

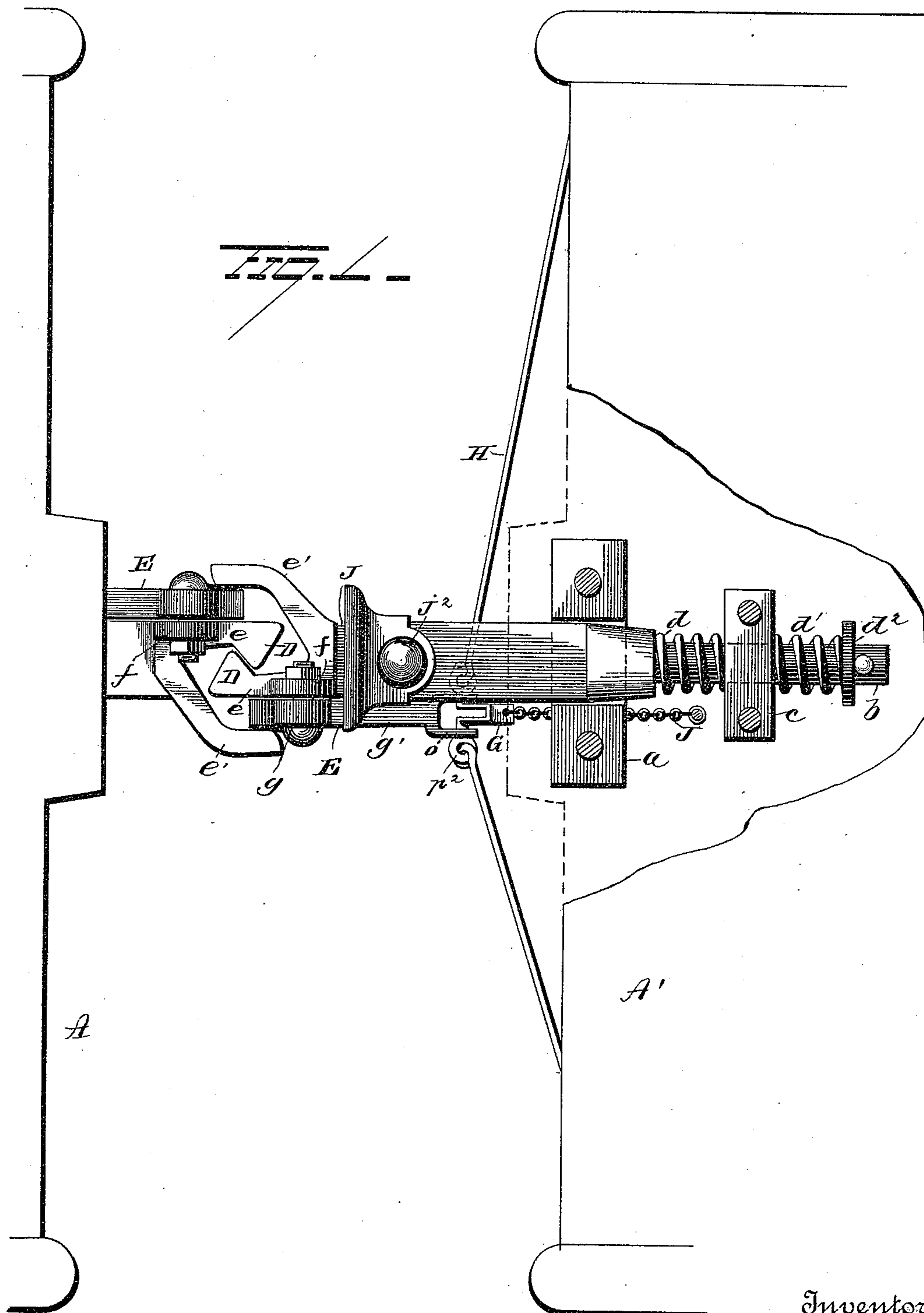
(No Model.)

3 Sheets—Sheet 1.

B. D. TABOR.  
CAR COUPLING.

No. 438,717.

Patented Oct. 21, 1890.



