

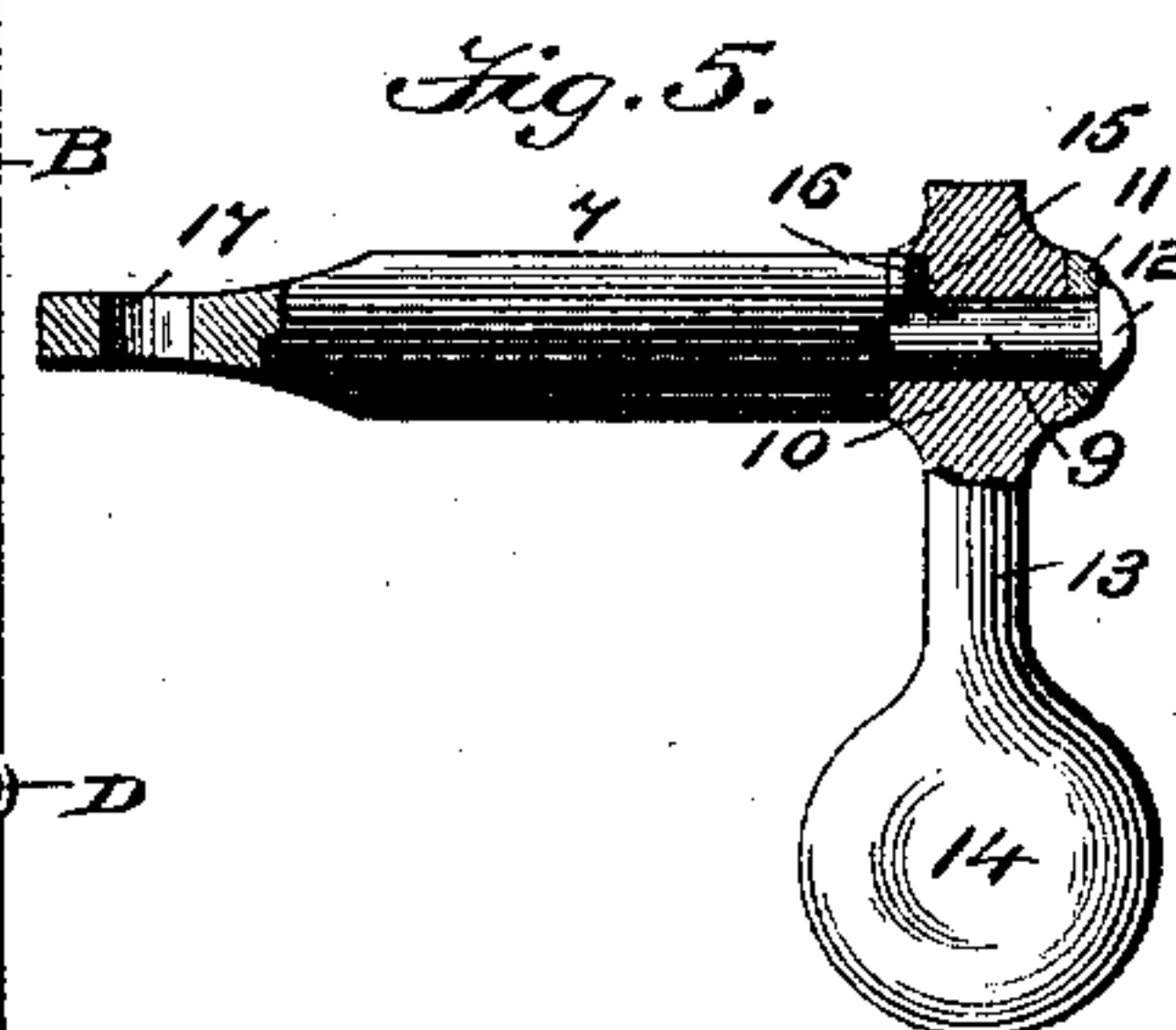
