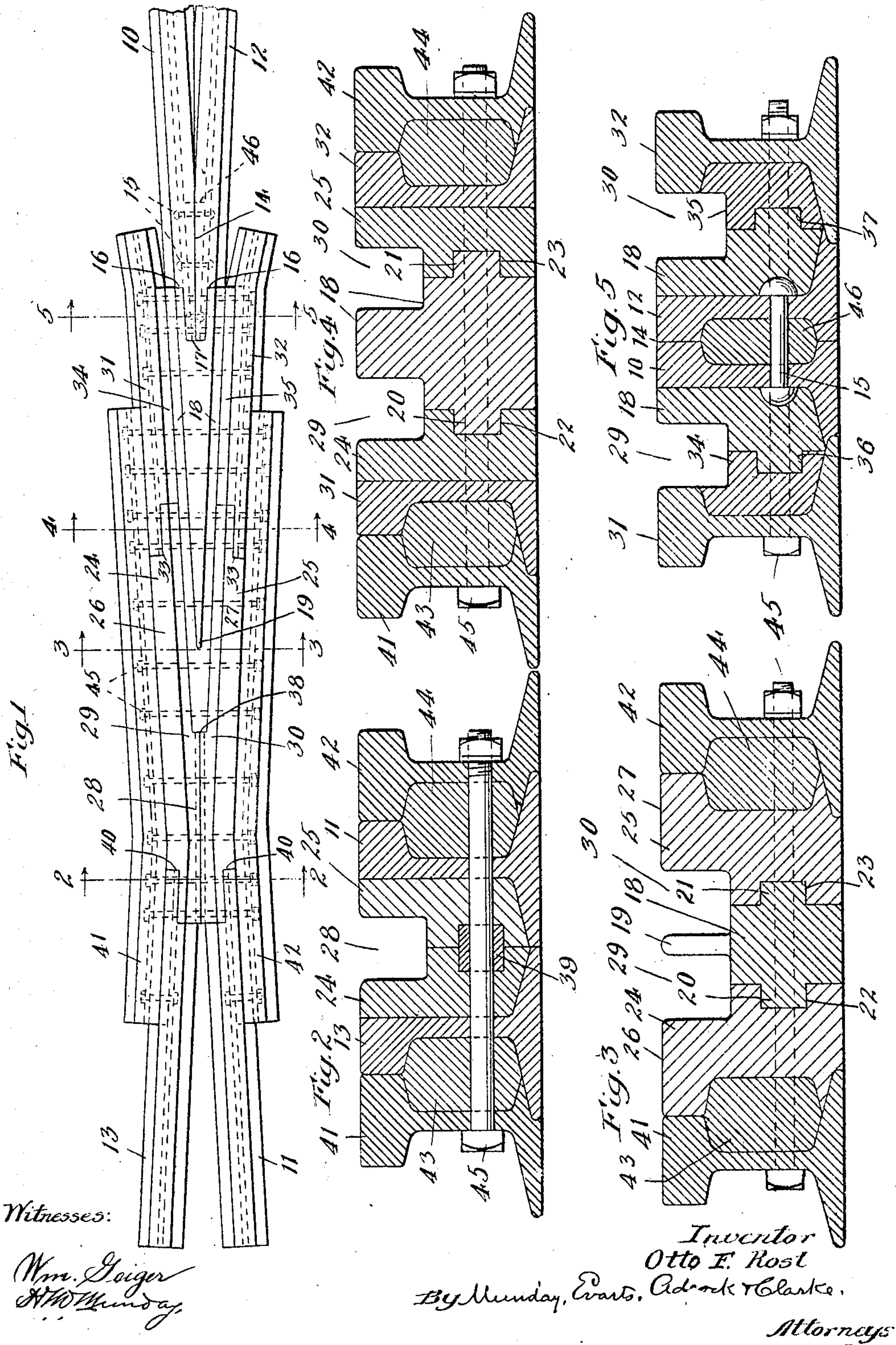


No. 885,298.

PATENTED APR. 21, 1908.

O. F. ROST.
RAILWAY FROG.

APPLICATION FILED SEPT. 14, 1907.



UNITED STATES PATENT OFFICE.

OTTO F. ROST, OF CHICAGO, ILLINOIS.

RAILWAY-FROG.

No. 885,298.

Specification of Letters Patent.

Patented April 21, 1908.

Application filed September 14, 1907. Serial No. 392,874.

To all whom it may concern:

Be it known that I, Otto F. Rost, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Railway-Frogs, of which the following is a specification.