Witnesses  
*E. M. Cunningham*  
*G. F. Downing*

Inventor  
*Byron D. Tabor*  
By his Attorney  
*H. A. Simpson*

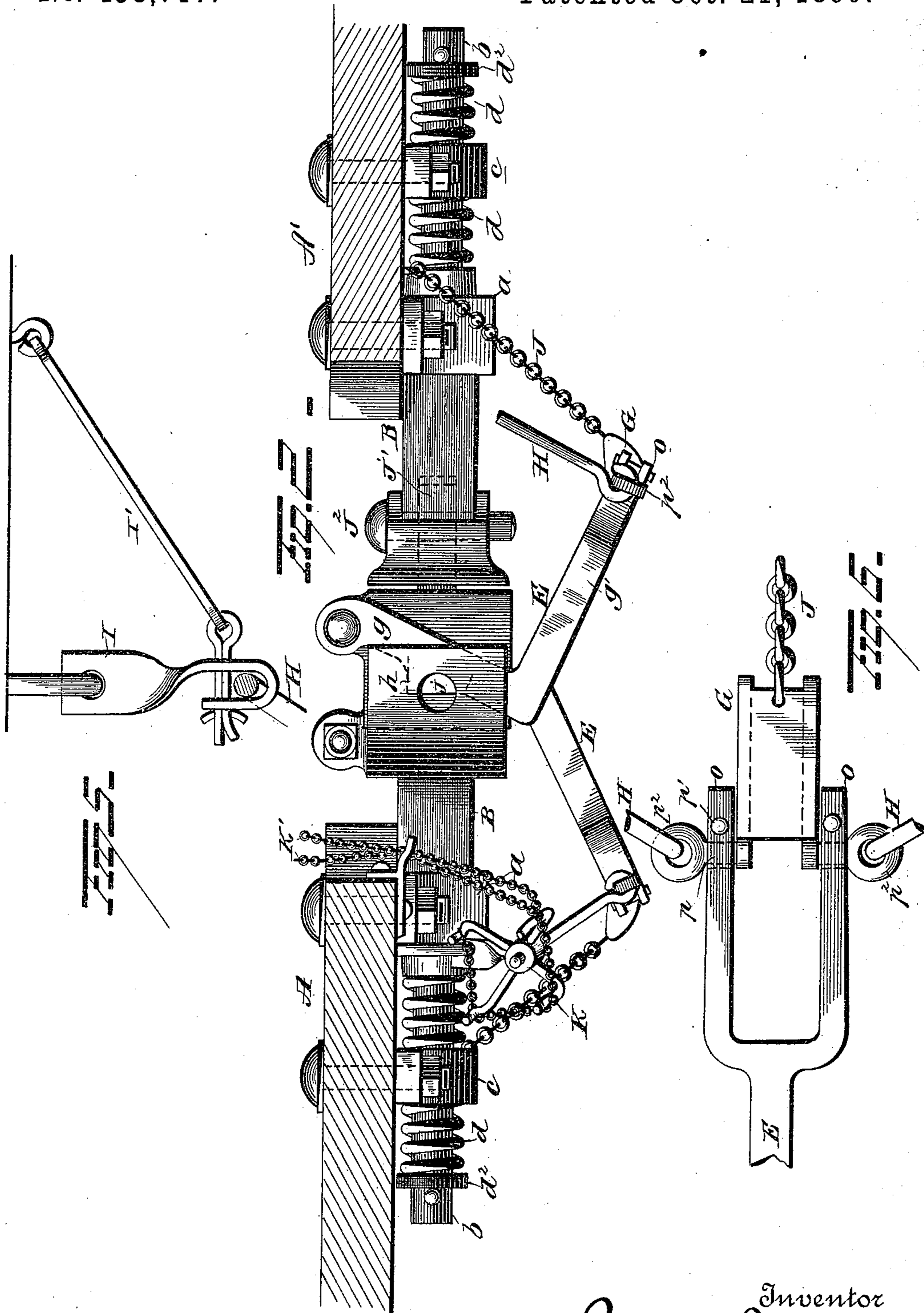
(No Model.)