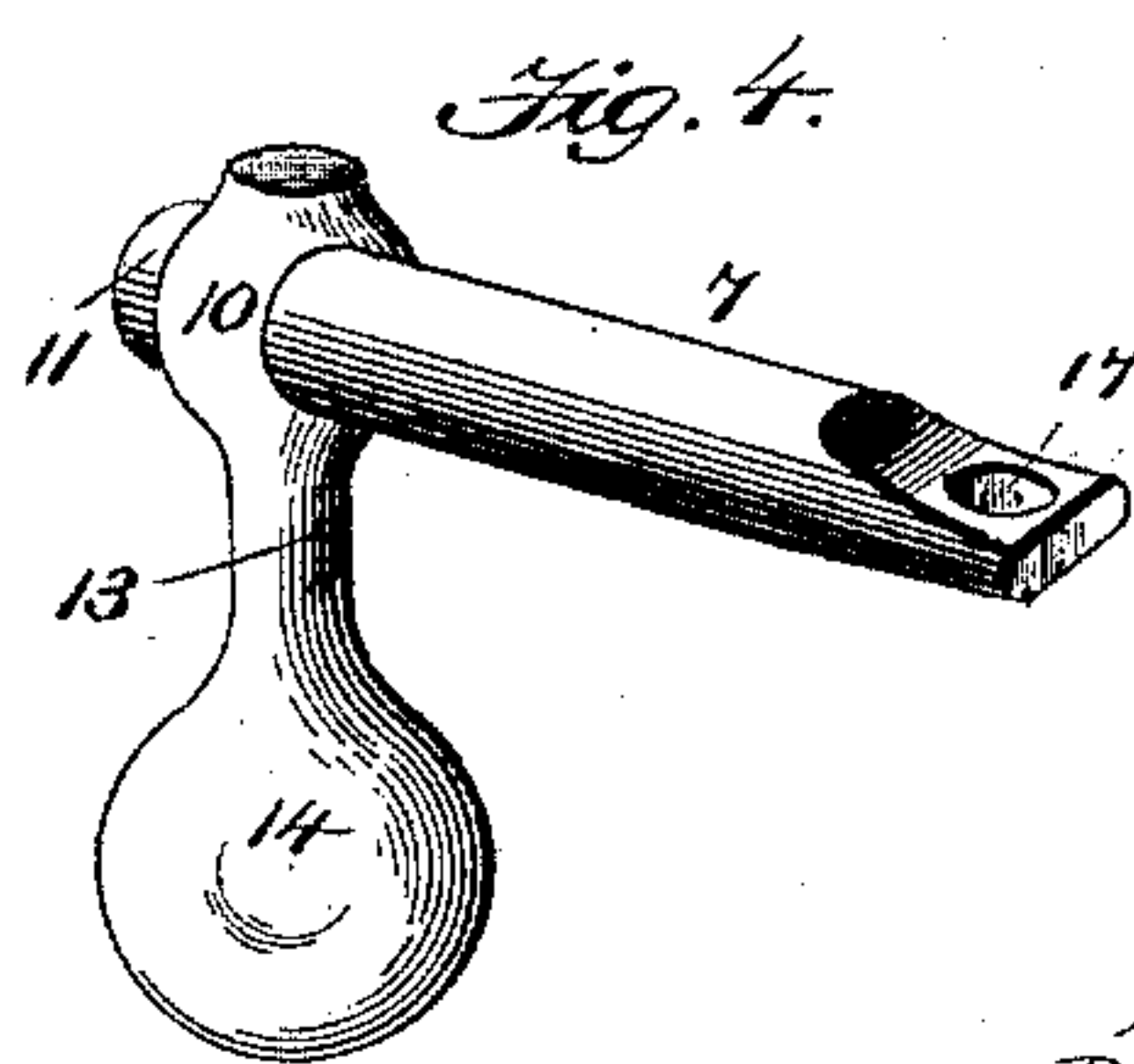
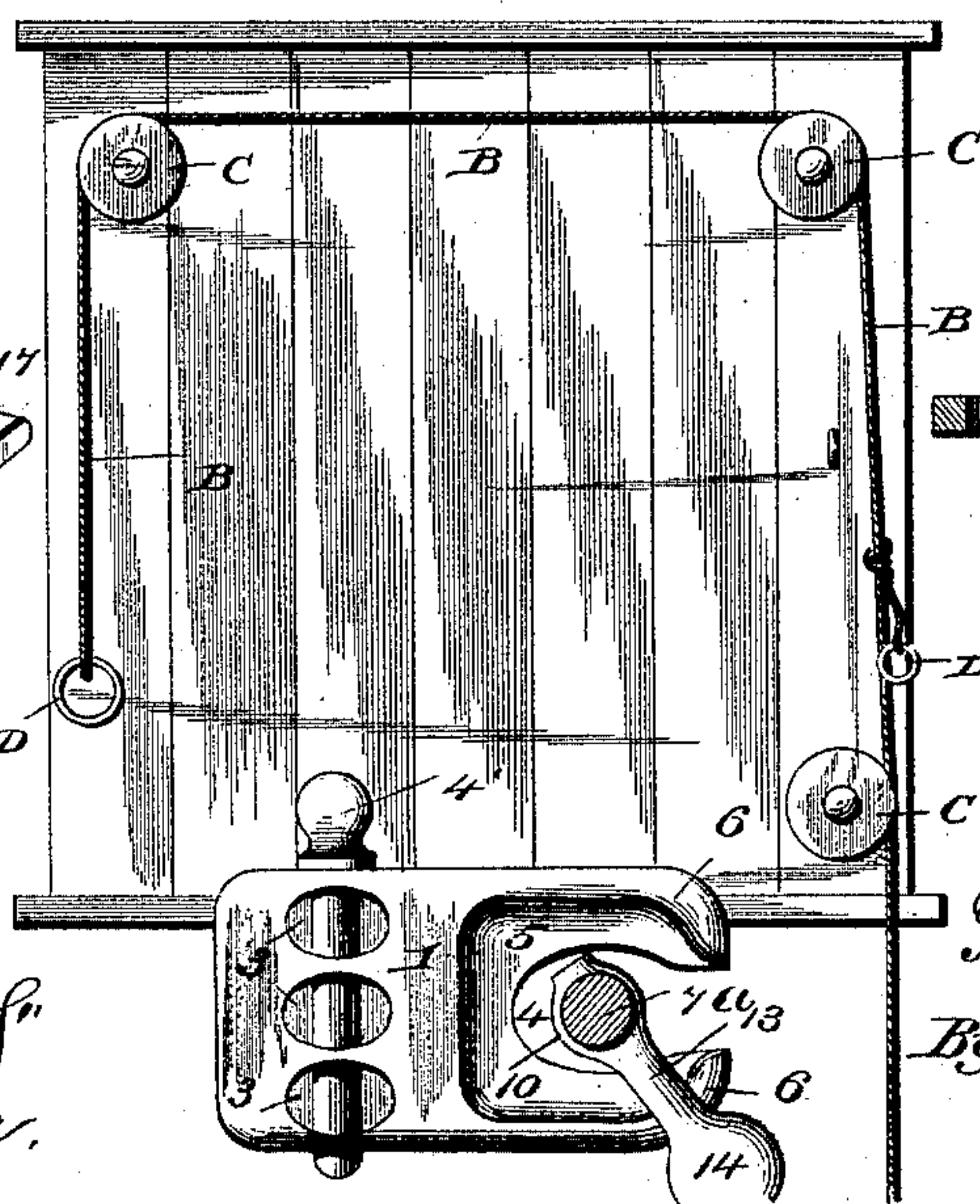
