

(No Model.)

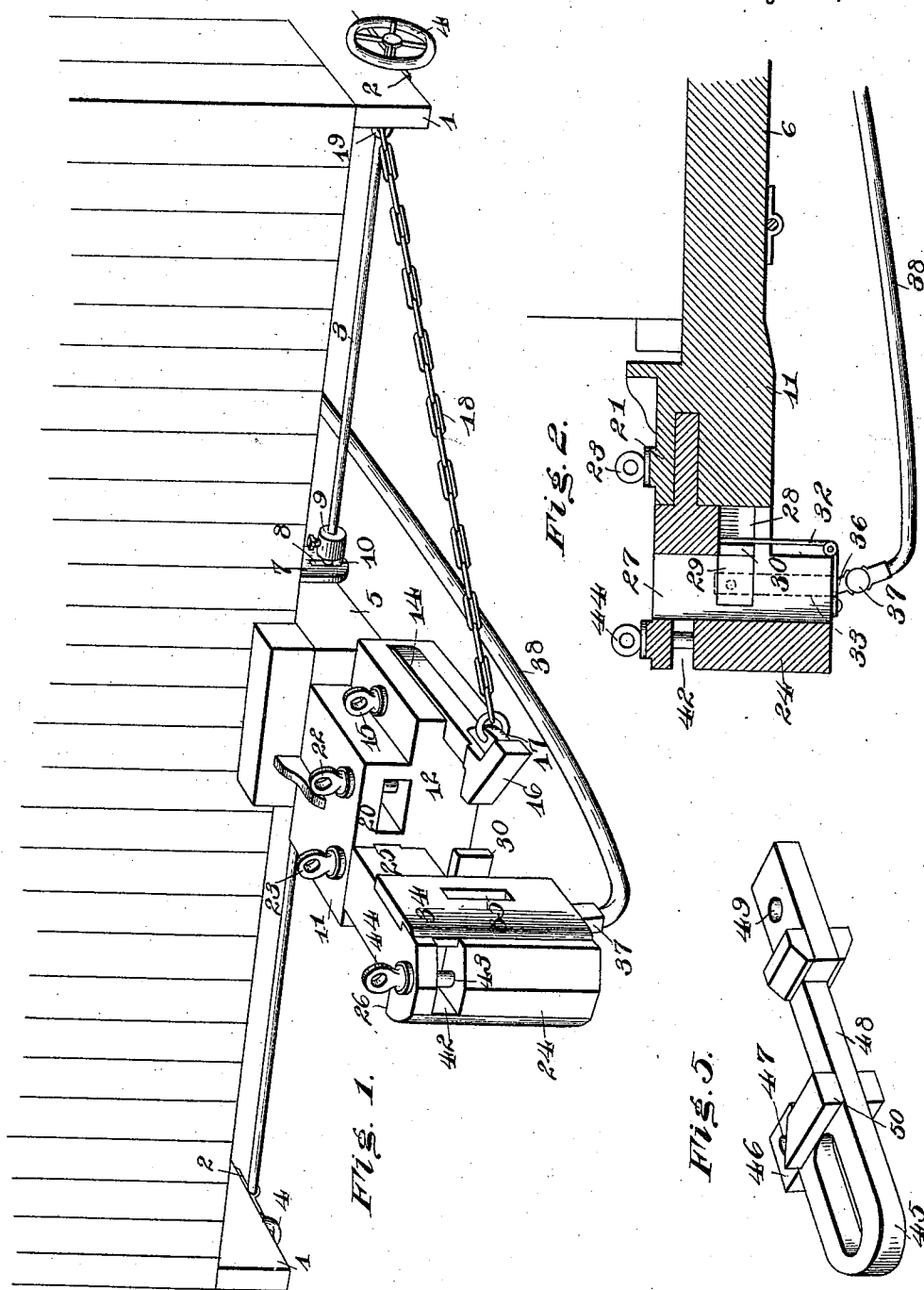
2 Sheets—Sheet 1.

P. PELTON.

COMBINED CAR AND AIR BRAKE COUPLING.

No. 501,624.

Patented July 18, 1893.



Witnesses

C. A. Ford.

W. S. Duval.

Inventor

Phineas Pelton.

