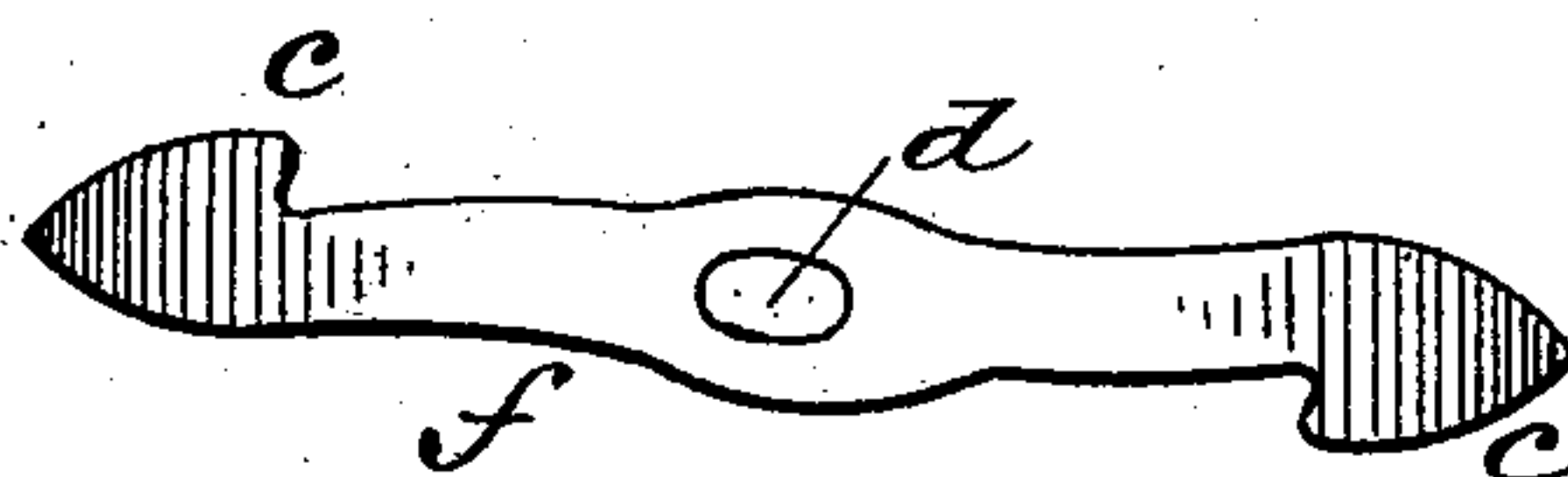
