

(No Model.)

A. MORRISON.

CAR COUPLING.

No. 257,886.

Patented May 16, 1882.

Fig. 1

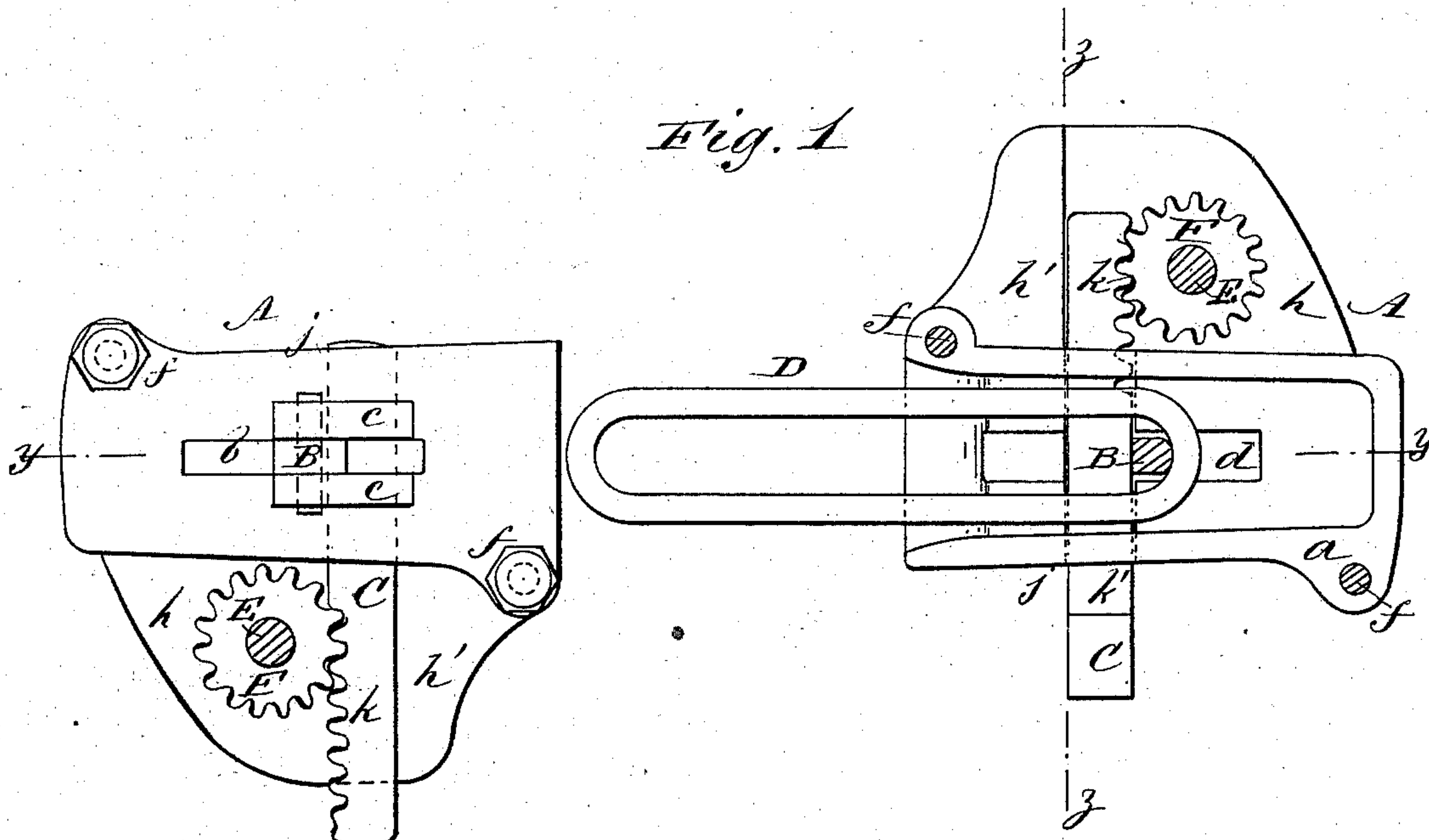