By *his* Attorneys,

C. A. Snow & Co.

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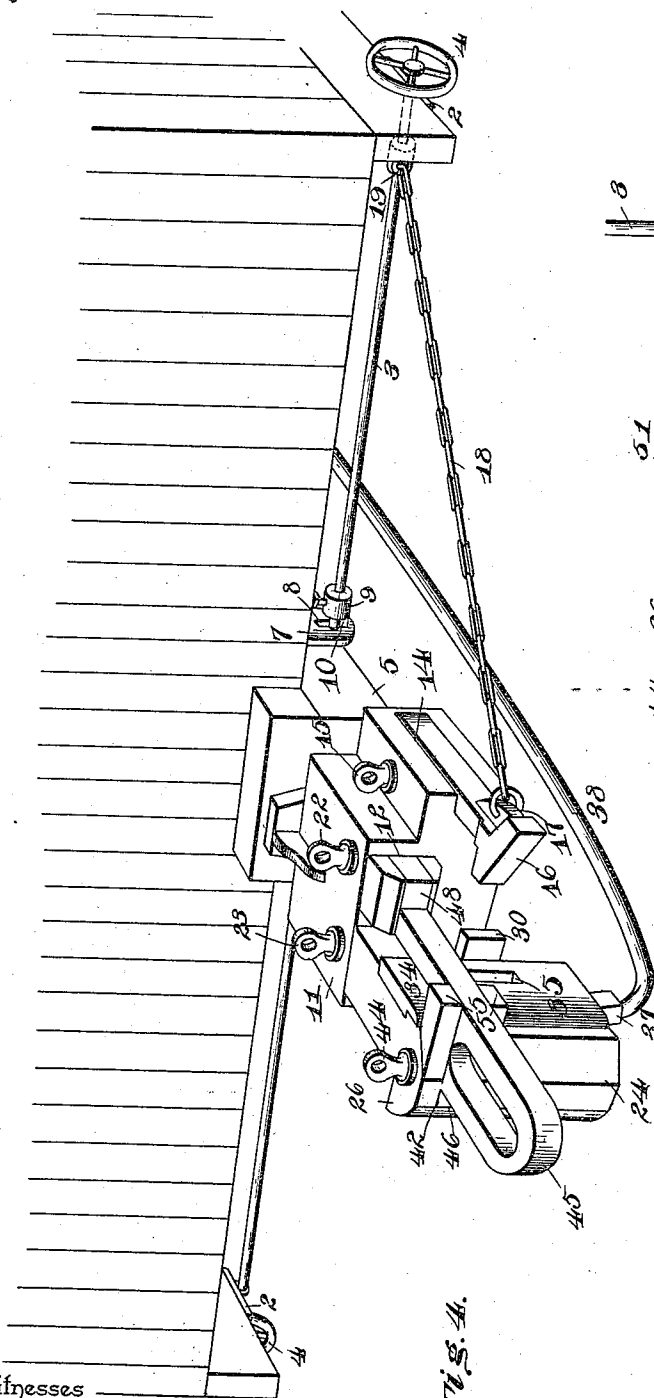


Fig. 4.

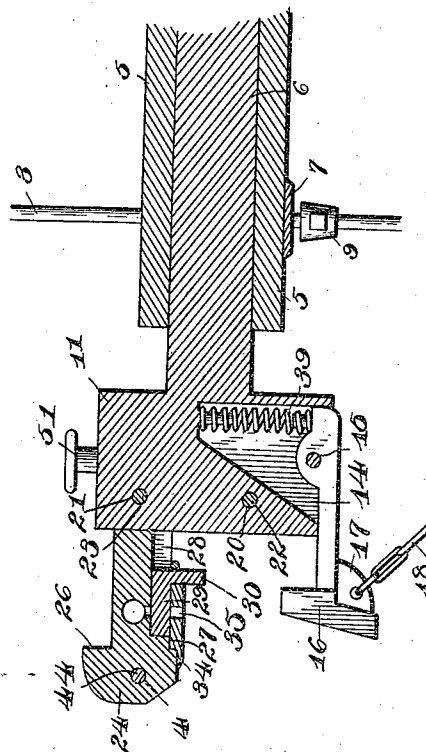


Fig. 3.

Witnesses

C. Ford

M. S. Duwall

By his Attorneys,

C. A. Snow & Co.

Inventor

Phineas Pelton

UNITED STATES PATENT OFFICE.

PHINEAS PELTON, OF PERSIA, IOWA.

COMBINED CAR AND AIR BRAKE COUPLING.

SPECIFICATION forming part of Letters Patent No. 501,624, dated July 18, 1893.

Application filed March 31, 1893. Serial No. 468,456. (No model.)

To all whom it may concern:

Be it known that I, PHINEAS PELTON, a citizen of the United States, residing at Persia, in the county of Harrison and State of Iowa, have invented a new and useful Combined Automatic Car-Coupling and Automatic Air-Brake, of which the following is a specification.