3 Sheets—Sheet 2.

B. D. TABOR.  
CAR COUPLING.

No. 438,717.

Patented Oct. 21, 1890.



Witnesses.  
*E. Nottingham*  
*G. F. Downing*

Inventor  
*B. D. Tabor.*

By his Attorney  
*H. A. Tabor.*

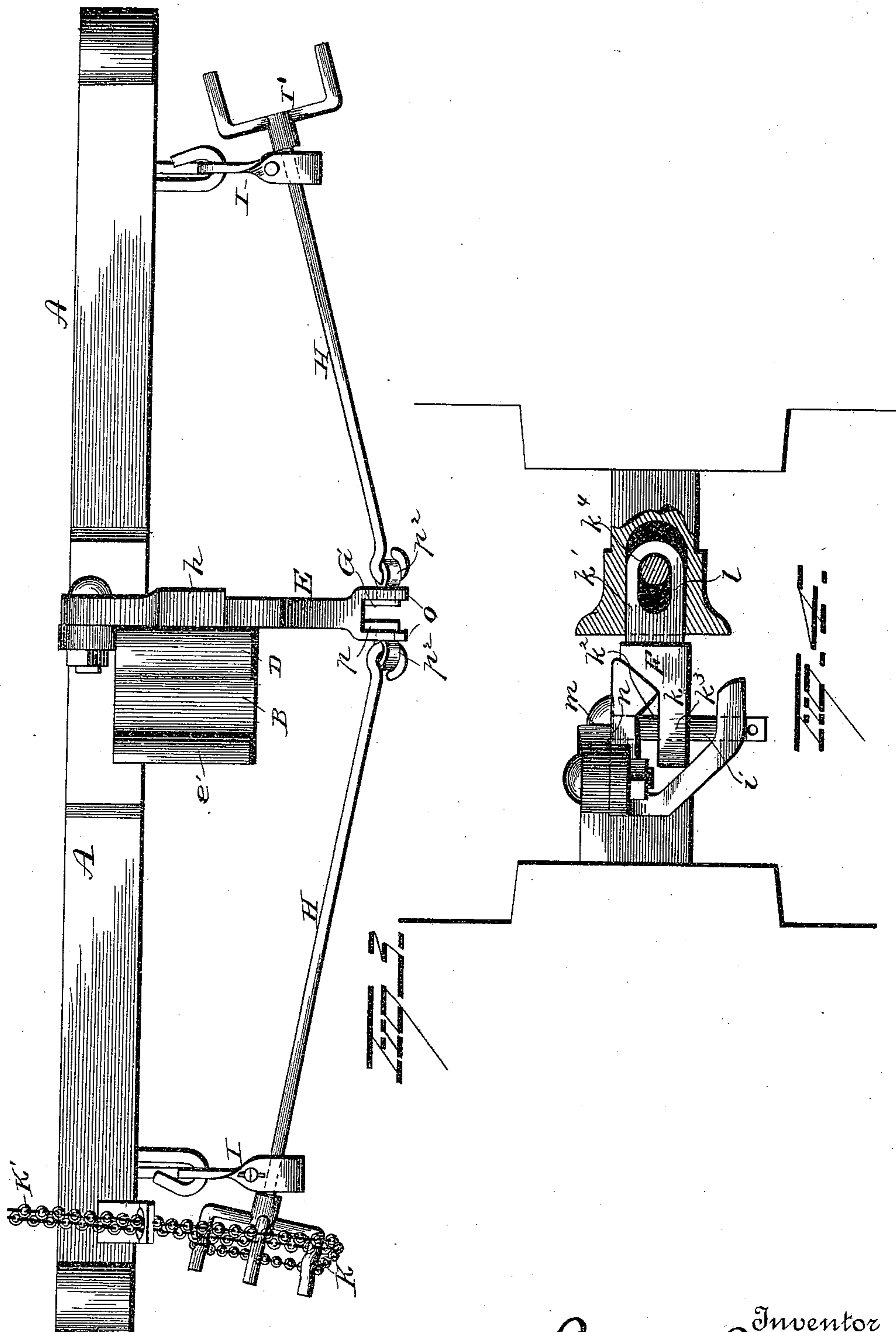
(No Model.)

