

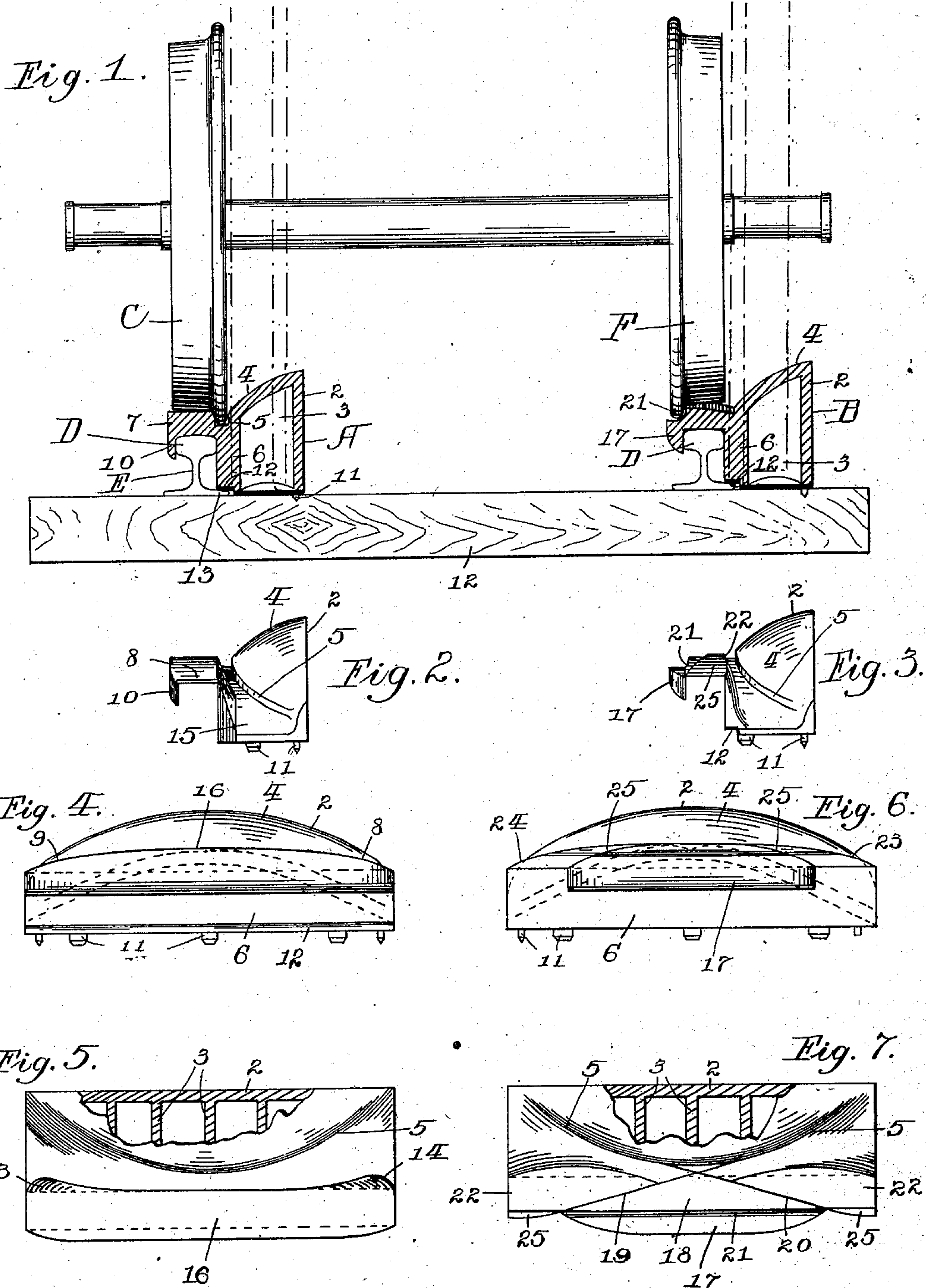
No. 702,744.

Patented June 17, 1902.

A. PURSLEY.  
RAILWAY REPLACING FROG.

(Application filed July 30, 1901.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

ALEXANDER PURSLEY, OF ST. PAUL, MINNESOTA.

## RAILWAY REPLACING-FROG.

SPECIFICATION forming part of Letters Patent No. 702,744, dated June 17, 1902.

Application filed July 30, 1901. Serial No. 70,207. (No model.)

*To all whom it may concern:*

Be it known that I, ALEXANDER PURSLEY, a citizen of the United States of America, and a resident of St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Railway Replacing-Frogs, of which the following is a specification.