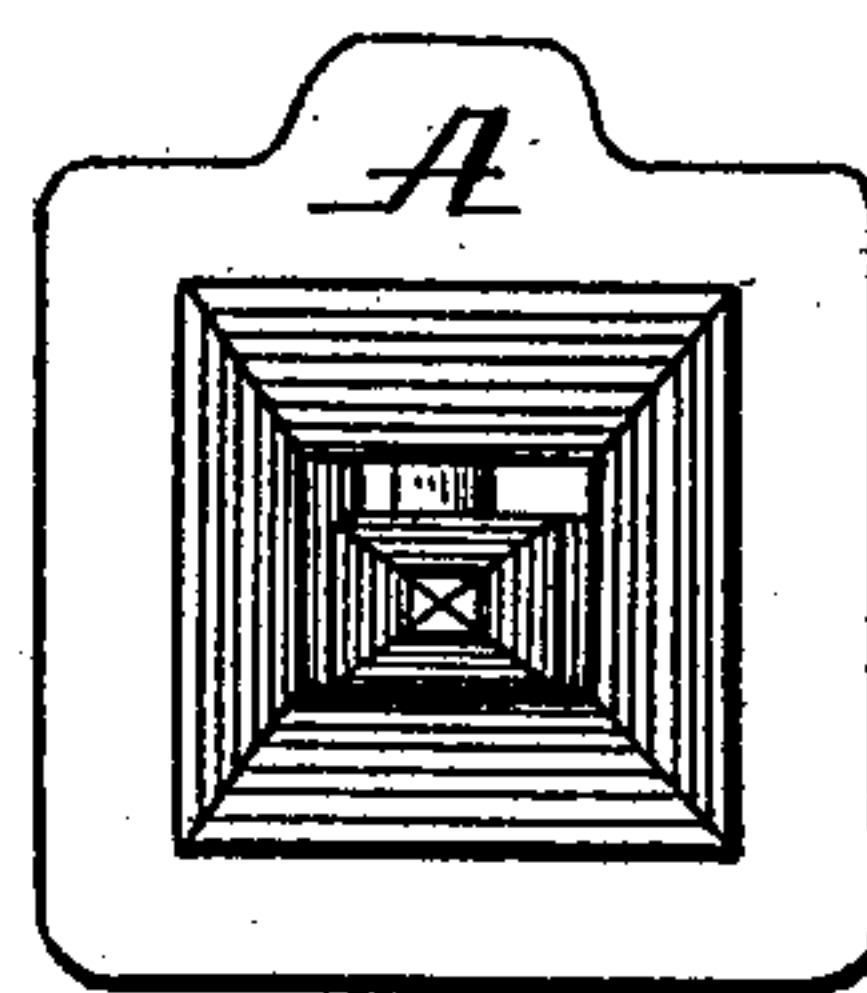
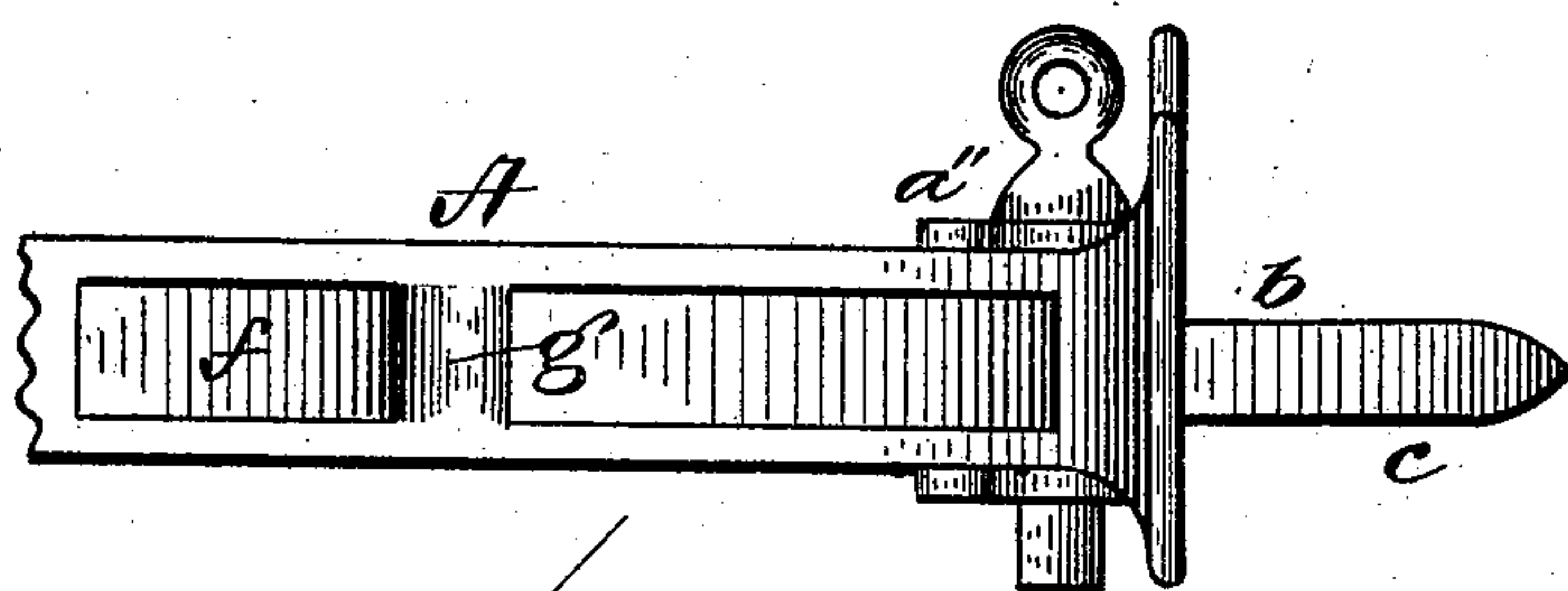
