

(No Model.)

S. D. TUNGATE.
CAR COUPLING.

No. 449,718.

Patented Apr. 7, 1891.

Fig. 1.

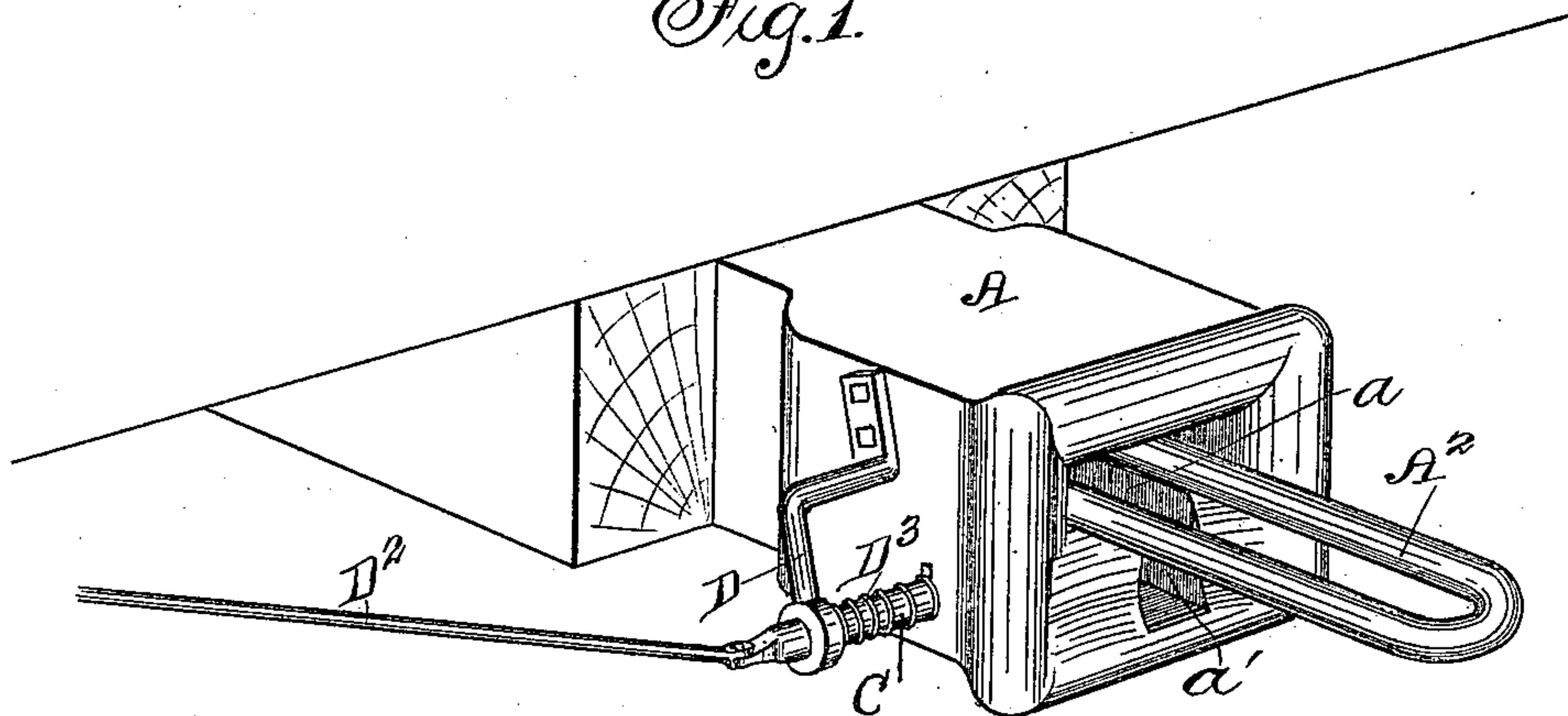


Fig. 2.

