(No Model.)

C. T. THOMPSON.

CAR COUPLING.

No. 433,664. Patented Aug. 5, 1890.

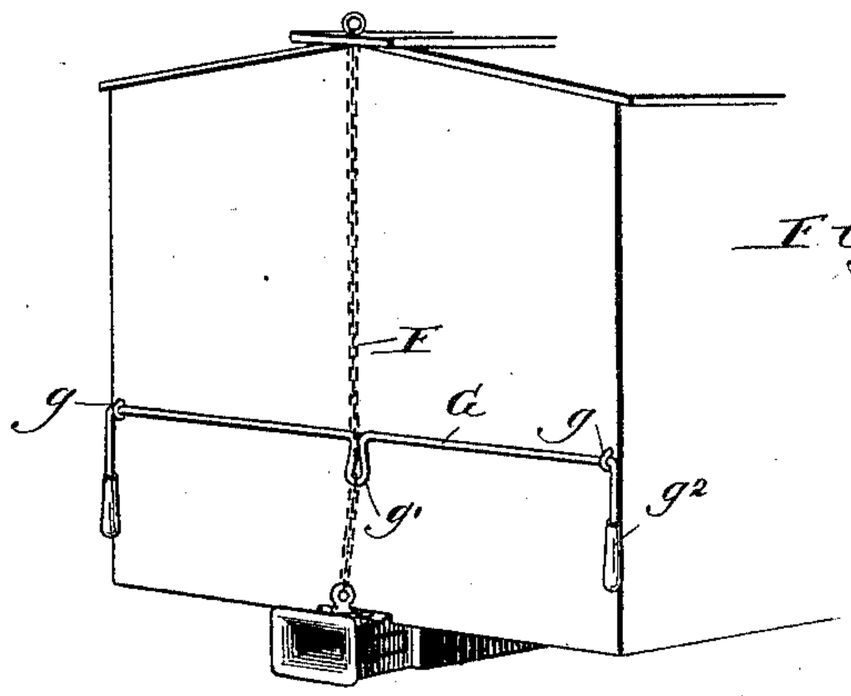


Fig. 1.

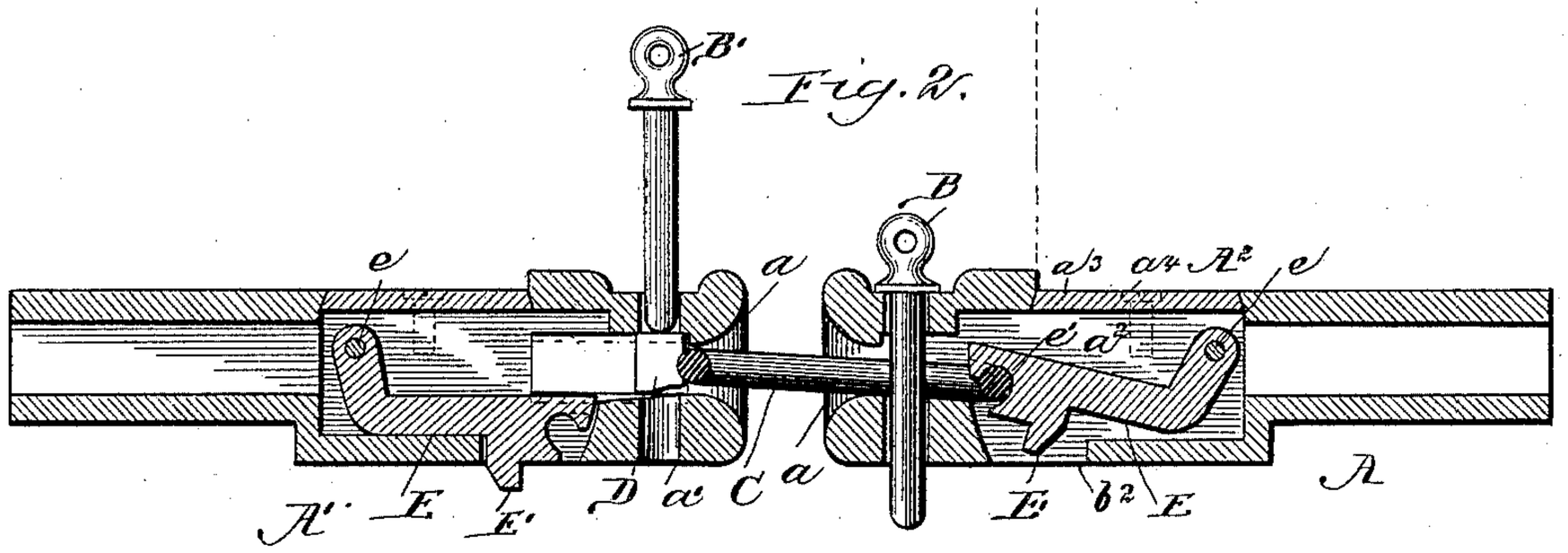


Fig. 2.