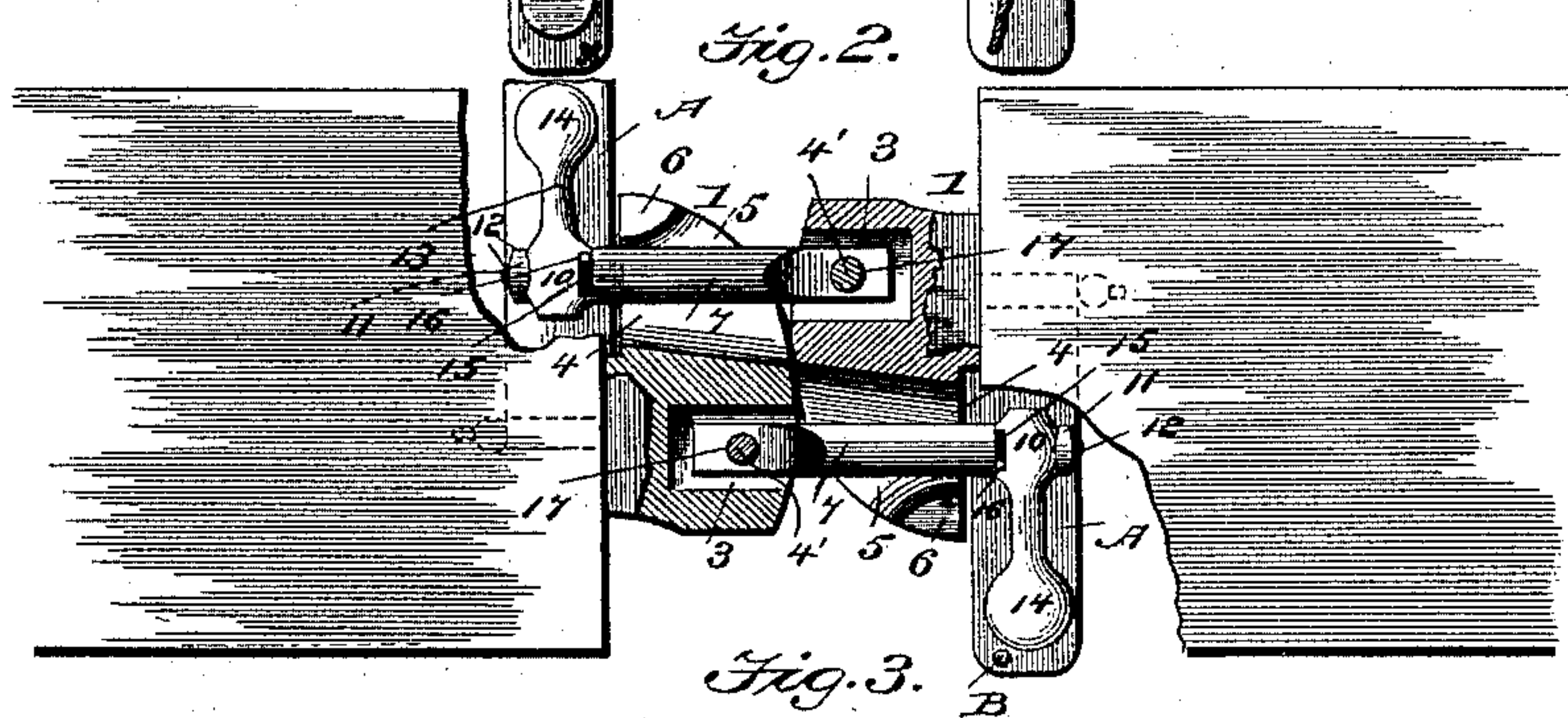
