(No Model.)

J. HART & T. E. GAGHAN.

CAR COUPLING.

No. 355,524. Patented Jan. 4, 1887.

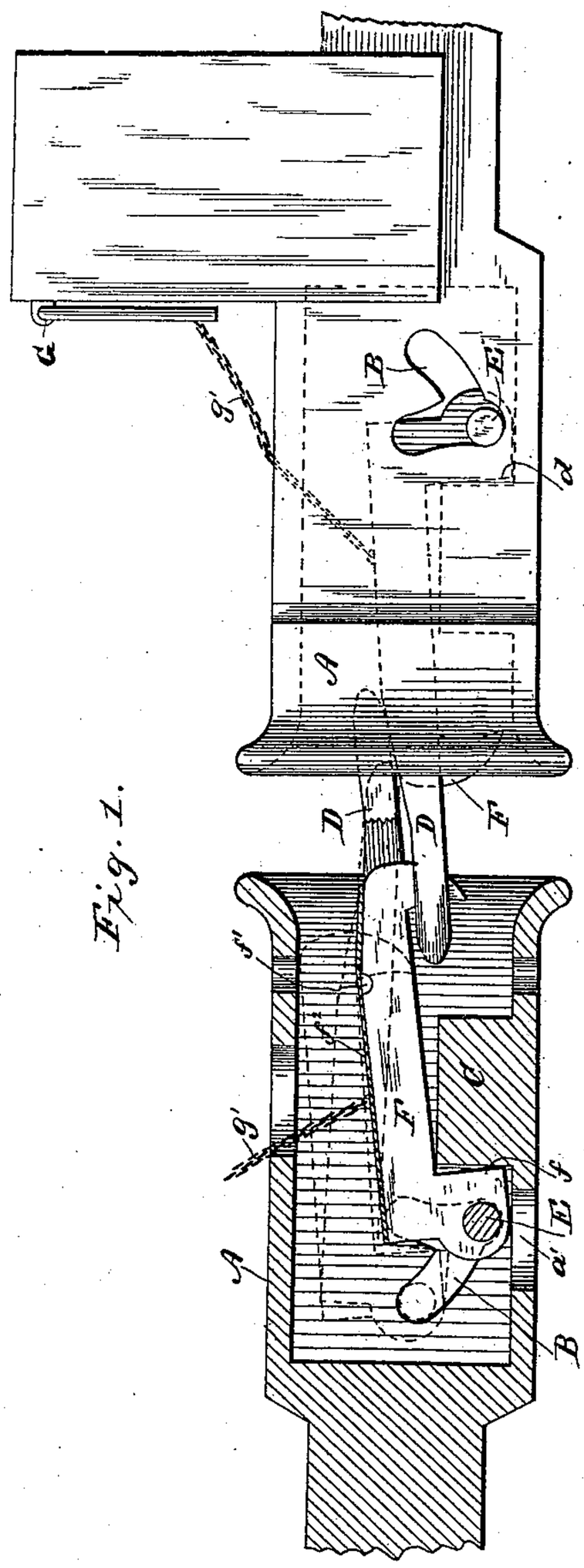

Fig. 1.

