

(No Model.)

S. C. NOBLE.
CAR COUPLING.

No. 486,601.

Patented Nov. 22, 1892.

Fig. 1

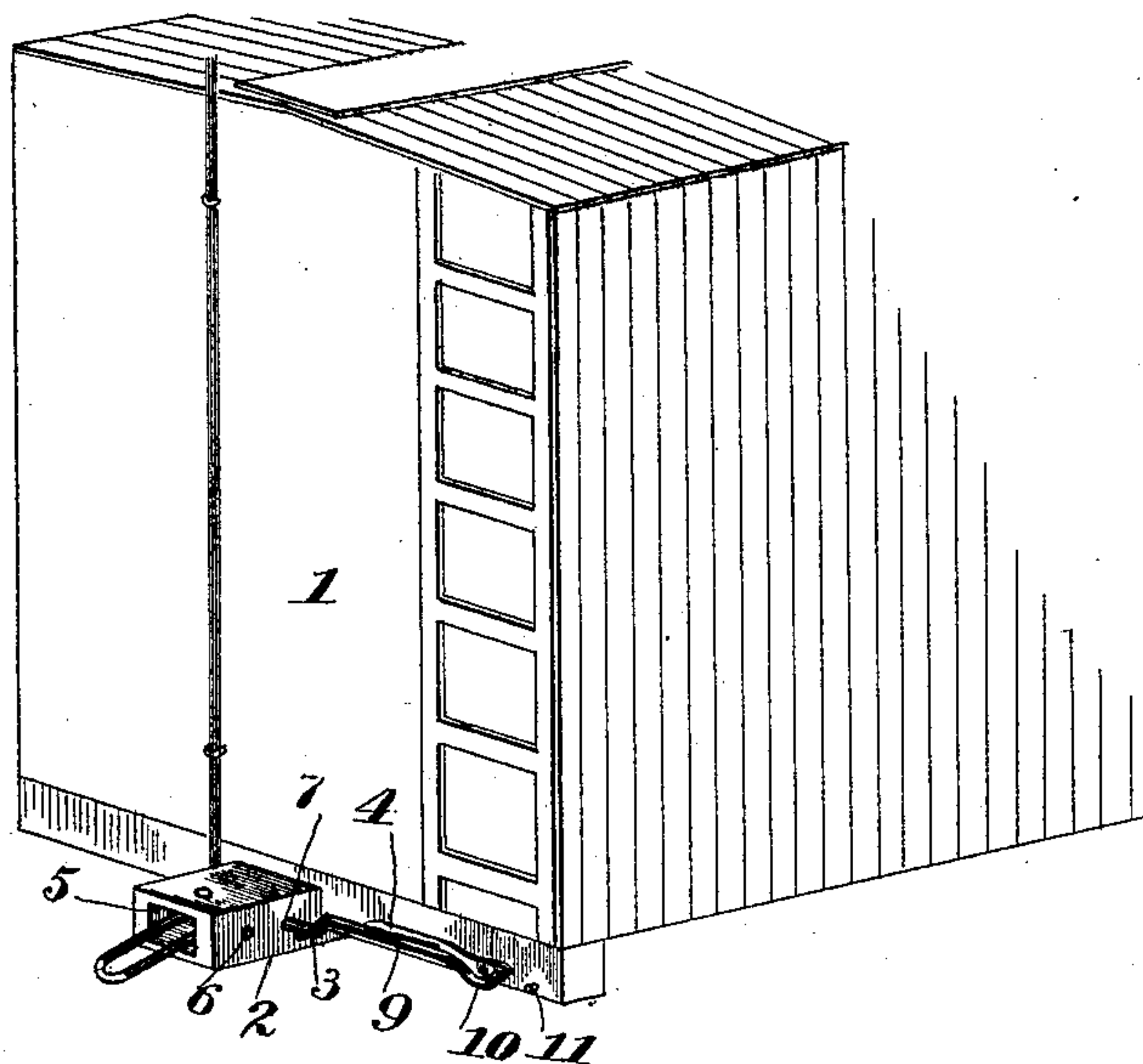


Fig. 2