My invention relates to improvements in railway replacing-frogs, and has for its object to provide means for replacing the wheels of railway cars and locomotives on the track when by accident they are derailed. This result is produced by attaching the frog to the head of the rail by means of a cap and by guiding the flange of the wheel upon a shoulder on the frog which is inclined toward the rail.

With devices now in general use for replacing derailed cars much trouble is experienced because the frogs slip from position, and it is often necessary to make several unsuccessful attempts before the wheels are replaced. This sometimes detaches the ties from the rail and strains the axles. With my device these defects are overcome by the following construction.

In the accompanying drawings, forming part of this specification, Figure 1 is a view of a pair of wheels and a car-axle shown upon my improved railway-frog where the wheels have been moved from the position indicated by broken lines. The frogs are shown in cross-section. Fig. 2 is an end view of the frog which is adapted to replace a wheel from inside the track. For convenience in this description this frog is termed the "left-hand" frog. Fig. 3 is an end view of the frog for replacing the wheel from outside the rails and for convenience it is termed the "right-hand" frog. Fig. 4 is a front view of the left-hand frog looking in the direction of the rail-cap. Fig. 5 is a plan view of Fig. 4, showing a portion in section. Fig. 6 is a view of the right-hand frog looking in the direction of the cap. Fig. 7 is a plan view of the right-hand frog, showing a portion in section.

In the drawings let A represent the left-hand frog, and B the right-hand frog. Referring to the left-hand frog, I preferably construct the guide-head 2 hollow and with inner walls 3 to insure strength and lightness.

This head is formed with a curved surface 4 on its top, which slopes toward each of its ends and the rail. The shoulder 5 extends from the head and faces the rail, as shown in Fig. 5, and is inclined upward and inward toward the rail from the ends of the frog. The shoulder is adapted to guide the flange of the wheel C and coacts with the track 15 to replace the wheel on the rail. The surface 4 prevents the wheel from jumping from the frog without rolling onto the rail should the flange slip from the shoulder 5. The cap 7 is integral with the wall 6 and is the same length as the head 2. The ends of this cap are curved at 8 and 9 toward the head of the rail E, so that the moving car-wheels will not be obstructed on the rails. The depending portion 10 of the cap engages the head of the rail and prevents lateral movement of the frog away from the rail. The base of the guide-head 2 is provided with the spurs 11, which are adapted to engage the ties 12 and prevent forward movement of the frog. The lower edge of the wall 6 is notched at 12, so as to rest on the flange 13 of the rail. This protects the ties 12 from becoming detached from the rail when the frog is in use.

The frame of the guide-head and cap is reinforced at 13 and 14 (see Fig. 5) to insure strength of construction. The track 15 below the shoulder 5 is for the flange of the wheel to roll upon. This track or bearing-surface curves upward from each end of the head between the ends of the frog. When the wheel moves upon the track 15 from either end of the frog, it rolls upward against the shoulder 5, which guides the wheel onto the surface 16 of the cap, which is directly over the rail. From this surface the wheel rolls forward upon the rail.

It is obvious that both ends of the frog are similar in construction, so that the wheel may be rolled in either direction and replaced upon the track.

In the right-hand frog the construction of the guide-head is substantially the same as in the left-hand frog. The cap 7 is formed with the depending portion 17, which extends about two-thirds of the length of the guide-head. The upper portion of the cap is cut away at 18 (see Fig. 7) to form a continuation of the shoulder 5 at 19 and 20. The



shoulders 19 and 20 extend diagonally across the rail when the frog is in use. The cap is grooved at 21, so as to receive the flange of the wheel F when the wheel is moving forward upon the rail. The surfaces 22, connecting the cap with the guide-head, are curved downward toward the rails 23 and 24 for the wheel F to roll upon. These surfaces are also grooved at 25 to correspond with the groove 21.

Having described my invention, what I claim as new, and desire to protect by Letters Patent, is—

1. A railway replacing-frog, consisting of a guide-head sloping downward toward each of its ends and the rail, a cap on the lower side of said head adapted to engage the head of the rail, and a guideway, at the base of said guide-head, sloping upward from the

ends of the frog to the top of the rail adapted to form a runway for the car-wheel and to guide the wheel onto the rail.

2. In a railway replacing-frog, a guide-head sloping downward toward each of its ends and the rail, a cap on the lower side of said head, adapted to engage the head of the rail, a shoulder on said guide-head sloping upward from its ends toward the top of the rail, and a bearing-surface at the base of said shoulder, sloping downward from the top of the cap to the ends of the head.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

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Witnesses:

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