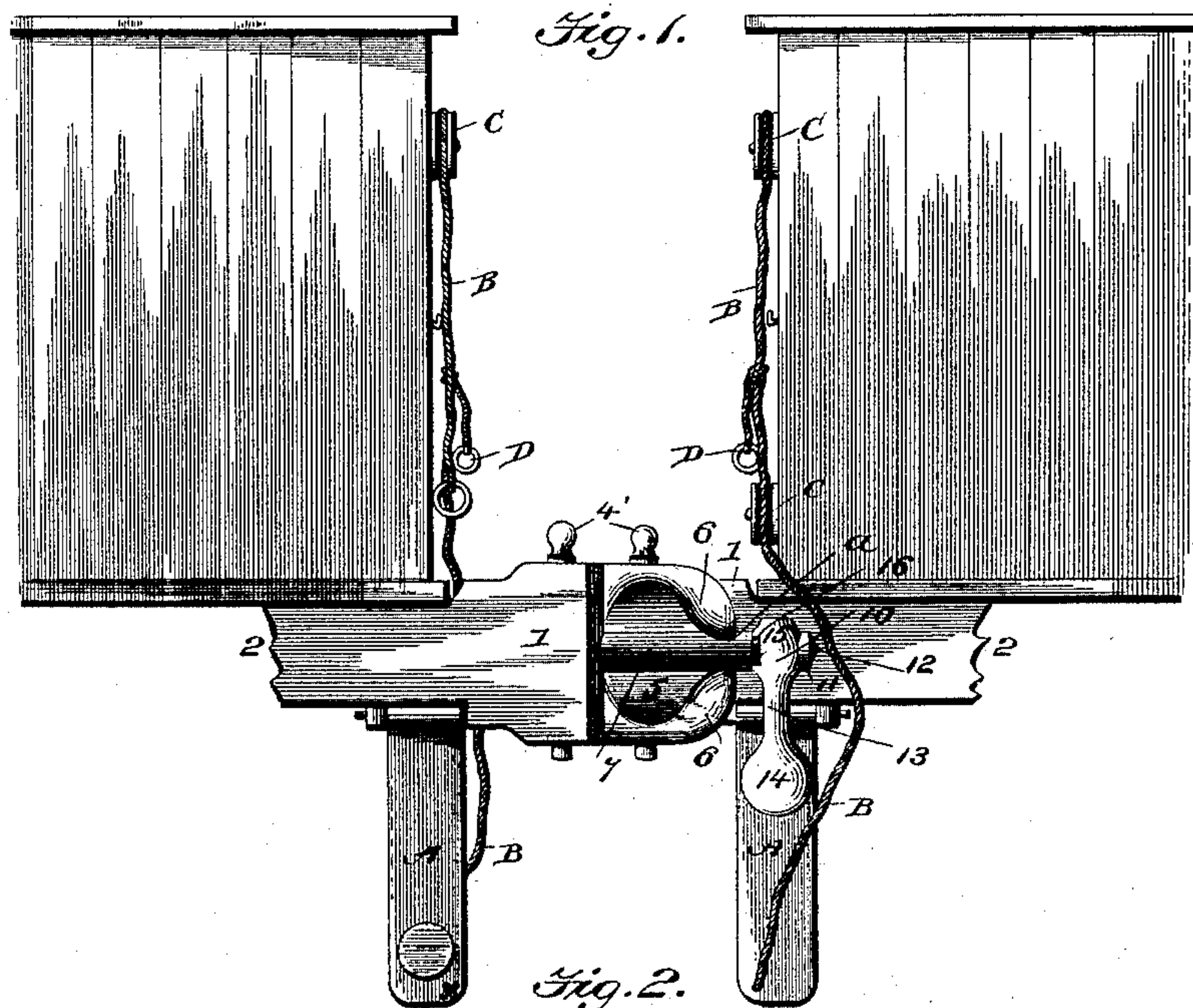
(No Model.)

