

G. HARDY.
CAR COUPLING.

Patented Sept. 8, 1891.

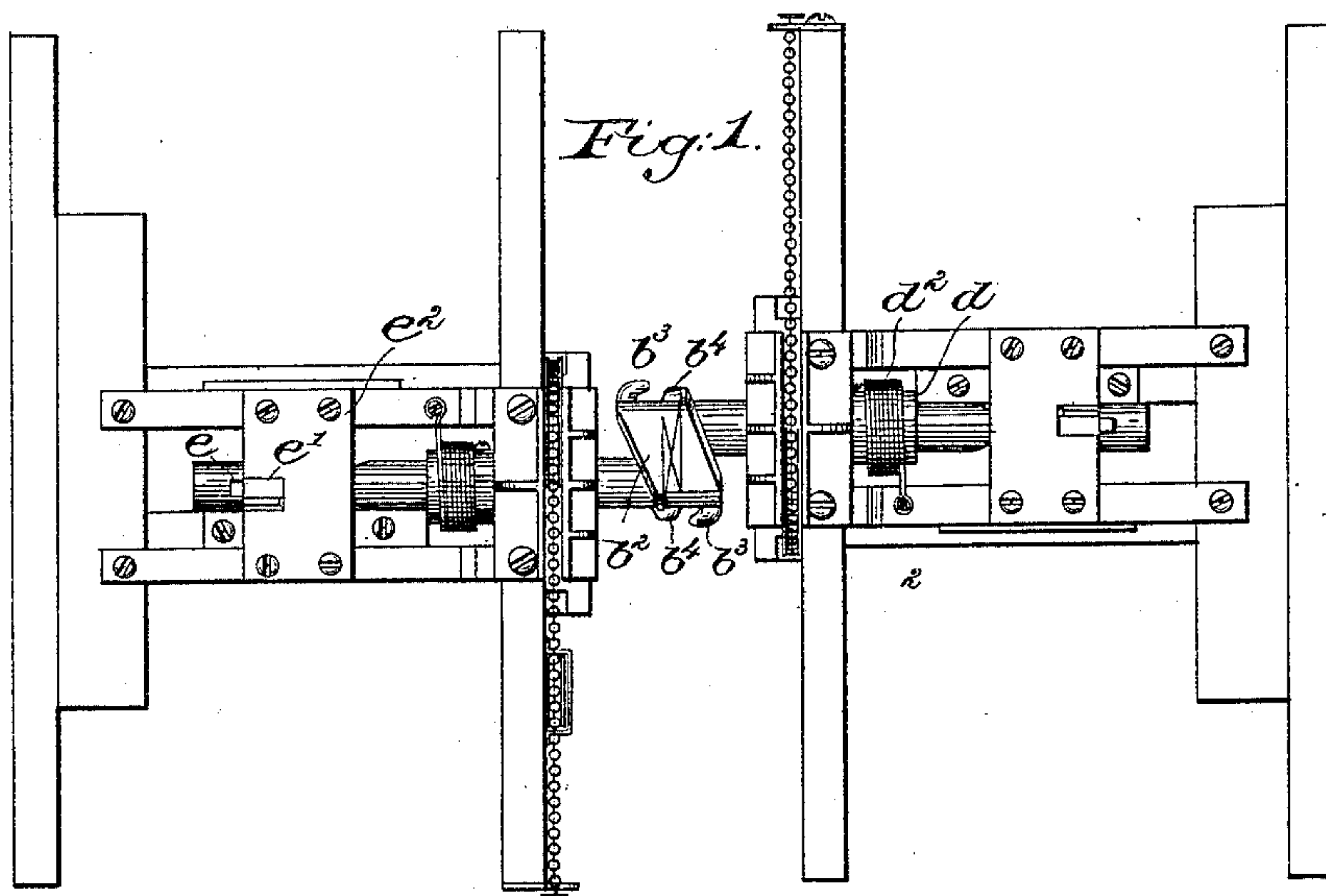


Fig: 2.

