

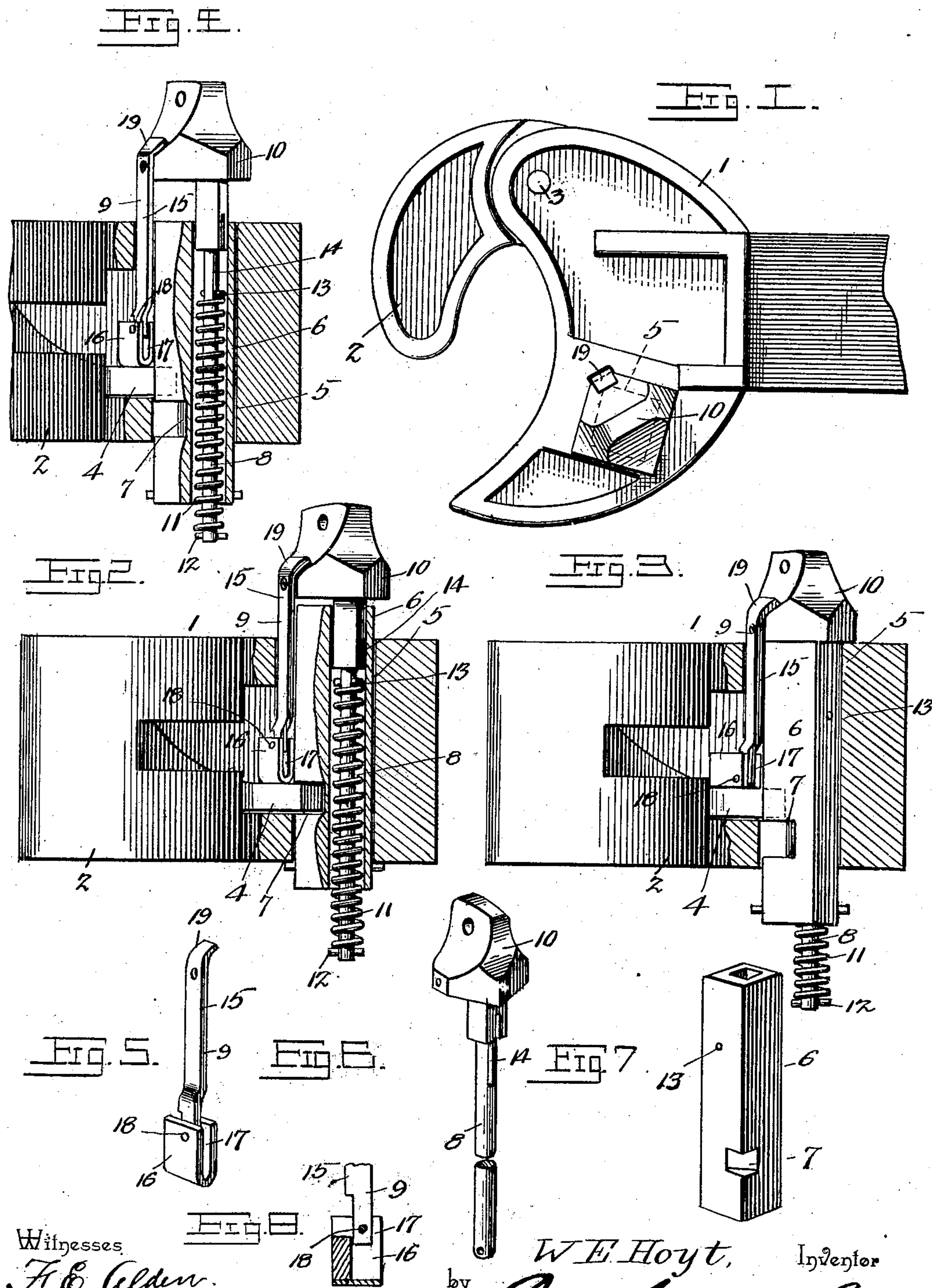
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Patented Oct. 22, 1901.

W. E. HOYT.
CAR COUPLING.

(Application filed May 21, 1901.)

(No Model.)



Witnesses
F. C. Alden.
J. H. Riley

W. E. Hoyt, Inventor
by C. A. Snow & Co. Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM EDGAR HOYT, OF RAVENSWOOD, WEST VIRGINIA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 685,144, dated October 22, 1901.

