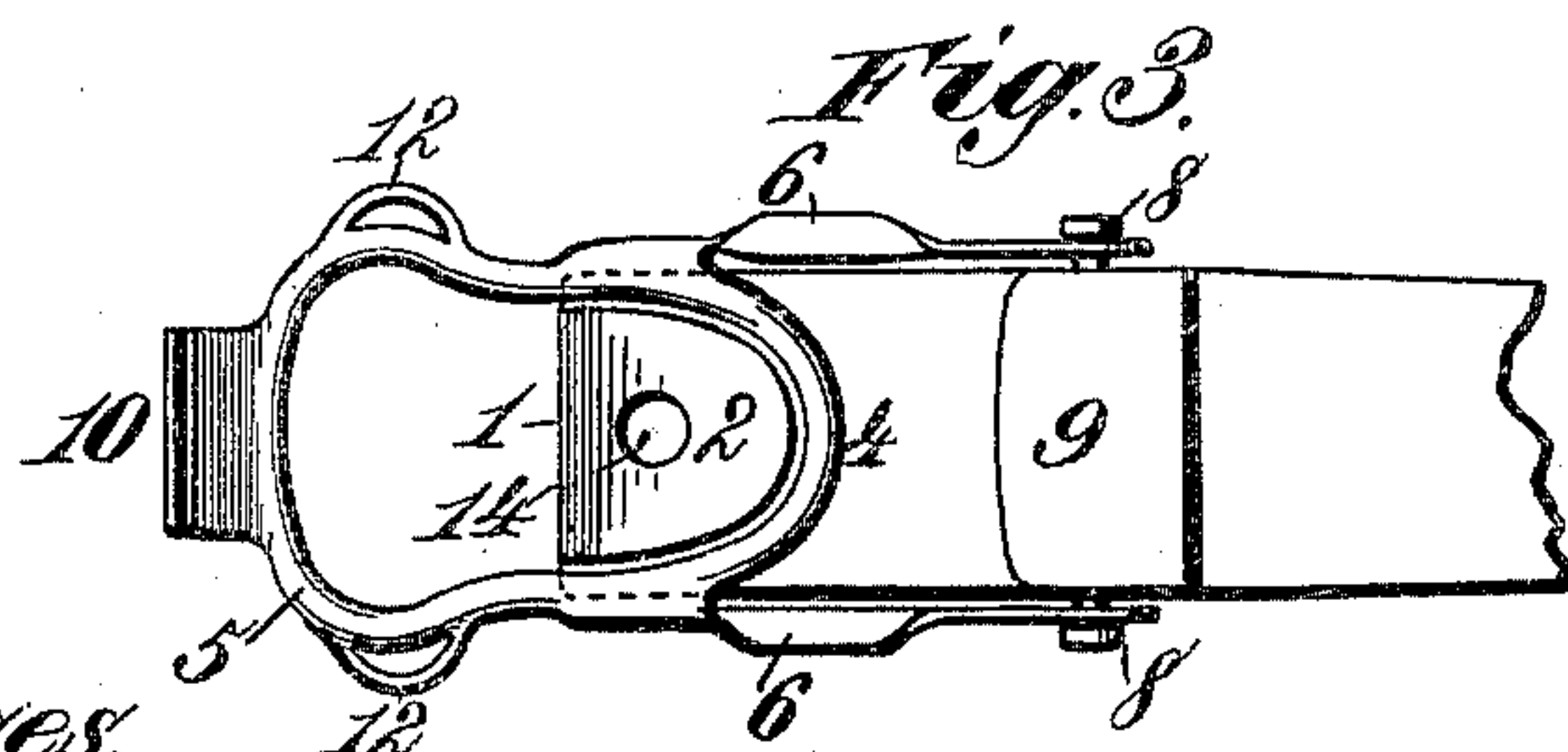