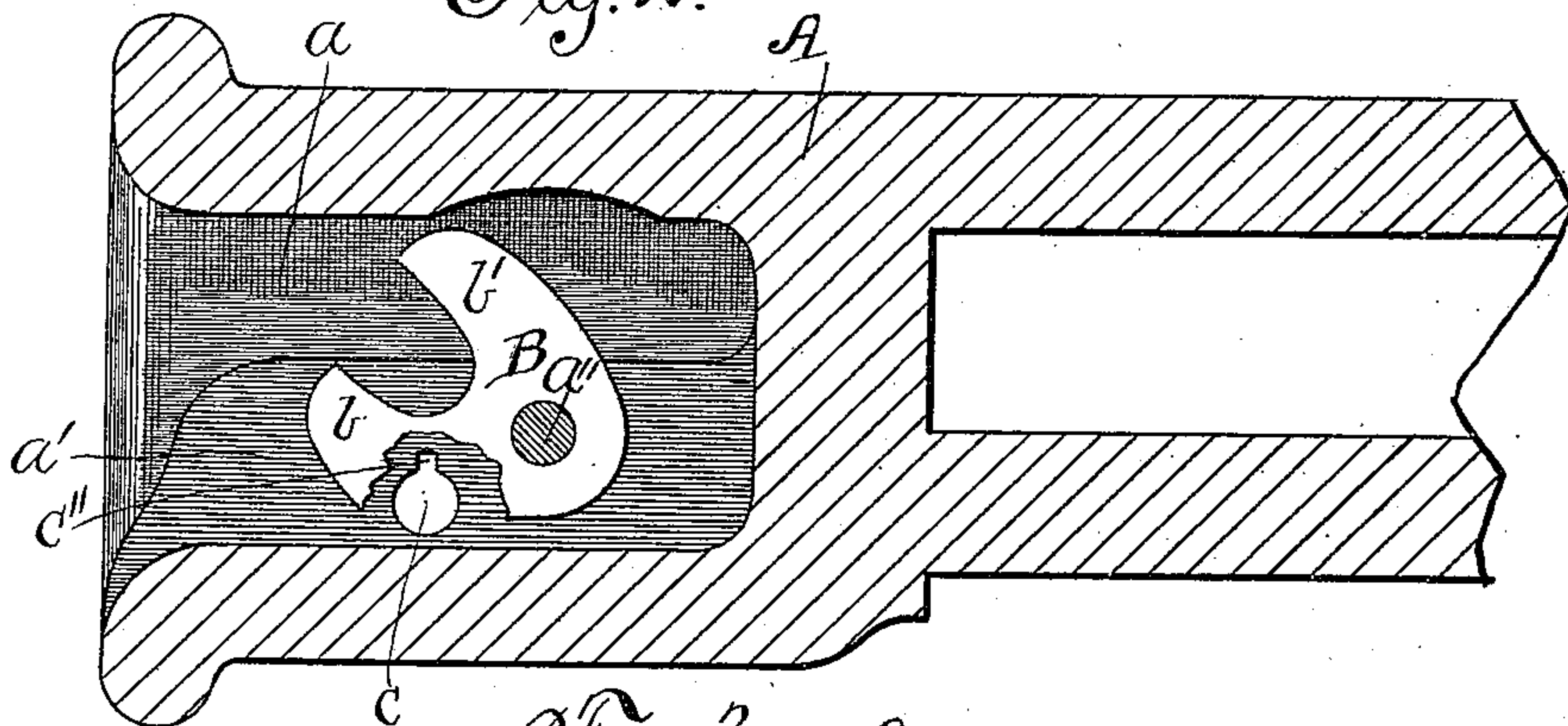
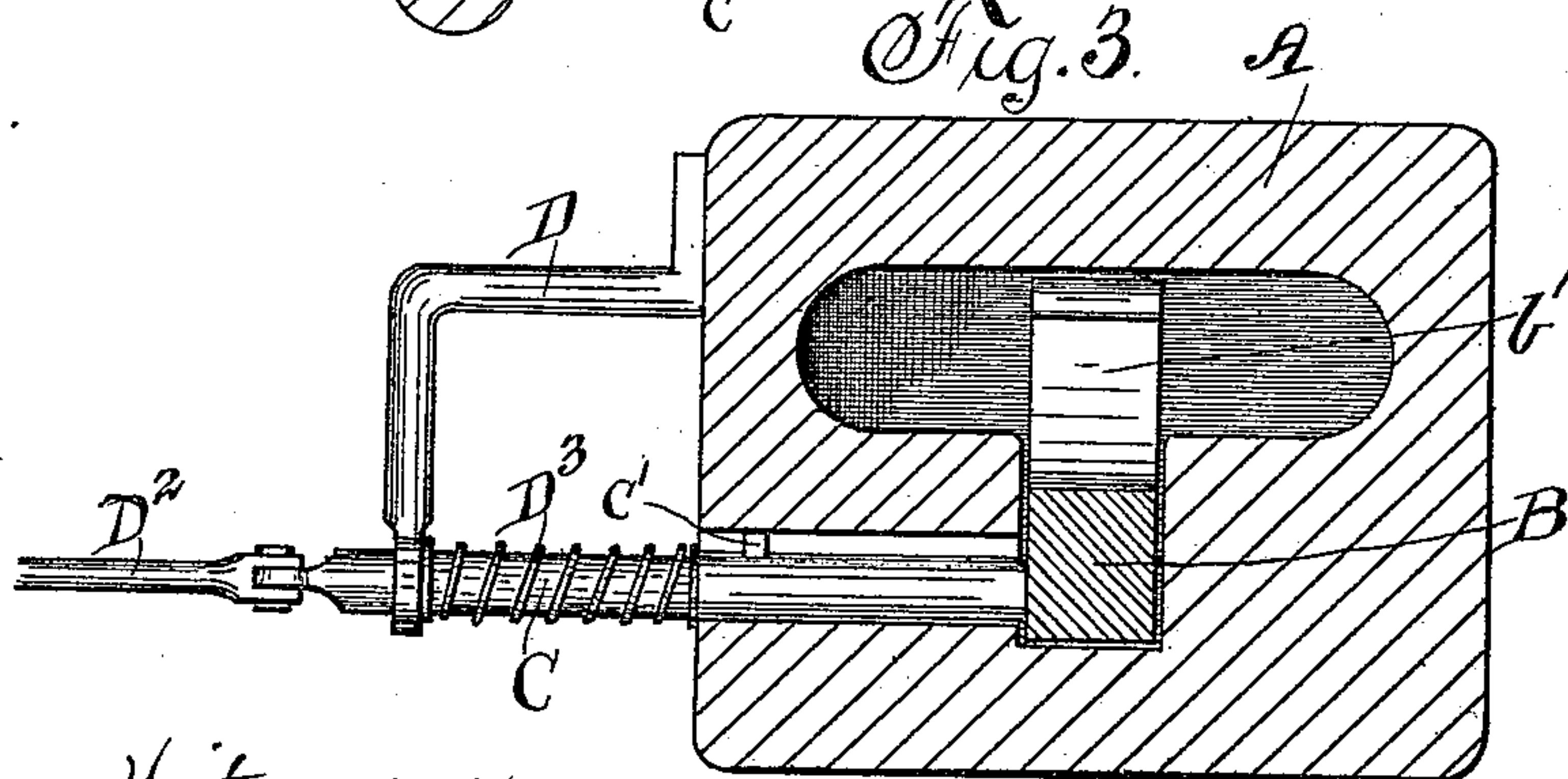