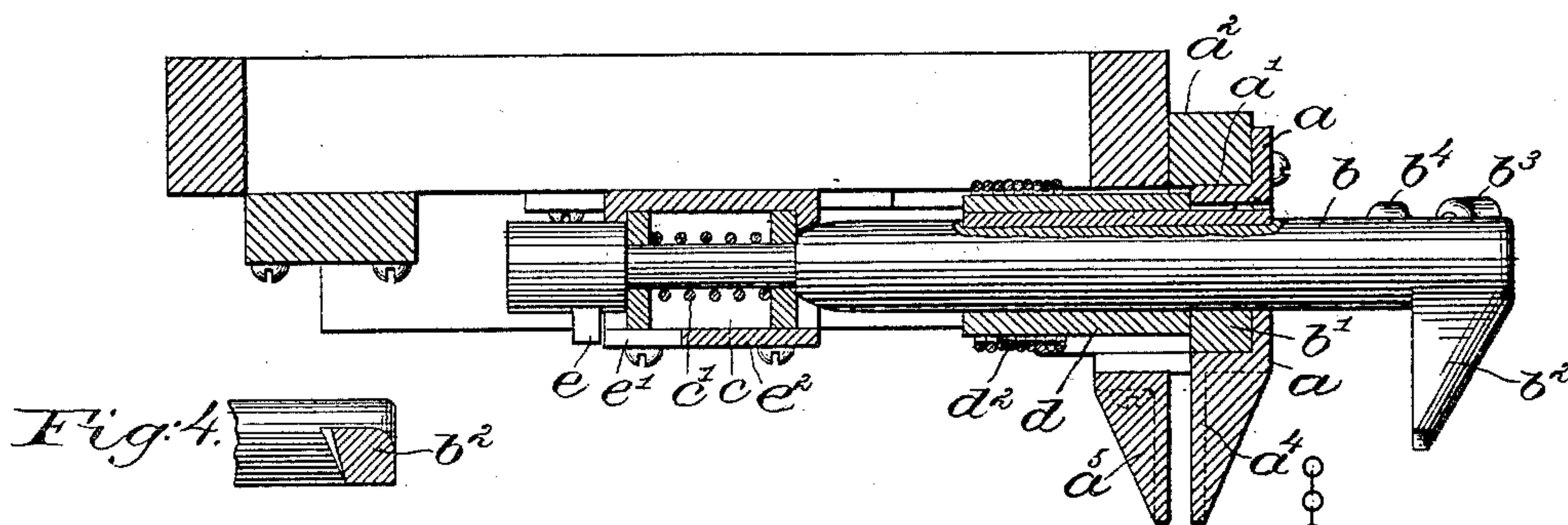
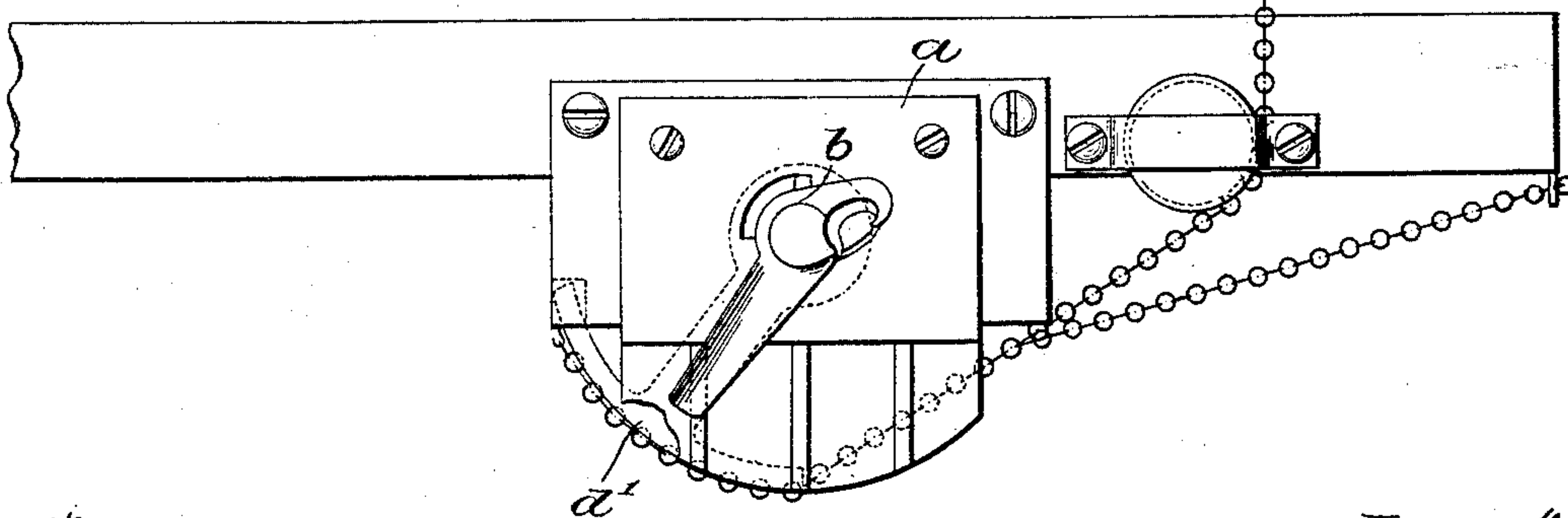