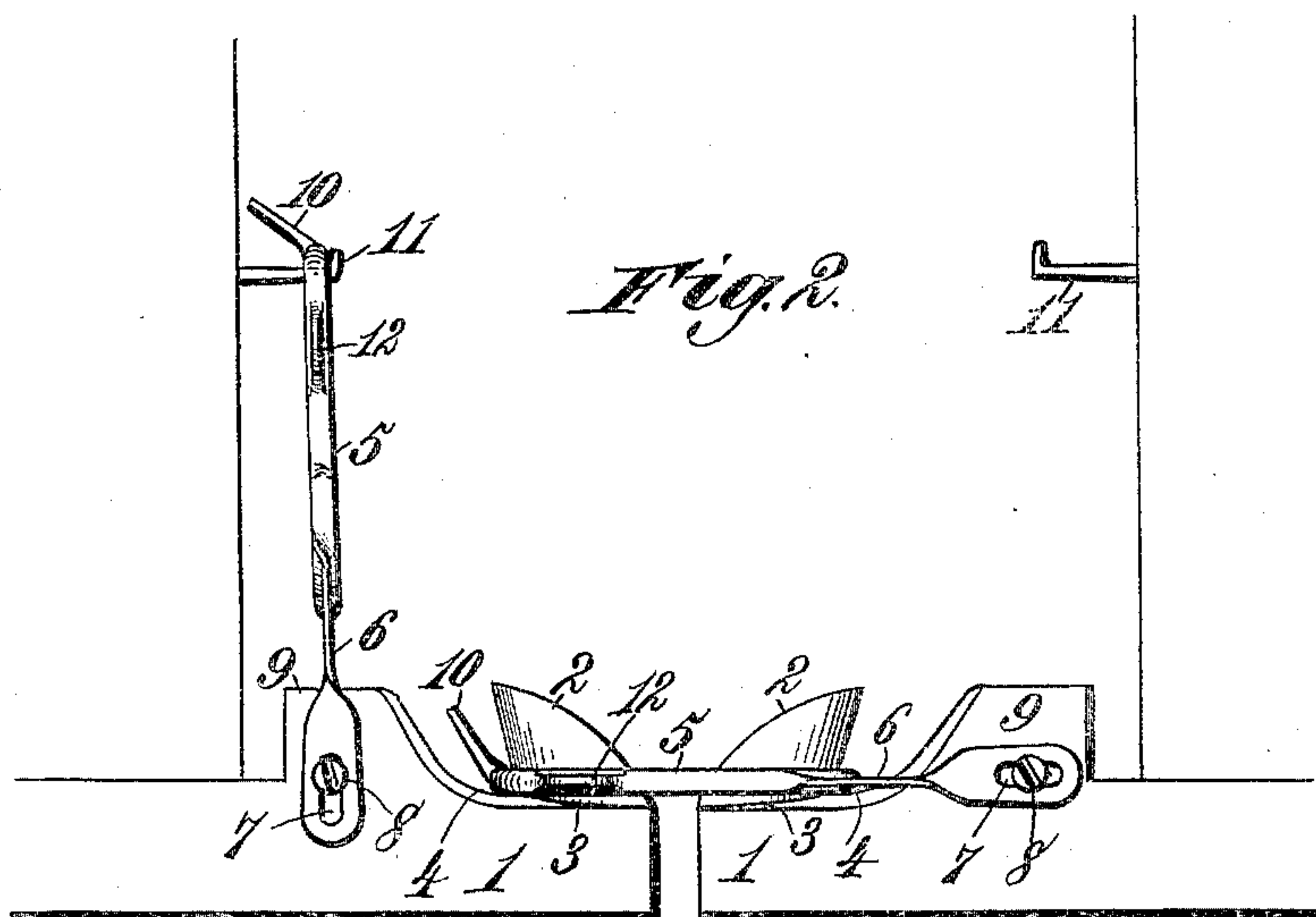
