(No Model.)

C. O. KELLY & J. E. LEE.

CAR REPLACER.

No. 309,230. Patented Dec. 16, 1884.

Fig. 1.

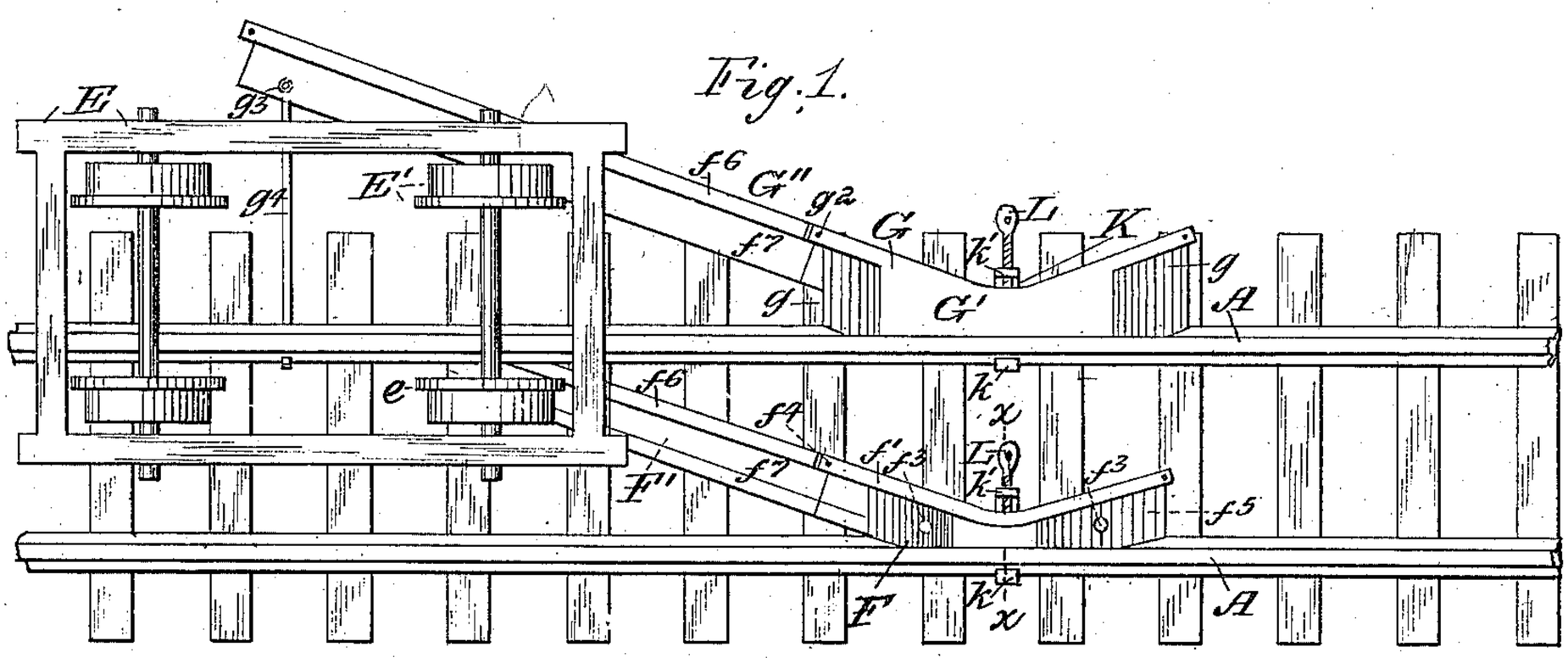


Fig. 2.