Application filed May 21, 1901. Serial No. 61,256. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EDGAR HOYT, a citizen of the United States, residing at Ravenswood, in the county of Jackson and State of West Virginia, have invented a new and useful Car-Coupling, of which the following is a specification.

The invention relates to improvements in car-couplings.

The object of the present invention is to improve the construction of car-couplings of the Janney type and to provide a simple, durable, and efficient one, capable of coupling automatically and adapted to be readily set for uncoupling, both when the cars are slackened and when there is a strain on the couplings sufficient to prevent the locking-pins from being raised.

A further object of the invention is to provide a simple and efficient device adapted to be readily set when there is a strain on the car-coupling sufficient to prevent the locking-pin from being raised and capable of automatically lifting the locking-pin and releasing the knuckle when the said pin is free to move.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a plan view of a car-coupling constructed in accordance with this invention. Fig. 2 is a front elevation, partly in section, the locking-pin being supported in an elevated position for uncoupling. Fig. 3 is a similar view, the knuckle being locked. Fig. 4 is a front elevation, partly in section, illustrating the arrangement of the parts when the setting device is raised and the locking-pin is held against vertical movement. Fig. 5 is a detail perspective view of the supporting device for holding the locking-pin in an elevated position. Fig. 6 is a similar view of the vertically-movable setting-pin. Fig. 7 is a detail view of the locking-pin. Fig. 8 is a detail view illustrating the construction of the lower portion of the supporting device.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a draw-head having a knuckle 2 pivoted to it at one side by a knuckle-pin 3, and the said knuckle is provided with an arm 4, having its lower face arranged upon the bottom of the draw-head. The upper face of the arm of the knuckle is inclined, and by arranging the knuckle-arm close to the bottom of the draw-head ample space is provided for the devices hereinafter described. The draw-head is provided at the side opposite that to which the knuckle is pivoted with a vertical opening 5, in which is arranged a vertically-movable locking-pin 6, which is adapted to engage the arm of the knuckle to hold the latter in its closed position in the usual manner, as will be readily understood. The locking-pin, which is rectangular in cross-section, is supported by the adjacent walls of the draw-head, and it is provided at its inner side with a recess or notch 7, adapted to form a passage for the end of the arm of the knuckle when the locking-pin is raised from the position shown in Fig. 3 to that illustrated in Fig. 2.

The locking-pin 6 is a hollow and receives a vertically-movable setting-pin 8, which co-operates with a supporting device 9 to form a setting device, for a purpose hereinafter described. The setting-pin 8, which extends below the lower end of the locking-pin, is provided at its upper end with a head 10, and it has disposed on it a coiled spring 11, which is interposed between a lower pin or key 12 and an upper pin or key 13. The lower pin or key 12, which may be of any ordinary construction, engages the lower end of the coiled spring, and the upper pin 13, which is disposed horizontally, is arranged in a suitable perforation of a locking-pin, and it passes through a vertical slot 14 of the setting-pin. By this construction the coiled spring is compressed when the setting-pin is lifted independently of the locking-pin, the slot 14 permitting a limited movement of the setting-pin independent of the locking-pin to enable the setting-pin to be raised when there is a strain on the knuckle sufficient to prevent the locking-pin from being raised.

The supporting device 9 consists of a rigid upper section or member 15 and a lower weighted section or member 16, provided with a slot 17 to receive the lower end of the up-

per section or member and pivoted at its upper portion to the lower end of the said upper section or member by a pin 18 or other suitable fastening device. The upper end 19 of the upper section or member 15 is bent to conform to the configuration of the head of the setting-pin, and it is rigidly secured to the same by a screw or other suitable fastening device. The setting-pin is arranged within the said locking-pin and its head offsets the supporting device from the locking-pin, which is arranged vertically at the inside of the latter, as clearly illustrated in Figs. 2, 3, and 4 of the drawings.