3 Sheets—Sheet 3.

B. D. TABOR.  
CAR COUPLING.

No. 438,717.

Patented Oct. 21, 1890.



Witnesses:  
*E. J. Nottingham*  
*G. F. Downing*

Inventor  
Byron S. Gabor,

By his Attorney  
H. A. Simpson

# UNITED STATES PATENT OFFICE.

BYRON D. TABOR, OF WILSON, NEW YORK.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 438,717, dated October 21, 1890.

Application filed March 18, 1890. Serial No. 344,334. (No model.)

*To all whom it may concern:*

Be it known that I, BYRON D. TABOR, a citizen of Wilson, in the county of Niagara and State of New York, have invented certain new and useful Improvements in 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 relates to an improvement in car-couplers, and more particularly to such as are peculiarly applicable for coupling freight-cars, the object of the invention being to produce a car-coupler which shall be of simple construction, easy of manipulation, and effective in operation.

A further object is to construct a car-coupler in such manner that the coupling of the cars may be rendered automatic.

A further object is to so construct a car-coupler that the same may be effectually locked when the cars are coupled together.

With these objects in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as hereinafter set forth, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a portion of the platforms of two cars partly broken away and having my improved coupler applied thereto. Fig. 2 is a side elevation. Fig. 3 is a separate view of one of the draw-heads. Fig. 4 is a view of a modification. Figs. 5 and 6 are views of certain details.

A A' represent the platforms of two cars, to the under face of each of which a draw-bar B is attached. The draw-bar B is held in position by means of a bracket *a*, which is passed around said draw-bar and secured at its ends to the platform of the car, the draw-bar being adapted to have a free movement through this bracket, and the stem *b* of the draw-bar is passed through a perforated bracket *c* on the under face of the platform A. A spring *d* is made to encircle the stem *b* and bears at one end against the draw-bar and at the other end against the bracket *c*. A spring *d'* is made to encircle the stem *b* in rear of the bracket *c*, said spring *d'* bearing at one end

against the bracket *c* and at its other end against a disk *d*<sup>2</sup> at the free end of the stem *b*. Thus it will be seen the draw-bar B is yieldingly attached to the platform of the car.

At the free end of the draw-bar my improved draw-head C is located, and this draw-head may be either made integral with the draw-bar or it may be made separate and adapted to be attached to an ordinary draw-bar. One wall *e* of the draw-head C is made flat, having a V-shaped inwardly-projecting flange D at its outer extremity. The wall *e'* of the draw-head inclines outwardly and forwardly from the inner end of the wall *e* and terminates at a point diametrically opposite the flange D and parallel with the wall *e*. In other words, the draw-head comprises two jaws *e e'*, the jaw *e* being made straight or flat and provided at its free extremity with a V-shaped or tapering flange D. Projecting upwardly from the rear end of the jaw *e* is a lug *f*, to which is pivotally connected an L-shaped lever E, which lever is composed of two arms *g g'*. The inner face of the arm *g* is made flat and extends downwardly from its pivotal connection with the lug *f* parallel with the outer flat face of the jaw *e*. The arm *g* is provided at a point between its ends with a lug *h*, which lug when the parts are in position is adapted to bear against the flat face of a pin *i*, passing through perforations *j* in the cross-head when such pin is used as hereinafter explained.

The draw-head on one of the cars to be coupled is preferably made separate from the draw-bar and adapted to have a slight lateral movement; or, if desired, both draw-heads may be made detachable. When the draw-head is made separate, it is provided with a rearwardly-projecting shank *j'*, adapted to enter an elongated socket in the end of the draw-bar, said draw-head being connected to the draw-bar by means of a pin *J*<sup>2</sup> passing through the draw-bar and a perforation in the shank *J'*. The draw-head may, if desired, be connected with the ordinary draw-head, as shown in Fig. 1. The weight of the rearwardly-extending arm *g'* of the L-shaped lever E tends to cause the arm *g* to normally lie diagonally across the outer face of the jaw *e*, and is adapted to be drawn rearwardly and

made to assume a vertical position by means hereinafter to be described.

