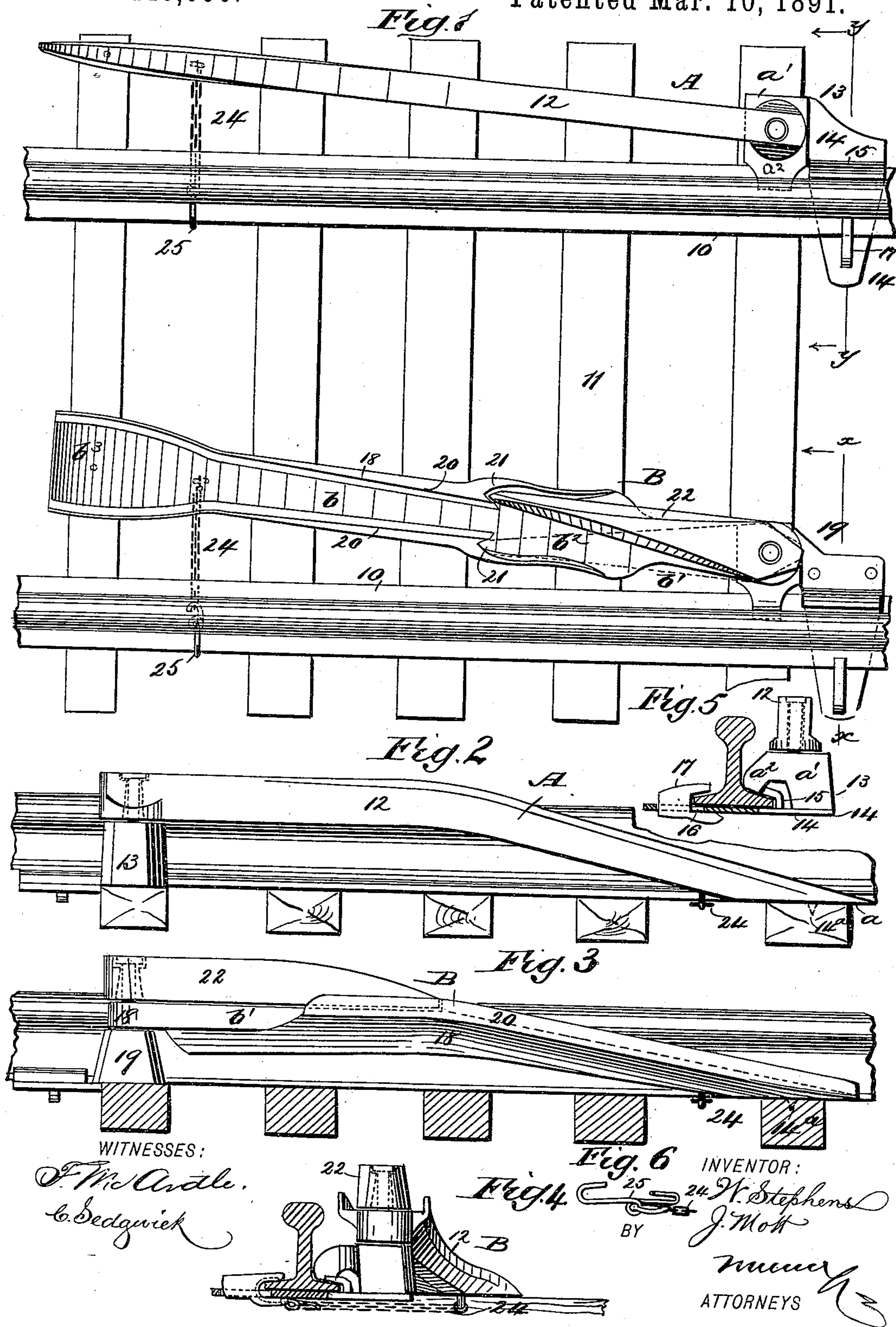


(No Model.)

W. STEPHENS & J. MOTT.  
CAR REPLACER.

No. 448,090.

Patented Mar. 10, 1891.





# UNITED STATES PATENT OFFICE.

WILLIAM STEPHENS, OF REDDING, AND JOSEPH MOTT, OF SISKIYOU  
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## CAR-REPLACER.

