G. W. RAWSON.

Switch-Head Chair.

No. 206,612. Patented July 30, 1878.

Fig. 1.

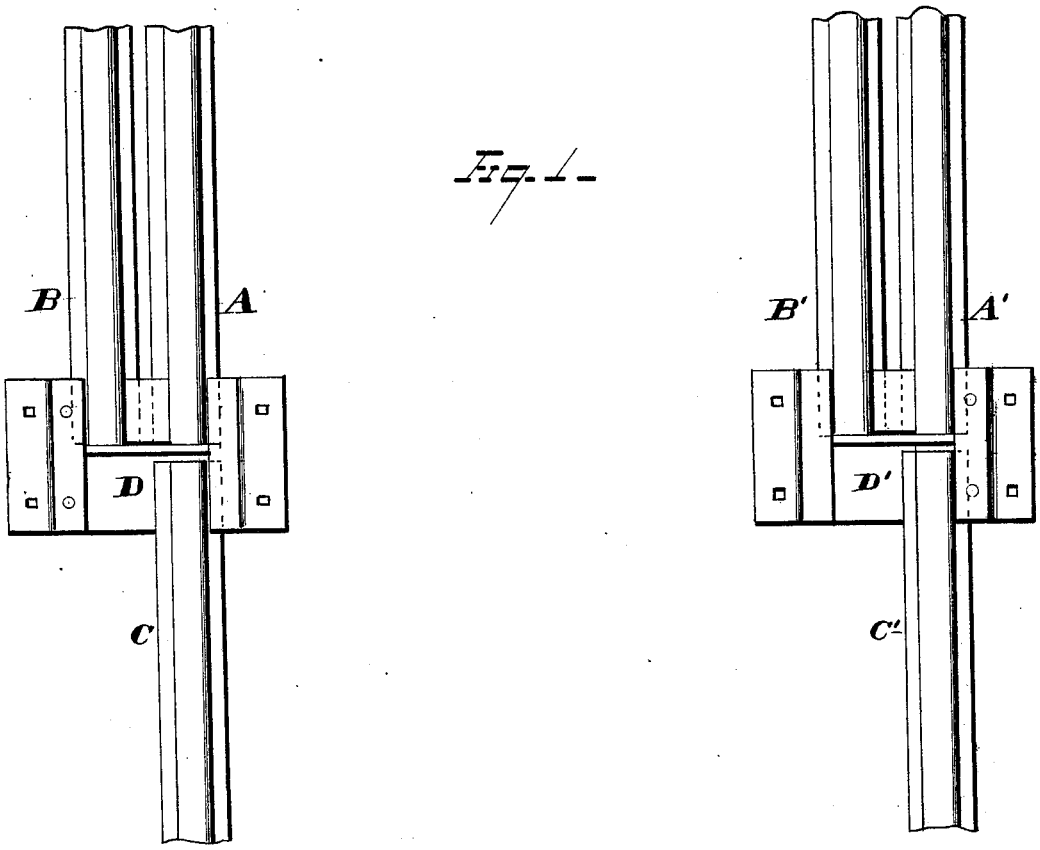

Fig. 2.

WITNESSES

Ed. L. Rothingham

A. Bright.

INVENTOR

George W. Rawson

By Legett and Legett.

ATTORNEYS

UNITED STATES PATENT OFFICE.

GEORGE W. RAWSON, OF BELLEVILLE, ILLINOIS.

IMPROVEMENT IN SWITCH-HEAD CHAIRS.

Specification forming part of Letters Patent No. **206,612**, dated July 30, 1878; application filed April 13, 1877.

To all whom it may concern:

Be it known that I, GEORGE W. RAWSON, of Belleville, in the county of St. Clair and State of Illinois, have invented certain new and useful Improvements in Railway-Chairs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in head-chairs for supporting the end junctions of rails in railway-switches, and is designed to prevent the rapid wearing out or lamination of the joining extremities of rails as they meet in what is called a "stub-switch."