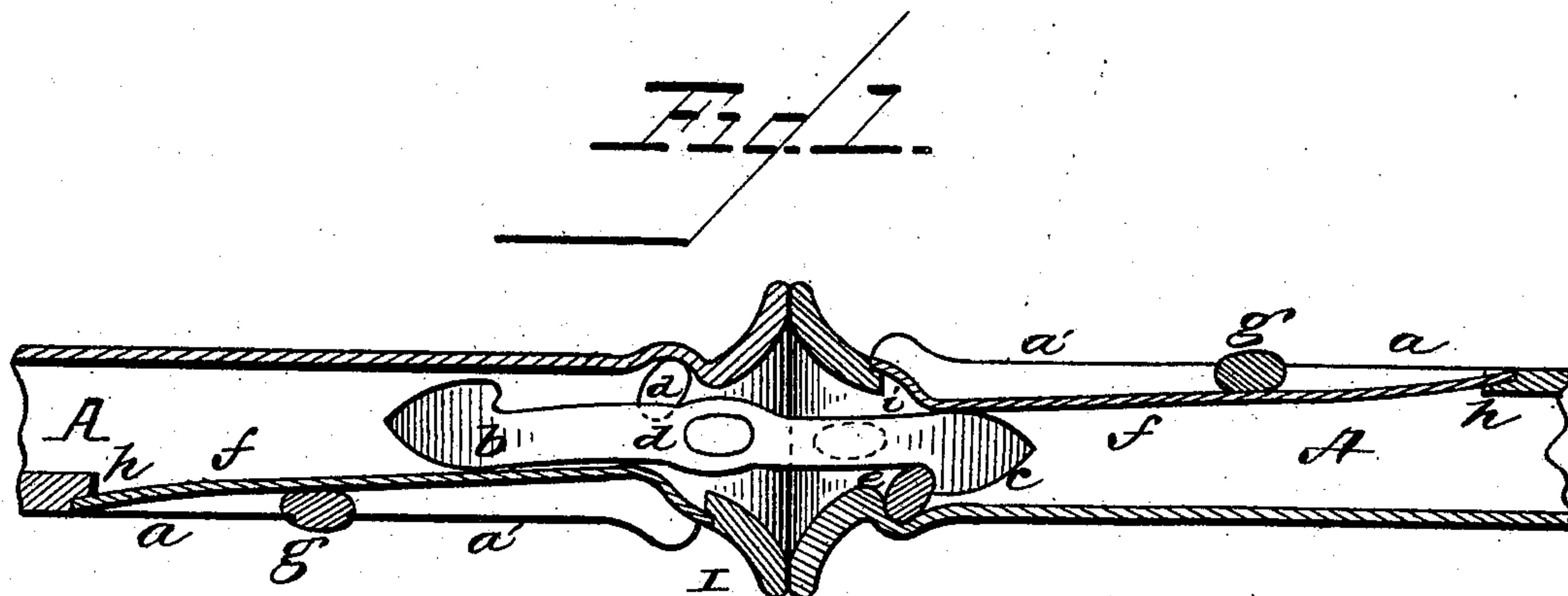