Fig. 3.

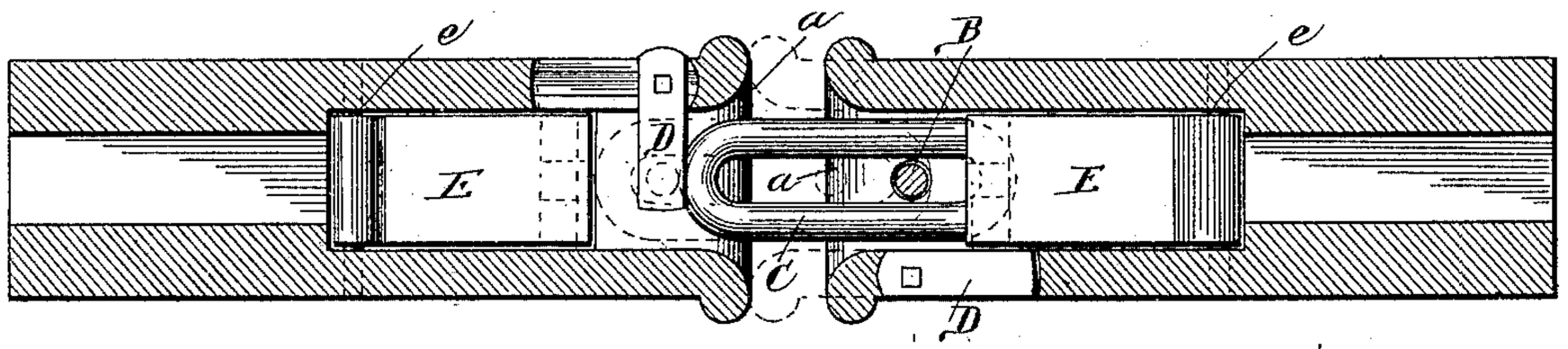


Fig. 4.

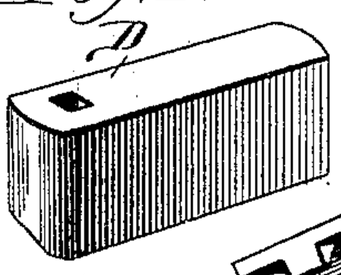
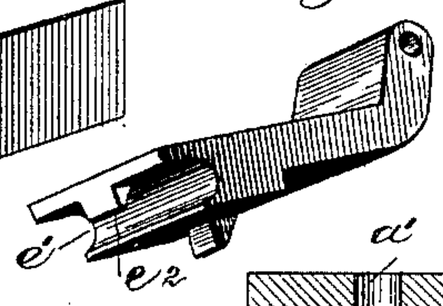


Fig. 7.



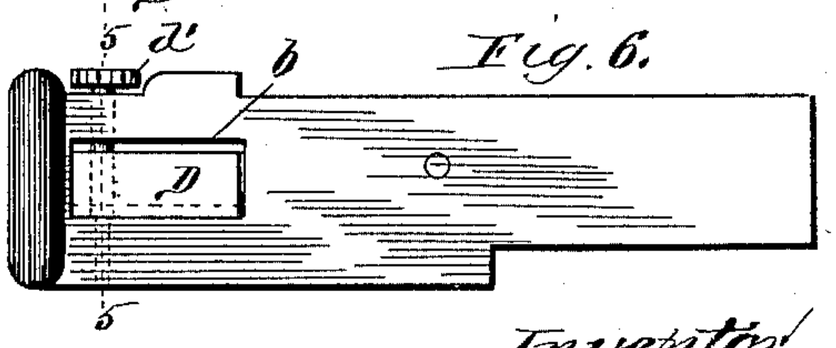


Fig. 6.

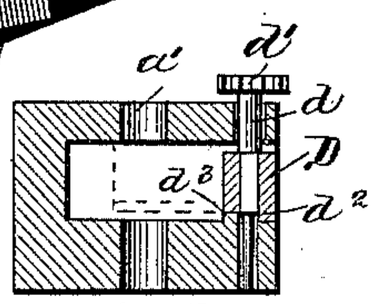


Fig. 5.

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UNITED STATES PATENT OFFICE.

CROZIER T. THOMPSON, OF PIPER CITY, ILLINOIS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 433,664, dated August 5, 1890.

Application filed April 14, 1890. Serial No. 347,763. (No model.)