Fig: 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE HARDY, OF LAWRENCE, MASSACHUSETTS.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 459,041, dated September 8, 1891.

Application filed April 16, 1891. Serial No. 389,135. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HARDY, of Lawrence, county of Essex, State of Massachusetts, have invented an Improvement in Car-Couplings, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve the construction of car-couplings such as shown and described in United States Patent No. 441,410, dated November 25, 1890.

In accordance with this invention the oscillating draw-bar having a laterally-projecting draw-head with a beveled inclined abutting face is provided on the opposite side of said draw-head with a beveled engaging face. A suitable hook is also arranged on the draw-bar, which may be employed to receive a link when, for instance, a car provided with a coupling of the construction herein represented meets a car provided with the ordinary link-and-pin coupling. Back of and adjacent to said hook a suitable projection or shoulder is formed to prevent the link from being pushed rearwardly.

A suitable locking device is provided for locking the draw-bar in fixed position against oscillating motion when said draw-bar is pulled out against its cushioning-spring. A sector is secured to or formed on the draw-bar, which has connected to it a chain by which the said bar may be oscillated, and said sector is located between suitable guide-plates for protection.

Figure 1 is an under side view of the car-coupling embodying this invention applied to two car-frames and properly coupled; Fig. 2, an enlarged sectional view of one of the car-frames, the draw-bar being shown in elevation; Fig. 3, an end view of one of the car-frames and portions of the coupling shown in Fig. 1, and Fig. 4 a transverse sectional detail of the draw-head.

The car-frame may be of any usual or suitable construction, and is provided, as herein shown, with a buffer-plate a , having an annular metallic bearing portion a' fitting the block a^2 .

The draw-bar b has its bearings in said buffer-plate a at its forward end and at its rear end passes through a box or case which con-

tains a spiral spring c' , surrounding said draw-bar and acting as a cushioning-spring for said draw-bar. The draw-bar b has on it a projection b' , entering a recessed portion in the bearings of the buffer-plate a , said recess comprising an arc of about ninety degrees to enable the draw-bar to be oscillated such a distance.

A collar d is splined or otherwise mounted on the draw-bar b , to which is attached a sector d' , a spiral spring d^2 encircling said collar and attached at one end to a fixed point, as at 2, and the other end to the collar, said spring operating as a restoring-spring for the draw-bar to restore it to its normal position after it has been moved by the sector.