My invention relates to that class of car-coupling heads including means for automatically effecting a coupling of the brake, heating, or signal-pipes, though in the present instance it is intended more particularly for coupling the brake-pipes.

The objects of my invention are to produce a cheap and simple construction of automatic coupler including in its make-up means for effecting an automatic coupling of the brake-pipes of two cars; to so construct the coupler that the same may be readily uncoupled and set for coupling at the sides of the car and without the necessity of stepping thereinbetween; and furthermore, to adapt the coupler to engage with the ordinary link-and-pin coupler commonly used.

With these and other objects in view the invention consists in certain features of construction hereinafter specified and particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is a perspective view of the front end of a car, the same having a coupling-head constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view. Fig. 3 is a horizontal sectional view. Fig. 4 is a detail in perspective of the head, the same being adapted for link-and-pin connection. Fig. 5 is a detail of the link attachment employed for this purpose.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates the timbers of a car-frame, and the same are provided upon their under sides with convenient bearings 2 in which there is journaled for rotation a transverse shaft 3 whose ends project beyond the bearings and are provided with suitable hand-wheels 4, or it may be with levers as desired. To one of those timbers 5 in which the draw-bar 6 of the coupler hereinafter described is located there is secured a bearing standard 7, and the same is provided just below the shaft 3

with an opening 8. A boss 9 upon the shaft at one side of this standard is provided with a lug 10 formed on its inner face, and when the shaft is rotated so as to bring the lug opposite the opening, said shaft is by means hereinafter specified, slid in its bearings so that said lug takes into and interlocks with the opening, whereby the shaft is prevented from again rotating until the shaft has been slid in a retrograde direction so as to disengage the aforesaid lug. A rectangular head 11 is affixed to the front end of the draw-bar 6, and said head is provided in its front face with two chambers 12 and 13 arranged side by side, the latter chamber being somewhat wider than the former. A recess 14 is formed in the side of the draw-head adjacent to the chamber 12, and in said recess there is pivoted by means of a pin 15, a draw-hook 16 which projects beyond the face of the draw-head and extends over the same, the said hook being provided at its front end with an inclined face as shown. The hook is provided at its outer side with an eye 17, and to this is connected one end of a chain 18, the remaining end engaging with an eye 19 with which the shaft 3 is provided. Each of the openings 12 and 13 is provided with vertically opposite pin-holes 20 and 21, respectively, and located therein are pins 22 and 23, respectively.

24 designates a coupling-head or jaw, and the same is provided at its rear end with a reduced tenon 25, which is adapted to fit removably in the chamber 13 and to be secured in position by means of the pin 23 which passes through the opening 21 and through a corresponding opening formed in the aforesaid tenon. The outer end of the coupling-head or jaw is rounded, and at its outer side is provided with a vertical shoulder 26. The inner face of the head or jaw 24 is provided with a vertical recess 27, and said recess has formed in its bottom a recess 28. A slide 29 is mounted in the latter recess and is provided at its rear side with an outwardly projecting arm or lug 30 which extends from the face of the coupler toward the draw-hook. A spring-arm 31 is secured to the under side of the jaw and is provided with a coil at the inner corner thereof, and has its upper branch 32 depressed against the rear side of the lug 30, whereby as will be obvious, the slide or

cut-off 29 is normally forced forward into the recess 28. A passage 33 extends from the bottom of the head or jaw 24 upwardly to a point opposite the recess 28 when it takes a horizontal direction and communicates with the recess, so that the slide or cut-off when not otherwise influenced than by the spring covers said passage. A face-plate 34 is located in the recess 27 and snugly fits the same, said face-plate having its outer surface made smooth by grinding or otherwise and provided opposite the recess 28 and the passage 33 with a slot or opening 35.

One member 36 of a hand-coupler is inserted upwardly into the lower end of the passage 33 and adapted to be removably connected therewith is the remaining member 37 of said coupler, which, as usual, is attached to, in this instance, the brake-pipe 38.

Two coupling-heads constructed after the manner above described coming into engagement it will be seen that the hook of one head will engage with the vertical rib 26 of the other, and the two face-plates 34 coming against each other their slots 35 will register, forming a tight joint, and the ends of the jaws will abut against the lugs 30 of the sliding cut-offs forcing the same backward against the tension of their springs and thus opening up communication between the air-pipes of the two coupling-heads. Coiled springs 39 are located in rear of the pins 15 of the draw-hooks so that the locking of the coupling-heads as well as the coupling of the brake-pipes becomes automatic. By rotating the shaft 31 the hooks are withdrawn from engagement with the coupling-heads against the tension of their springs and may be locked in this set position ready to recouple by the means heretofore described. It will be seen that as soon as the coupling-jaws or heads become disconnected the cut-offs are automatically operated to close the brake-pipes.