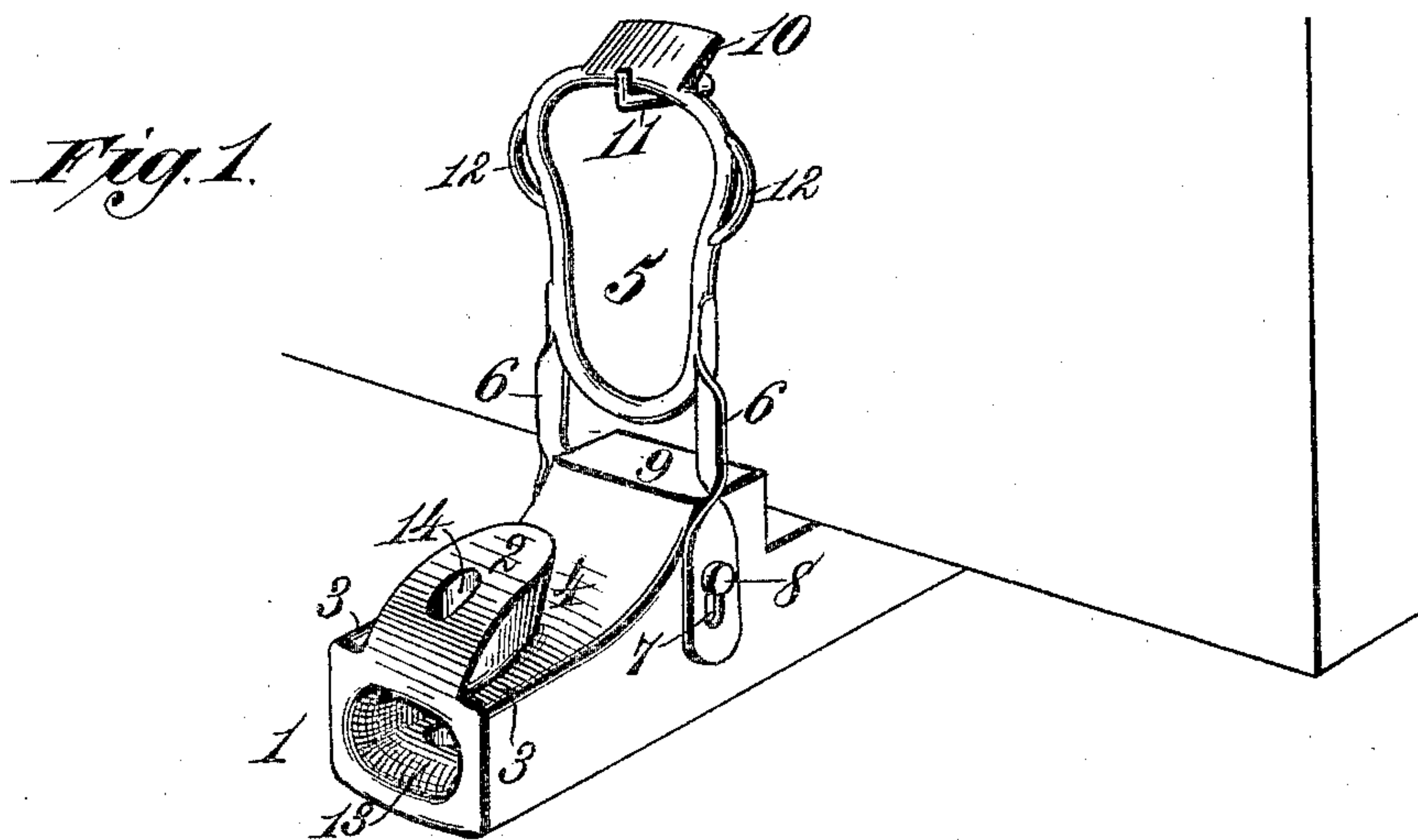


