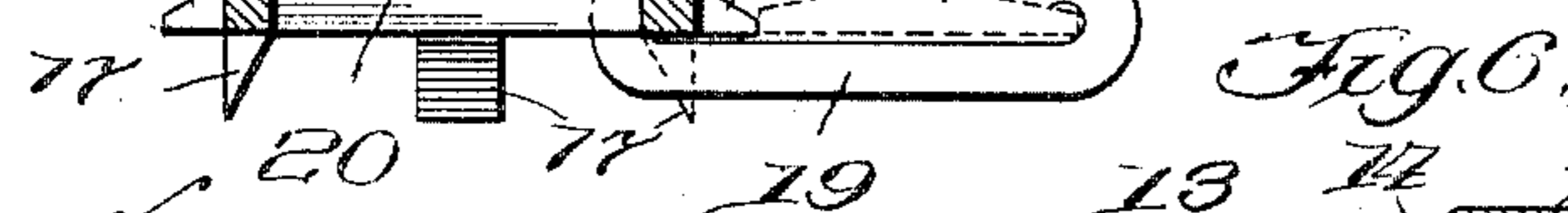
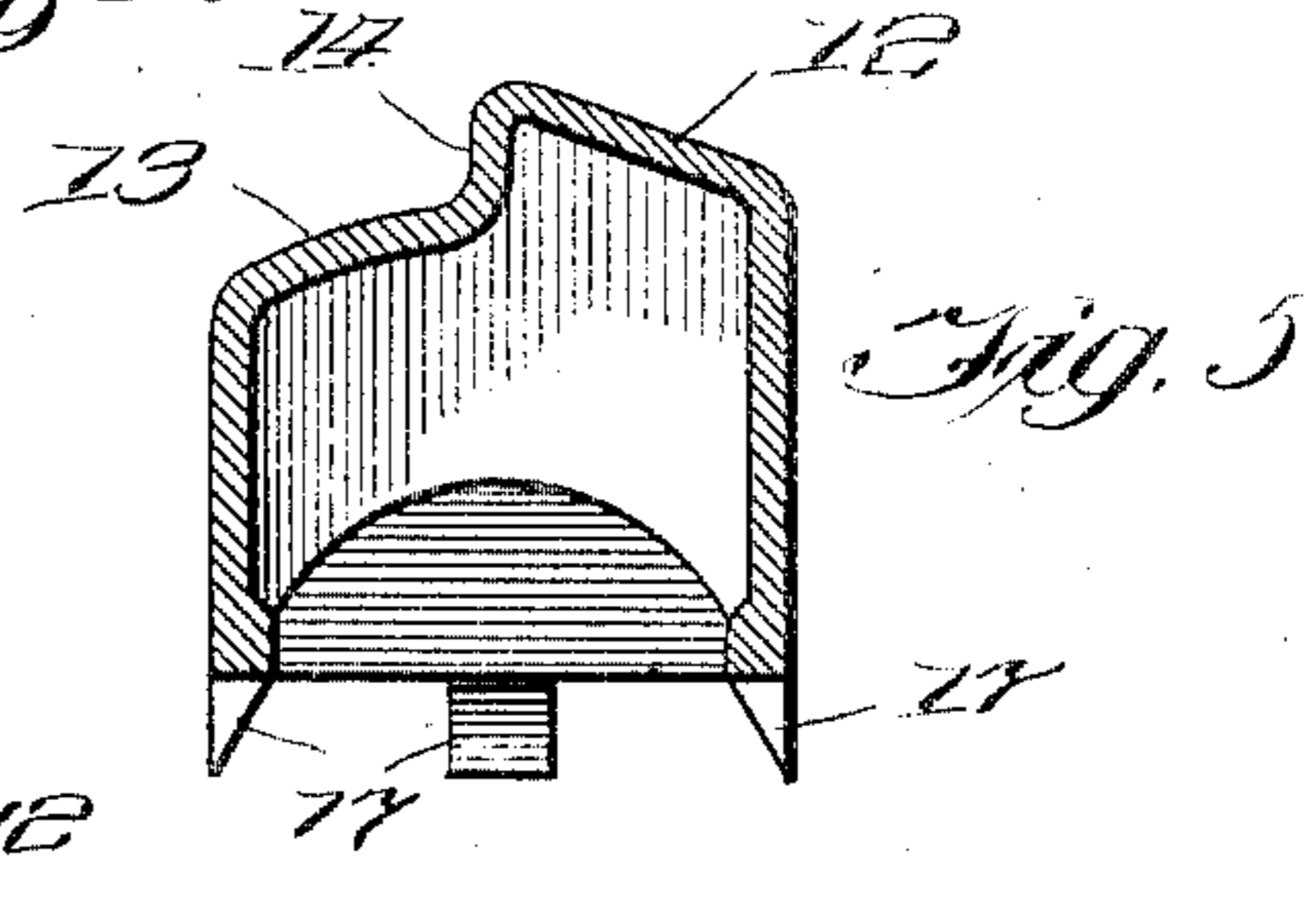
