

(No Model)

W. H. DOTTER.
SEPARABLE RAIL.

No. 582,723.

Patented May 18, 1897.

Fig. 1.

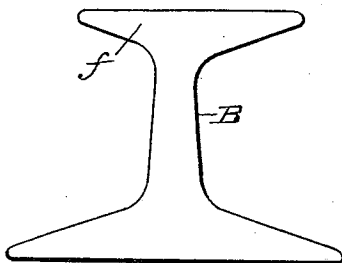


Fig. 2.

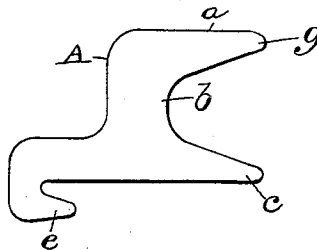


Fig. 3.

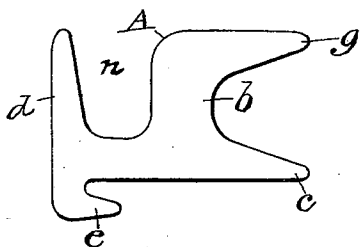


Fig. 4.

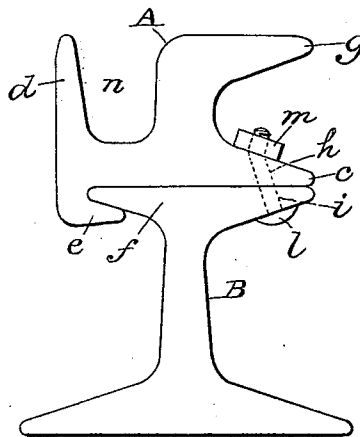
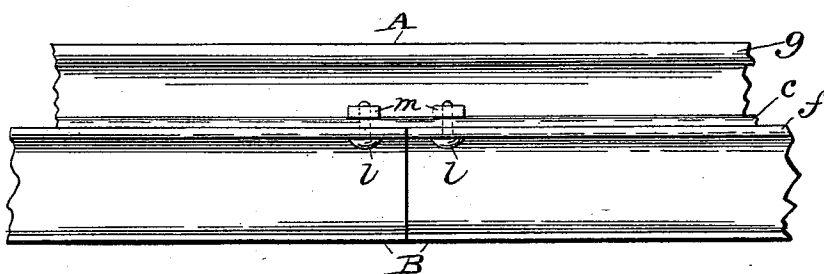


Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM HENRY DOTTER, OF CARLISLE, PENNSYLVANIA, ASSIGNOR OF
ONE-HALF TO HERMAN BERG, JR., OF SAME PLACE.

SEPARABLE RAIL.

SPECIFICATION forming part of Letters Patent No. 582,723, dated May 18, 1897.

Application filed March 19, 1897. Serial No. 628,323. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM HENRY DOTTER, a citizen of the United States, residing at Carlisle, in the county of Cumberland and State of Pennsylvania, have invented certain new and useful Improvements in Separable Rails, of which the following is a specification.

My invention relates to improvements in separable rails for street and other railways, and has for one of its objects to allow the use of a permanently-set base-rail.

Another object of my invention is to prevent any wear of the base-rail and to render it easily reheadable.

Another object of my invention is to provide an improved rail-cap which may be attached and detached from the base-rail without removing the latter from its setting.

Another object of my invention is to provide an improved and simplified but rigid fastening of the rail-cap to the base-rail.

Another object of my invention is to allow a line of rail to be made practically a single rigid rail by breaking the joints between the rail-cap and base-rail.

Another object of my invention is to do away with fish-plates or other means of fastening rails at their joints.

Another object of my invention is to remove the necessity of bonding the rails at their joints in electric railways where the rails are utilized for the return-current.

Another object of my invention is to lessen the cost of maintenance of way by making it unnecessary to disturb the road-bed when the tread of the rail becomes worn and has to be replaced.

These objects I accomplish in the manner and by the means hereinafter more fully described in detail, and particularly pointed out in the claims, reference being had to the accompanying drawings, in which the same reference-letters indicate like parts in all the figures.

Figure 1 is an end view of the base-rail. Fig. 2 is an end view of the rail-cap without the inner upward-projecting flange. Fig. 3 is an end view of the same, showing the inner upward-projecting flange. Fig. 4 is an end view of the base-rail with the cap attached. Fig. 5 is a view of a section of a road with the

base-rail and rail-cap in place, the joints being broken between them.

A is my improved rail-cap, in which *a* is the car-tread, *b* the web, and *c* the foot, which has on its inner edge a flange *d*, extending upward at right angles to the foot *c* higher at curves than the car-tread *a* and elsewhere to the same level, and a flange *e*, extending downward and bent so as to form an acute angle with the bottom of the foot *c* equal to the angle formed at the inner edge of the top of the base-rail B by the top and bottom of the head *f* of the base-rail B. The car-tread *a* is formed by a lip *g*, extending outward at right angles to the web *b*. In the outer side of the foot *c*, over which the lip *g* projects, is a hole *h*, arranged to correspond, when the cap A is placed in position for attachment to the base-rail B, with a similar hole *i* in the head *f* of base-rail B. Before the base-rail B is set a bolt *l* is passed upward and inward through the hole *i* in the head *f* of the base-rail B.