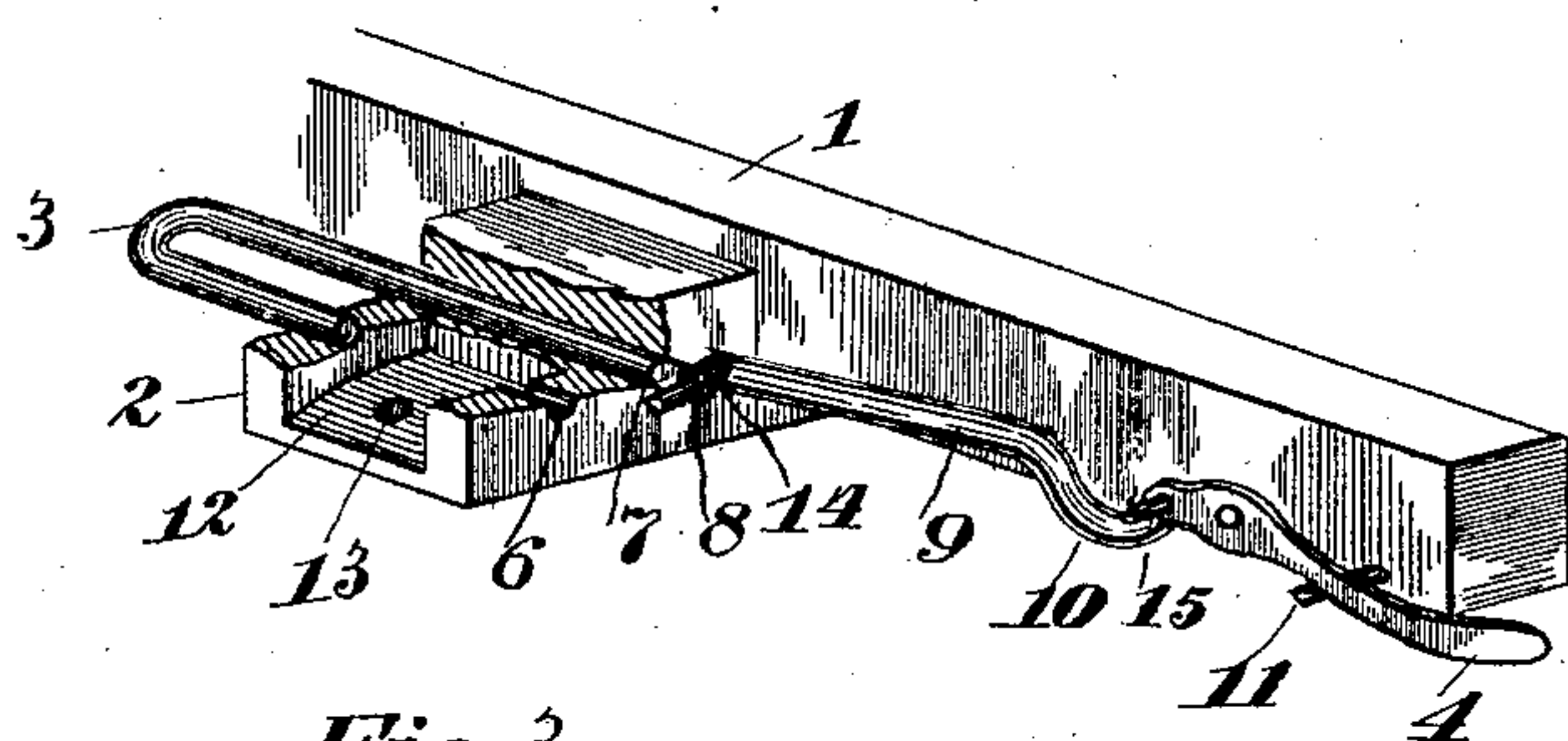


Fig. 3

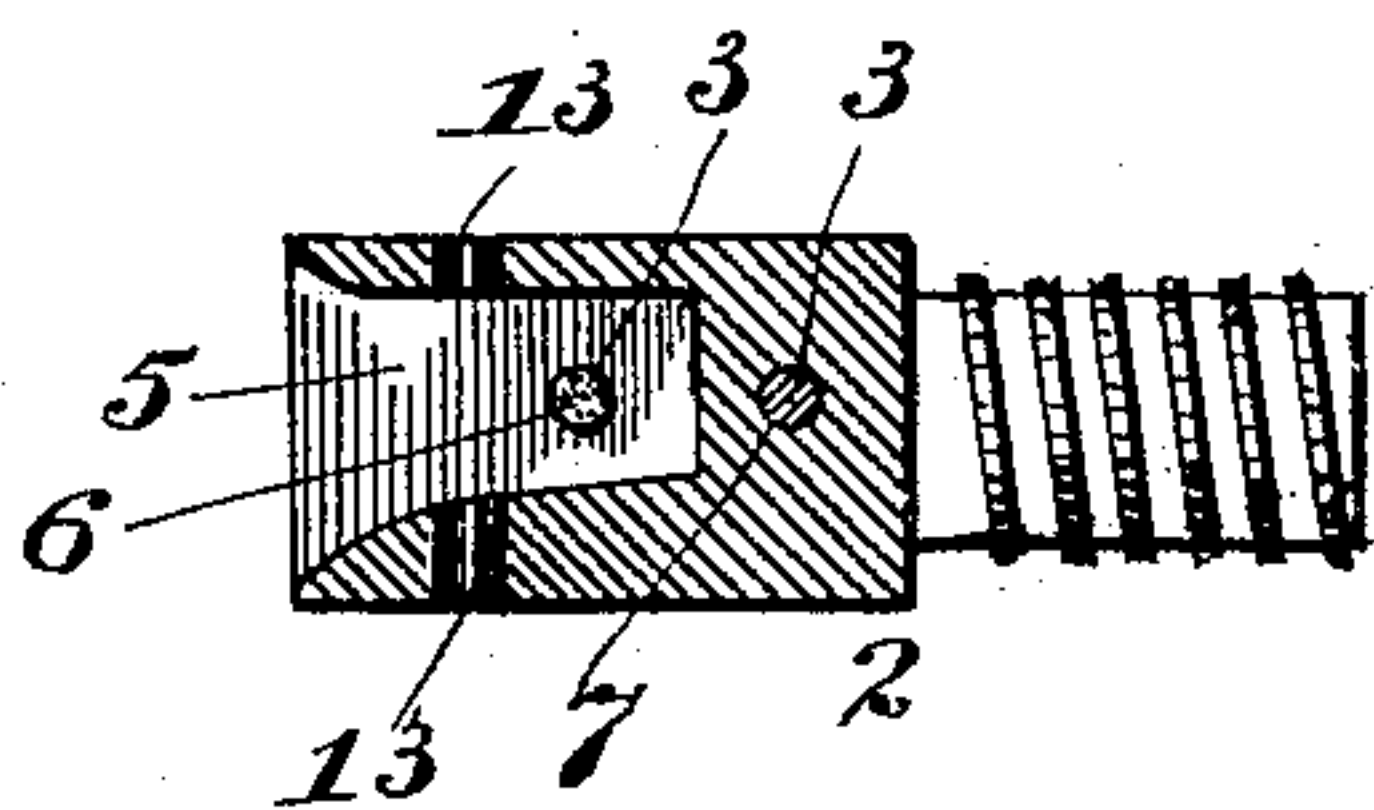