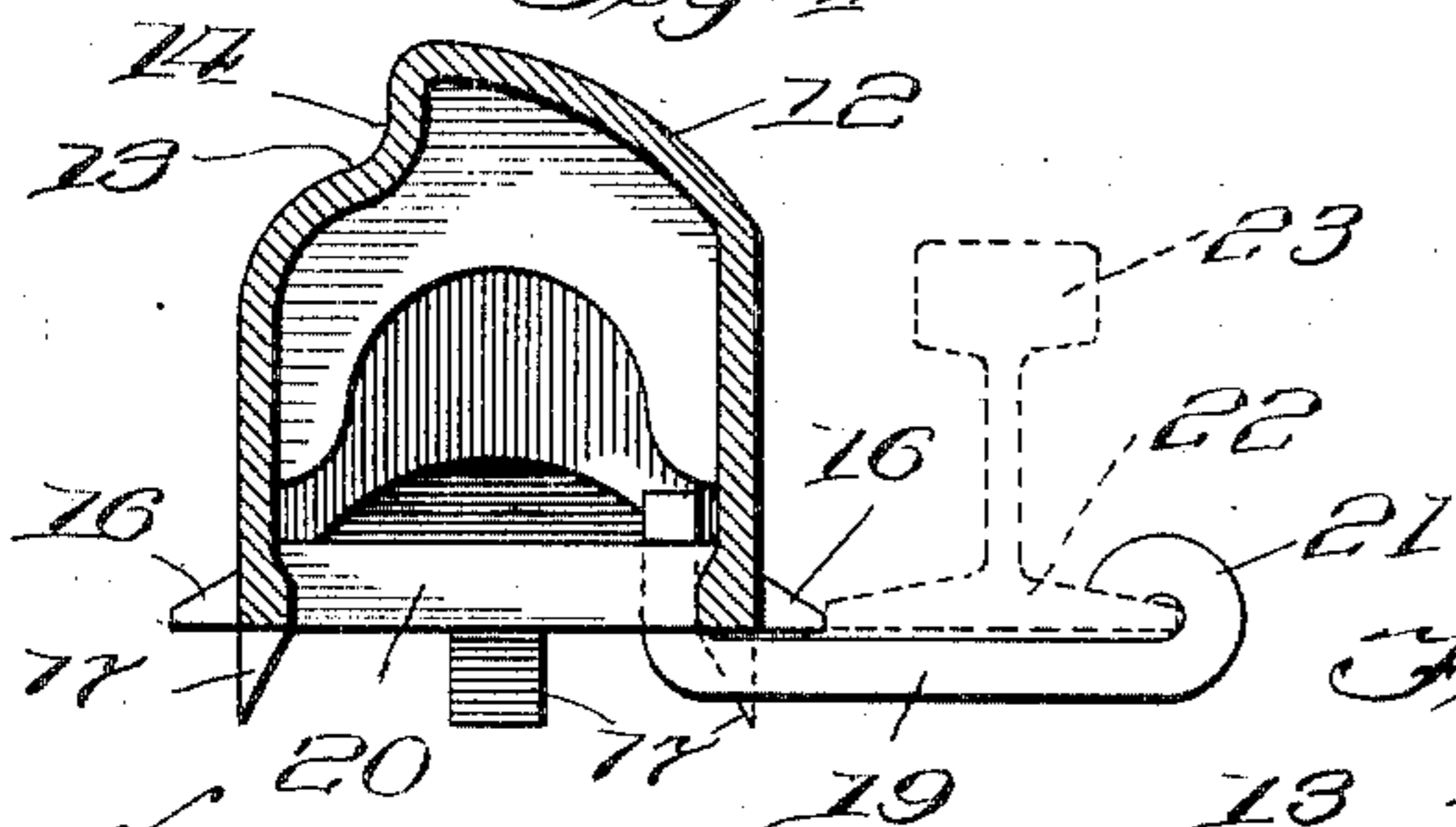