2 Sheets—Sheet 1.

B. BERNSTEIN.
CAR COUPLING.

No. 476,864.

Patented June 14, 1892.



Witnesses:

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Inventor:

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By *Wm. F. Brereton*
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 6.

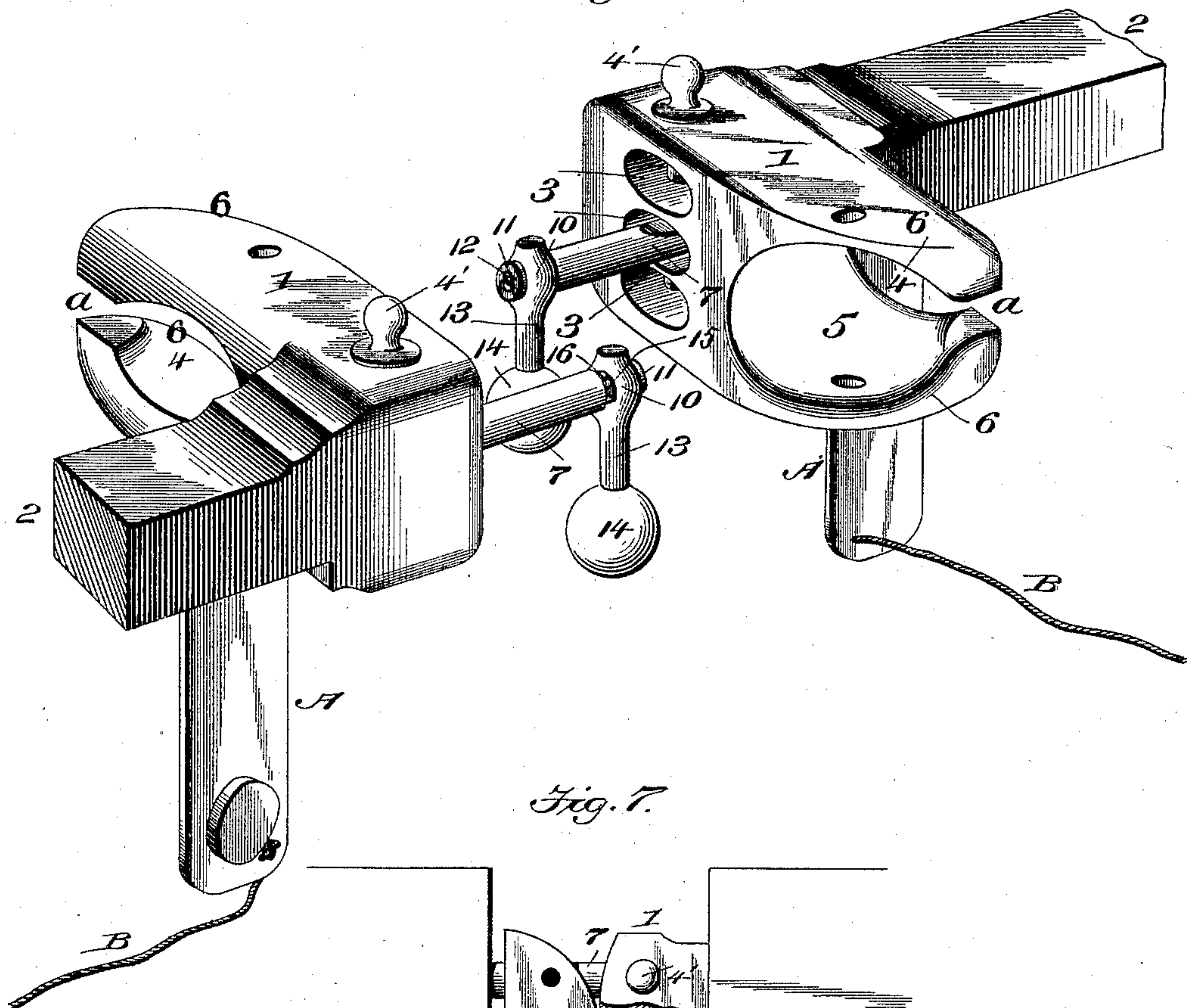
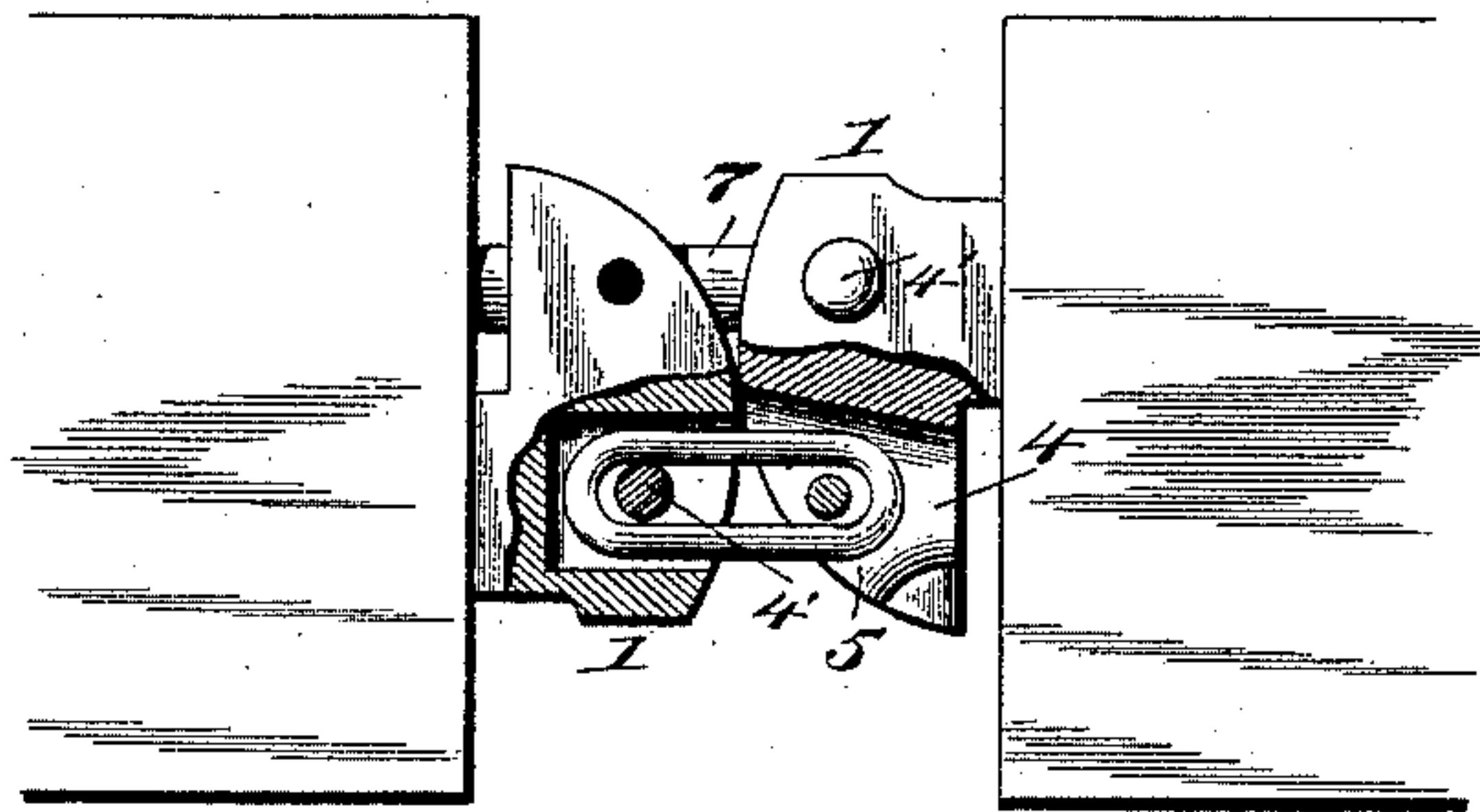