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

SAMUEL D. TUNGATE, OF DES MOINES, IOWA.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 449,718, dated April 7, 1891.

Application filed September 9, 1890. Serial No. 364,421. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL D. TUNGATE, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have invented a new and useful Automatic Car-Coupling, of which the following is a specification.

My invention relates to that class of car-coupling in which the coupling mechanism is actuated by means of the impact of the link, and has for its object the provision of means by which the coupling may be effected automatically by the car to which it is to be coupled and an uncoupling readily affected by the train or yard man from a point of danger, in every instance the locking mechanism resuming without extraneous assistance a position in which the coupling may be again automatically effected, and to accomplish these various advantageous results by the employment of a minimum number of parts, so that the coupling shall be cheap in construction and effective in action under all emergencies.

My invention consists in a pivoted locking-block having extending lugs preferably formed integrally therewith, one of which lugs performs the function of a coupling-pin, the other receiving the impact of the link in automatically effecting the coupling and an engaging bar coupled with a hand-actuated lever extending to the side of the car, said bar being capable of lateral play, and being so acted upon by yielding pressure as to normally bear, when the cars are uncoupled, against the locking-block in order to engage under said block when the lug receiving the impact of the link is acted upon to rotate the locking-block upon its pivot.

My invention consists, further, in certain details of construction hereinafter more fully set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a draw-head embodying my invention, showing the relation of the hand-actuated lever and the locking-bar to the car-body. Fig. 2 is a longitudinal sectional view taken through the body of the draw-head, the locking-block being partly broken away to show the opening through which the locking-bar extends into the interior of the draw-head. Fig. 3 is a transverse section through the draw-bar.