(No Model.)

E. J. LEMON.  
CAR COUPLING.

No. 467,421.

Patented Jan. 19, 1892.



Witnesses.

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# UNITED STATES PATENT OFFICE.

ELI JEREMIAH LEMON, OF DALLAS, TEXAS, ASSIGNOR OF ONE-HALF TO  
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## CAR-COUPLING.

SPECIFICATION forming part of Letters Patent No. 467,421, dated January 19, 1892.

Application filed September 14, 1891. Serial No. 405,642. (No model.)

*To all whom it may concern:*

Be it known that I, ELI JEREMIAH LEMON, a citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented new and useful Improvements in Car-Couplings, of which the following is a specification.

The object of my invention is to provide an improved automatic car-coupling of simple, durable, and effective construction that will permit the necessary longitudinal and lateral play of the coupling-link to correspond with inequalities of the track, facilitate the turning of curves, and enable the coupling to accommodate itself to draw-heads of unequal height.

My invention consists in the combination, with a draw-head having on its upper side a transverse notch or recess in rear of a vertical horn provided with a rounded rear surface and a beveled front face, of a hinged link adapted to engage in the recesses in rear of the horns of two opposing draw-heads in bearing contact with the rounded rear surfaces of said horns, said link being provided at one end with an inclined lip to guide the link up and over the inclined front face of the horn on the opposing draw-head and at its other end with flexible spring-arms having slots, by which they are pivotally connected with journals or pivots on the draw-head and by which said link will be allowed to have a free lateral, longitudinal, and vertical play, both draw-heads being provided with similar hinged links, either of which can be hooked up out of the way against the end of the car when not in use, and said draw-heads being also adapted for use with the ordinary pin-and-link coupling when it is necessary to couple with a car that is not fitted with my improved automatic coupling devices.

My invention further consists in the construction, combination, and relative arrangement of parts in an automatic car-coupling, as hereinafter more fully set forth.

In the annexed drawings, illustrating the invention, Figure 1 is a perspective of a draw-head provided with my improved automatic coupling devices. Fig. 2 is a side view showing portions of two cars coupled and the inactive link hooked up against the end of

the car. Fig. 3 is a plan of my improved car-coupling.

Referring to the drawings, the numeral 1 designates a draw-head having on its upper side and at its end a vertical horn or lug 2, the sides and rear of which are rounded to conform somewhat to the rounded end of an approximately elliptical hinged link, hereinafter described. On each side of the horn 2 is a ledge 3, on which the sides of the link near its end are adapted to rest when the link is in a horizontal position. In rear of the horn 2 is a notch or recess 4, that is continuous with the ledges 3 and receives the end of the link when the latter is in bearing contact with the lower rear portion of the horn. The upper rear portion of the horn 2 projects rearward and overhangs the notch or recess 4 sufficiently to prevent the link from being jolted out of place when engaged with the opposite draw-head.

The approximately elliptical link or coupling-loop 5 is provided at one end with flexible spring-arms 6, that may be welded or otherwise secured to said link. These arms 6 are preferably made of spring-steel and may be each formed with a twist, as shown, or otherwise, so that adjacent to the link they will have flat horizontal portions, which will yield in a vertical direction to permit a vertical play of the link to accommodate itself to the unequal height of draw-heads and to roughness and inequalities of the track, while the flat vertical portions of said spring-arms facilitate lateral play of the link and afford the proper position and space for location of slots 7, that engage pivots or journals 8, by which the link is hinged to the draw-head. The pivots 8 may be secured in the base of a vertical projection or enlargement 9 on the top of the draw-head at the rear of the notch or recess 4, in which the end of the link is received when in operative position. By hinging or pivoting the link in this manner by means of the slotted spring-arms 6 and their pivots 8, the link is permitted to have a free longitudinal play, as well as the play laterally and vertically hereinbefore described, to avoid the strains incident to the movements of the cars.

On the free end of the link 5 is an upward



and forwardly inclined lip 10, corresponding with the upward beveled or rounded face of the horn or lug 2 on the front of the draw-head, so as to facilitate the automatic engagement of said link with the horn or lug on the opposing draw-head when two cars are brought together in the act of coupling. The free end of the link 5 is preferably somewhat wider than its hinged or pivoted end, so that it will readily engage the horn of the opposing draw-head and have sufficient lateral or angular play in turning curves.