A chain or cord is attached to the sector, which has attached to it two chains passing over suitable pulleys, which are employed as a means for oscillating the draw-bar, one of the said chains being accessible from the top of the car and the other from the side, as shown.

The draw-bar has at its front end a draw-head b^2 , projecting laterally and pointing downwardly, the abutting side or face of which is inclined and also beveled, as represented in Fig. 1, and its opposite side being at substantially right angles with relation to the draw-bar, but beveled transversely, as also represented in Fig. 1, so that such faces, which serve as the engaging-faces for the draw-heads, will enable the cars to turn a curve and still maintain the same angle of incidence. Each draw-head is also provided with a hook b^3 , which may receive a link of any well-known construction, and just back of and adjacent to said hook a suitable projection or shoulder b^4 is formed to prevent the link from being pushed rearwardly. The draw-bar has also keyed on it, as herein represented, at its rear end a block or collar having a projection e , which enters a slot or passage e' , formed in a plate e^2 , secured to the frame or forming part of the box or case containing the cushioning-spring c' . When the draw-bar is drawn out by the pulling apart of two cars, the projection e , entering said slot e' , will lock the draw-bar against oscillating motion.

A suitable guide a^4 is formed integral with or attached to the buffer-plate a , and another

guide a^5 is located adjacent said guide a^4 and presents a guide-passage for the sector d' .

When the cars come together to be automatically coupled, the beveled inclined faces
 5 abutting cause each draw-bar to turn sufficiently to enable said draw-heads to pass each other immediately after the actuating-springs d^2 restore them to their normal position, engaging one another, as represented in Fig. 1.
 10 When it is desired to uncouple the cars, the sector d' is moved by the chain and one of said draw-heads turned with relation to the other.

I do not desire to limit myself to the particular form of locking device herein shown,
 15 as it is obvious that any other form of locking device may be employed without departing from my invention.

When a car provided with the coupling
 20 herein shown and described meets a car having the ordinary link-and-pin coupling, the link will be made to engage the hook b^3 .

I claim—

1. In a car-coupling, a recessed buffer, the
 25 oscillating draw-bar provided with a downwardly-projecting draw-head having a beveled inclined abutting face, and a projection on said draw-bar to enter the recess in the buffer-plate, substantially as described.

30 2. In a car-coupling, the spring-controlled oscillating draw-bar provided with a downwardly-projecting draw-head having a beveled and inclined abutting face and a transversely-beveled engaging-face at right angles
 35 to the axis of the draw-bar and opposite said abutting face, substantially as described.

3. In a car-coupling, an oscillating spring-actuated draw-bar provided with a beveled face and a hook adapted to receive a link, and

a retaining shoulder or projection for said
 40 hook back of but adjacent to said hook, as and for the purpose set forth.

4. In a car-coupling, an oscillating and longitudinally-movable draw-bar, combined with a locking device actuated by longitudinal
 45 movement of and for locking said draw-bar against oscillating motion when it has been moved outwardly, substantially as described.

5. In a car-coupling, an oscillating draw-bar having a spline thereon, a collar d on said
 50 draw-bar provided with a splineway to receive said spline, whereby rotation of the collar rotates the draw-bar, the latter being freely movable longitudinally in said collar,
 55 the sector d' , spring d^2 , encircling the collar and retaining said draw-bar in normal position, and a chain or equivalent for moving it by said sector, substantially as described.

6. In a car-coupling, the oscillating draw-bar and sector thereon, combined with guide-
 60 plates a^4 a^5 , between which said sector is placed, substantially as described.

7. In a car-coupling, the oscillating draw-bar having a projection b' on it, combined with the buffer-plate a , having the metallic
 65 bearing a' formed integral with the buffer-plate, substantially as described.

8. In a car-coupling, the oscillating and longitudinally-movable draw-bar having the
 70 projection e on it, combined with the plate e^2 , having a slot e' , substantially as described.

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

GEORGE HARDY.

Witnesses:

WILBUR E. ROWELL,
 ARETAS R. SANBORN.