

(No Model.)

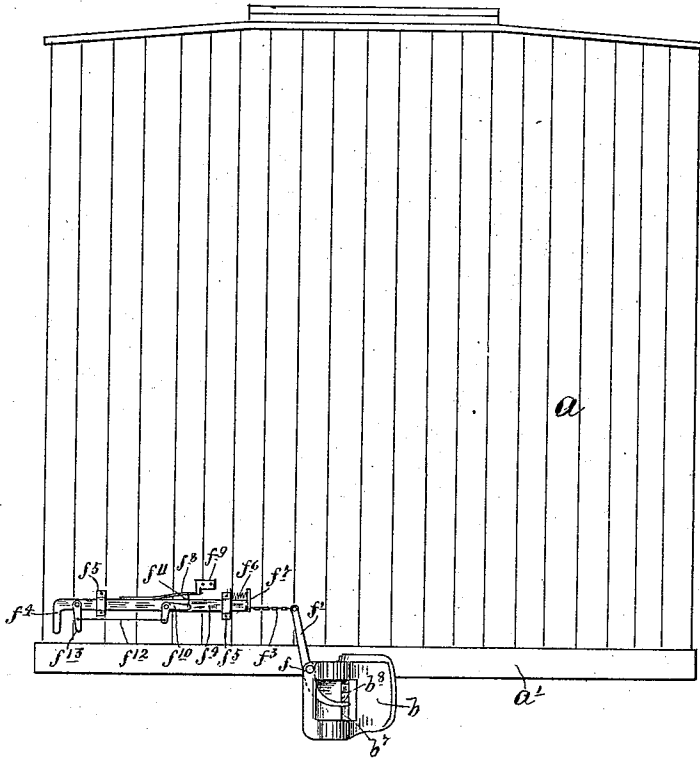
2 Sheets—Sheet 1.

A. ANDERSON.
CAR COUPLING.

No. 532,938.

Patented Jan. 22, 1895.

Fig. 1.



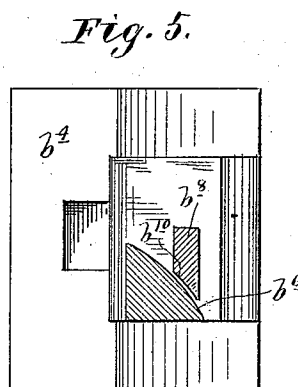
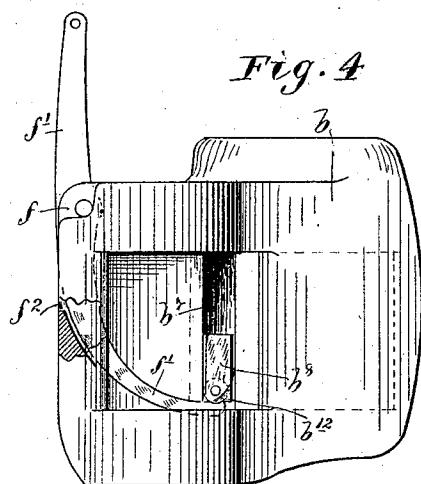
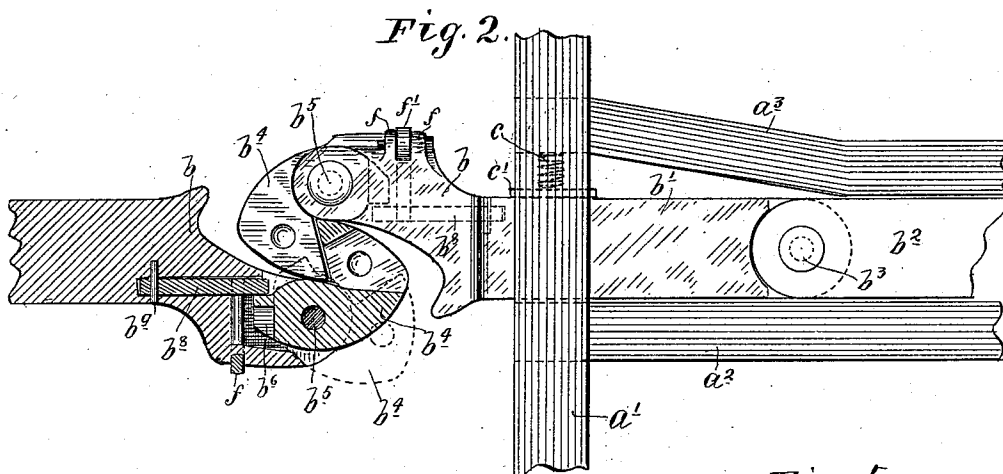
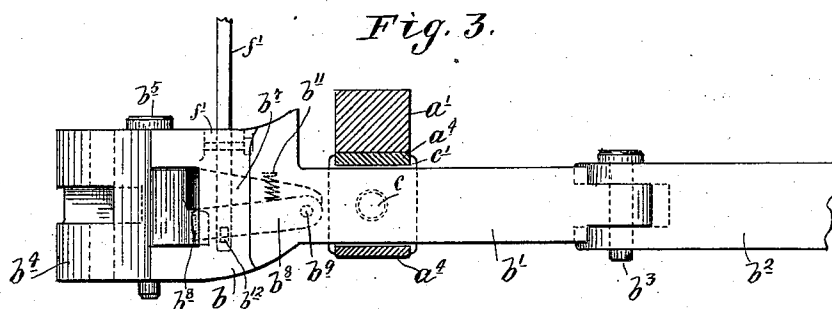
Witnesses.
A. H. Opsahl.
E. F. Elmore