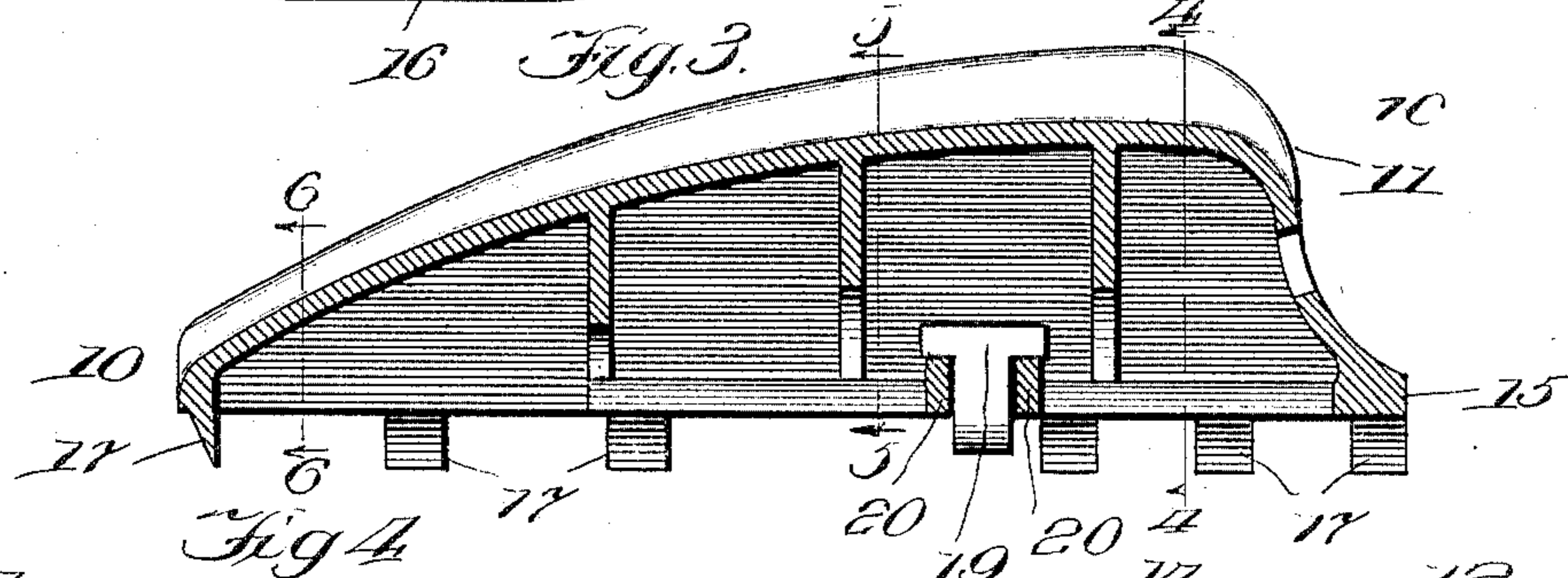
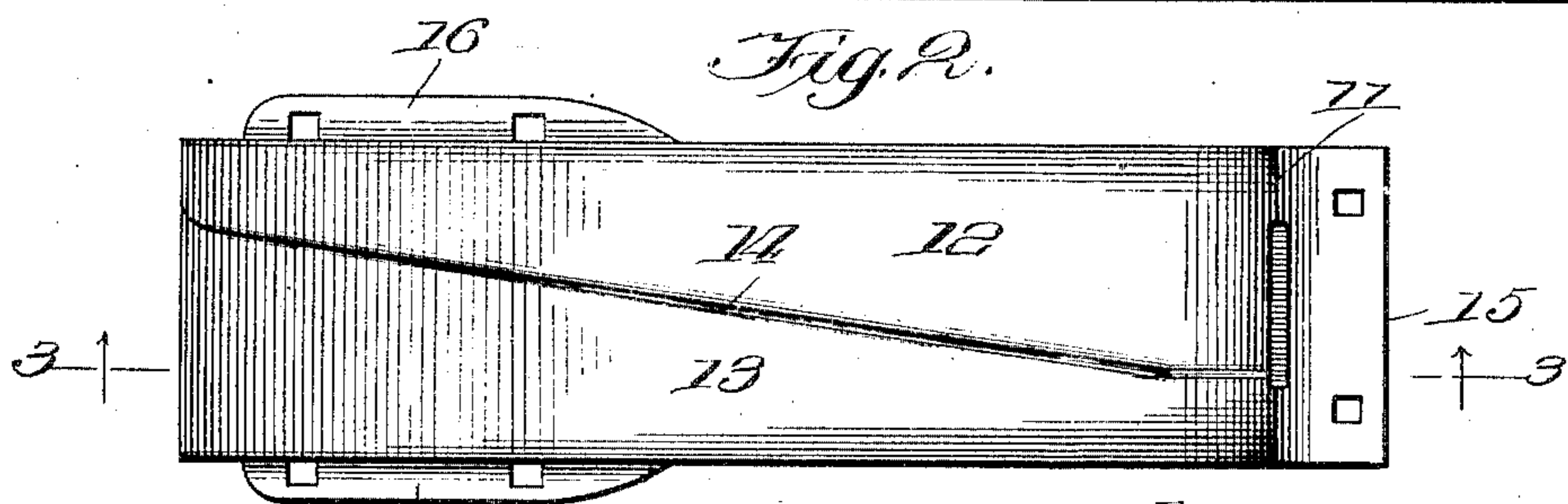