Any suitable operating mechanism may be connected with the head of the setting-pin for enabling the locking-pin to be raised or set for uncoupling from the top or sides of a car and from the platform of a coach to avoid going between cars for this purpose. When the knuckle is closed and locked, the parts are arranged as illustrated in Fig. 3 of the drawings, and should there be no strain on the knuckle and the locking-pin be free to move vertically the said locking-pin may be readily raised to the position shown in Fig. 2, and the lower gravity-acting section or member 16 of the supporting device, which is arranged at right angles to the upper section or member in Fig. 3, will swing to a vertical position beneath the upper section or member 15, as illustrated in Fig. 2, to support the locking-pin in an elevated position. The knuckle will then be free to open, and when opened the locking-pin will remain in an elevated position, as the lower section or member 17 is prevented from swinging outward beyond the position illustrated in Figs. 2 and 4 by the rear wall of the slot 17 engaging the lower end of the upper section or member 15. When, however, the knuckle is closed and the arm thereof swung inward, the friction will swing the lower section or member 16 of the supporting device inward, and the support being withdrawn the locking-pin will drop into engagement with the arm of the knuckle. Should there be a heavy strain on the knuckle when the parts are in the position illustrated in Fig. 3 of the accompanying drawings and it be desired to unlock the knuckle, the setting-pin is raised to the position illustrated in Fig. 4, and the supporting device will hold it in such position. This will compress the spring, and the latter will raise the locking-pin as soon as the same is free to move vertically. By this construction the parts may be set for uncoupling, and it is unnecessary for the operator to hold the locking-pin in an elevated position until the cars have separated, and the device also dispenses with ratchet mechanism and other devices for supporting the locking-pin in an elevated position to permit the cars to uncouple.

The car-coupling is capable of automatic operation, and it is adapted to couple with a light or heavy blow, and it is also adapted to be coupled and uncoupled on sharp curves.

Also the car-coupling is especially adapted for yardwork, and it will enable trains to be made up and cars to be handled with less men than are employed with the ordinary automatic couplings now in use. Furthermore, it will be clear that the knuckle is securely held in its closed position and that it cannot accidentally become uncoupled.

What I claim is—

1. In a car-coupling, the combination with a draw-head, a pivoted knuckle, and a locking-pin, of a setting device yieldingly connected with the locking-pin and capable of movement independently thereof and adapted to raise the locking-pin automatically, said setting device being mounted wholly on the locking-pin and being arranged to engage the car-coupling, substantially as described.

2. In a car-coupling, the combination with a draw-head, a pivoted knuckle and a vertically-movable locking-pin, of a vertically-movable setting device yieldingly connected with the locking-pin and capable of movement independently thereof, and adapted to lift the locking-pin automatically, said setting device being mounted wholly on the car-coupling, substantially as described.

3. In a car-coupling, the combination with a draw-head, a pivoted knuckle, and a vertically-movable locking-pin, of a vertically-movable setting-pin mounted on and yieldingly connected with the locking-pin and capable of a limited movement independently of the same, and a supporting device arranged to engage the car-coupling for holding the setting-pin in an elevated position, substantially as described.

4. In a car-coupling, the combination of a draw-head, a pivoted knuckle, and a locking-pin, a setting-pin mounted on the locking-pin and connected therewith and the supporting device connected with the setting-pin and comprising a fixed upper section or member, and the pivoted gravity-acting lower section or member adapted to be swung inward by the knuckle in closing, substantially as described.

5. In a car-coupling, the combination with a draw-head, a pivoted knuckle, and a locking-pin, of a supporting device comprising the fixed upper section or member, and the lower section or member pivoted to the upper section or member and provided with a slot to receive the lower end thereof and having an inner or rear wall for engaging the same, substantially as described.

6. In a car-coupling, the combination with a draw-head, and a pivoted knuckle, of a locking-pin provided with a longitudinal opening, a setting-pin arranged in the opening of the locking-pin, a coiled spring disposed on the setting-pin and connected with the same and with the locking-pin, and a supporting device for holding the setting-pin in an elevated position, substantially as described.

7. In a car-coupling, the combination with a draw-head and a pivoted knuckle, of a hol-

low locking-pin having a notch or recess, a
setting-pin passing through the locking-pin
and provided at its upper end with a head
and having a slot, a transverse pin mounted
5 on the locking-pin and passing through the
slot of the setting-pin, a coiled spring dis-
posed on the setting-pin and engaging the
transverse pin and connected with the lower
portion of the said setting-pin, and the sup-
10 porting device secured to the head of the set-

ting-pin and adapted to hold the latter in an
elevated position, substantially as described.

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

WILLIAM EDGAR HOYT:

Witnesses:

V. S. NASH,

CHAS. J. HOGG.