect the lifting lever, when at rest, against injury or displacement from blows or shocks, and for that reason we prefer to make the fulcrum pieces 18 constitute one wall of a protecting box 20. This box is designed to hold and perfectly protect the lifting lever, as is clearly shown in Fig. IV of the drawings, and to prevent its becoming inoperative through any sort of accident from which, if exposed, it might suffer.

In operation, a twist upon the rocking bar 15 will at any time lift the end 10 of the lifting lever, the supporting end thereof working loosely upon the fulcrum and the head of the pin swinging upon its pintle 9. If, moreover, the draw bar should by any accident or mischance drop or pull out, as illustrated for example in Fig. III of the drawings, the chain 4 becomes taut and operates to lift the pin at whatever angle the tension may be exerted upon the chain.

What we claim is—

1. The combination with a car, draw-head and fulcrum piece, of a vertically movable pin, a bell crank lifting lever secured at one end to the pin and loosely resting at the other end upon the fulcrum piece, means for lifting the lever secured to the other end of the lever, and a box, of which one of the sides is the fulcrum piece, said box being adapted to

receive and protect the lever when in place, substantially as set forth.

2. The combination with a car, draw-head, pin coupler, and pin, of a protecting box embodying a fulcrum piece on the draw-head, a bell crank lifting lever pivoted at its middle part to the pin, a supporting arm at one end loosely resting on the fulcrum piece, its other end secured to a chain, the other end of the chain secured to a car, substantially as set forth.

In testimony of all which we have hereunto subscribed our names.

THEODORE D. KLINE.
HENRY GALLAGER.

Witnesses:
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