It consists in forming the two cheeks of a chair of different heights, and so that the flange of one wheel of a passing car will have bearing upon the corresponding cheek of the chair, while the tread of the opposite wheel has bearing upon the cheek of its respective side. Thus as a train passes to and fro over the switch the same chair will present its respective side cheeks as bearings alternately for the tread and flange of a wheel, and the switch-chair is made to bear the weight of the wheel as the latter passes over the switch on either the main or the side track rail.

The two cheeks of the chair are extended upward, so that the outer cheek is in the same horizontal plane with the tread, and forms an even bearing-surface therewith for the passage of the car-wheel, while the inner cheek of the chair has its upper extremity a little lower than the surface-tread of the rail, and is of just appropriate height to receive the bearing-weight of the car-wheel from the flange of the latter as it passes over the end extremities of the joining rails.

Referring to the drawing, Figure 1 is a plan view of a switch, showing chairs made according to my invention. Fig. 2 represents vertical transverse sections of each one of the chairs, respectively, for the two sides of the track, with their main and side rails in position.

A A′ represent in broken section the two main rails of a track, B B′ the side track rails, and C C′ the switch or throw rails. The three sets of rails are supported in their end junctions by the head-chairs D D′, the extremities of the respective main and side track rails being in close lateral contiguity to the corresponding cheeks of the chair on the latter's inner and outer sides.

This chair, which constitutes my invention, has its side cheeks extended vertically up, as shown in the cross-section views, so as to receive the bearing-weight of a wheel passing over that portion of the rails which is in horizontal cross-line with the cheeks. By allowing the wheels to tread upon these vertically-supporting cheeks the weight and wear of the passing train is removed from the end extremities of the rails seated in the chairs, and caused to act only upon the cheeks instead.

The outer cheek, E, of either side chair has its wearing-surface in horizontal plane with that of the rail or rails supported on the same, so that the tread of the wheels will be given a continuous bearing jointly along the rail and this cheek of the chair.

In making the inner side cheek, G, of the chair, which is in close contact with the inner side of the rail next contiguous to the same, it is necessary that the wearing-surface of the cheek shall be in a plane lower than that of the upper face of the rail, so that the wheel may be supported by its flange upon the cheek instead of by its tread, as is the case when the cheek of the chair is on the outer side of the supported rail.

I make the bearing-face of this inner cheek, G, to be in a horizontal plane about one and one-fourth (1¼) inch below that of the rail, more or less, so that the two may be in accurate relation to one another, such that the weight of the passing wheel may be taken from its tread bearing upon the rail, and in substitution thereof be borne by the cheek G as the flange of the wheel bears upon the latter. This inner vertical cheek is preferably made with a longitudinally grooved or channeled face, *g*, to correspond with the contour of the flanged periphery of the wheel.

In the accompanying drawings I have shown simply so much of the switch and connecting

rails as to illustrate the operation of the chairs, and it is apparent that any means may be used as switch mechanism.

By the above-described means it is seen that upon switching a car off from or onto the switch or throw rails, the opening intervening between the latter and either the main or side track rails is bridged over on either side of the rail-sections, so that the wheels in passing over the same do not strike the end extremities of the connecting-rails, but are supported in vertical bearing by the side cheeks of the chairs, one, respectively, on either side of the track.

The heavy pounding and battering of the rail ends otherwise occasioned is thus avoided, and the rails are caused to last much longer than if the ordinary railway-chairs were used in supporting them in these switch-junctions.

If desired, the wearing-surface of either or both of the cheeks might be provided with a detachable steel bar, as shown at F; or instead thereof the wearing-surfaces may be chill-hardened; but the same constitutes no part of my invention.

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A railway-switch chair having bearing-cheeks of different heights, substantially as described.

2. A head-chair constructed with cheeks made in vertical extension on either side, as described, whereby the weight of the passing wheels is transferred from the rail to the chair, substantially as described.

3. A stub-switch chair one of whose side bearings is in horizontal plane with the tread of the rail, and whose opposite side bearing is grooved and in a plane lower than that of the rail-tread, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand this 9th day of April, 1877.

GEORGE W. RAWSON.

Witnesses:
J. M. HAMILL,
H. A. CARR.