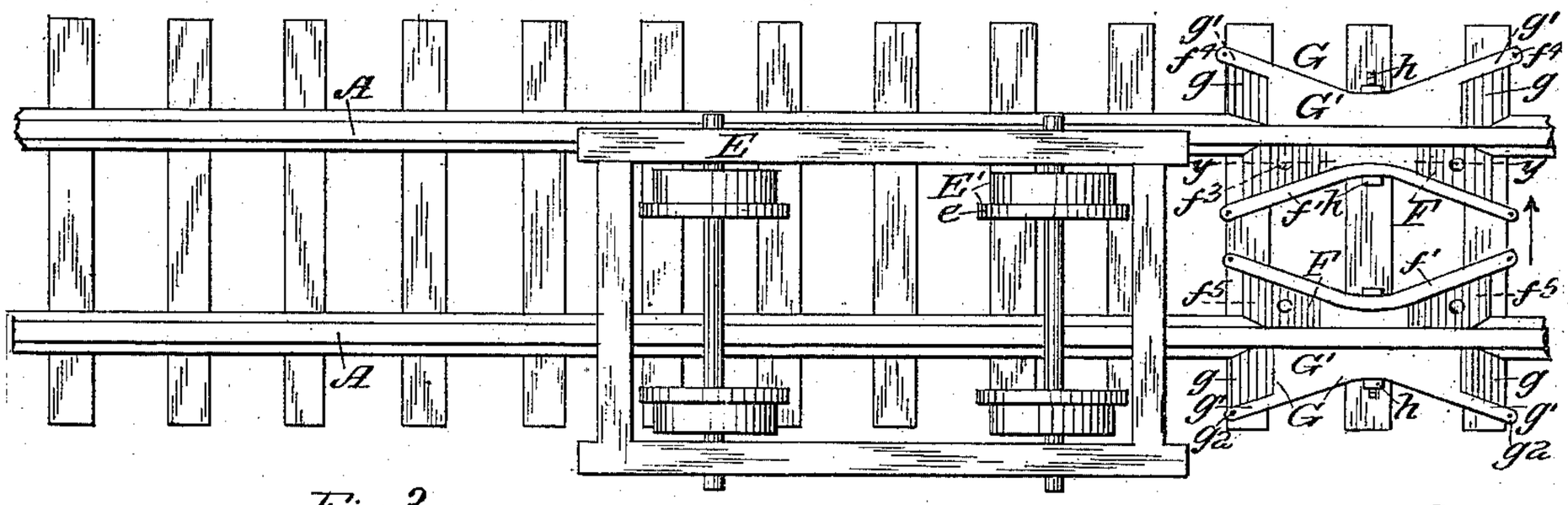


Fig. 3.

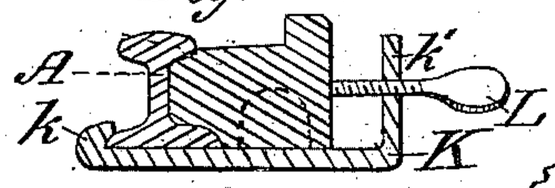


Fig. 4.

Fig. 6.

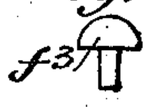
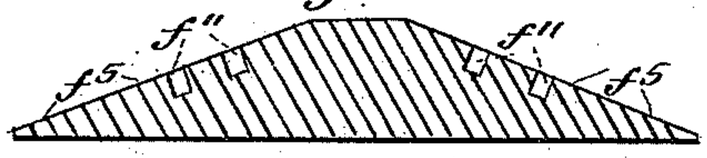


Fig. 5.



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UNITED STATES PATENT OFFICE.

CHARLES O. KELLY AND JAMES E. LEE, OF BALTIMORE, MARYLAND, ASSIGNORS OF ONE-THIRD TO HENRY ST. JOHN SHEPHERD.

CAR-REPLACER.

SPECIFICATION forming part of Letters Patent No. 309,230, dated December 16, 1884.

Application filed November 22, 1883. (No model.)

To all whom it may concern:

Be it known that we, CHARLES O. KELLY and JAMES E. LEE, citizens of the United States, residing in the city of Baltimore and State of Maryland, have invented certain new and useful Improvements in Apparatus for Replacing Cars or other Portions of the Rolling Stock which have been Derailed, of which the following is a description.

The invention relates, particularly, to that class of devices embraced under the general head of car-replacers, which are provided with an inclined plane, and are adapted to be secured to the rails or to the ties at a point near the rails in such a manner that the derailed car or locomotive may be transferred from the ground to its proper position upon the track; and it consists in certain novel features in the construction of an apparatus of the general character above described, whereby the desired result is accomplished with absolute certainty and with great ease and celerity.

In the drawings, Figure 1 represents a perspective plan view of a section of railway having a portion of our improvements applied thereto, and the lower portion of a car which is in a derailed position. Fig. 2 is a plan view representing a section of railway laid upon a trestle or upon a bridge, and having a portion of the apparatus applied thereto. Fig. 3 represents a vertical transverse section on the line *x x* of Fig. 1. Fig. 4 is a detail, drawn to a larger scale, showing a perspective plan of a fragment of railway with a portion of our improved apparatus applied thereto. Fig. 5 is a section on the line *y y* of Fig. 2, looking in the direction of the arrow. Fig. 6 is a perspective elevation showing one of the detachable elevating-pins which constitute a part of the replacing apparatus.