In operation an attendant stands at the side of the car and grasps the hand-wheels of the two cars, one in each hand, rotating them to uncouple.

I will now proceed to describe the attachment and means for securing the same in position, whereby the head will be adapted to couple with the ordinary form of link-and-pin coupler, which, as is well known, is sometimes necessary. It is in this connection that the recess 12 is utilized, and a recess 42 is also provided in the front face or end of the coupling-head 24, the same being provided further with a vertical pin-opening 43 in which a pin 44 is mounted.

45 designates a link adapted to enter an ordinary link-and-pin draw-head, and the same is provided at its rear side with a short tenon or terminal 46 having an opening 47 and adapted to fit the recess 42 and be connected therewith by the pin 44, and a long terminal 48 whose rear end is adapted to fit within the recess 12 and is provided with a pin-hole 49 adapted to receive the pin 22. Stop-shoulders

50 are located upon the long and short terminals, whereby the link is steadied. When not in use the link may be conveniently suspended upon a T-shaped stud 51 projecting from the side of the coupling-head.

From the foregoing description in connection with the accompanying drawings it will be seen that I have provided a cheap and simple construction of combined car and air-brake pipe-coupling, the coupling operation of both car and air-brake being automatic; and furthermore, that a disconnection may be readily effected without stepping between the cars for this purpose.

Various changes in the details of my invention may be made without departing from the scope thereof, and I therefore do not limit the invention to the particular details heretofore described, but hold that I may vary the same to any extent within the knowledge of the skilled mechanic.

Having described my invention, what I claim is—

1. In a car-coupler, the combination with a draw-head provided upon its front face and at one side of its center with a forwardly-projecting coupling-head whose outer side is provided with a vertical shoulder, of a hook pivoted at the opposite side of the draw-head and extending in front of the same opposite the coupling-head, a spring for normally pressing the hook inward at its outer end, bearings, one of which is a standard having a recess, a reciprocating shaft mounted in the bearings, wheels for operating the shaft, connections between the hook and the shaft, and a boss mounted on the shaft and provided with a lug for engaging the recess of the standard, substantially as specified.

2. In a car-coupler, the combination with a draw-head having at its front side and at one side of its center a projecting coupling-head provided upon its outer side with a vertical rib, and upon its inner face with a horizontal recess, a cut-off located in the horizontal recess and provided with an outwardly extending lug, a spring for normally pressing the cut-off into the recess, an air-passage leading from the side of the coupling-head to the recess and a pivoted spring-pressed hook at the opposite side of the draw-head, substantially as specified.

3. In a car-coupler, the combination with a draw-head provided upon its front face with a removable coupling head extending forwardly therefrom, said coupling-head having at one side a vertical rib, and its inner face vertically recessed the bottom of which is provided with a horizontal recess, a smooth face-plate located in the vertical recess, a sliding cut-off mounted in the horizontal recess, a spring for normally pressing the cut-off into its recess, an air-passage communicating with the horizontal recess and with the bottom of the coupling-head, a pipe coupling connected with the air-passage, a recess in the opposite side of the draw-head, a draw-hook pivoted in

the recess and extending forward beyond the draw-head, a spring interposed between the rear end of the hook and the draw-head, and means for retracting the hook against the tension of its spring, substantially as specified.

4. In a car-coupler, the combination with a draw-head having its front face provided with a pair of transversely opposite openings, a coupling-head having a tenon perforated and mounted in one of said openings, a pin extending through said openings and the tenon, a rib at the front end and at one side of the coupling head, a pivoted spring-pressed hook having a front beveled face located at the opposite side of the draw-head, means for retracting the hook, and a recess in the front end of the coupling-head, said recess being provided with a pin-hole, of a link having long and short perforated terminals, the same engaging

removably with the recess in the draw-head and that in the coupling-head, and pins passing through said recesses and terminals, substantially as specified.

5. The combination with a jaw-coupler provided at one side with a T-shaped stud, of recesses formed in the jaw-coupler, and a link having long and short terminals adapted to engage the recesses and be secured therein in a removable manner, and to engage the T-shaped studs and be supported thereby, substantially as specified.

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

PHINEAS PELTON.

Witnesses:

J. E. MCINTOSH,
C. A. BRACE.