Fig. 2

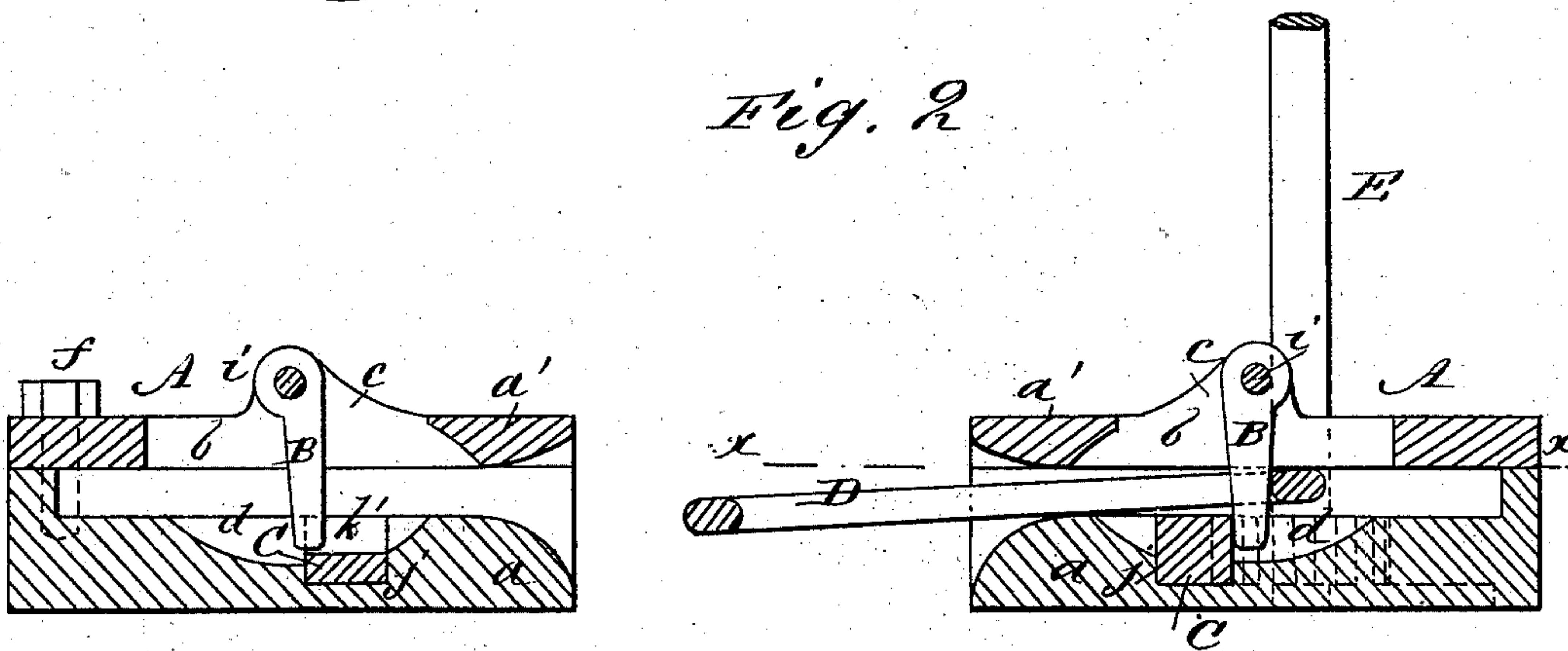
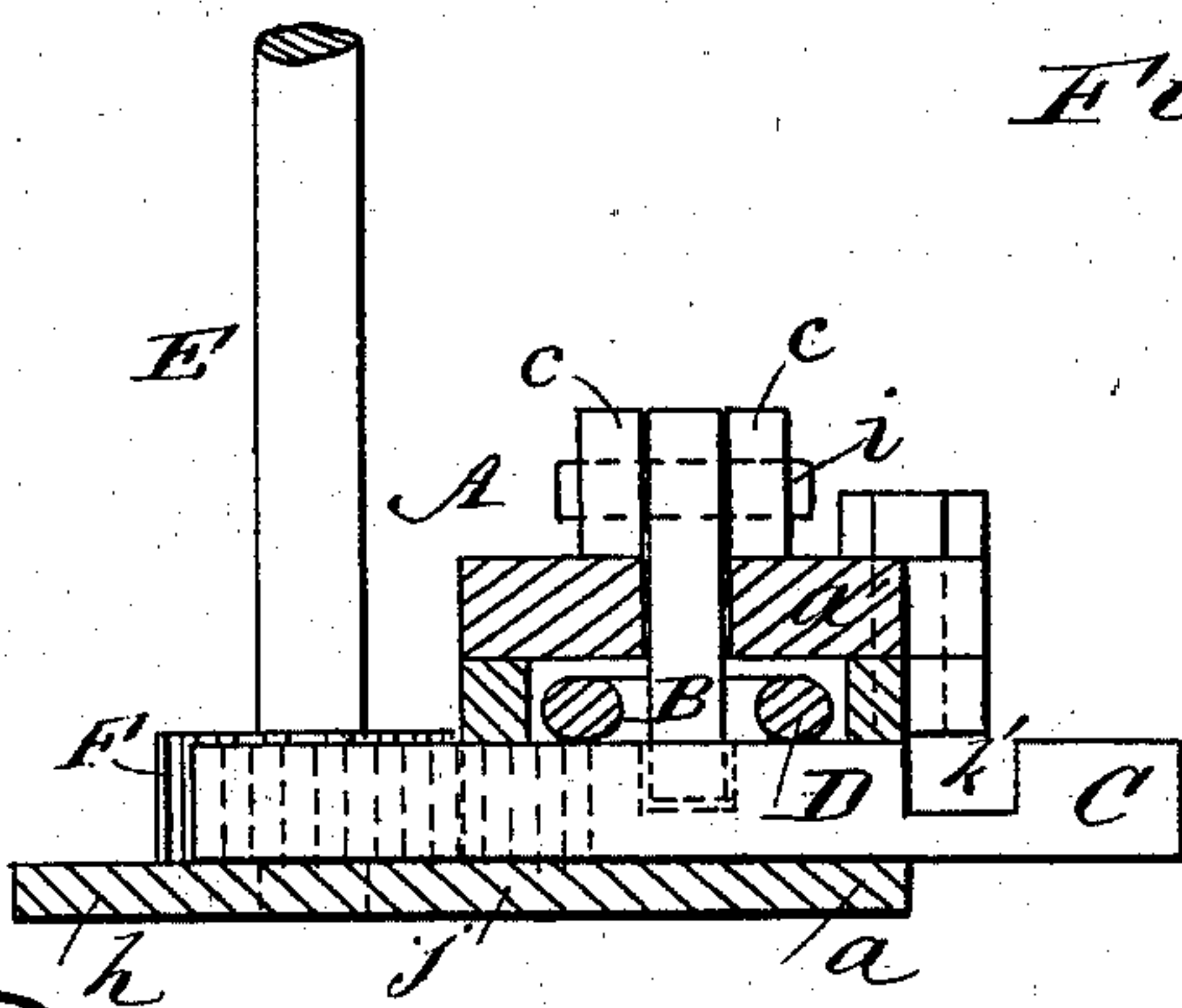


