

(No Model.)

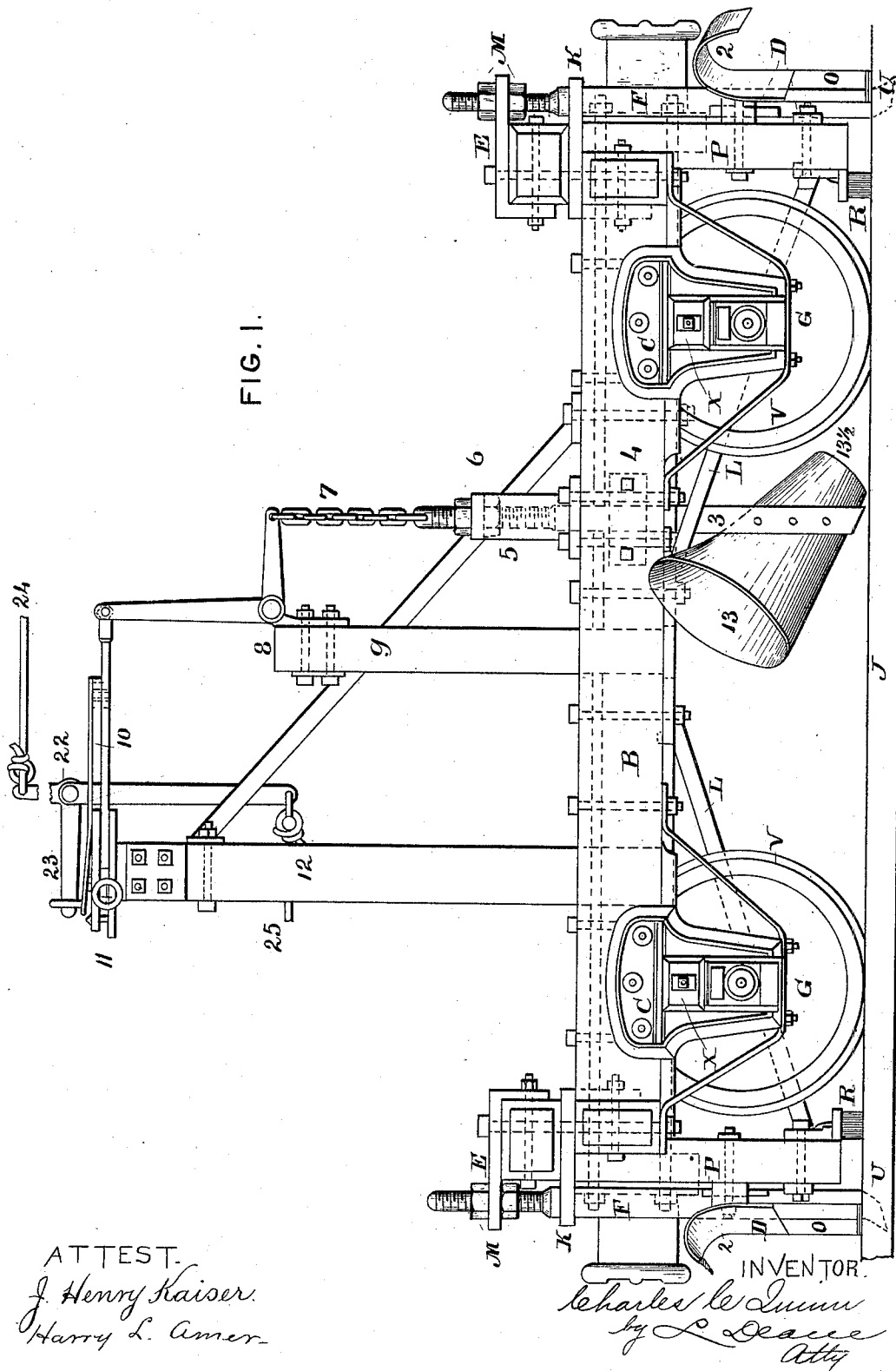
3 Sheets—Sheet 1.

C. C. QUINN.

SWITCH, FROG, GUARD RAIL, AND CROSSING FLANGE AND CLEARER.  
No. 319,314.

Patented June 2, 1885.

FIG. 1.