To all whom it may concern:

Be it known that I, CROZIER T. THOMPSON, of Piper City, Ford county, State of Illinois, have invented certain new and useful Improvements in Car-Couplings, of which I do declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My present invention has relation more particularly to that class of car-couplings wherein the draw-head is provided with means for temporarily sustaining the coupling-pin in such manner that when the draw-heads are shunted together the support for the coupling-pin will be moved to such extent as to permit the pin to drop into the link to couple the draw-heads. An example of this type of car-coupling is illustrated in Letters Patent No. 406,970, granted to me July 16, 1889.

My invention has for its object, first, to improve the means whereby the coupling-pin is supported in position to be automatically dropped into the link, and, secondly, to improve the means whereby the link will be held in approximately horizontal position in order to insure its entry into the mouth of the companion draw-head when the cars are shunted together to be coupled.

To this end my invention consists in the various novel features of construction, hereinafter described, illustrated in the accompanying drawings, and particularly pointed out in the claims at the end of this specification.

Figure 1 is a perspective view of one end of a freight-car having my improvements applied thereto. Fig. 2 is a view in vertical section through two draw-heads embodying my invention. Fig. 3 is a view in horizontal section through the draw-heads, parts being shown in plan. Fig. 4 is a perspective view of the pin-support. Fig. 5 is a view in transverse section on line 5 5 of Fig. 6. Fig. 6 is a view in side elevation of one of the draw-heads. Fig. 7 is a detail perspective view of my improved form of link-holder.

A and A′ denote the draw-heads of the car. These draw-heads may be of any desired size or shape so long as they are capable of having my invention applied thereto. So, also, the coupling-pins B and B′ and the link C may be of any usual or suitable construction. Each of the draw-heads is formed as a hollow casting with the usual expanded mouth *a* to receive the link C, and each draw-head is provided with the usual hole *a′* for its coupling-pin.

In applying to the draw-heads my improved construction of support for the coupling-pin, I prefer to form the draw-head with an opening *b* in its side adapted to receive the pin-support D, that is held in place by means of a pivot-pin *d*, that passes vertically through the draw-head and through one end of the pin-support D. By preference the pivot-pin *d* is formed as more particularly seen in Fig. 5—that is to say, the lower part of this pin is of small diameter, the central part of the pin is square, and the upper part is of larger diameter, the purpose of this arrangement being to enable the pin while securely holding the coupling-pin support D in position to afford a means whereby this pin-support D can be turned into position to support the coupling-pin, as will presently more fully appear.

To enable the pin-support D to be conveniently moved, I prefer also to form the upper end of the pivot-pin *d* with a head *d′* that can be easily turned by hand. The pin-support D has its bottom edge preferably formed with a beveled portion d^2, adapted to rest upon a correspondingly beveled seat d^3, formed at the edge of the opening *b* of the draw-head. My purpose in thus beveling the bottom edge of the pin-support and providing for it a beveled seat is to better hold this pin-support within the opening *b* in the side of the draw-head when the support is not in use. So, also, the support D is made somewhat narrower than the opening *b*, within which it is held in order to permit the support to rise slightly when it is turned into position to support the coupling-pin. By preference the beveled portion of the pin-support D does not extend entirely across the bottom edge of such support; but the extreme lower edge of this support is flat, so as to afford a firmer bearing for the pin-support upon the corresponding flat upper edge of the seat d^3 when the support is turned into position to sustain the coupling-pin. From this construction it will be seen that when it is de-

sired to hold the coupling-pin B′ in elevated position, as seen in Fig. 2 of the drawings, it is only necessary to turn the nut d' of the pivot-pin d in such manner as to swing the free end of the pin-support D beneath the opening a' of the coupling-pin. The coupling-pin B′ will then rest upon the upper face of the pin-support, and will be in position to drop into the coupling-link when this link is forced into the jaw of the draw-head.

It will be observed that as the pin-support D is turned from the normal position shown at the right-hand side of Fig. 3 to a position to support the coupling-pin, as shown at the left-hand side of Fig. 3, the beveled edge d^2 of the pin-support will ride upward on the beveled seat d^3, the excess width of the opening b in the draw-head permitting this upward movement of the pin-support D. When, however, the draw-heads are shunted together, the coupling-link C will strike against the pin-support D, causing this support to swing backward and permit the coupling-pin B′ to drop into the link C. As the pin-support D is thus swung backward, its beveled edge d^2 will move downward on the beveled seat d^3, and the weight of the pin-support D will tend to hold it in the position shown at the right-hand side of Fig. 3 of the drawings. By thus employing a pin-support sustained in such manner that it will swing backward and laterally when struck by the coupling-link in the act of coupling the cars, all danger of breaking the pin-support is avoided, while at the same time the pin-support is simplified in its construction and is sustained when out of use in a position where it will be less liable to be affected by the movements of the car, and when in use will be in position to effectively sustain the coupling-pin.