Each draw-head of a coupling made according to my invention is provided with a hinged link 5 of the character above described, though only one is employed at the same time in coupling two adjacent cars, the inactive link meanwhile being thrown back and held out of the way in engagement with a hook 11 on the end of the car. In bringing the link 5 into engagement with the hook 11 or disengaging it therefrom the slots 7 in the hinged spring-arms 6 are of service in permitting the link to be readily lifted over said hook. While either link 5 is thus suspended on its hook 11 it will remain inoperative and permit the draw-heads to be connected by the other link or by any suitable and convenient means. On each side of the link 5, at or near its free end, may be secured a hand-hold 12 to facilitate manipulation of the link in the operation of uncoupling, which is effected by simply raising and throwing back the hinged link while the draw-heads are in contact.

In the end of each draw-head is the usual cavity 13 for reception of an ordinary coupling-link and its engagement with the usual vertically-movable coupling-pin passed through a vertical hole or passage 14 to permit coupling with foreign cars, or those not provided with the above-described automatic devices.

The construction of the hinged link with its inclined lip to ride easily up and over the inclined face of the horn on the opposing draw-head and the laterally, vertically, and longitudinally yielding spring-arms, with their slotted ends pivoted to the draw-head and imparting such flexibility to the link that it can readily adjust itself to rough or uneven tracks and to differences in the elevation of the draw-heads, are obvious advantages in a coupling of this character, which is also simple, durable, and comparatively inexpensive, having no complicated parts to become disarranged and impair its efficiency.

What I claim as my invention is—

1. In a car-coupling, the combination, with a draw-head having on its top a vertically-projecting horn or lug, of a link provided with spring-arms pivoted to the draw-head, whereby the said link, when engaged with the op-

posing draw-head, is allowed free lateral, vertical, and longitudinal play, substantially as described.

2. In a car-coupling, the combination, with a draw-head having on its top a vertically-projecting horn or lug, of a hinged link provided with laterally, vertically, and longitudinally yielding spring-arms pivoted to the draw-head, whereby said link is adapted to automatically engage a horn or lug on the opposing draw-head and have free lateral, vertical, and longitudinal play, substantially as described.

3. In a car-coupling, the combination, with a draw-head having on its top a notch or recess and a vertically-projecting horn or lug having an inclined or beveled front face and rounded sides and rear, of a hinged link having laterally, vertically, and longitudinally yielding spring-arms provided with slots to engage journals or pivots on the draw-head, whereby said link is adapted to engage a correspondingly-formed opposing draw-head, substantially as described.

4. In a car-coupling, the combination, with a draw-head having on its top a notch or recess and a vertically-projecting rearward-inclined horn or lug having an inclined or beveled front face and rounded sides and rear, of an automatic hinged link having an inclined lip at its free end and provided at its other end with laterally, vertically, and longitudinally yielding spring-arms slotted and pivotally connected to the draw-head, whereby said link is adapted to automatically engage the recess and horn of the opposing draw-head, substantially as described.

5. In a car-coupling, the combination of a draw-head having the rearwardly-inclined horn or lug 2 and recess 4, the link 5, provided with inclined lip 10, the laterally, vertically, and longitudinally yielding arms 6, having slots 7, and the pivots 8, substantially as described.

6. In a car-coupling, the combination of the draw-head 1, provided with horn 2 and notch or recess 4, the hinged link 5, having hand-holds 12, the slotted spring-arms 6, and the pivots 8, substantially as described.

7. In a car-coupling, the combination of the draw-head 1, having the horn 2, the hinged link 5, the spring-arms 6, provided with slots 7, the pivots 8, and the hook 11, substantially as described.

In testimony whereof I have hereunto set my hand and affixed my seal in presence of two subscribing witnesses.

ELI JEREMIAH LEMON. [L. S.]

Witnesses:

ALBERT WILLIAM REMNITZ,  
EMMETT CHAMBERS.