

(No Model.)

H. W. LIBBEY.
STREET RAILROAD.

No. 414,060.

Patented Oct. 29, 1889.

Fig. 1.

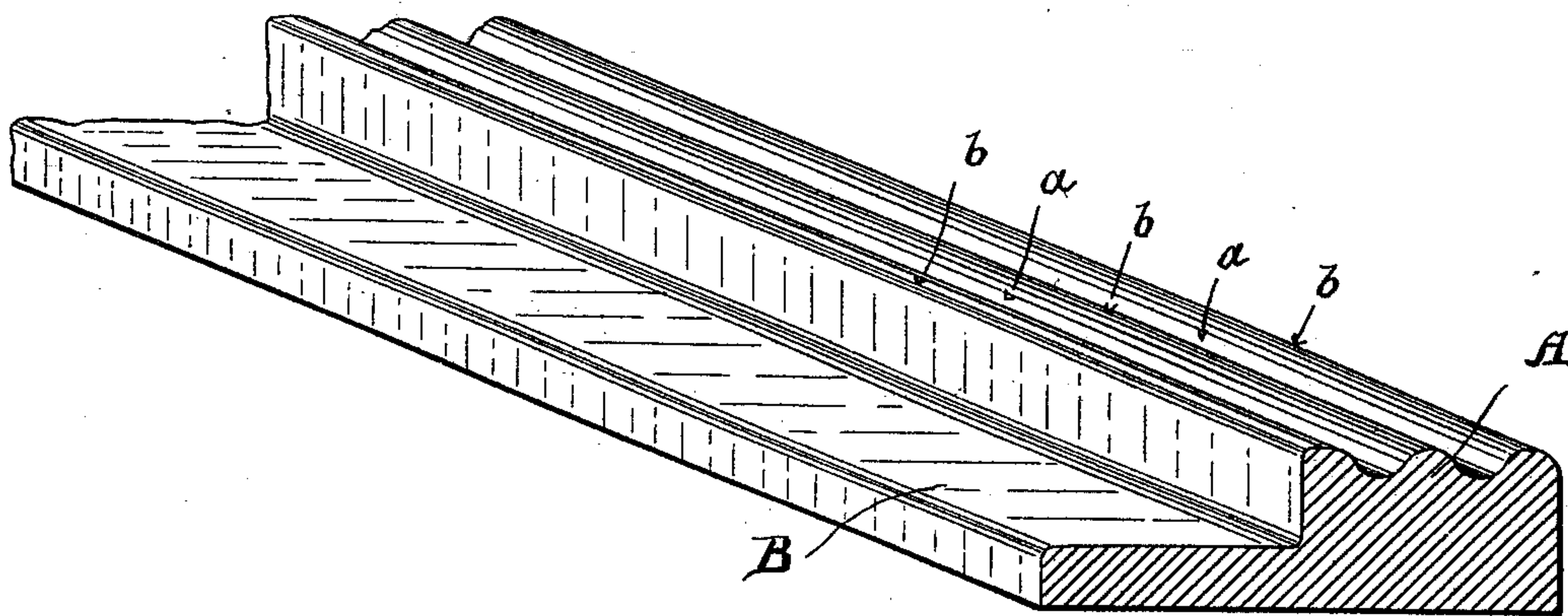
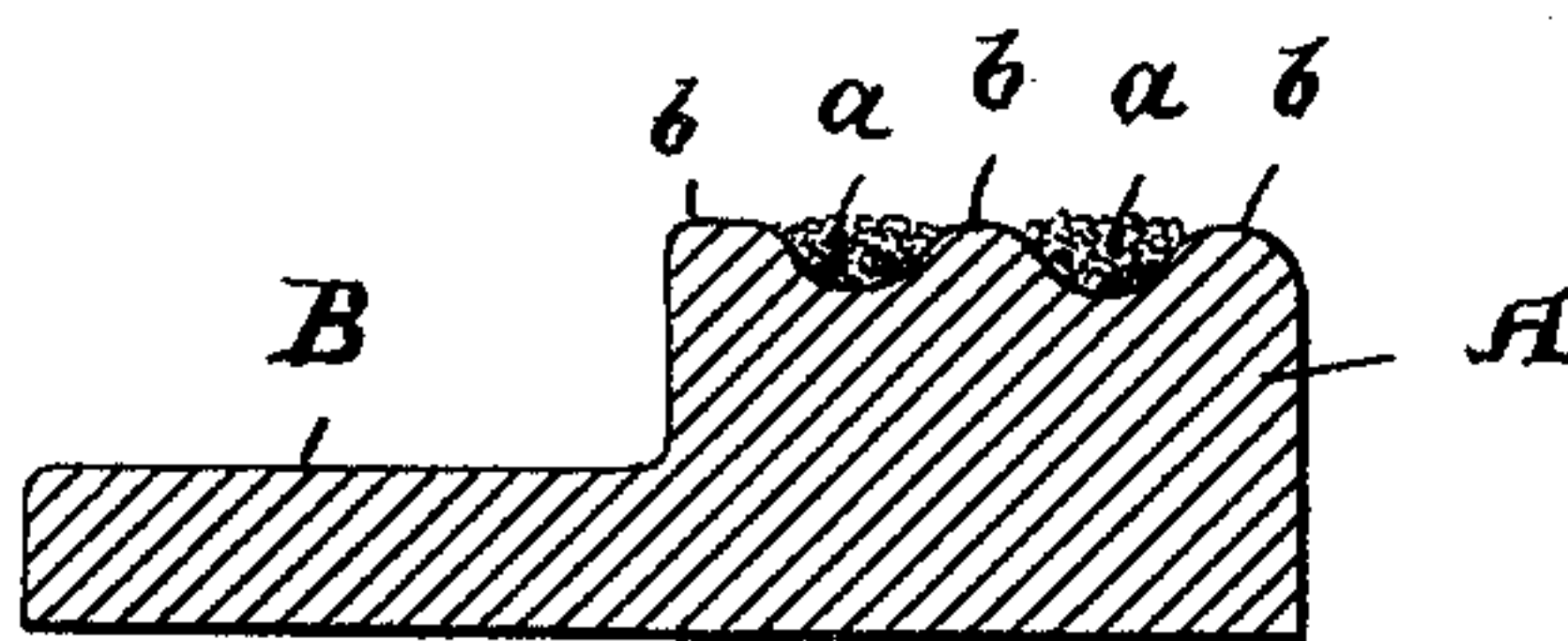