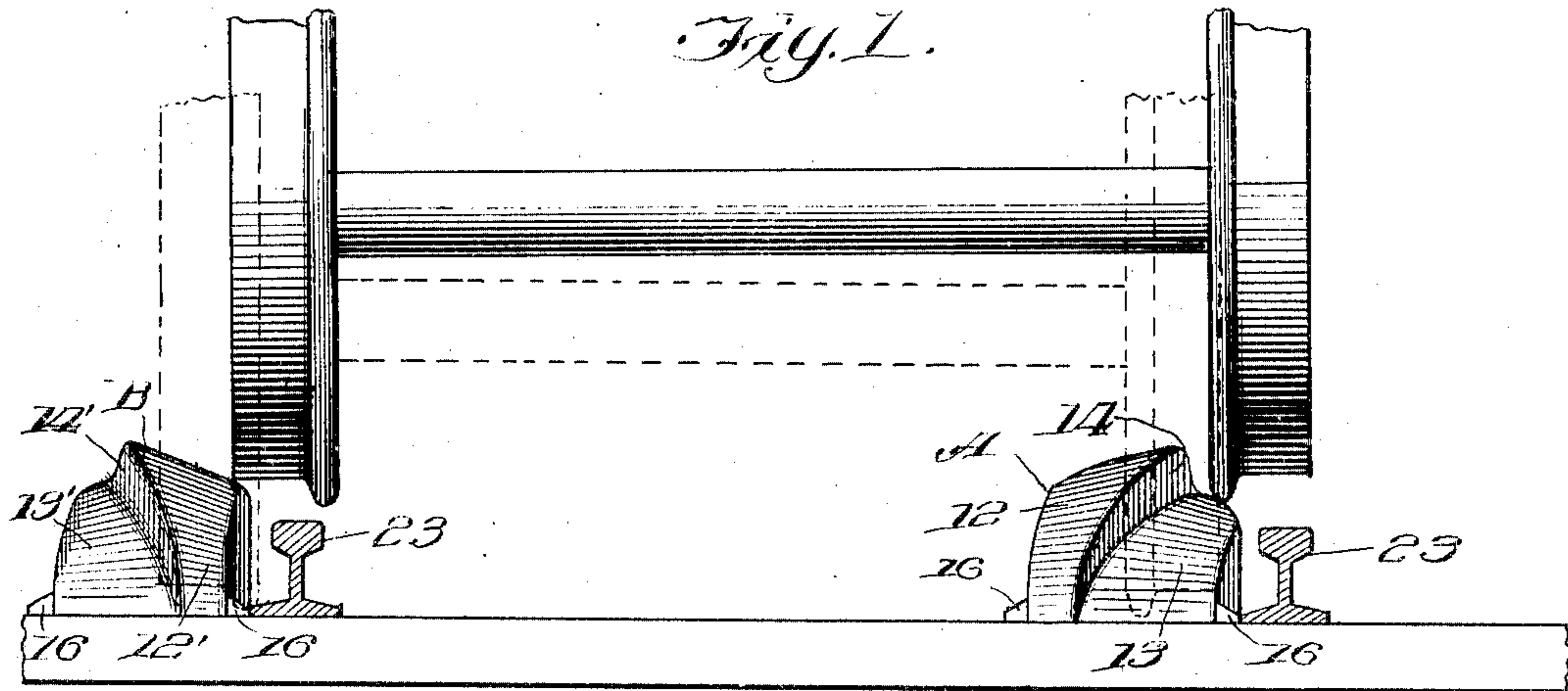