A is the draw-bar, which is hollowed out in its interior so as to form the horizontal chamber *a* and the vertical chamber *a'*. Pivoted within the sides of the chamber *a'* at the point *a''* is a locking-block B, which is provided with or has the extending lugs *b b'* forming a space or jaw between them, the lug *b'* receiving the impact of the link and the lug *b* receiving the stress of the link.

C is a locking-bar arranged approximately at right angles to the draw-head A, extending for a portion of its length within a circular channel *c* in the side of the draw-head and having a key *c'*, which travels in a slot *c''*, the form of said channel and slot and their connection being shown more clearly in Fig. 2.

An angle-iron D, fixed at one end to the side of the draw-head A, is provided, its remaining end having an eye through which the locking-bar C is passed, the outer end of said bar being coupled to the hand-actuated lever D², which latter extends to the outer side of the car in position to be grasped by the yard-man or train-man standing at a point out of danger. A spiral spring D³ is wound about the said bar and so disposed between angle-iron D and side of draw-head as that its resiliency tends to cause the inner end of locking-bar C to impinge and normally bear against the one side of the locking-block B when the draw-head is not coupled and the locking-bar B is in a position to be automatically coupled.

The operation of my device is as follows: Referring to Fig. 2, in which the locking-block B is in a position to be coupled, the link of an approaching car impinging against the lug *b'* of said block B having entered draw-head A within chamber *a* causes said block to revolve on its axial pivot *a''* in the arc indicated by the dotted lines toward the rear of the interior of the draw-head, causing the lug *b* to rise in a vertical arc, the roof of the draw-head being concaved to permit the passage of the lugs *b b'*. When the said lugs shall arrive in a vertical position, the one end of the link will now be between said lugs, and the locking-bar C, which has been caused to bear against the side of the locking-block B by spring D³, will now engage under the said block, the latter being of such a form as to clear the bar when the lugs *b b'* are in a vertical position. The full form of said locking-

block where broken away is indicated by the dotted lines. It is apparent that the link is now held between the lugs *b b'*, the stress of the pull being upon the lug *b*. When it is
 5 desired to uncouple, the train or yard man pulls upon rod *D²*, withdrawing the bar *C* from under the locking-block, and as the link is withdrawn by the receding car the said block is drawn into position again to be
 10 coupled. The coupling therefore is of such mechanical construction as to be constantly in a position to be automatically coupled, since in every instance in the act of uncoupling the locking-block is automatically brought
 15 into position to effect a recoupling. It is also evident that the difficulties which arise from the springing apart of the coupling is avoided, since when the lug *b* is in its vertical locking position the link cannot ride over said lug,
 20 and in springing upwardly will be stopped by the roof of the draw-head.

It is apparent that by forming a vertical perforation in the draw-head in advance of the locking-block the coupling may be ef-
 25 fected by the usual link and pin.

Whenever it may be desired to perform the operation of "kicking," the cars should not automatically couple, in which event the locking-bar *C* may be laterally withdrawn until
 30 the lug *c'* of said bar is on the exterior of the draw-head, when the said bar *C* may be rotated until said lug *c'* engages the side of the draw-head, thus withholding the said locking-bar *C* from engagement with the locking-
 35 block *B*.

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

1. A car-coupling consisting of a locking-block pivoted within the interior of the draw-head and having extending lugs adapted to assume a vertical position when one of said lugs shall have been acted upon by the impact of the entering link, and a locking-bar normally held when the cars are uncoupled
 45 against one face of the locking-block by yielding pressure and adapted to engage under said block when the lugs shall have assumed a vertical position, together with means for withdrawing said locking-bar from engage-
 50 ment with the locking-block, as and for the purposes set forth.

2. In a car-coupling, the combination, with a link of ordinary form, of a draw-head having its interior formed into horizontal and ver-
 55 tical chambers, a pivoted locking-block moving within the vertical chamber, said block having extending lugs, the rear one of which receives the impact of the link rotating the block on its pivot and causing the said lugs
 60 to assume a vertical position, and a locking-bar normally held when cars are uncoupled against the locking-block and adapted to engage under said block and lock the same when
 65 the lugs thereof have assumed a vertical position, as and for the purposes set forth.

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Witnesses:

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