Assuming now that the arm  $g$  of each coupler is in its normal position, when two couplers are brought together the free ends of the jaws  $e'$  will come into contact with the arms  $g$  of the lever  $E$  and force said arms rearwardly. Simultaneously with this action the inclined outer faces of the flanges  $D$  will come into contact, and the jaw  $e$  of each draw-head be thereby guided into the respective draw-heads. When the flange  $D$  of the jaws  $e$  shall have passed each other, said jaws will engage the inclined faces of the jaws  $e'$ , and the jaws  $e$  be thus made to approach each other. The arm  $g$  of the lever  $E$  will now swing by gravity between the jaw  $e$  of one draw-head and the jaw  $e'$  of the other draw-head. Thus it will be seen that the two draw-heads will be automatically connected and effectually locked together. When it is desired to uncouple the cars, the arms  $g$  of the lever  $E$  will be withdrawn, when the engagement of the inner inclined faces of the flanges  $D$  will cause the jaws  $e$  to separate and be thus set free from each other.

A car-coupler constructed as above described is exceedingly simple and sure and effective in operation.

Should it be desired to connect my improved draw-head to a draw-head of ordinary construction, a link  $F$  will be employed. This link will preferably be made as shown in Fig. 4, having a head  $k$  and a shank  $k'$ . The shank  $k'$  is adapted to be inserted into an ordinary draw-head, and is provided with an elongated slot  $l$  to receive a coupling-pin  $k^4$ , whereby the link is connected to the draw-head. The head  $k$  of the link  $F$  is provided at its rear end with an inclined face  $k^2$ , adapted to engage the flange  $D$  of my improved draw-head, and the head of the link beyond the inclined face  $k^2$  is provided with a perforation  $k^3$  at right angles to the inclined slot  $l$ . To couple the link  $F$  to my improved draw-head, the pin  $i$  is passed horizontally through the perforations in the head and perforation  $k^3$  of the link  $F$ . The head of the pin  $i$  is cut away to produce flat faces  $m$   $n$ , against which the lug  $h$  of the arm  $g$  is adapted to rest. Thus it will be seen the pin  $i$  will be prevented from turning by the engagement of the arm  $g$  with the face of the head of the bolt, and said bolt will be prevented from working loose or of endwise movement by engagement of the arm  $g$  with the flat end  $n$  of the pin  $i$ .

To manipulate the L-shaped levers  $E$ , the mechanism now to be described will be employed. The rear end of the arm  $g'$  of lever  $E$  is bifurcated to form short arms  $o$ , and each arm  $o$  is bifurcated. Located between the arms  $o$  is a grooved cam-block  $G$ , having laterally-projecting arms  $p$ , which pass between the bifurcated ends of the arms  $o$ , in which they are retained by pins  $p'$ . In this manner the cam-block  $G$  is pivotally supported

at the rear extremity of the arm  $g'$  of the lever  $E$ . The free ends of the lateral arms  $p$  are provided with loops or eyes  $p^2$ , to which are pivotally connected the hooked ends of two rods  $H$ . The rods  $H$  extend laterally to points in proximity to, or, if desired, beyond, the sides of the cars, and are revolvably supported near their free ends by means of hangers  $I$ , suspended from the platform of the car. These hangers  $I$  may be braced by means of brace-rods  $I'$ , extending from the platform of the car to the hanger. At the free ends of the rods  $H$  handles  $I^2$  are provided, by means of which to operate said rods. A chain or cord  $J$  is connected at one end to one end of the cam-block  $G$  and at the other end to the platform of the car. Now when the cars are coupled and it is desired that they be uncoupled it is simply necessary to rotate the rods  $H$  of each car from either side of the car. By this operation the cam-blocks  $G$  will be rotated and the chain or cord  $J$  be wound upon said blocks in the grooves thereof. When the chains or cords  $J$  are wound upon the cam-blocks, the rear ends of the arms  $g$  of levers  $E$  will be elevated, and the arms  $g$  of said levers will be withdrawn from between the jaws  $e$   $e'$  of the respective draw-heads, when said draw-heads will be allowed to separate, as above explained.

