

*R. Davis,
Car Replacer,*

N^o 49,325.

Patented June 30, 1868.

Fig. 1

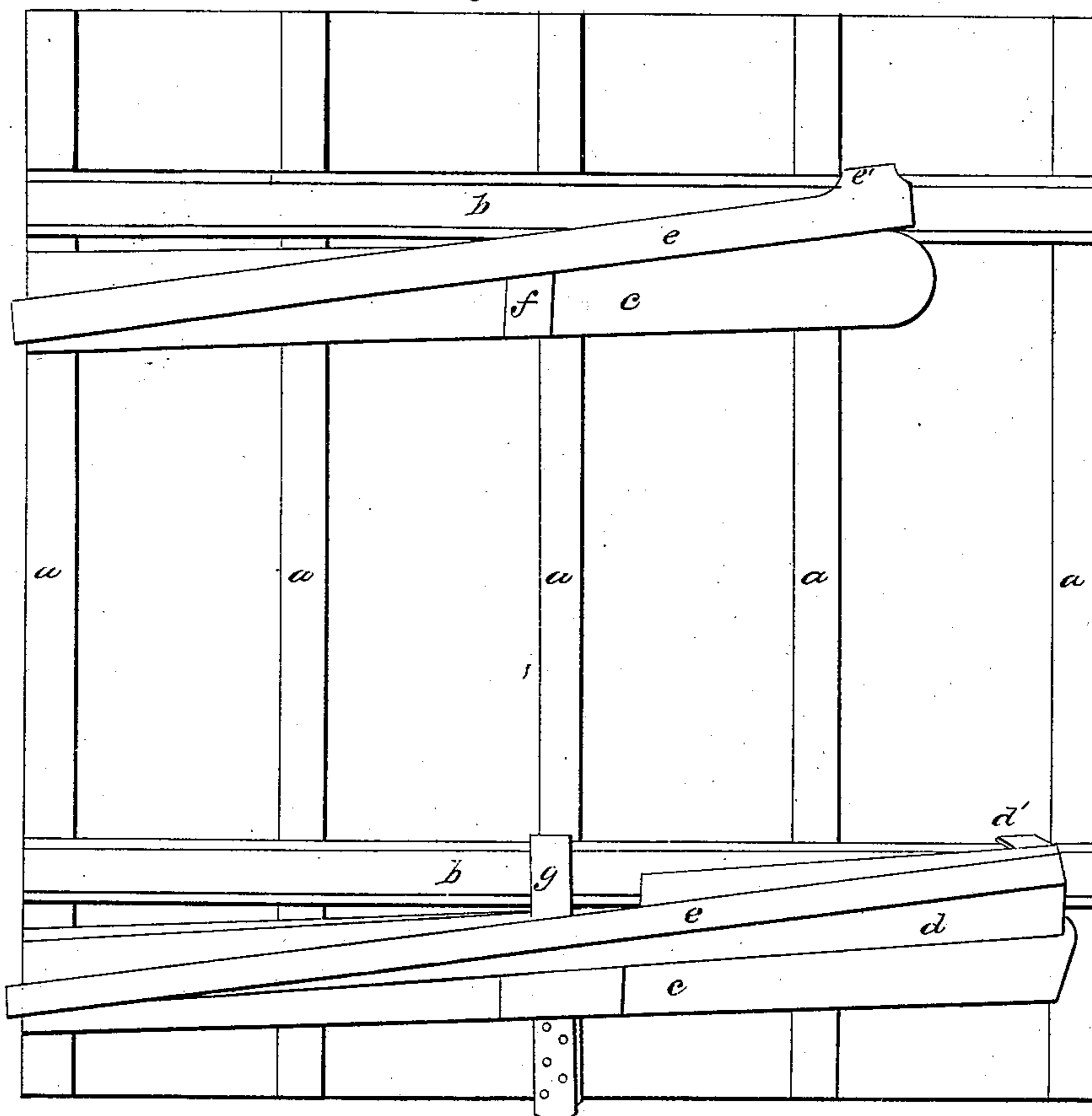


Fig. 2

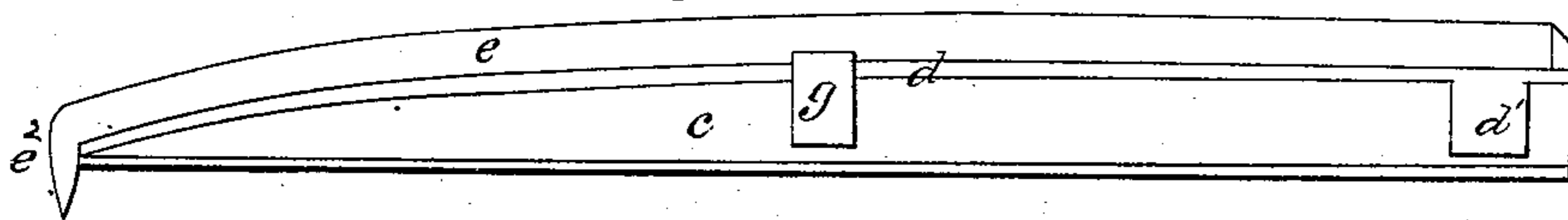
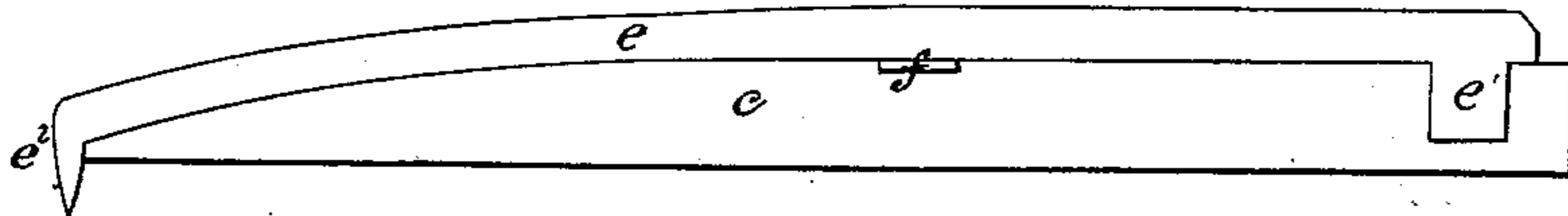


Fig. 3



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REES DAVIS, OF UTICA, NEW YORK.

Letters Patent No. 79,325, dated June 30, 1868.

IMPROVED CAR-REPLACER.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, REES DAVIS, of Utica, in the county of Oneida, and State of New York, have invented a new and useful Improvement in Railroad-Car Replacers.

The nature of my invention and improvement consists in combining the frogs composing the car-replacer of wood and iron or steel, in such manner that while sufficient strength and firmness are secured, the frogs are light, and capable of being easily handled; second, in forming the frogs of different lengths, by means of which the cars are necessarily brought upon the rails, and do not run off upon the opposite side of the track, as is usual with inventions hitherto in use; and, third, in furnishing each frog with a toe or projection on its front end and under side, which is pressed into the tie by the weight of the car when the wheels strike the frogs, by means of which the frogs are held in place while the car is being moved upon the track.

And I do hereby declare that the following is a full, clear, and exact description of my said improvement, and of the mode of operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a plan of the railroad-track and the car-replacer attached thereto.

Figure 2 represents a side view of the longer or outer frog, and

Figure 3 a like view of the shorter or inner frog.

a a are the railroad-ties.

b b are the rails.

c c are the wood part of the frogs.

d is a plate between the wood part and the rail of the outer or longer frog.

d' is a flange thereon, by which it is held to the track.

e e are the rails of the frogs.

e' is a flange on the shorter frog-rail, to hold it to the track.

e² e² are toes on the frog-rails.

f is a clamp for holding the rail of the short frog to the wood.

g is a sliding clamp, by which the long frog is also held to the track.

The invention may be used on any form of rail.