Fig. 5

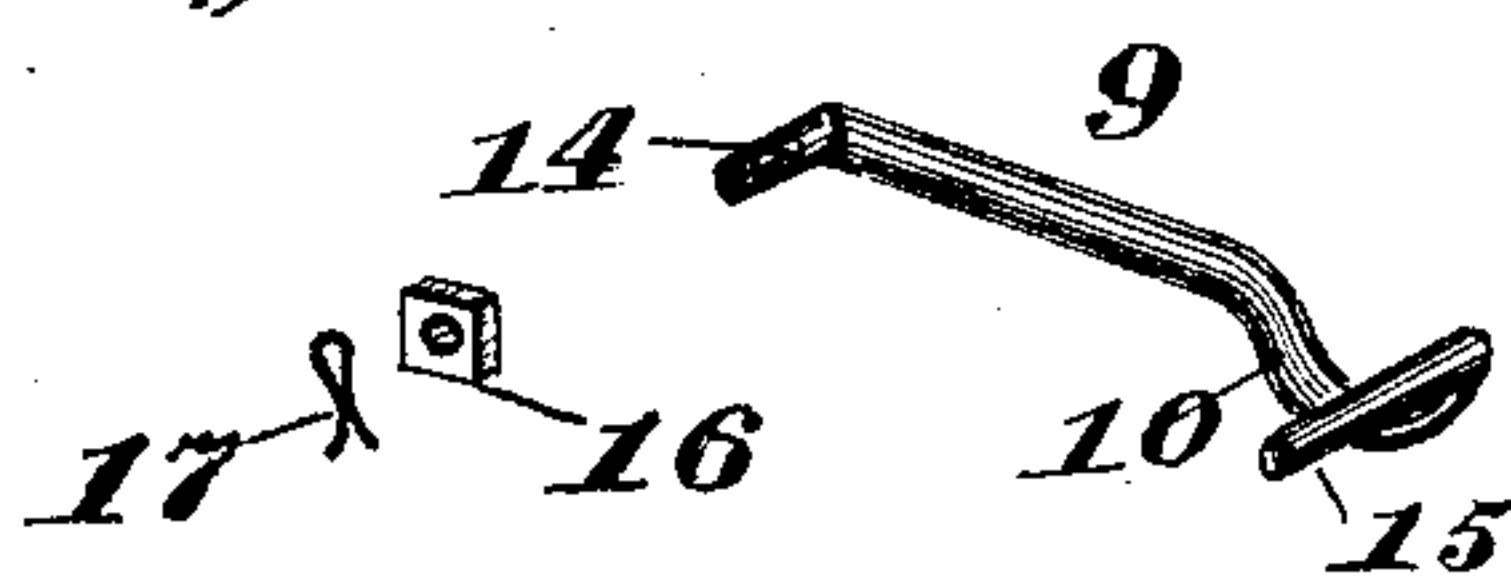


Fig. 4