It will be noticed that it is impossible to couple two draw-heads together as long as the levers  $E$  are withdrawn, so that when it is desired to couple cars the levers  $E$  will be permitted to assume their normal rearward positions.

It may be desirable in some cases to provide means by which to operate the rods  $H$  from the top of the car. In such case a reel  $K$  will be provided at the free end of said rod, to which one end of two chains  $K'$  is attached. The other ends of said chains are passed through suitable brackets on the car and terminate at the top thereof. One of the chains is normally wound upon the reel  $K$ , so that by operating the other chain said rod may be rotated in one direction. By this means the rods  $H$  may be alternately rotated in reverse directions.

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

1. In a car-coupling, the combination, with a draw-bar one of the jaws of which is enlarged at the outer end, of a lever pivoted in position to enter between the jaws of the opposite draw-head alongside of the jaw with the enlargement to force the two draw-heads together, substantially as set forth.

2. In a car-coupling, the combination, with a draw-head having a flange with inclined faces on one jaw, of a lever pivoted on one side of the draw-head in position to enter the opposite draw-head to force the two together, substantially as set forth.

3. In a car-coupler, the combination, with a draw-head having a flange on one jaw, of a

lever pivoted to said draw-head and adapted to automatically lock it to another draw-head, and means for withdrawing said levers, substantially as set forth.

5 4. In a car-coupler, the combination, with a draw-head having a flange on one jaw, of a lever pivoted to said draw-head and adapted to automatically lock it to another draw-head, a block pivoted to said lever, a chain connected at one end to the block and at the other end to the car, and means for rotating said block, substantially as set forth.

15 5. In a car-coupler, the combination, with a draw-head having a flange on one jaw, of a lever pivoted to said draw-head and adapted to lock it to another draw-head, a block pivoted to the lever, a chain connected at one end to the block and at the other end to the car, and rods pivotally connected with the block, whereby to rotate the same and wind the chain thereon, substantially as set forth.

25 6. In a car-coupler, the combination, with a draw-head having a flange on one jaw, of a lever pivoted to said draw-head and adapted to lock it to another draw-head, a cam-block pivoted in the free end of the lever, arms projecting laterally from said block, rods pivotally connected to said lateral arms, by means of which to rotate the block, and a chain or cord attached at one end to said block and at the other end to the car and adapted to be wound upon the block, substantially as set forth.

35 7. In a car-coupler, the combination, with a draw-bar, of a draw-head having a straight jaw and a jaw with an inclined face, a flange with inclined faces on the straight jaw, and a pivoted lever parallel with the outer face of the straight jaw, substantially as set forth.

40 8. In a car-coupler, the combination, with two draw-bars, of a draw-head at the forward

end of each draw-bar, each draw-head having a straight jaw and a jaw having an inclined face, a flange having inclined faces on the straight jaw of each draw-head, and a pivoted lever on the straight face of each draw-head, the straight jaw of each draw-head being adapted to enter between the jaws of the opposing draw-head and the pivoted levers being adapted to enter between the straight jaw of each draw-head and the inclined jaw of the opposing draw-head, substantially as set forth.

9. In a car-coupler, the combination, with a draw-head having a flange on one jaw, of a lever pivoted to said draw-head and adapted to lock it to the other draw-head, a block pivoted to the lever, a chain connected at one end to the block and at the other end to the car, rods pivotally connected with the block, reels on said rods, and chains on said reels, by means of which to rotate them, substantially as set forth.

10. In a car-coupler, the combination, with two draw-heads, one of which is provided with two jaws, and a flange on one of said jaws, of a link connected to the other draw-head, said link having a horizontal perforation therein, a pin adapted to pass through said perforation and perforations in the first-mentioned draw-head, the head of the pin being cut away to produce flat faces, and a lever pivoted to said first-mentioned draw-head and adapted to engage the flat faces of the pin and lock the same in position, substantially as set forth.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

BYRON D. TABOR.

Witnesses:

L. EUGENE HENRY,  
H. SANFORD.