Fig. 3



WITNESSES:

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ANGUS MORRISON, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO WILLIAM J. BRIDE, OF SAME PLACE.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 257,886, dated May 16, 1882.

Application filed March 23, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ANGUS MORRISON, of Boston, in the county of Suffolk and State of Massachusetts, a subject of the Queen of Great Britain, have invented a certain new and useful Improvement in Car-Couplings, of which the following is a full, clear, and exact description.

My invention relates to that class of automatic car-couplings which use a coupling-pin pivoted in the draw-head; and my invention consists principally of a sliding bar for locking the coupling-pin, and in various details of construction, hereinafter more fully specified. The coupling-pin is pivoted in the draw-head to swing vertically in the recess therein, and is adapted to be automatically moved by the coupling-link, in the act of coupling, sufficiently to permit the passage of the cross-bar of the link by it, when it falls or returns to its original position, with its lower end in contact with an abutment or stop for preventing it from being drawn forward or toward the mouth of the draw-head.

The abutment which is represented in the drawings consists of a sliding bar which is adapted to be moved by any suitable means horizontally in a horizontal recess or passage in the draw-head across the path of movement of the coupling-pin and below the horizontal passage in the draw-head for receiving the link. This locking-bar of course may have a recess extending downwardly from its upper side, as shown in the drawings, which, when brought in line with the pin, will allow or permit the link to draw the pin toward the front of the draw-head, and thereby disengage itself therefrom; or the bar may be wholly withdrawn from in front of the pin, as may be desired. In the drawings I represent the bar as actuated by a rack formed therein upon one side and a pinion operated by a rod or shaft; but in lieu of this method of moving the bar I may use a lever pivoted to the bar and having a fulcrum either above or below the bar, as desired, or a plate having an inclined slot or cam, in which a pin on the end of the locking-bar projects, and which slot, by the vertical movement of the plate, moves the bar in one direction or the other, according as the movement

of the plate is up or down. Many other ways of moving the bar could be mentioned, if necessary; but it is sufficient to say that I do not confine myself to the specific means shown.