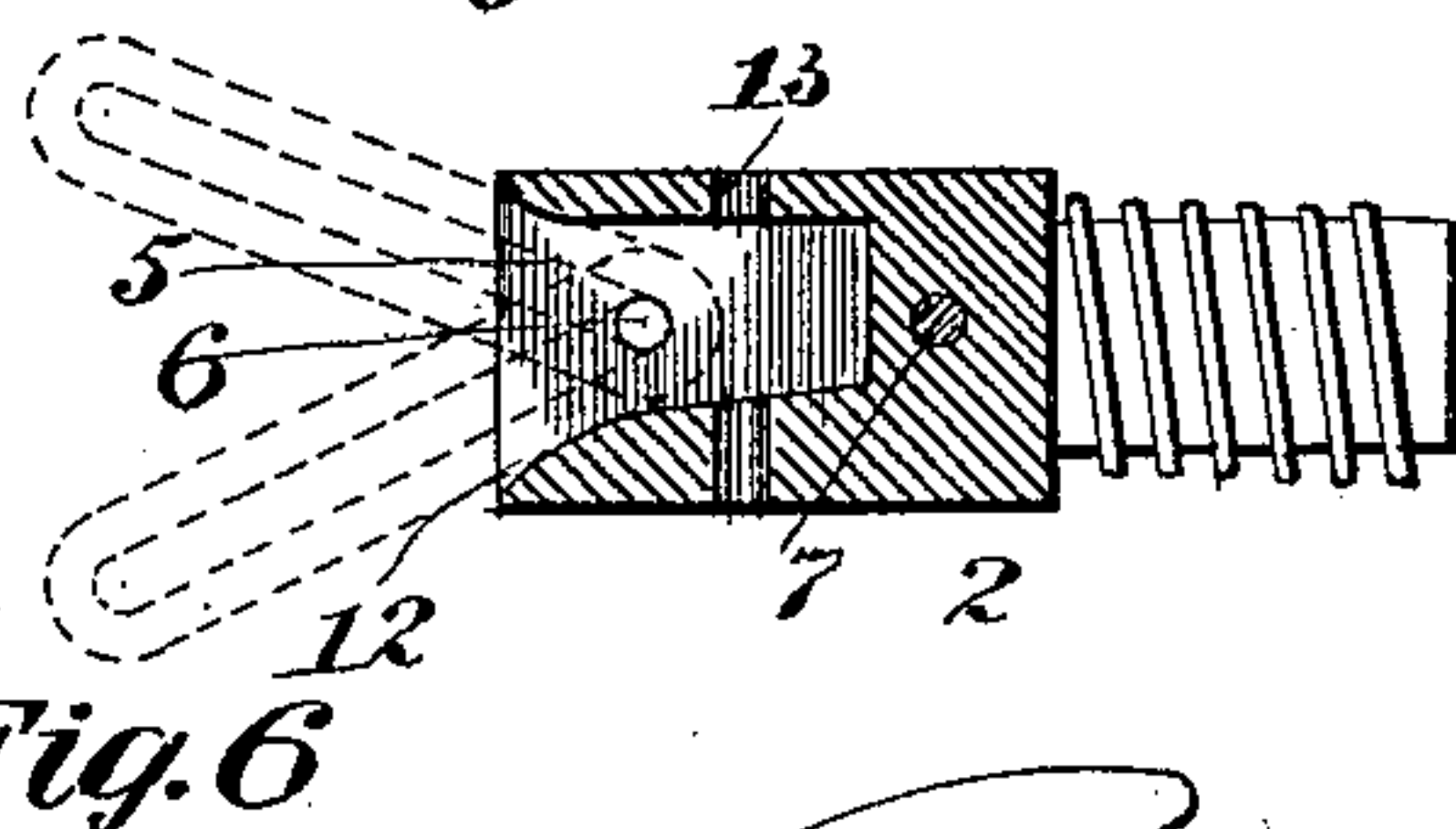
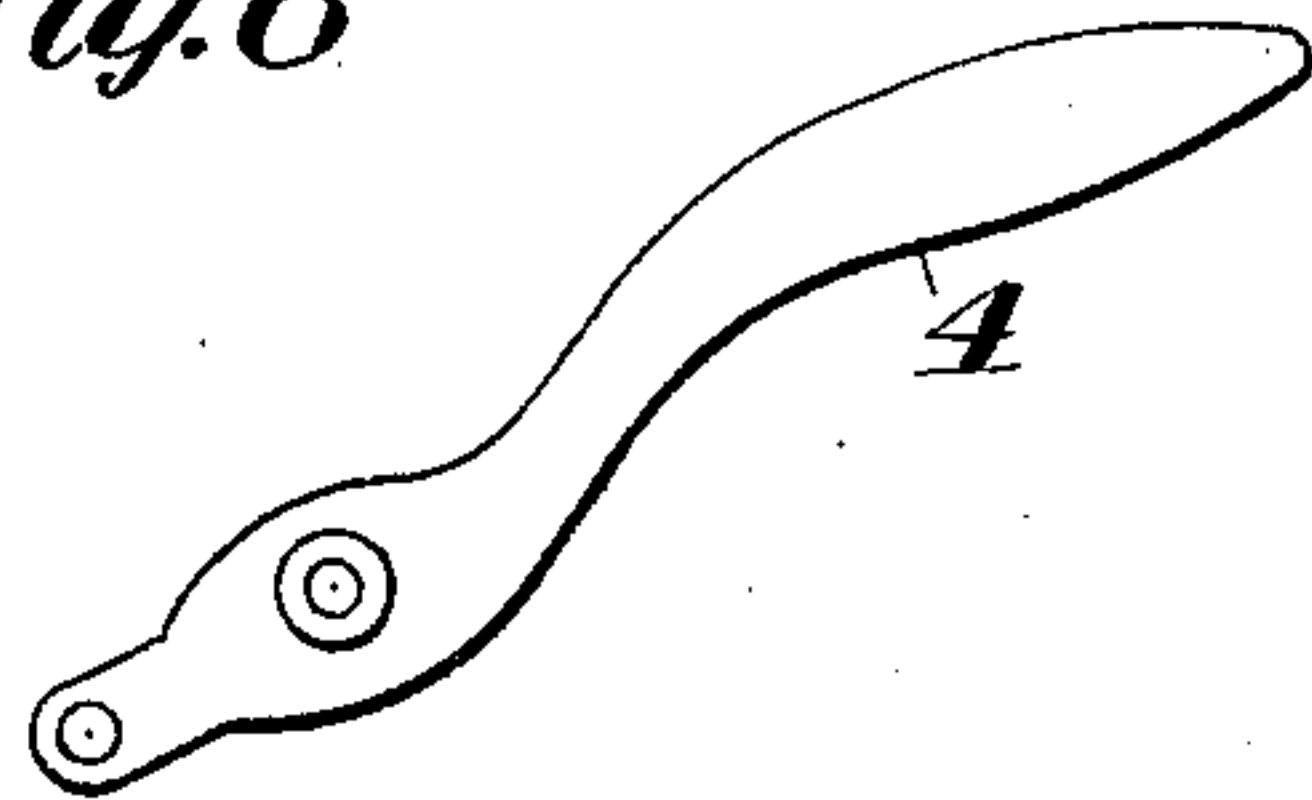