In order to sustain the coupling-link C in proper position to insure its entering the mouth of the companion draw-head when the cars are shunted together, I have provided the improved construction of link-holder next to be described.

Through the chamber a^2 of each draw-head is passed a journal-pin e, whereon is sustained the rear end of the link-holder E, this link-holder being of suitable size and construction to enable it to engage with one end of the link C and retain this link in approximately-horizontal position, as seen in Fig. 2 of the drawings. By preference the link-holder e is furnished at its outer or free end with a seat e', wherein will rest the end of the link C, this seat e' being of sufficient depth to receive the link, and being provided, preferably, with a nib or lug e^2 to hold the link against danger of accidental displacement.

The bottom of the link-holder E is provided with an arm or extension E′, adapted to pass through an opening b^2 in the bottom of the draw-head. From this construction it will be seen that when the link C is to be set in position to permit the draw-heads to be coupled, the link-holder E will be lifted by the train-hand by forcing upward the projection E′ until the holder is in proper position to permit one end of the link to be inserted within the seat e' at the end of the link-holder and behind the lug e^2, as seen at the right-hand side of Fig. 2. When thus held, the link C will be in approximately-horizontal position, so that when the draw-heads are shunted together the outer end of the link C will enter the mouth a of the draw-head A′ and will force backward the pin-support D, so as to cause the coupling-pin B′ to drop into the link and to cause the pin-support to swing into its normal position within the opening b at the side of the draw-heads. As soon as the cars are drawn forward after having been thus coupled, the slight separation of the draw-heads will cause the link C to be drawn from out the seat e' of the link-holder, permitting this holder to drop to its seat in the bottom of the chamber of the draw-head, as seen at the left-hand side of Fig. 2 of the drawings. That part of the chamber a^2 of the draw-head wherein the link-holder moves should be of sufficient size to allow a free vertical play of the link-holder, so that in case the draw-heads are of unequal height the upward or downward deflection of the coupling-link C, incident to its insertion into the companion draw-head, can freely swing upward or downward the link-holder E without danger of breakage.

In order to permit the link-holder E to be readily inserted into the chamber a^2 of the draw-head, I prefer to form the draw-head with an opening in its top adapted to be closed by a plate A^2, this plate having preferably beveled edges adapted to engage with correspondingly-beveled edges a^3 at the sides of the opening, so as to hold the plate A^2 against vertical movement, and by preference, also, the plate A^2 will be held against lateral movement by means of a screw a^4 passing through this plate and into a threaded hole in one side of the draw-head.

By preference each of the coupling-pins B and B′ will be connected to a chain F, leading to the top of the car, so that the uncoupling of the cars may be effected when desired by the train-hand upon the top of any car, and by preference, also, each end of the car will be provided with an uncoupling-bar G, sustained in eyes g, and having a central arm g', connected to the chain F, and having arms g^2 at each of its ends. From this construction it is plain that when it is desired to uncouple the cars without passing between them, this can be done by the train-hand either on the roof of the car by lifting the chain F, or can be done from the sides of the cars by merely swinging upward one of the arms g^2, causing a corresponding upward movement of the arm g', thereby lifting the coupling-pin from out the draw-head of the car.

The precise details of construction above set out may be varied without departing from the spirit of the invention, and features of

the invention may be adapted without its use as an entirety.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the draw-head having the cut-away space in its side, of a pin-support pivotally held in said cut-away space and adapted to be swung beneath the pin-hole to sustain the coupling-pin, and adapted to be forced rearwardly and laterally into line with the side wall of the draw-head to close said cut-away space and to permit the coupling-pin to drop into the link, substantially as described.

2. The combination, with the draw-head having the cut-away space in its side, of a pin-support pivotally sustained at one side of the draw-head and entirely within said cut-away space and a pivot-pin connected to one end of said pin-support and provided at its outer end with a head whereby said pin-support can be turned to bring it beneath the pin-hole of the draw-head to support the coupling-pin, substantially as described.

3. The combination, with the draw-head having a suitable seat for the link-holder in its lower portion, of a link-holder pivoted within the draw-head and having its free end adapted to engage the link and adapted to drop beneath the line of said link when the link has been withdrawn therefrom, substantially as described.

4. The combination, with the draw-head having a cut-away space in its bottom, of a link-holder pivoted at its rear end and provided at its front end with a seat to receive the link and provided upon its under side with an extension adapted to project through the bottom opening of the draw-head, substantially as described.

5. The combination, with the draw-head having an opening in its bottom side, of a vertically-movable link-holder pivotally sustained within the draw-head, said link-holder being provided with a lug at its free end to engage the link and being provided with an extension adapted to project through the bottom opening of the draw-head, substantially as described.

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Witnesses:

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