Figure 1 represents a pair of my improved car-couplings as they appear just before coupling, one of the couplings being represented in full plan, the other being represented in sectional plan, taken on the line *x x* of Fig. 2. Fig. 2 is a sectional elevation of the couplings, taken on the line *y y* of Fig. 1; and Fig. 3 is a sectional elevation, taken on the line *z z* of Fig. 1.

A A represent the draw-heads; B B, the coupling-pins; C C, the sliding locking-bars; E E, the vertical rods or shafts upon which the pinions F F are secured, and D represents the connecting-link.

The draw-heads A A may be cast solid, but I prefer to cast them in two parts, compressing the main or bottom part, *a*, and the upper part or plate, *a'*, which is secured to the part *a* by the screw-bolts *f f*, as shown in Figs. 1 and 2. The upper part or plate, *a'*, of each draw-head is cast with the central slot, *b*, and with the upwardly-projecting lug *c*, in and between which the coupling-pin is pivoted upon the pivot *i*. The lower or main part, *a*, of the draw-head is cast with the side extension or bracket, *h*, upon which the bar C moves, and is formed with the horizontal passage *j*, through which this bar is moved, and with the cut-away recess or guide-passage *d*, for the lower end of the coupling-pin to swing in, as shown in Figs. 1 and 2. The extension or bracket *h* is formed with the upward projection or shoulder *h'*, against which the bar C moves, as clearly indicated in Fig. 1, and by means of this shoulder the bar is guided, and to some extent kept in contact with the pinion *f*, by which the bar is operated. The bar C is formed upon one edge and at one end with the rack *k*, and upon the upper side, near the other end, with the recess or passage *k'*. This slot or passage is of such depth that when the bar is moved in the passage *j*, so that the recess *k'* comes in line with the coupling-pin, the said pin is free to swing through the recess or passage and release the link for uncoupling the cars; but when the bar



is moved so that the recess  $k'$  is at one side of the coupling-pin the bar will engage the lower end of the pin, and thus hold the connecting-link, as will be clearly understood from Fig. 2.

5 The bar C is moved for releasing and retaining the coupling-pin by means of the vertical rod or shaft E and the pinion F, secured thereon, which pinion meshes with the rack  $k$ ; but, as before stated, I do not confine myself to  
10 this or any other means for operating it. If, however, the shaft or rod E and pinion F are to be used, the shaft will be journaled at its lower end in the bracket  $h$ , as shown in the drawings, and its upper end will extend to the  
15 top or platform of the car, where it will be properly journaled and provided with a hand wheel or crank for turning it, and with a pawl and ratchet for holding it in any proper manner.

It will be seen that the connecting-link in  
20 common use can be used.

In preparing for coupling the cars it is only necessary to place the link in one of the draw-heads, as shown in Fig. 2, and to see that the bar C in the other coupler is in position to  
25 lock the coupling-pin, in which position the coupling-pin is free to swing inward and drop into the connecting-link when the link enters the draw-head, but is not free to swing outward, and will thus retain the connecting-link  
30 and cause the cars to be coupled.

For uncoupling the cars it is only necessary to move one of the bars C so that its recess  $k'$  will register with the slot  $d$  of the draw-head, or its end will clear the pin, in which position  
35 the coupling-pin is free to swing through this recess  $k'$ , or by the end of the bar, and thus release the connecting-link.

It will be observed that the locking-bar is below the passage  $j$ , and that the link in its inward movement in the draw-head passage  $j$ ,  
40 in the act of coupling, trips the coupling-pin, as it were, by moving it upwardly out of the passage until the link-bar has passed beyond the end of the pin, when it falls to its normal position, with its lower end in contact with the  
45 locking-bar.

It will be noticed also that the locking-bar is in substance a movable abutment, which when in place prevents the pin from being swung forward, and which, when removed, al-  
50 lows such movement to take place, and thereby enables the link to become disengaged from the pin by an outward movement from the draw-head.

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

1. In a car-coupling, the pivoted coupling-pin B, in combination with the sliding bar C, substantially as and for the purposes set forth.  
60

2. In a draw-head of a car-coupler, the combination of the pivoted pin B, adapted to swing vertically in the passage  $j$  and recess  $d$  on a horizontal pivot, and the abutment or bar C, adapted to be moved across the recess  $d$ , to  
65 form a stop against which the end of the pin shall contact, and to be withdrawn from said recess to release the pin in the act of uncoupling, all substantially as described, and for the purposes set forth.

ANGUS MORRISON.

Witnesses:

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W. C. FOGG.