SPECIFICATION forming part of Letters Patent No. 448,090, dated March 10, 1891.

Application filed July 2, 1890. Serial No. 357,553. (No model.)

*To all whom it may concern:*

Be it known that we, WILLIAM STEPHENS and JOSEPH MOTT, said STEPHENS being a resident of Redding, in the county of Shasta and State of California, and said MOTT a resident of Siskiyou county, California, have invented a new and useful Improvement in Car-Replacers, of which the following is a full, clear, and exact description.

Our invention relates to an improved car-replacer; and has for its object to provide simple and readily-applied frogs or skids, whereby a car, engine, or other vehicle adapted to travel upon a track may be expeditiously and conveniently replaced at any point in the length of the road.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of a section of track, illustrating the application of the invention thereto. Fig. 2 is a side elevation of the outer frog or skid, and Fig. 3 is a similar view of the inner frog or skid. Fig. 4 is a transverse section on line  $x x$  of Fig. 1. Fig. 5 is a similar section on line  $y y$  of Fig. 1, and Fig. 6 is a detail view of one of the clamping devices connected with the skids.

The rails 10 may be of any desired form and are laid upon the sleepers 11 in the usual manner. The device consists, primarily, of an outer frog or skid A and an inner frog or skid B. The outer frog or skid is constructed in two sections—namely, a bar or track section 12 and a base-section 13. The bar-section is pivoted at one end to the upper portion of the base-section 13, and is curved downward in such manner that when the base-section is placed in position alongside of the rail the lower extremity of the track-section, which is flattened upon its under face, as illustrated at  $a$  in Fig. 2, will rest upon the sleeper, and in the flat face of the rail or track

section a pin or pins 14<sup>a</sup> is secured, adapted to enter the sleeper and retain the track-section in a fixed position.

The construction of the base-section 13 is best shown in Fig. 5, and consists of a block  $a'$ , to the top of which the track-section is pivoted, the said block at one end being provided with an inwardly and downwardly extending spur  $a^2$ , having its under surface beveled to correspond with the bevel of the rail-flange, with which portion of the rail the spur is adapted to engage.

A horizontal plate 14 is formed integral with the under face of the block  $a'$  or is attached thereto, which plate extends outward from the block and is of sufficient length to pass beneath the flange of the rail and extend beyond both sides, as is best shown in Fig. 1.

The plate 14 has formed thereon near one end a transverse angular clamping-rib 15, and near the opposite end of the plate an opening 16 is produced, adapted to receive a key 17, one end of which key is bifurcated.

The inner frog or skid B differs in construction from the outer skid, but resembles the said skid in that it also comprises a track-section 18 and a base-section 19, the base-section being identical in construction with the base-section of the outer skid.

The track-section of the inner skid B is pivotally attached to its base-section, and the said track-section is curved downward from its pivotal end in the direction of its opposite end. The upper face of the track-section is flat, as illustrated at  $b$  in Fig. 1, and the sides of the said track-section are provided with upwardly and preferably outwardly extending flanges 20. The width of the track-section, however, varies, being narrowest at or near its pivotal point, as illustrated at  $b'$ , slightly wider at its central portion, and widest at its extreme lower end and at the space intervening the contracted pivotal portion and central portion, as is best illustrated, respectively, at  $b^2$  and  $b^3$  in Fig. 1. In each side flange of the wide section  $b^2$ , at the lower end of said portion, an angular recess 21 is formed, and over the face of the said wide portion  $b^2$  a switch-point 22 is held to slide



laterally, which switch-point is pivoted to the pivotal end of the track-section of the skid, the switch-point being adapted to be sprung into or to enter either of the recesses 21, according to the direction in which the switch-point is to be thrown. The lower or under surface of the skid B is preferably semicircular a greater portion of its length, being flattened at the lower end and provided with a pin or pins 14<sup>a</sup>, resembling in this connection the construction of the opposite skid A.

Each skid near its lower end has attached to the bottom thereof a suitable length of chain 24, and to the unattached end of the chain a double hook 25 is attached, the said hooks being made to face one another, and their shanks are preferably in the same horizontal plane, or practically so, as illustrated in Fig. 6.