My invention relates to improvements in railway frogs, and has for one of its objects the production of a frog construction in which the several parts shall be so interlocked as to provide a maximum of rigidity of the whole and a minimum of liability to displacement of any of the parts from sudden shocks or jars; and has for a further object the division of the frog device into several separate and replaceable members, whereby it becomes possible to readily replace the particular members that are subject to the greatest wear, as, for instance, the frog-point, without removing or discarding the entire frog; and it has for a further object such division of the frog device into separable members that it becomes possible to effect some adjustment of the principle members toward or from each other, to widen or narrow the flangeways and otherwise adjust the entire frog; and it has for further objects such other novel advantages in construction or function as may be found to obtain in the device as hereinafter described or claimed.

In the accompanying drawing, forming a part of this specification Figure 1 is a plan view of the entire frog embodying my invention; Fig. 2 is a section on line 2—2 of Fig. 1; Fig. 3 is a section on line 3—3 of Fig. 1; Fig. 4 is a section on line 4—4 of Fig. 1; and Fig. 5 is a section on line 5—5 of Fig. 1.

Like reference numerals indicate like parts on all the figures.

10—11 and 12—13 are, respectively, the rail points continuous with the two intersecting rails of the intersecting tracks. The rail points 10 and 12, whose treads pass into the point of the frog, have their contiguous ends equally mitered, on the line 14, and riveted together by rivets 15 passing through their opposed webs; and the forward extremity of the thus joined rail ends is equally notched on either side, at 16, 16, and is dovetailed into a recess 17 in the rear end of the frog point casting 18. The frog point 19 is an integral part of said frog point casting and becomes continuous with the treads of the aforesaid rearward points 10 and 12. The frog points casting 18 is provided along

the entire length of each of its sides, with lateral ribs 20 and 21, and the forward parts, substantially half of the whole length, of said ribs are let into and engaged in the rearward parts of the recesses 22 and 23 in the inner faces of, respectively, the wing castings 24 and 25, whose treads, 26 and 27, form the throat, 28, of the frog and the flangeways 29, 30 on either side of the extreme point of the frog.

The wing rails 31 and 32 form the continuation of the treads of the respective wing castings and complete the rearward continuations of the flangeways 29, 30 on either side of the frog point, and the forward end of each of said wing rails is notched, on its inner face, and is let into and overlaps a corresponding notch 33 in the rearward end of the corresponding wing casting. Back of the rearward ends of the wing castings, the spaces between the frog point casting and the wing rails is filled with, and the bottom of the corresponding flangeways is formed by, the rolled steel fillings 34, 35 having planed in their respective inner faces the longitudinal recesses 36, 37 to receive the rearward portions of the before mentioned ribs of either side of the frog point casting. Beyond the forward end, 38, of the frog point casting the aforesaid recesses on the inner faces of the two wing castings are occupied by the rolled steel key-bar 39; and by varying the width of this key-bar, the width of the throat of the frog may be varied without changing any parts or members of the frog device except the said key-bar, and thus a measure of adjustability is effected that is not possible with other frog constructions. Modifications of the form or proportions of said key-bar are also possible to effect other variations in the frog without change of all of the members thereof. The respective outer faces of the forward ends of the wing castings are notched at 40, 40, to receive the corresponding notched and overlapping ends of the rails 11 and 13. On either side of the wing castings and extending considerably beyond the overlapping joints at each end of said wing castings, are the reinforcing rails 41, 42, and the spaces between the inner faces of the respective webs of said reinforcing rails and the opposed wing castings and rail ends are filled with the rolled steel fillings 43, 44. The entire device is bound together by transverse bolts 45, as indicated on the drawings, such bolts being preferably so distributed that a pair of them

passes through each overlapping joint and others through the intermediate regions of the entire frog device. A filling 46, occupies the space between the webs of the mitered rail points 10 and 12.

It is obvious that the mutual interlocking of all the members of the frog, in substantially the manner above set forth, produces a maximum of rigidity of the whole, and that each such overlapping and interlocking connection between the parts prevents displacement of any one of them by sudden shock or jar. Lateral displacement is especially prevented by the overlapping features of construction, and vertical displacement is especially prevented by the ribbing and recessing and keying of the contiguous members. And it is further obvious that the division of the entire device into such separate interlocking members not only makes possible the features of adjustability herein above referred to, but also makes possible the ready replacement, without removal or discarding of the entire frog, of any part or parts that may be subjected to the greatest wear. For instance, the point of the frog may receive double the wear and tear that is received by either of the wing treads, because such point receives the shearing action of the wheel flange whichever flange-way such wheel flange traverses, while the action upon either wing tread is determined by the particular one of the intersecting tracks that is taken by the wheel, and therefore the point of the frog would require replacing twice as often as either of the wing treads. And again, the treads of the wing castings, forming the throat of the frog, are subjected to more severe wear and shock, and require more frequent renewal, than do either of the wing rails. Still other advantages in construction and function may be found to inhere in the device.