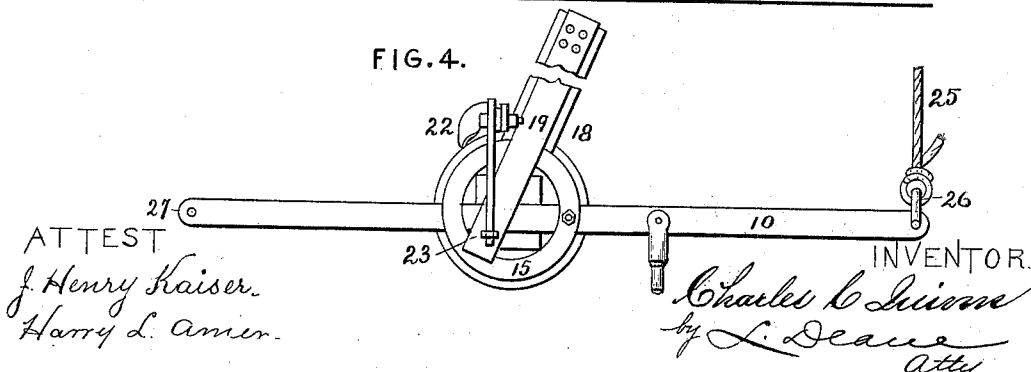
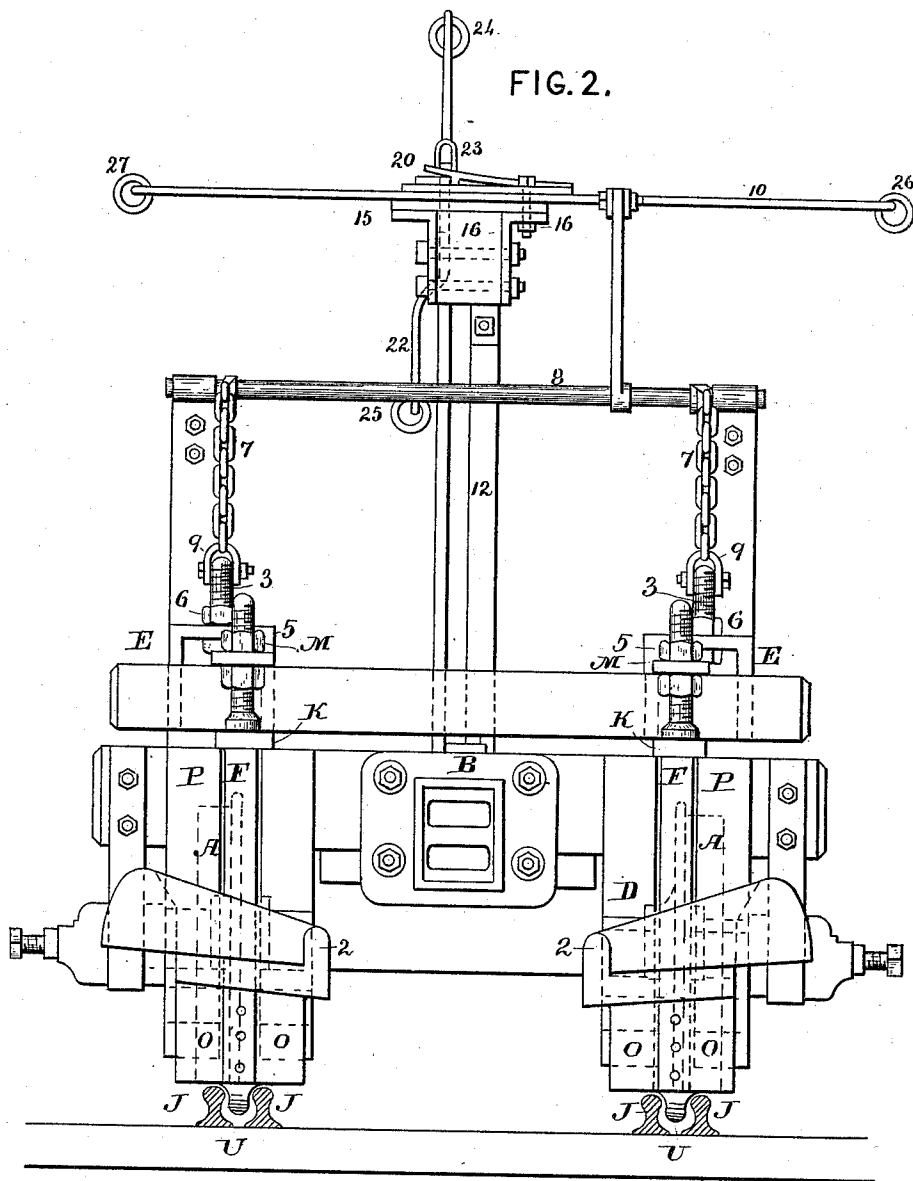


ATTEST.