Fig. 7.



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UNITED STATES PATENT OFFICE.

BENNY BERNSTEIN, OF NEW YORK, N. Y.

CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 476,864, dated June 14, 1892.

Application filed November 20, 1891. Serial No. 412,531. (No model.)

To all whom it may concern:

Be it known that I, BENNY BERNSTEIN, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Car-Couplings; 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.

This invention relates to certain improvements in car-couplers, the invention having primarily for its object to provide a coupler which will be automatic in its coupling operations, and secondarily to provide a double-action coupler, the parts of which will have a universal play, which is adapted to cars of different heights and will hold the cars positively connected, so that they cannot become uncoupled accidentally, and which can be used in connection with an ordinary coupling pin and link in case of injury, as more fully hereinafter set forth.

To this end my invention consists in the construction and novel arrangement of the parts of the coupler, as more fully hereinafter explained and specifically claimed.

Referring to the drawings making part of this specification, in which the same reference letters and numerals indicate like parts, Figure 1 represents a side elevation of a portion of two cars provided with my improved coupler, the same being shown as in position when just coupled. Fig. 2 represents a plan view of a portion of two cars, showing the draw-heads partly in horizontal section and the parts as in position when being uncoupled. Fig. 3 represents an end view in illustration of my invention, the swinging weighted arm from an opposite car that effects the coupling of the cars together being shown as in position when entering the mouth of the draw-head. Fig. 4 represents a detached perspective view of an improved coupling-link, forming part of my invention. Fig. 5 represents a view, partly in side elevation and partly in section, of said link. Fig. 6 represents a view in perspective, showing two opposing draw-heads with their coupling devices as in position when about to effect a coupling; and Fig. 7 is a plan view in partial section in illustration of

the coupling when an old form of link is used to replace a broken weighted arm or bar.

Referring to the drawings, the numeral 1 indicates the draw-heads of the coupler, which are secured to or formed upon the draw-bars 2. The said draw-heads are provided upon one side with a series of recesses 3 for the reception of the coupling link or bar, the said recesses being for the purpose of permitting high and low cars to be coupled together without difficulty. The front ends of the heads are also at their side opposite the recesses 3 provided with a flaring mouth 5, having an opening 4 at the rear smaller than the mouth and extending laterally, being opened at one side, as at *a*, forming curved lips 6, for the purpose hereinafter explained. The heads when in place set reversely to each other—that is, the mouth of one extending in an opposite direction laterally to the mouth of the other, as shown in Figs. 2 and 6.

The coupling-links or means for securing the draw-heads together consist of bars 7, formed with reduced portions 9 at their outer end, forming an annular shoulder, on which reduced portion is snugly fitted a sleeve 10, which is held in place by a collar 11 and screw or head 12 or otherwise, as shown in Fig. 5 of the drawings. Dependent from the sleeve and at right angles thereto and forming a part thereof is an arm 13 of somewhat less diameter than the bar 7 on which it swings, having secured to or formed upon its free end a weight 14. The sleeve next to the annular shoulder against which it abuts is provided with a recess 15, into which projects a pin 16, fastened to the contracted portion of the bar 7. This pin 16 is to limit the movement of the sleeve upon the bar, so as to prevent the arm 13 from being thrown above a horizontal position, for the purpose hereinafter explained. The bars 7 at their inner ends are beveled or reduced in thickness and are perforated, as at 17, for the passage of a coupling-pin 4'.