Fig. 2.



Witnesses.

F. G. O'Connell,
J. D. Reid

Inventor.

Hosea W. Libbey
by C. Blanta
attorney.

UNITED STATES PATENT OFFICE.

HOSEA W. LIBBEY, OF BOSTON, MASSACHUSETTS.

STREET-RAILROAD.

SPECIFICATION forming part of Letters Patent No. 414,060, dated October 29, 1889.

Application filed September 3, 1888. Serial No. 284,428. (No model.)

To all whom it may concern:

Be it known that I, HOSEA W. LIBBEY, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Rails for Street-Railroads, of which the following, taken in connection with the accompanying drawings, is a specification.

10 The object of my invention is to produce a rail for street-railroads on which the wheels of the car will run with less friction on level surfaces, or on which the friction may be increased in ascending or descending an in-
15 cline.

Referring to the accompanying drawings, Figure 1 represents a perspective view of a rail embodying my invention. Fig. 2 is a cross-section of a rail embodying my invention, showing the spaces between the projec-
20 tions filled with gravel.

A represents the tread of the rail, and B the inner flange. The tread portion B is provided with two or more longitudinal grooves
25 *a*, and the wheels of the car run upon the projecting portion *b*. The inner edge of the tread next to the flange is made nearly square, so as to prevent the liability of the car from running off the track, as would be the case
30 if the edge were much rounded. It will be seen that when the grooves *a* are free from

dirt a very small portion of the rail comes into contact with the wheels of the car, whereby the friction is much reduced. Consequently less power is required to draw the
35 car, thereby relieving the horses. When it is desired to increase the friction so that the car-wheels have a greater adhesion, the spaces *a* between the projections *b* are filled with gravel, as shown in Fig. 2. This is particu-
40 larly applicable where the roadway is on an incline, thereby preventing any chance of the car from descending the incline of its own accord, as the gravel will bite upon the wheels and prevent the car from sliding down-
45 ward.

What I claim as my invention is—

A railway-rail constructed with a flange having a flat upper surface and a tread projecting therefrom, the upper surface of said
50 tread having continuous longitudinal grooves and projections extending the whole length of the rail, substantially as and for the purposes set forth.

In testimony whereof I have signed my
55 name to this specification, in the presence of two subscribing witnesses, on this 22d day of August, A. D. 1888.

HOSEA W. LIBBEY.

Witnesses:

CHAS. STEERE,
E. PLANTA.