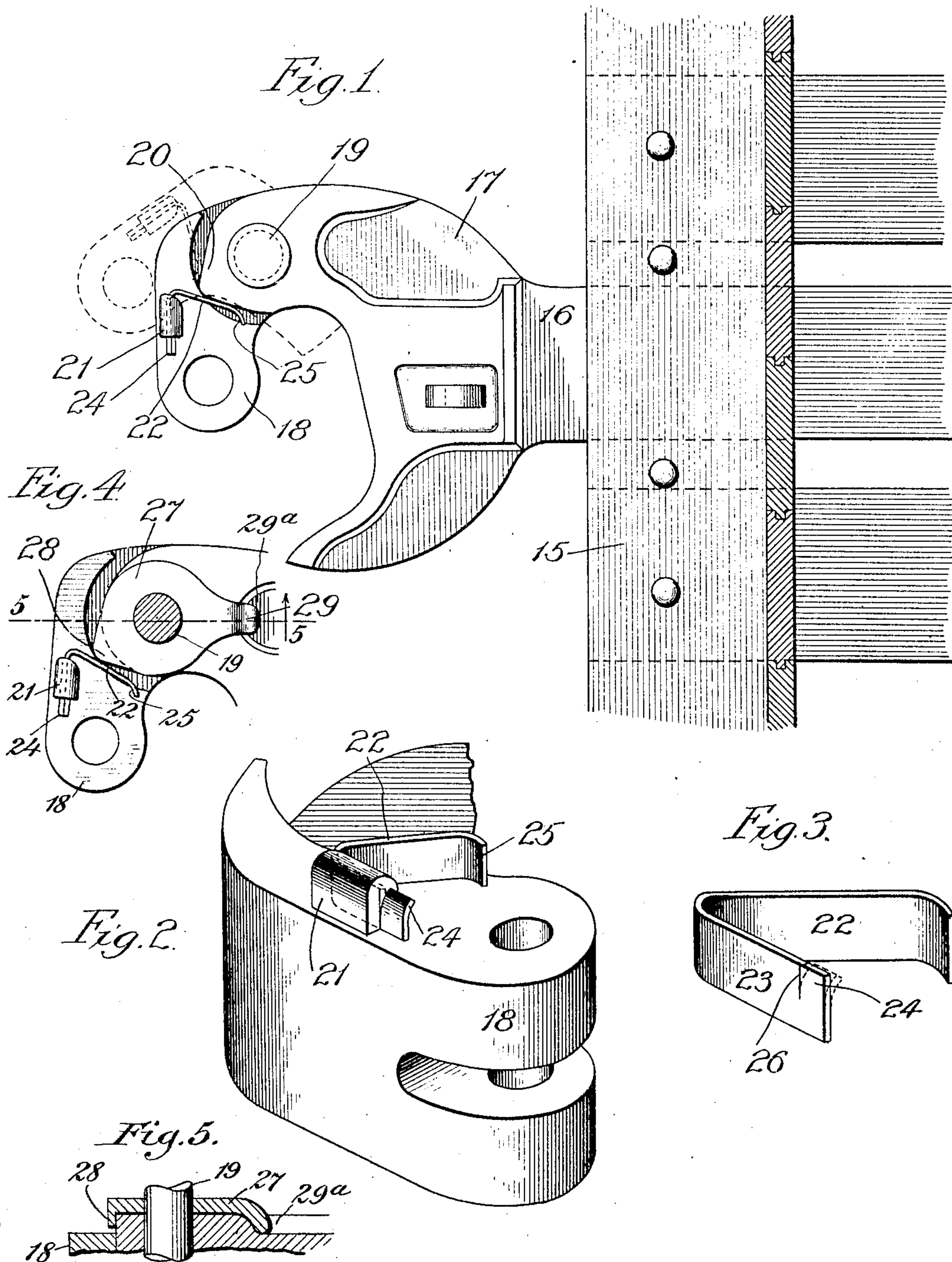


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CAR COUPLING.

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906,515.

Patented Dec. 15, 1908.



Witnesses:

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# UNITED STATES PATENT OFFICE.

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## CAR-COUPLING.

No. 906,515.

Specification of Letters Patent.

Patented Dec. 15, 1908.

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*To all whom it may concern:*

Be it known that I, CHARLES DIETZ, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Car-Couplers, of which the following is a specification.

The object of my invention is to provide an improved car coupler.

More particularly it is my object to provide a coupling head of the Master Car Builders' type that shall have means to hold the knuckle in a desired position.