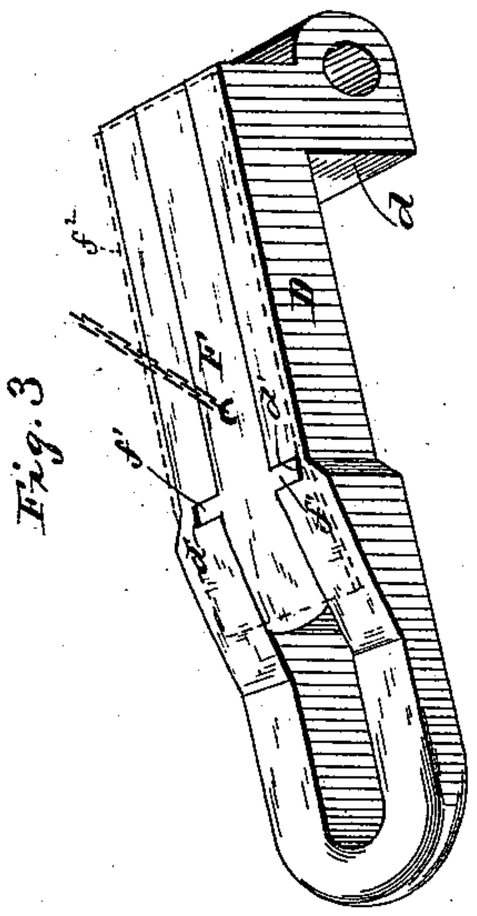

Fig. 3

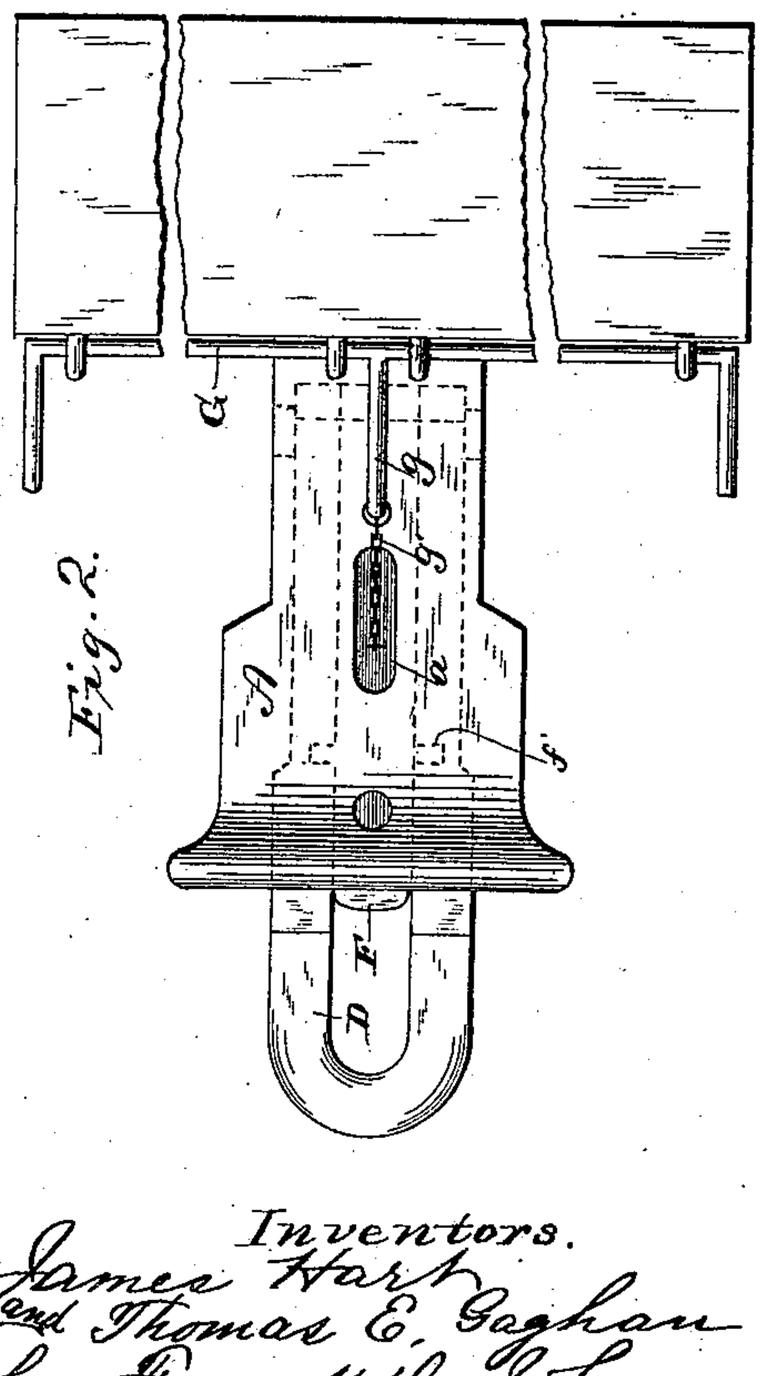

Fig. 2.

Witnesses.
Chas. R. Burr.
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UNITED STATES PATENT OFFICE.

JAMES HART AND THOMAS E. GAGHAN, OF ADRIAN, MICHIGAN.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 355,524, dated January 4, 1887.

Application filed October 18, 1886. Serial No. 216,534. (No model.)

To all whom it may concern:

Be it known that we, JAMES HART and THOMAS E. GAGHAN, citizens of the United States, residing at Adrian, in the county of Lenawee and State of Michigan, have invented certain new and useful Improvements in Car-Couplings; and we 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.

Our invention relates to improvements in automatic car-couplings; and it consists in certain novelty in the construction and arrangement of the various parts, all of which we will now proceed to point out and describe, reference being had to the accompanying drawings, in which—

Figure 1 shows a car-coupling embodying our invention, one of the draw-heads being in elevation, the other in section, the coupling devices being coupled, dotted lines showing their position when uncoupled. Fig. 2 is a top plan view of one of the draw-heads, and Fig. 3 a detail showing the link and coupling-hook removed from the draw-head.

Referring to said drawings, A is the draw-head, having inclined V-shaped slots B on each side of the same.

C is a shoulder extending across the bottom of said draw-head in front of the slots B.

D is a link having its inner ends enlarged and provided on their under sides with shoulders *d*. Said link is pivoted at its inner ends to a pin, E, which is mounted and works in the slots B.