To the lower sides of the draw-bars or draw-heads are hinged flat plates or arms A, to the free end of each of which is attached one end of a rope or chain B, which is passed up over pulleys C and provided with loops or rings D, which may be seized from either side of the car to elevate the plate and raise the weighted

bar 13 to a horizontal position, as shown in Fig. 2, for the purpose of uncoupling.

The faces of the draw-heads are curved in opposite directions to permit lateral play to prevent injury from the oscillation of the cars and at turning curves.

The weighted coupling-bars hang naturally in a vertical position, or nearly so, as shown in Figs. 1 and 6, when the cars are coupled and uncoupled. When two of the draw-heads approach in the act of coupling, the weighted bars ride upon the lower flaring edge of the lips of the mouth of the draw-head, as in Fig. 3, and pass back between the opening between the edges of said lips and drop behind the draw-head, as in Fig. 1. The draw-head will therefore be held together by the pin 4', that extends vertically through the series of recesses 3 and the inner end of bar 7 and the weighted bar 13, resting against the rear edge of the draw-head.

As will be noted, the opening forming the mouth of the draw-head is somewhat larger proportionally than the coupling-bar 7, so as to allow of play of said bar and prevent breakage thereof when coupling, and the perforated end of said bar is also smaller than the recesses 3 into which it fits, so that both vertical and lateral play is permitted to the coupling-bar. The rear opening of the mouth of the draw-head is made smaller than the front and is adapted to the size of the coupling-bar, and the lateral opening or division between the lips is made smaller, being adapted in size to the arm 13, so that said bar 7 cannot escape in a lateral direction from the draw-head, and the accidental jolting of the arm 13 through said opening between the lips is reduced to a minimum.

The draw-heads are made with double-curved lips upon both the top and bottom of the same, so that the draw-heads may be used either side up, and there are no rights or lefts; but so far as the operation of coupling is concerned the top lip may be dispensed with, but I prefer to have the double lips, as shown, with the narrow opening between them so as to prevent the accidental escape of the coupling-arm, and while I have shown the hinged plates for lifting the weighted arms to a horizontal position to uncouple the cars I do not desire to be limited to such, as any other suitable means for lifting the weighted arms may be employed or they may be lifted by hand.

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

1. The combination, in a car-coupler, of the coupling-heads having a recess for the reception of the coupling bar or link and a flaring mouth having curved lips at one side, of the coupling-bars provided with an opening at one end, the coupling-pins, and the dependent weighted arms swinging upon the coupling-bars and adapted to ride upon the surface of the flaring mouth of the draw-heads and pass through the open lips thereof to automatically couple the cars together, substantially as specified.

2. The combination, in a car-coupler, of the coupling-heads having a recess for the reception of the coupling bar or link and a flaring mouth having curved lips at one side, of the coupling-bars provided with an opening at one end, the coupling-pins and the dependent weighted arms swinging upon the coupling-bars and adapted to ride upon the surface of the flaring mouth of the draw-heads and pass through the open lips thereof to automatically couple the cars together, and means for elevating the dependent weighted arms to uncouple the draw-heads, substantially as specified.

3. The combination, with the coupling-bars having contracted forward ends, of the recessed sleeves and dependent weighted arms, and the pins fastened in said contracted portion, and extending into recesses in the sleeves to limit the movement of the sleeves and prevent the weighted arms from being lifted above a horizontal position, substantially as specified.

4. The combination, in a car-coupler, with the draw-head having flaring mouth with rearwardly and upwardly curved lower lip, and opening at the rear, of the coupling-bar with swinging weighted arm at its front, said arm adapted to ride upon the curved lip of the mouth of the draw-head and enter the draw-head to automatically couple the same.

5. The combination, in a car-coupler, with the draw-head having flaring mouth with curved lips and rear and lateral openings, of the coupling-bar with swinging weighted arm, the bar of larger diameter than the arm, and the lateral opening of the draw-head of less diameter than the bar, substantially as and for the purposes specified.

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

BENNY BERNSTEIN.

Witnesses:

SAMUEL LISBERGER,
WM. H. BRERETON.