Still another object is to provide a fastening device for holding a leaf-like member in a slot.

My invention resides in means for carrying out all these objects and in the details thereof, as will more fully appear from the following specification and claims taken in connection with the accompanying drawing, in which—

Figure 1 is a plan view of my improved coupler. Fig. 2 is a perspective view of the knuckle thereof; and Fig. 3 is a perspective view of a detail. Fig. 4 shows a modification. Fig. 5 is a section taken on the line 5, 5 of Fig. 4, looking in the direction of the arrow.

The coupler head 17 has the general form of the Master Car Builders' type and is carried by the draw-bar 16, which passes under the end sill 15 of the car. The knuckle 18 is pivoted in the coupling head by the bolt 19.

The coupling head 17 has a projection 20, which overhangs the knuckle and constitutes a cam, the purpose of which will be presently explained. The knuckle 18 has cast integrally therewith on its upper surface a lug 21 with a flat slot extending there-through. A leaf spring 22 is bent in the shape clearly indicated in the drawings, one end 23 being adapted to pass through the slot in the lug 21. A slit 26 is cut part way across near the end of the leaf spring, as indicated by the reference numeral 26, and the part 24 beyond the slit 26 is bent slightly to one side. The purpose of this will be explained later. The other extremity of the leaf spring 22 is bent slightly, as indicated by the reference numeral 25.

When the coupler is engaging an opposed coupler on another car the knuckle will have the position shown in full lines in Fig. 1. At

this time the extremity 25 of the leaf spring 22 will press with a moderate degree of force against one side of the cam 20. When the knuckle is unlocked and opened the end 25 of the leaf spring will sweep across the cam face 20 over the projecting part thereof, thus bending the leaf spring 22 and putting it on a greater tension. But when the knuckle is swung wide open, as indicated by the dotted lines in Fig. 1, the end 25 of the leaf spring will go past the projecting part of the cam 20 to the other side thereof and the spring 22 will be relaxed somewhat from the extreme compression which it experienced just as the part 25 passed over the extreme projecting part of the cam 20. Thus it will be seen that to shift the knuckle from one extreme position to the other necessitates successive compression and expansion of the spring 22. It therefore follows that the spring will tend to hold the knuckle in either of its two extreme positions.

The part 24 is bent aside, as described, before the spring 22 is inserted in the projecting lug 21. While retaining the elasticity to resume the bent position, it may be straightened up enough to slip the end 23 of the leaf spring through the slot in the lug 21. As soon as the part 24 projects clear through the end of the slot it will be snapped over to one side and prevent the spring from being withdrawn. It is obvious that this structure for retaining the spring 22 in place might be employed in other connections.

In Figs. 4 and 5 I have illustrated a modification by which my invention may be applied to old coupling heads. In this modification the cam 28 corresponding to the cam 20 in Fig. 1 is made detachable. It hangs down from a plate 27 which is bolted in place by the pivot pin. A tongue 29 reaches across the top face of the coupler head and ends in a depression 29<sup>a</sup> thereon, thereby preventing rotation of the plate 27. Thus it will be seen that by applying this plate 27 to old coupling heads and substituting a knuckle with my spring attached thereto, my invention can be employed without substitution of any other parts.

I claim:

1. A car coupler having a pivoted knuckle, a leaf spring for holding the knuckle in position, a slotted member through which the spring projects, and a transverse slit extend-



ing partly across one side of the projecting end of the spring, the part beyond the slit being bent to one side.

2. A car coupler having a pivoted knuckle, 5 a lug projecting upwardly from the top of said knuckle and having a vertical slot through it, a leaf spring having one end fastened in said slot, and a cam on the coupler adapted to engage the other end of said 10 spring.

3. A car coupler having a pivoted knuckle, a leaf spring lying on top of said knuckle, means for securing one end of said spring in fixed relation to the knuckle, and a cam on 15 the coupler projecting partially over the said knuckle, said cam being adapted to engage the other end of said spring.

4. A car coupler having a pivoted knuckle, a leaf spring lying on top of said knuckle,

means to hold one end of said spring in fixed 20 relation to the knuckle, a detachable member adapted to fit over the coupler and having a cam projecting above the knuckle, said cam being adapted to engage the other end of said spring, and a knuckle pin pivotally unit- 25 ing the coupler and the knuckle and also passing through said member.

5. A car coupler having a pivoted knuckle, a leaf spring attached by one end to said knuckle, and a detachable co-acting cam on 30 the coupler, said cam having a hole therein through which the knuckle pin passes and also having non-rotative engagement with the coupler.

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Witnesses:

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