No. 789,384.

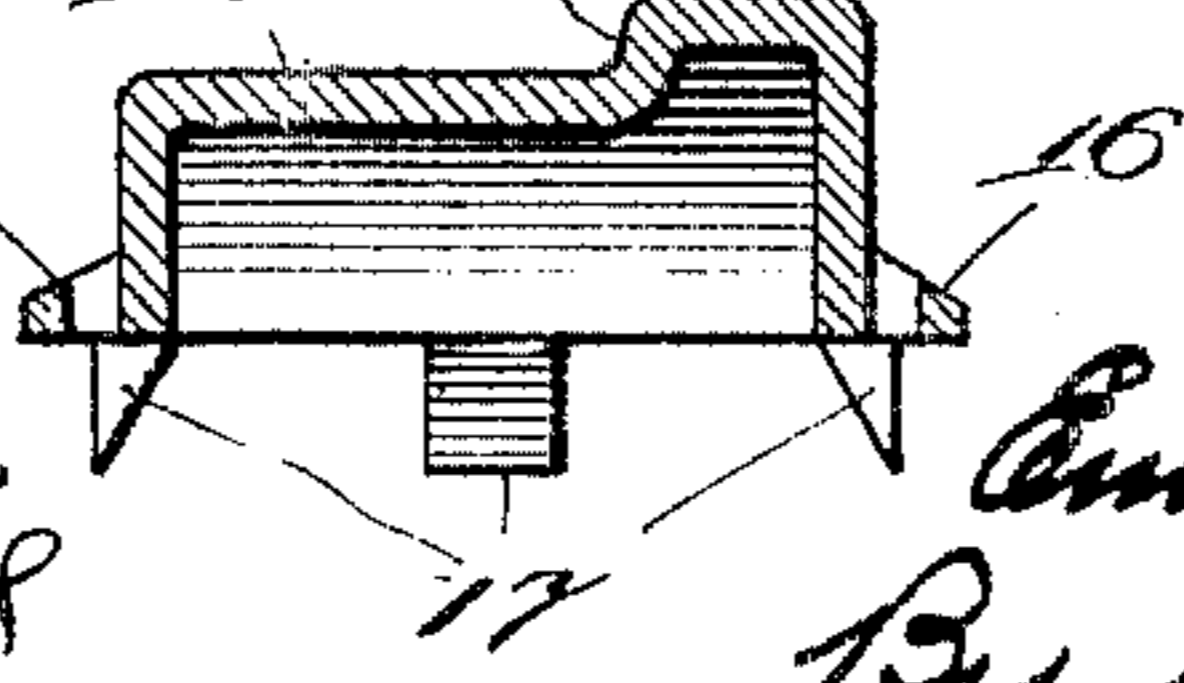
PATENTED MAY 9, 1905.