(No Model.)

W. T. VAN DORN.  
CAR COUPLING.

No. 503,017.

Patented Aug. 8, 1893.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM T. VAN DORN, OF LINCOLN, NEBRASKA.

## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 503,017, dated August 8, 1893.

Application filed December 5, 1892. Serial No. 454,199. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM T. VAN DORN, a citizen of the United States, residing at Lincoln, in the county of Lancaster and State of Nebraska, have invented certain new and useful Improvements in Car-Couplings, of which the following is a specification.

My invention relates to an improvement upon the car-coupling shown and described in Letters Patent No. 258,160, granted to me under date of May 16, 1882, and Letters Patent No. 271,553, granted to me under date of January 30, 1883.

The invention consists in an improvement in the drawhead, in the coupling bar and also in the retaining device for holding the catch of the coupling bar in engagement with the pin.

In the accompanying drawings Figure 1. is a horizontal section of two drawheads coupled. Fig. 2. is a side elevation of one drawhead. Fig. 3. is a detail view of my improved coupling bar. Fig. 4. is a front view of the face of my improved drawhead.

The drawhead A. is constructed with a flat surface on the face of the drawhead instead of the flaring face heretofore known and used. By means of this construction when the faces of two drawheads come together and couple automatically they will be coupled solidly together, allowing no lateral motion between the drawheads, and thus making the coupling as rigid as if it were one continuous bar of iron from one car to the other. When the drawheads are thus constructed with flat faces the rear end of each drawhead must be arranged by some ordinary device to swing on a pivot, underneath the car.

The drawhead A. is provided with two openings, *a. a'*. in one side, in which a retaining device for the coupling bar, *b* is to be arranged. The coupling bar *b*. is provided with a lateral catch *c*. at each end. The lateral catch *c*. is upon opposite sides of the coupling bar *b*. as shown in detail Fig. 3. For coupling with cars having my coupling each catch *c*. on the ends of the bar *b*. is coupled automatically by being forced behind the bevel coupling pin *e*. to be placed in the beveled horizontal perforation *e'*. By having the catches *c*. upon opposite sides of the bar *b* I obviate the necessity of withdrawing and re-

versing the bar *b*. The pin *e*. and pin hole *e'* are each constructed with flat sides and round ends, the pin hole *e'*. standing on an incline as shown in Fig. 1. By this construction the pin *e*. presents a beveled or inclined surface to the catch *c*. upon the coupling bar *b*. The coupling bar *b*. is also provided with the perforation *d*. at its center and the drawhead A. is provided with the pin hole *a''*.

In using my improved coupling bar one of the drawheads A is always coupled by a pin passing through the pin hole *a''* and perforation *d*. The perforation *d* being exactly in the center of the bar *b*. the bar *b*. is thus balanced and held in position for automatic coupling with another drawhead.

The improved retaining device consists of the spring *f*. arranged to fit snugly in the openings *a. a'*. of the drawhead A. The upper and lower edges together with the walls *h. i*. in the sides of the drawhead A. form a seat for the front and rear ends of the spring *f*. and for the purpose of providing a brace for the spring *f*. the piece *g*. around which the spring *f*. is sprung, is left in the sides of the drawhead A. between the openings *a. a'*. The spring *f*. is inserted from the mouth of the drawhead A, the rear end of the bar *f*. passing back of and outside of the rear of the opening *a*. until the front end of the bar *f*. is back of the front end of the opening *a'*. when the spring *f*. is pressed out and forced forward until each end of the spring *f*. drops into its seat in the openings *a. a'*. formed by the upper and lower edges of the drawhead A. and the walls *h. i*. in the side of said drawhead A. The spring *f*. is provided with a suitable curve which is adapted to project inward toward the center of the drawhead A. sufficiently to retain the catch *c*. of the coupling bar *b*. in engagement with the pin *e*.

My invention above described is especially adapted for use upon street-cars.

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

1. In a car-coupling, the drawhead having a flat surface on the face and provided with the pin holes *e' a''* and openings *a. a'*. in the side, substantially as shown and described.

2. In a car-coupling, a coupling bar having



a catch at each end and a perforation at the center, through which a pin passes and thus balances the bar for automatic coupling at either end, substantially as shown and described.

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3. In a car coupling, a retaining device formed by a spring seated in openings in one side of the drawhead and braced by the part of the side of the drawhead between the openings, substantially as shown and described.

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4. The combination, with a coupling-bar having a catch at each end, and a drawhead having means for engaging the catches, of a retaining device formed by a spring seated in

one side of the drawhead, substantially as shown and described.

5. The combination, with a coupling-bar having a lateral catch at each end and a perforation in the center, of a drawhead having a flat surface on the face and provided with means for engaging the catches, substantially as shown and described.

Witness my signature in the presence of two witnesses.

WILLIAM T. VAN DORN.

In presence of—

GEO. W. JOHNSON,  
HENRY ALBERS.