Fig. 6



WITNESSES:

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CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 486,601, dated November 22, 1892.

Application filed September 1, 1892. Serial No. 444,835. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL CLARK NOBLE, a citizen of the United States, residing at Overpeck, in the county of Butler and State of Ohio, have invented certain new and useful Improvements in Car-Couplers; and I do 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, reference being had to the accompanying drawings, and to figures of reference marked thereon, which form a part of this specification.

My invention relates to car-couplers, and has for its object to produce a coupler that can be operated from the side of the car, and also one that can be used in connection with any of the couplers now in use; and it consists in the improved construction of the parts, as will be more fully hereinafter set forth.

Referring to the accompanying drawings, in which the same reference-numerals indicate corresponding parts in each of the views, Figure 1 is a perspective view of the end of a car provided with my improved coupler. Fig. 2 is a broken perspective view, on an enlarged scale, of the coupler. Figs. 3 and 4 are longitudinal sectional views of the draw-head, and Figs. 5 and 6 are detail views.

Referring more particularly to the drawings, 1 indicates the car; 2, the draw-bar; 3, the pin for effecting the coupling, and 4 the lever for operating the pin. The outer end of the draw-bar is provided with the usual recess 5 for the reception of the link, and also with two transverse holes 6 and 7, one of which extends through the bar at the rear of the recess and the other one extends through the side walls of the recess. The upper and lower walls of the draw-bar are beveled or inclined at their outer ends. The draw-bar may be secured to the car in any desired manner, and therefore I have not deemed it necessary to show or describe such fastening more fully.

The pin for effecting the coupling consists of a substantially-U-shaped piece of metal, one arm of which is longer than the other and is formed into or provided with an eye 8, by means of which it is connected with the lever by the link 9. The longer arm of the pin ex-

tends through the hole in the draw-bar to the rear of the recess, and the shorter arm extends through the holes in the walls of the recess. The length of the shorter arm of the pin is such that when it is thrown back, as shown in Fig. 2, its end will be entirely withdrawn from the recess of the draw-bar; but when the coupling is effected it will be projected across the recess and into the hole in the opposite side wall. By having the longer portion of the pin through the solid portion of the draw-bar a good substantial bearing is secured for the pin, whereby it may be moved back and forth without any danger of the shorter arm catching or engaging with the opposite side wall when the coupling is being effected. This bearing of the longer arm of the pin is necessary to permit of the holes in the walls of the draw-bar being made large enough to permit the short arm being moved back and forth even after it has been slightly bent by the severe strains to which it is subjected in starting heavily-loaded trains, and also the accidental bending of its point by being struck by the end of the entering link if the attendant should happen to move the pin too soon.