In operation the skid A is placed outside of one rail and the lower end is carried out of parallelism with the rail, as shown in Fig. 1. The plate 14 is passed beneath the flange of the rail until the outer edge of the flange is brought into engagement with the clamping-rib 15, and when this is effected the spur  $a^2$  of the block will also have been brought into engagement with the flange. The base of the skid is effectively locked to the rail by forcing downward the key 17, so that one member of the key will be above the flange and the other beneath it. The key 17 is located immediately opposite the clamping-rib 15, and the action of the said key is clearly shown in Fig. 5. The lower end of the skid is pressed against the tie upon which it bears until the spike or pin therein enters the tie, whereupon the chain 24 is passed beneath the flange of the rail and the outer hook 25, attached to the chain, is made to engage with the inner edge of the rail-flange. If the chain is too long, it may be shortened by looping one or more of the links over the inner of the two hooks 25. The second skid B is attached to the opposite rail in like manner and parallel with the skid A; but the skid B is placed upon the inner side of the rail to which it is adapted for attachment, and the switch-point 22 of the skid is thrown over in the direction of the rail contiguous to the inner side of the skid, as is shown in Fig. 1. It is now evident that by causing the wheels of the vehicle which is to be replaced to travel upon the lower end of both skids as the vehicle is drawn up the inclined plane of the skids the flange of the wheel traveling upon the skid B will be brought into contact with the outer side of the switch-point 22, and as the switch-point at its pivotal end is of a width equal to the width of the skid upon which it is pivoted the wheels of the vehicle will be compelled to engage with the track the very moment they leave the skids. When the vehicle has

been replaced upon the track, the skids may be detached therefrom and stored away conveniently until again required.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A car-replacer consisting of two inclined skids, each comprising a base-section and a rail-section, one of the rail-sections being provided with a switch-point capable of lateral movement, and each base-section being provided with an attached plate adapted to extend beneath the flange of the rail, said plate having formed thereon near one end an angular clamping-rib and provided near the opposite end with a bifurcated key, substantially as shown and described.

2. A car-replacer consisting of two skids, each comprising an inclined rail-section and a base-section pivotally attached to the rail-section, one of the rail-sections being provided with a flat upper face and side flanges, and a switch-point pivotally attached at the upper end capable of lateral movement upon the flat base between the flanges, the base-sections being provided with a horizontal plate adapted to extend beneath the flange of the rail, which plates are provided with adjustable bifurcated keys and an angular clamping-rib, and both rail-sections with an attached chain or grapple, as and for the purpose specified.

3. In a car-replacer, a skid comprising a base-section, a track-section pivoted to the base-section and provided with upwardly-projecting and recessed flanges, and a switch-point pivoted to the pivotal end of the track-section, substantially as herein shown and described.

4. In a car-replacer, the combination, with a base consisting of a block provided with a downwardly-extending spur, a plate forming a portion of the block and extending outward therefrom, which plate is provided with a transverse clamping-rib near one end and a movable bifurcated key at the opposite end, of a rail-section pivoted at one end of the base and inclined downward in the direction of its opposite end, and a chain attached to the lower end provided with a grappling-hook, substantially as shown and described.

5. In a car-replacer, the combination, with a base-section consisting of a block, a plate extending from and beyond the block and having a transverse clamping-rib formed near one end, a bifurcated key movable in the opposite end, of the plate, and a spur downwardly projected from the block, of a rail-section pivoted at one end of the base, inclined downward in the direction of the opposite end, and provided with a flat upper face of varied width, flanges formed at the sides of the rail-section, provided with horizontally-aligning recesses, and a switch-point pivoted near the pivotal point of the rail-section

tion and adapted to slide upon the flat surface thereof between the flanges and to enter the recesses of the latter, substantially as shown and described.

5 6. In a car-replacer, the combination, with a skid, of a chain attached thereto and a twin hook secured to the chain the shanks whereof are in essentially the same hori-

zontal plane and the hooks faced inward, substantially as and for the purpose specified.

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Witnesses:

C. G. BILICKE,  
J. DAWSON.