E. W. ROSENBERG.
CAR REPLACER.

APPLICATION FILED AUG. 10, 1904.



Witnesses:
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EMIL W. ROSENBERG, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE ALDON COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

CAR-REPLACER.

SPECIFICATION forming part of Letters Patent No. 789,384, dated May 9, 1905.

Application filed August 10, 1904. Serial No. 220,224.

To all whom it may concern:

Be it known that I, EMIL W. ROSENBERG, 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-Replacers, of which the following is a specification.

The object of this invention is to provide a frog of simple construction and made in one casting, without movable parts, to replace cars or engines on the rails in either direction and from either side thereof.

A further object of the invention is to make the replacer-frog light in weight, comparatively small in dimensions, easy to handle, and inexpensive to manufacture.

In the accompanying drawings, Figure 1 is a sectional view across a track, showing a pair of frogs in end elevation and the car-wheels in different positions. Fig. 2 is a top plan view of one of the frogs. Fig. 3 is a longitudinal sectional view on the line 3 3 of Fig. 2. Figs. 4, 5, and 6 are sectional views on the lines 4 4, 5 5, and 6 6, respectively, of Fig. 3.

I provide a pair of frogs which are constructed alike, except that the position of the flange and tread riding-surfaces thereon is reversed. The frog A is shown in detail in Figs. 2 to 6 and is low at its front end 10 to receive the wheels from the ties and high at its rear end 11 to permit the wheels to slide laterally onto the rails. The tread-surface 12 is higher than the flange-surface 13 and is separated therefrom by a substantially perpendicular shoulder 14, which, in the preferred embodiment of the invention, extends diagonally lengthwise of the frog from near the left-hand corner of the front of the frog to near the right-hand corner of the back of the frog. The tread-surface is therefore narrow at the front end of the frog and wide at the back end thereof, while the flange-surface is wide at the front end of the frog and narrow at the back end thereof. The shoulder 14 gradually increases in height from its front to its rear end, and the tread-surface is sloped or rounded off at the high portion of the frog from the shoulder to the left side of the frog, and the flange-surface is sloped or

rounded off at the high portion of the frog 50 from the shoulder to the right side of the frog, so that the wheel will slide easily from the frog onto the rail as it reaches the high part of the frog.

I provide an extension 15 at the bottom of the rear end of the frog and flanges 16 on the sides of the frog at its front end, with openings to receive spikes by which the frog can be fastened to the ties. The back of the frog will lie close to the rail, while the side flange, which lies adjacent to the rail, will space the front end of the frog properly from the rail and prevent the wheel from climbing over the frog, and this side flange will also form a bearing for the wheel-flange and prevent the frog from tipping when the weight of the car comes thereon.

The frog is made in one casting without any movable parts whatever, and it may be provided with lugs or spurs 17 to take into the ties and assist in holding the frog in proper place. To secure the frog in place, I may also employ a clamp 18, Fig. 4, which is provided with a T-shaped end 19 to engage cross-bars 20, cast within the frog, and with a hooked end 21 to engage the flange 22 of the rail 23.