J. Henry Kaiser.  
Harry L. Amer.

3 Sheets—Sheet 2.

Patented June 2, 1885.



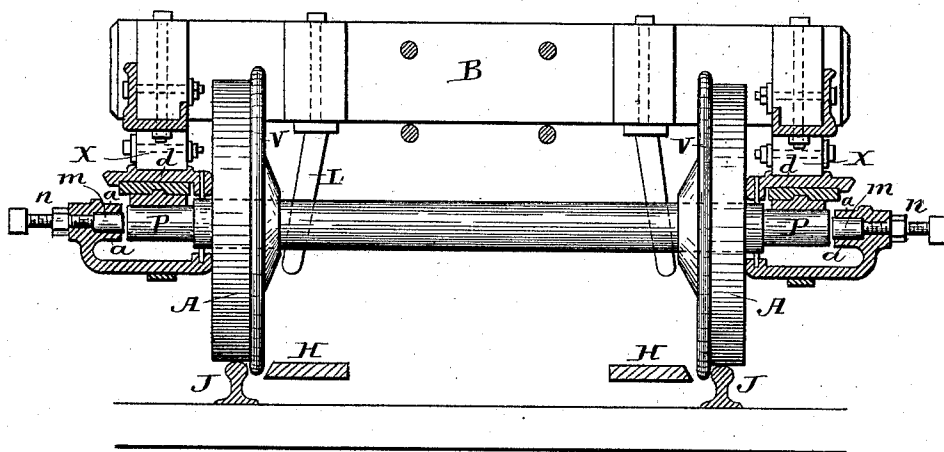
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3 Sheets—Sheet 3.

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FIG. 3.



ATTEST.

J. Henry Kaiser.  
Harry L. Amer-

INVENTOR\_

Charles C. Quinn  
by L. Deane  
Atty

# UNITED STATES PATENT OFFICE.

CHARLES CALVIN QUINN, OF FARGO, DAKOTA TERRITORY.

SWITCH, FROG, GUARD-RAIL, AND CROSSING FLANGE AND CLEARER.

SPECIFICATION forming part of Letters Patent No. 319,314, dated June 2, 1885.

Application filed February 18, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES CALVIN QUINN, a citizen of the United States, residing at Fargo, in the county of Cass and Territory of Dakota, have invented certain new and useful Improvements in Switch, Frog, Guard-Rail, and Crossing Flange and Clearer, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to new and useful improvements in flange-cutters, tread clearers, and excavators for railroads; also in a lock and lateral-motion journal end stop and box.

My object is to provide a dirt, sand, ice, and snow clearing mechanism for railroads, by means of which switch-rails, frog-rails, and planks and rails at crossings can be cleared, as will be fully understood from the following description, when taken in connection with the annexed drawings, in which—

Figure 1 is a side elevation of my improved devices. Fig. 2 is a front elevation thereof; Fig. 3, a vertical longitudinal section through Fig. 1 in a plane through the journal-boxes. Fig. 4 is a detail of the levers and automatic locking devices.

B designates a suitable frame; G G, the car-wheels; C C, the pedestals.

To each end of the frame B, and as close as possible to the wheels G G, vertical timbers P P are rigidly secured and sustained by means of foot-braces L.

In front of the timbers P, and in close relation thereto, are threaded square bars F, and to the lower ends of these bars are secured flange-cutters U, (shown clearly in Fig. 2,) for the purpose of clearing between and below the surfaces of the switches, frogs, guard-rails, at crossings, and other places on the road.

In front of the threaded bars F, and at a suitable distance above the lower end of the cutters U, are perpendicular tread-clearers O O, which are suitably secured to said bars and arranged as close as possible to the tops of the rails J. The perpendicular tread-clearers O O are arranged at an angle of about thirty-five degrees with respect to the line of rails, and immediately above said clearers U are conical scoops or deflectors 2, secured to the bars F. These bars are provided with screw-threaded portions on their upper ends, which pass through guides K and lugs E,

which are secured to the timbers B P, and are vertically adjustable by means of nuts M on the top and bottom of the lugs E, which nuts aid in resisting the shocks to the flange-cutter and tread-clearer when brought in violent contact with dirt, sand, ice, and snow. A very accurate vertical adjustment of the flange-cutter and track-clearer can be effected by the manipulation of said nuts.