The apparatus consists, essentially, of an inner part, which is so constructed as, when in place, to exert a positive straining force upon the wheels of the locomotive or car which is to be replaced, and of an outer member, the office of which is mainly to elevate the same to the necessary extent. The inner part, F, which for convenience we term the "replacer," is made straight upon the side which is to be fitted against the rail, and is preferably of such form as will adapt it to the configuration thereof. Upon its outer faces, which diverge, as shown, from the line of the straight face upon its inner or rail side, it is provided with an upwardly-projecting guide-flange, f'. From its mid-length its inclines f^5 slope downwardly in either direction to its ends, where it is of only such thickness as will insure the requisite strength. At a suitable distance from their junction at the top the inclines are provided with orifices f'', to receive lifting-pins f^3. To diminish its weight, and thereby facilitate its removal from place to place, the replacer will preferably be recessed on its under surface, as indicated in dotted lines in Fig. 3.

In fitting the replacer in position a clamping-plate, K, is extended under the rail and engaged therewith by its hook *k*. The replacer being then laid alongside the rail, a strong set-screw, L, working in a suitable threaded opening in the vertical flange k' of the clamping-plate, is employed to secure the replacer rigidly to the rail. At either end the replacer is adapted to receive a pivot-bolt, f^4, by which an extension, F', is secured thereto. This extension is provided on its outer edge with a guide-flange, f^6, which forms a continuation of the flange f' upon the replacer, while its main bearing-surface f^7 corresponds to the inclines f^5 of the replacer. The outer member or lifter, G, unlike the replacer, is made flat in its main upper portion, G', and of a height corresponding to the vertical extent of the rails A. Near its ends it has short inclines *g*, which are provided with guide-flanges g'. Like the replacer, the lifter is provided with an auxiliary rail or extension, G'', secured by pivot-bolt g^2. At or near its outer end it is provided also with a perforation, g^3, to receive one of the hooked ends of a holding-rod, g^4, the opposite end of which is adapted to engage with one of the rails of the track, or with some object which is connected thereto. The lifter is secured to the track by a clamping-plate like that employed in connection with the replacer. When necessary, other sections may be added to the extensions F' and G''. The holding-rod may engage with the outer edge of the extension instead of with the perforation g^3; but the latter construction is pre-

ferred, as avoiding liability to displacement of the end of the rod. A car, E, derailed, as shown in the drawings, being moved first upon the extensions and then upon the replacer and the lifter, the flange of that wheel which is between the rails will be directed by the guide-flange f' toward the outer portion of the track until, on reaching the highest part of the replacer, the tread engages in the ordinary manner with the top of the rail A, the plane surface of the lifter offering no obstruction to the action of the flange of the replacer upon the flange of the wheel.

In placing a locomotive upon the track it becomes necessary to use the lifting-pins f^3, the inclines f^5 being narrower than the broad driving-wheels of the locomotive. As the wheels are moved up the incline their treads will rise upon the top of the pin, and, passing over and beyond the same, will fall into place upon the track.

In elevated portions of the line—as upon bridges or trestles—as a safeguard, we fix two of our replacers and lifters opposite to each other alongside each of the rails at each end of the bridge or trestle, a through-bolt, h, being used to secure the replacers and lifters to the rail. If, then, a train be derailed on its approach to this portion of the track, the replacers will operate to restore it to its position upon the rails.

Having described our invention, we claim—

1. The combination of the inner flanged replacer, having double-inclined planes, with the outer lifter having inclined flanged ends and flat unflanged top.

2. The combination of the lifter having flat top, as described, and the replacer having inclines descending from the center, and provided with orifices f'' to receive lifting-pins f^3.

3. The combination, with the lifter having central plane, G′, of the replacer provided with double inclines, a guide-flange, and orifices f''.

4. A car-replacer provided with detachable lifting-pins.

5. The combination, with the flanged replacer F, having double inclines, as described, of the flanged extension F′.

6. The combination of the replacer F, having extension F′, and the flat-topped lifter G, having extension G″.

7. The combination of the lifter G, the extension G″, and the holding-rod g^4.

8. The combination of the lifter G, having extension G″ and rod g^4, with the replacer F, having lifting-pins f^3.

9. The combination, with the replacer F, having double inclines, a straight side, and a recessed side, of a clamping-plate, K, provided with the hook k, for engagement with the flange of the rail A, and with the vertical flange k' and set-screw L, for engagement with the outer face of the replacer.

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