The frog A may be designated the "right" frog and the frog B as the "left" frog, because they are always used adjacent to and on either side of the right and left hand rails, respectively, when rerailing in either direction. The left frog B is constructed, like the right frog A, with a tread-surface 12', higher than and separated from the flange-surface 13' by a shoulder 14', which extends diagonally from front to back of the frog and gradually increases in height from its front and to its back end. The shoulder on frog B extends in an opposite direction from the shoulder on frog A from near the left-hand corner of the back end of the frog, because it is necessary to raise the wheel lying outside of the rail higher than the wheel lying inside of the rail to lift the flange of the wheel over the rail. While the flange of one wheel is traveling up the inclined surface of frog A the tread of the other wheel will be traveling

up the tread-surface of the frog B, and the tread-surface of frog B is sloped or rounded off at the high portion of the frog from the shoulder to the right side of the frog, and the
 5 flange-surface is sloped or rounded off at the high portion of the frog from the shoulder to the left side of the frog, so that the wheel will slide easily from the frog onto the rail as it reaches the high part of the frog.

10 My improved frog is used in the customary manner, and it provides an easy and gradual approach for the wheel to the top of the rail. The highest point of the frog is at the back end thereof, and consequently the frog can
 15 be made much shorter, lighter, and more compact than those frogs which have their highest point midway between the ends of the frogs. A short frog has the further advantage that it can be used between wheels
 20 closely connected together, which is often impossible with a long frog.

My improved frog avoids the necessity for any movable parts on its top, which are sometimes moved by the jar or jolt resulting
 25 when the wheels mount the frogs, and prevent the proper operation of the frogs.

Without limiting myself to the exact construction and arrangement of parts herein shown and described, what I claim, and desire to secure by Letters Patent, is—

30 1. A substantially rectangular shaped car-replacer constructed to rest at both ends on the cross-ties and at one side of the rail, and having its top face divided into two separate
 35 riding-surfaces, one of which is higher than the other.

2. A substantially rectangular shaped car-replacer constructed to rest at both ends on the cross-ties and at one side of the rail, and
 40 having its top face divided into two separate riding-surfaces, one higher than the other and connected by a substantially perpendicular shoulder.

3. A car-replacer constructed to rest at
 45 both ends on the cross-ties and at one side of the rail and having its top face divided into two separate riding-surfaces of substantially the same shape and area, each of which is wider at one end than at the other.

50 4. A car-replacer constructed to rest at both ends on the cross-ties and at one side of the rail and having its top face divided into two separate riding-surfaces of substantially the same shape and area, one higher than the
 55 other and each wider at one end than at the other end.

5. A car-replacer constructed to rest at both ends on the cross-ties and at one side of

the rail and having its top face divided into two separate riding-surfaces of substantially
 60 the same shape and area, each wider at one end than at the other end, and connected by a substantially perpendicular shoulder which gradually increases in height from its front end to its rear end.

65 6. A car-replacer constructed to rest at both ends on the cross-ties and at one side of the rail and having its top face divided into two separate riding-surfaces of substantially
 70 the same shape and area, one higher than the other, and connected by a substantially perpendicular shoulder extending diagonally and in a straight line lengthwise of the replacer.

75 7. A substantially rectangular shaped car-replacer constructed to rest at both ends on the cross-ties and at one side of the rail and having an inclined top face comprising two
 80 separate riding-surfaces, one higher than the other.

8. A car-replacer constructed to rest at both ends on the cross-ties and at one side of the rail and having an inclined top face divided into two separate riding-surfaces of
 85 substantially the same shape and area, one higher than the other, the high surface being narrow at the front end of the replacer and wider at the back end thereof.

9. A car-replacer having an inclined top face comprising two separate surfaces, one
 90 higher than the other, the high surface sloping at the high end of the frog from the low surface to the opposite side of the frog.

10. A car-replacer having an inclined top face comprising two separate surfaces one
 95 higher than the other, the low surface sloping at the high end of the frog from the high surface to the opposite side of the frog.

11. A car-replacer having an inclined top face comprising two separate surfaces, one
 100 higher than the other, and connected by a substantially perpendicular shoulder, the high surface being narrow at its front end and wide at its rear end, and the low surface being wide at its front end and narrow at its
 105 rear end, both the high and low surfaces being sloped downward from the shoulder to the sides of the frog.

12. A car-replacer having parallel bars extending across its bottom, and a clamp
 110 adapted to engage a rail and provided with a T end to engage said bars.

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Witnesses:

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