F is a depending coupling-hook centrally pivoted to the pin E, between the inner ends of the link D. The inner end of said coupling-hook is enlarged, and is provided with a shoulder, *f*, corresponding in size to the shoulders *d*.

f' are projections on the upper side of the shank of the hook, which projections engage with notches *d'* on the upper side of the link, and limit the downward movement of said hook between the link. When the cars are uncoupled, the link and hook rest upon the shoulder C, and are held in position to couple. When coupled and the strain is on the coupling, the shoulders *d* and *f* engage with the shoulder C and take the strain off the pin E. Said shoulder C also serves as a stop to limit the movement of the link as it enters the opposite draw-head.

G is a shaft which passes across the end of the car, and is secured in bearings above the draw-head. In the center of the shaft is a short lever, *g*, which is connected with the coupling-hook by a chain, *g'*, which passes through a slot, *a*, in the top of the draw-head. Said shaft is provided with crank-handles on either end, by means of which it may be operated to uncouple the coupling from either side of the car. Any suitable device may also be used to operate said shaft from the top of the car. To the top of the coupling-hook is secured a sheet-metal plate, f^2, which prevents dirt or ice and snow from getting in between said hook and the link. The outer ends of the links are flattened and rounded, so as to readily slip by each other when the cars come together.

a' is a slot in the bottom of the draw-head, back of the shoulder C, through which dirt, &c., can be removed from the draw-head.

The operation of our invention is as follows: The links and hooks of the draw-heads of approaching cars rest on the shoulders C in the bottom of said draw-heads, and as the cars come together one link and hook slides above the link and hook of the opposite draw-head, and the upper hook engages with the lower link and effects the coupling. When the cars are coupled, the shoulders *d* and *f* of the link and hook, which are in engagement, engage with the shoulders C in the bottom of the draw-heads and take the strain off the pins E. To uncouple, the shaft G is turned, and as the lever *g* rises it lifts the hook out of engagement with the link.

To prevent the coupling from automatic action, which is sometimes necessary, the lever is moved back to the position shown in dotted lines and draws the hook and link farther back in the draw-head, the ends of the pin E' sliding back on the inner portion of the V-shaped slots. The ends of the pin E' may also slide up in the outer portion of the V-shaped slot, thus permitting a free up-and-down movement of the outer end of the link. The draw-heads are also provided with pin-holes H, and if necessary the link and coupling-hook can be removed and an ordinary link-and-pin coupling may be used.

Having thus described our invention, what

we claim as new, and desire to secure by Letters Patent, is—

1. In a car-coupling, a draw-head having slots in its sides and a shoulder across its bottom in front of said slots, in combination with a link pivoted to a pin mounted in the slots in the draw-head, and a depending coupling-hook centrally pivoted to said pin between the inner ends of the link, said link and coupling-hook being provided with shoulders on their inner ends, adapted to engage with the shoulder in the draw-head, all arranged and operating substantially as shown and described.

2. In a car-coupling, the draw-head A, having slots in its sides and a shoulder, C, across its bottom, in combination with the link D, having the shoulder *d*, and the coupling-hook F, having the shoulder *f*, said link and hook being pivoted to a pin, E, mounted in the slots in the sides of the draw-head, all arranged and operating substantially as shown and described.

3. In a car-coupling, the draw-head A, having V-shaped slots B in its sides and a shoulder, C, across its bottom, in combination with the link D and coupling-hook F, pivoted to the pin E, mounted in the slots B, said link D and hook F being provided with shoulders *d* and *f* on their inner ends adapted to engage with the shoulder C in the draw-head, all arranged and operating substantially as shown and described.

4. In a car-coupling, the draw-head A, provided with slots B and a shoulder, C, in combination with the link D, having the shoulder *d*, and the coupling-hook F, having the shoulder *f* and protecting-plate f^2, said link and hook being pivoted to the pin E, mounted in the slots B, all arranged and operating substantially as shown and described.

5. In a car-coupling, the draw-head A, provided with slots B and shoulders C, the link D, having shoulder *d*, and coupling-hook F, having the shoulder *f*, said link and coupling-hook being pivoted to a pin, E, mounted in the slots B, in combination with the shaft G, provided with the lever *g*, connected to the coupling-hook F by the chain *g'*, all arranged and operating substantially as shown and described.

6. In a car-coupling, a draw-head having a shoulder across its bottom, in combination with a link pivoted to a pin mounted in suitable bearings in the draw-head, and a depending coupling-hook centrally pivoted to said pin between the inner end of the link, said link and coupling-hook being provided with shoulders on their inner ends, adapted to engage with the shoulder in the draw-head, all arranged and operating substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

JAMES HART.
THOMAS E. GAGHAN.

Witnesses:
R. B. ROBBINS,
JOHN F. HOWLEY.