My invention as herein above set forth is embodied in a particular form of construction, but I do not limit myself thereto or to less than all the possible forms in which the invention as hereinafter claimed may be embodied and distinguished from prior devices for like purposes.

I claim:

1. In a railway frog, in combination, the point rails separable from and engaging a frog-point member, and wing treads laterally engaging said point member and separable therefrom, substantially as specified.

2. In a railway frog, in combination, the point rails separable from and engaging a frog-point member, and wing members laterally engaging said point member and separable therefrom, substantially as specified.

3. In a railway frog, in combination, the point rails separable from and engaging a frog-point member, and wing treads separable from said point member and in interlock-

ing engagement therewith, substantially as specified.

4. In a railway frog, in combination, the point rails separable from and engaging a frog-point member, and wing members separable from said point member and in interlocking engagement therewith, substantially as specified.

5. In a railway frog, in combination, a frog point member and wing treads separable therefrom and in interlocking engagement therewith, substantially as specified.

6. In a railway frog, in combination, a frog point member and wing members separable therefrom and in interlocking engagement therewith, substantially as specified.

7. In a railway frog, in combination, a frog point member and mutually interlocked wing members laterally engaging therewith and separable therefrom, substantially as specified.

8. In a railway frog, in combination, a frog point member and mutually interlocked wing members separable therefrom and in interlocking engagement therewith, substantially as specified.

9. In a railway frog, in combination, a frog point member and mutually interlocked wing members separable therefrom and interlocked therewith, the mutual interlocking of said wing members being effected by a key-bar occupying opposed key-ways in the contiguous faces of said wing members, substantially as specified.

10. In a railway frog, in combination, a frog point member having lateral ribs, and wing members separable therefrom and in interlocking engagement with said ribs of the point member, substantially as specified.

11. In a railway frog, in combination, a frog member having lateral ribs, and wing members separable therefrom and in interlocking engagement with the ribs of the point member, the mutual interlocking of said wing members being effected by a key-bar occupying opposed key-ways in the contiguous faces of said wing members, substantially as specified.

12. In a railway frog, in combination, a frog point member and the rail points let into recessing therein, substantially as specified.

13. In a railway frog, in combination, a frog point member and the mitered rail points dovetailed therein, substantially as specified.

14. In a railway frog, in combination, wing members having their ends recessed and interlocking with correspondingly recessed overlapping rail ends, substantially as specified.

15. In a railway frog, in combination, a frog point member, wing members separable therefrom, and wing rails interlocked with said members, substantially as specified.

16. In a railway frog, in combination, a frog point member, wing members separable therefrom, wing rails interlocked with said members, and an interlocking filling between
5 said wing rails and said point member, substantially as specified.

17. In a railway frog, in combination, a frog point member, wing members separable therefrom, reinforcing rails on either side of
10 said wing members, and fillings between said respective reinforcing rails and the wing members adjacent thereto, substantially as specified.

18. In a railway frog, in combination, a frog point member, mutually interlocked wing members separable from and interlocked with said point member, and wing rails interlocked by overlapped joints with
15 the rearward ends of said wing members, substantially as specified.

19. In a railway frog, in combination, a frog point member, mutually interlocked wing members separable from and interlocked with said point member, wing rails
20 interlocked by overlapped joints with the rearward ends of said wing members, and the rail points let into recessing in the said point member, substantially as specified.

20. In a railway frog, in combination, a frog point member having lateral ribs, mutually interlocked wing members separable
30 therefrom and in interlocking engagement with said ribs of the point member, the mutual interlocking of said wing members being effected by a key-bar occupying opposed
35 key-ways in the contiguous faces of said wing members, wing rails interlocked by overlapping joints with the rearward ends of said wing members, fillings between and interlocking said wing rails and said point mem-
40 ber, the mitered rail points dovetailed into the rearward end of said point member, forward rail points interlocked by overlapping joints with the forward ends of the wing
45 members, reinforcing rails on either side of said wing members and overlying the joints at the ends thereof, fillings between the webs of said reinforcing rails and the respective outer faces of said wing members, and means
50 for binding the whole together, substantially as specified.

OTTO F. ROST.

Witnesses:

HENRY LOVE CLARKE,
H. M. MUNDAY.