Four frogs form a set, a right-hand pair and a left-hand pair, one pair of which is for replacing cars which have turned off to the right, and the other pair for replacing cars which have turned off to the left. Each pair is composed of a short and a long frog. The material and construction of each pair is the same, whether right hand or left hand, except that the flanges *d'* and *e'* and clamp *g* must be respectively on the side of the frog next to the track-rail when such frog is in place, and the frog-rails must run diagonally on the wood part to the right or left, according to the side it is to be used on. In fig. 1 the frogs turn to the left; figs. 2 and 3 represent frogs which turn to the right.

The base or under part of the frog is of stout wood, of such thickness as to bring the top thereof, even with the track-rail when lying in place on the ties, as seen in fig. 1. The front end of each wood is tapered down on the upper side to a wedge-form, as seen in figs. 2 and 3.

The rails *e e* are of iron or steel, and are light and narrow, and of the thickness of the depth of the flange of a car-wheel. The front ends of the rails are curved to conform to the bevelled surface of the wood part, while their extreme points, *e² e²*, are turned down, and project below the under side of the wood, as seen in figs. 2 and 3.

The rail for the inner or short frog has a stout flange, *e'*, on its side towards the track-rail, which flange extends downwards to near the base-flange of the track-rail when in place, and so arranged that the wood, *c*, is on the inside of the rail *b*, the rail *c* resting on the top of *b*, and the flange *e'* on the outside of the track-rail *b*, while the front end is turned diagonally about half way across the wood, as seen in fig. 1. The flange *e'* should be so loose as to allow the front end of the frog to be moved sideways, say from four to ten inches, so as to accommodate the frog to the wheel.

The longer rail has no flange on it, but it has a stout metallic plate, *d*, between it and the wood, *c*. This plate is firmly attached to the wood, *c*, and the rail *e* as firmly attached to the plate, which plate has a flange, *d'*, similar to *e'*, attached to its upper inner corner. The necessity of this plate arises from the very great strain on the outer frog, as it gives strength to the frog. The rail *e* is placed diagonally on the wood, *c*, like the rail on the short frog, as described. Near the centre of the longer frog is a sliding arm or clamp, *g*, for aiding in holding the frog to the rail. It has a flange or shoulder on its inner end to clasp the track-rail *b*, with a series of pin-holes on the other end, by which the frog may be keyed at the desired distance from the track-rail *b*.

The length of the longest frog should be about five feet, and the shortest about four feet.

The operation is as follows:

When a car or engine has run off the track, the front ends of the frogs are placed each under a wheel, the long frog under the outer one, with the toes *e² e²* on a tie, and the flanges *d'* and *e'* over the adjacent rail *b*, while the clamp *g* should be keyed in proper position.

As the toes *e'* and *e'* are on a line, the other end of the long frog is in advance of the short one, on the track-rails. If, now, the car is forced forward, the wheels, striking the frogs, will press the toes *e² e²* into the tie, which will, in a great measure, prevent the frogs from slipping, and the car may be run upon the track. As soon as the forward wheel reaches the end of the short frog, it will fall down in place upon the track-rail *b*. The other wheel being upon the other frog, will cause the flange of the wheel on *b* to press against the track-rail, and when the opposite wheel comes to the end of the long frogs, it also will fall down in place on the track-rail.

The hind wheels of the truck will pass on in the same manner, and so will those of the rear truck in most cases; but if they do not "follow" the forward ones, the frogs may be moved to accommodate them. As the rails of the frogs must be at a greater or less angle to the track-rail, there is a tendency in the wheels to run across the track, instead of turning on to it, thus often placing the car in a more difficult position to replace than at first, and where the frogs are of the same length, it is difficult to prevent it. But by making the frogs of different lengths, the wheels are forced upon the rails with entire certainty.

I do not claim the invention of frogs for the purpose mentioned, independent of the mode of construction and operation, substantially as described, as short rails have heretofore been used for the purpose of replacing cars, but from their mode of construction they have not answered the purpose. The improvements which I have made, fully obviate all the difficulties.

What I do claim, therefore, as my invention, and desire to secure by Letters Patent, is—

A railroad-car replacer, constructed of wood and iron, with the frogs of different lengths, arranged and adapted to the rails, substantially as described, and for the uses and purposes mentioned.

REES DAVIS.

Witnesses:

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JOHN G. CROCKER.