Inventor.
Axel Anderson.
By his Attorney:
Jas. F. Williamson.

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UNITED STATES PATENT OFFICE.

AXEL ANDERSON, OF MINNEAPOLIS, MINNESOTA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 532,938, dated January 22, 1895.

Application filed June 29, 1894. Serial No. 516,064. (No model.)

To all whom it may concern:

Be it known that I, AXEL ANDERSON, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Automatic Car-Couplers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention has for its object to provide an automatic car-coupler of simple construction.

To this end, my invention consists of certain novel devices and combinations of devices, which will be hereinafter fully described and be defined in the claims.

My coupler is illustrated in the accompanying drawings, in which like letters refer to like parts.

Figure 1 is an end elevation of a freight car body equipped with one of my couplers. Fig. 2 is a detail in plan, and partly in horizontal section, showing the couplers in their closed position, and the relation of one of the same to the draft-bars or timbers. Fig. 3 is a side elevation of one of the couplers shown in Fig. 2. Fig. 4 is a front elevation of the right hand coupler, shown in Fig. 2. Fig. 5 is a detail, partly in section, showing the relation of the cam surfaces on the coupling-hook and the locking-dog.

a represents the car-body; a' , an end sill of the same; $a^2 a^3$, the draft-bars or timbers, and a^4 the draw-bar carrier or stirrup, secured, as shown, to the end-sill of the car, instead of to the dead-block, not shown, which would be the working construction.

The coupler-head b is formed integral with the outer member b' of a sectional draw-bar $b' b^2$, the two sections of which are pivotally connected, as shown at b^3 , backward of the draw-bar stirrup or carrier a^4 . The draw-bar section b^2 is held from lateral motion by the draft-bars or timbers $a^2 a^3$, between which it is placed; but the draft-bar or timber a^3 is so formed as to afford clearance outward of the pivot b^3 , for permitting a lateral motion of the coupler-head and outer draw-bar section $b b'$. The coupler-head is normally held against the draft-bar or timber a^2 , by a suit-

able spring or springs c , reacting against the draft-bar or timber a^3 , and a follower or slide-plate c' bearing against the back face of the draw-bar section b' , as shown in Fig. 2. The springs c might, of course, be otherwise applied.