The lever for operating the link is pivotally secured to one end of the car near the outside, so that it can be operated without the attendant entering between the cars. The link 9, which is connected to the long end of the pin, is pivotally connected to the short end of the lever and is provided with a slight bend or crook 10, which will permit of the lever being thrown inward, so as to draw the link outward without the link engaging the pivotal pin of the lever. In this manner the lever can be made to lock the pin in the draw-bar in either position—that is, either before the coupling is effected or after—as in either case the connection of the link with the lever will be substantially on a line with the pivotal point of the lever and the end of the pin in the draw-bar, thereby forming a dead-center which will prevent the movement of the pin in either direction. The inward movement of the lever is limited by the engagement of the link 9 with the pivotal pin of the lever, and the outward movement of the lever is limited by a pin 11 or other stop, which is

secured to the side of the car and stops the lever when the pin has been forced back so that its short arm is entirely out of the recess in the draw-bar.

5 As above described, it will be seen that my coupling is strong and efficient and that it can be used in connection with other couplings and can also be used in connection with cars of different height. When being used
10 with cars having a draw-bar lower than my coupler, the end of the link from the lower draw-bar will be deflected upward by the inclined surface 12 of the bottom of the draw-bar of my coupler, as shown in Fig. 3, and
15 when being used with a car whose draw-head is higher than my coupler the link from the higher draw-bar will enter the inclined portion of my draw-bar. As soon as the link has entered the recess in the draw-bar the lever
20 is swung upon its pivot, which will draw the short arm of the pin across the recess and into the opening in the opposite wall of the recess, and thus secure the link against removal until the pin has been withdrawn by
25 the outward movement of the lever.

In operation the attendant stands at the side of the car, and by moving the lever in or out, as the case may be, the pin in the draw-bar is moved accordingly, and thus the coupling or uncoupling is effected without any danger of the attendant being caught between the cars, as frequently happens where he is compelled to enter and make the coupling with the ordinary link and pin. Of course
35 each end of the car will be provided with the mechanism shown and described above, and two levers may be used at each end, so that the coupling can be effected from either side of the car.

40 It is evident that other changes may be made without departing from my invention—as, for instance, a rack and gear-wheel may be substituted for the lever for moving the pin back and forth—and therefore I do not wish to limit
45 myself to the exact construction shown.

Having thus described my invention, I claim—

1. In a car-coupler, the combination, with a draw-bar, the outer end of which is provided
50 with a recess and two transverse openings, one of which is through the draw-bar to the rear of the recess and the other is through the

walls of the recess, of a substantially-U-shaped pin, one arm of which is longer than the other one and passes through the opening to the
55 rear of the recess, and means for moving the pin in said openings, substantially as set forth.

2. In a car-coupler, the combination, with a draw-bar, the outer end of which is provided with a recess and two transverse openings, one of which passes through the walls of the
60 recess and the other one passes through the bar to the rear of the recess, of a substantially-U-shaped pin in said draw-bar, a lever pivoted to the side of the car, and a link connecting one end of the lever and the end of the
65 longer arm of the pin, substantially as set forth.

3. In a car-coupler, the combination, with a draw-bar, the outer end of which is provided with a recess and two transverse openings, of a
70 substantially-U-shaped pin in said openings, a lever pivoted to the side of the car, a link connecting one arm of the link with the arm of the lever and provided with a short crook near the connection with the lever, whereby
75 the lever may be swung upon its pivot without the link engaging with said pivot, and a stop on the other side of the pivot for limiting the movement of the lever in the opposite direction, substantially as set forth. 80

4. In a car-coupler, the combination, with a draw-bar, the outer end of which is provided with a recess, the bottom wall of the recess being slightly inclined at its outer end and the upper portion of the bar being cut away,
85 said draw-bar being provided with two transverse openings, one of which passes through the walls of the recess and the other passes through the solid portion of the bar to the rear of the recess, of a substantially-U-shaped
90 pin in said openings, one arm of which is longer than the other and fits snugly in the opening at the rear of the recess and the shorter arm fits loosely in the openings in the wall of the recess, and means for moving the
95 pin back and forth through said openings, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL CLARK NOBLE.

Witnesses:

WM. S. GIFFEN,
STANLEY SHAFFER.