As close as possible to two of the wheels G G are arranged funnel-shaped excavators 13 13, which are secured to the frame B by means of perpendicular bars 3 3, which are threaded for the reception of nuts 6, and suitably guided. The funnel excavators can be adjusted independently of each other. The said excavators are held suspended by chains 7 7, attached to arms on a tumbling-shaft, 8, which has its bearings on vertical timbers 9. The longer or upright arm of the shaft 8 is connected by a rod to a horizontal lever, 10, applied to an automatic locking device, 11, on top of a vertical timber, 12. The excavators are so shaped and arranged as to guide and convey dirt, &c., off the track, and by means of the scrapers 13½ the rails are cleared. When the excavators are designed to clear below the rail tops, they are operated by lever 10, and held in position, when desired, by the locking devices 11, and when clearing above the track the excavators are rigidly held by the nuts 6 6.

The automatic locking device consists of a circular plate, 15, secured by brackets 16 to the top of the timber 12. To the plate 15 the lever 10 is pivoted at 17. (See Fig. 4.) 18 is a tongue attached to the plate 15. 19 is a spring secured to the tongue 18, on the under side of which spring is a lip, 20. By the pressure of the spring 19 its lip is held down, and the lever 10 is held in place by the angular lever 22, which is pivoted to the circular plate 15 and attached to said spring by an eye, 23. The levers 10 and 22 can be moved by ropes 24 and 25, extending to the cab of the locomotive.

The adjustable lateral motion and end stops and journal-box shown in Fig. 3 are constructed as follows: The journal-box at the outer end of each axle is provided with a top bearing-block, a feed-opening for lubrication, and an endwise adjusting device consisting of the following elements: *d* designates a journal-box

provided with a cylinder, a piston end stop *m*, set-screw *c*, set-nut *n*, and piston end stop *m*, bearing against the axle-journal *p*. By manipulating the set-screws *c* an accurate adjustment of the flange-cutters with respect to the rails *J* can be effected.

It will be observed by reference to Fig. 1 that I secure to the vertical timbers *P* brooms *R*, which are arranged to sweep the rails.

Having described my invention, what I claim as new is—

1. In combination with the continuously-perpendicular flange-cutter *U*, tread-clearer *O*, funnel-excavator *13*, conical scoop *2*, perpendicular threaded square bar *F*, and the threaded bar *3*, substantially as described.

2. In combination with a railroad-track, the funnel-shaped surface-clearers adjustable, as described.

3. The combination, in a railway-track clearer for cars, of a perpendicular flange-cutter and tread-clearer of a funnel-shaped excavator, adjustable to cut above and below the faces of the rails, substantially as described.

4. The combination of the flange-cutters, the tread-clearers, vertically adjustable, the funnel-shaped excavators adapted to be lifted over switches, and an automatic lock, substantially as described.

5. In a track-clearer, the overhanging deflector *2* and angular perpendicular clearer, in combination with the vertically-adjustable bar *F* and a car, substantially as described.

6. The combination, with a car, of vertically independently-adjustable funnels *13*, sus-

pended flexibly from a rock-shaft, *8*, substantially as described.

7. The combination, in a railway-track clearer, of a truck-frame which is laterally adjustable on its axles, substantially as described.

8. The combination, with a car-frame, of the surface-rail clearers and the conical chutes *2*, braced and adjustable, as described.

9. The combination, with a car-frame, of the surface-clearer, the cutter *U*, braced and adjustable, as described, and the vertical timber *P*, as specified.

10. The combination, in a railway-track clearer, of a curved surface-deflector, a clearer, *U*, and a broom arranged to operate as described.

11. The combination, with the funnel excavator, adjustable, as described, of the tooth *13½*, substantially as specified.

12. The combination, in a railway-track clearer, of the vertical stayed timbers *P*, the adjustable bars *F*, the guides therefor, the rail flange-cutters *U*, the brooms, and the surface-clearers, as described.

13. A railway-truck frame laterally adjustable on its axles, in combination with vertical frog and side rail-clearers, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES CALVIN QUINN.

Witnesses:

H. C. SOUTHARD,  
ORRIS W. FRANCIS.