The coupling-hook b^4 is pivoted to the head, as shown at b^5 , and the heel of the same is provided with a cam surface, as shown at b^6 in Fig. 5. In a recess b^7 of the coupler-head, extending lengthwise thereof and into the draw-bar section b' , is mounted a locking dog b^8 , which is pivoted at its rear end to the coupler-head, as shown at b^9 , and which is provided at its forward end with a cam surface b^{10} , as shown in Fig. 5, for co-operation with the cam surface b^6 , on the heel of the coupling-hook, to effect the automatic closing or locking of the hook. The said cam-surface b^{10} , is on the forward and inner corner of the dog, and the cam surface b^6 on the heel of the hook, is formed on the back of the same; and hence, these parts b^8 and b^{10} will co-operate with a camming action, to lift the dog, when the hook is being closed, to permit the hook to pass behind the dog. The locking dog b^8 will fall into its lowermost or locking position by gravity, and this might be relied upon to do the work; but, to insure the locking movement of the dog, it is shown as reinforced by a spring b^{11} , tending to throw the same into its lowermost or closing position.

To lugs f , on the back of the coupler-head, is pivoted a releasing lever f' , the lower arm of which is of curvilinear form and extends inward through a recess or slot f^2 in the coupler-head and underreaches the forward end of the locking dog b^8 , in position to engage with a roller b^{12} on the said dog, or directly with the under surface of the dog, as may be preferred.

The upper end of the releasing lever f' is connected by a chain f^3 , or other flexible connection to the inner end of a hand slide f^4 , mounted in keepers f^5 , fixed to the end of the car and subject to a spring f^6 , shown as reacting against one of the said keepers, and a lug f^7 on the slide, which spring tends to throw the slide into its innermost position. The slide f^4 has attached thereto a spring latch f^8 , which normally rides under a catch f^9 , fixed to the car-body, but will engage there-

with when the slide is in its outermost position and operate to hold the slide in said outermost position, as shown in Fig. 1. When the parts are in the position, as shown in Fig. 1, the releasing lever f' will be rocked outward to its limit, and will hold the locking dog f^8 in its uppermost or releasing position. A trip is provided for the spring-latch f^8 , consisting, as shown, of a bell-crank f^{10} on the slide, connected in any suitable way as by wire f^{11} , to the said latch f^8 , and also connected, as shown by wire f^{12} , with a hand-lever f^{13} , near the outer end of the said slide. With this trip, the spring-latch f^8 may be drawn down, at will, out of engagement with the detent or latch f^9 , so as to permit the slide to move inward under the tension from the spring f^6 into its normal or innermost position; in which position of the parts, the lever f' will appear as in Fig. 4, and the dog f^8 will be free for the automatic action.

The operation of this coupler is obvious from the description of the parts already given. Unless the locking dog f^8 be held up in its releasing position, the couplers will be completely automatic in all possible positions of the coupling-hooks b^4 . If on the coming together of the cars, either or both of the coupling hooks be open, they will be automatically closed by the meeting of the hooks and be locked in their closed position. If either of the coupling-hooks, or both of the same be closed, on the meeting of the cars, the coupler heads and outer sections of the draw-bars will be moved laterally in opposite directions, under the camming action of the beaks of the hooks on each other, thereby permitting the beaks to pass each other and to be thrown into their coupled position by the springs c acting on the draw-bar sections b' . When it is desired to uncouple the car, the

brakeman or other operator can do the same without entering between the cars, by simply drawing out the hand-slide f^4 into its releasing position; and of course, in virtue of the detent device $f^8 f^9$, he may, if he so desires, set the couplers in releasing position when the cars are standing still, or when running under slack.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. In an automatic car-coupler, the combination with the pivoted coupling hook b^4 , of the pivoted locking dog b^8 and the releasing lever f' pivoted to the coupler head and having its free end engageable under the dog to lift the same into its releasing position, substantially as described.

2. The combination with the coupling-hook b^4 , of the pivoted locking dog b^8 having the roller b^{12} and the releasing lever f' pivoted to the coupler-head and engageable with said roller to lift the dog, substantially as described.

3. In a car-coupler, the combination with the releasing lever f' , pivoted to the coupler-head, of the hand-slide f^4 , mounted in keepers on the end of the car, the spring f^6 tending to throw said slide into its innermost position, the spring-catch f^8 carried by said slide and engageable with the fixed catch-lug f^9 , on the car, the catch-trip $f^{10} f^{11} f^{12} f^{13}$, carried by said slide f^4 , and the chain or flexible connection f^3 connecting said slide f^4 with the said lever f' , substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

AXEL ANDERSON.

Witnesses:

OLIE ANDERSON,
JAS. F. WILLIAMSON.