When it is desired to fix the rail-cap A to the base-rail B, the flange *e* is hooked on the inner side of the head *f* of the base-rail B and the hole *h* passed over the bolt *l*, which pointing inwardly draws the rail-cap A outward as the nut *m* is screwed on, making the rail-cap A and base-rail B a continuous rigid rail, the joints between the rail-cap A and the base-rail B being broken.

The flange *d* and web *b* of the rail-cap A form a groove *n* wide enough for the flanges of the car-wheels, but too narrow to allow wheels, even with the narrowed tires, to run in it and thereby prevent their wear and tear on the rail-cap.

The bolt *l*, being placed in the base-rail B before the latter is put in place and having its head downward, need not be disturbed beyond unscrewing the nut *m* when it is desired to remove the rail-cap A. This arrangement of the lip *g* and the bolt *l* prevents the latter being struck and worn and jarred by the flanges of the car-wheels, as is the case when the bolt is on the other side and the car-tread *a* wears down.

The bolt *l*, by reason of its inward slant, operates to hold the rail-cap and base-rail more rigidly as the nut is screwed down tighter.

I am aware that removable rail-caps have been in use for some time secured upon the heads of rail-bars and their beams constructed with heads clamped upon the same, and I do not therefore claim a removable cap broadly, but only the construction shown herein.

In all previous constructions but one a rail-bar of special form has been required, as where the cap was secured by wedges which required a heavy head with beveled edges formed upon the rail-bar and where the cap has been formed to slip longitudinally upon the body of the rail-bar. In the one exceptional case the cap was secured by two flanges, one permanently bent to engage the inner edge of the rail-bar and the other to be bent cold against the outer edge of the rail-bar. This necessitated the use of a very thin flange, or one notched or cut at intervals, even if it could be done practically at all, and must therefore be weak.

While I prefer the use of the base-rail shown in the drawings herewith, ordinary I-beams can be used with my rail-cap by merely extending the inner side of the foot of the cap sufficiently to keep the web of the cap and the web of the base-rail in the same vertical plane.

While the rail-cap with the inner upward-projecting flange may be preferable on paved streets in cities, as affording a retaining-wall to the pavement as well as making a groove for the flanges of the car-wheels too narrow for wagon and carriage wheels and at curves as acting as a guard-rail, elsewhere, owing to the saving in expense, the rail-cap without the inner upward-projecting flange *d* may be used.

Having thus set forth the nature of my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A removable cap for rails having the car-tread formed by a lip projecting outward at right angles to the web of the cap, a flange on the inner side of the foot of the cap extending downward and bent so as to hook on the inner edge of the head of the base-rail and in the outer side of the foot of the cap under the projecting lip forming the car-tread a hole to pass over a bolt fixed in the base-rail and arranged to draw the cap outward

and secure it firmly and rigidly to the base-rail, substantially as shown and described.

2. A removable cap for rails having a car-tread consisting of a lip extending outwardly at right angles to the web, a flange on the inner side extending upwardly at right angles to the foot of the cap so as to form with the web of the cap a narrow groove and downwardly at an angle equal to the angle formed by the top and bottom of the head of the rail-bar at its inner edge, and having on the outer side of the web through the foot of the cap and protected by the lip forming the tread a hole for the passage of a bolt to secure the cap to the rail-bar, substantially as shown and described.

3. A rail consisting of a base-rail having a head, the inner side of which is shorter than the outer, and a web, and a cap having the car-tread formed by a lip extending outward at right angles to the web of the cap, a flange at the inner edge of the foot of the cap extending downward and bent so as to hook on the inner edge of the head of the base-rail, and upward, parallel to the web of the cap, to form a groove for the flanges of the car-wheels, and a hole in the outer side of the foot of the cap, under the projecting lip forming the car-tread, adapted to pass over a bolt in the head of the base-rail, substantially as shown and described.

4. The combination with a base-rail having a web and head, of a cap having a lip extending outward at right angles to the web of the cap forming the car-tread, a flange on the inner side of the cap adapted to hook under the inner edge of the head of the base-rail, a hole near the outer edge of the foot of the cap, under the projecting lip forming the car-tread, adapted to receive a bolt, having its head down and passing upward and inward through the head of the base-rail, and a flange, on the inner side of the cap, forming with the web of the cap a groove in which the flanges of the car-wheels run, substantially as shown and described.

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

WILLIAM HENRY DOTTER.

Witnesses:

C. M. LIGGETT,
G. McCURE.