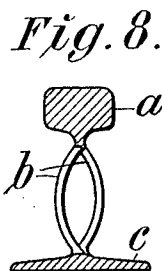
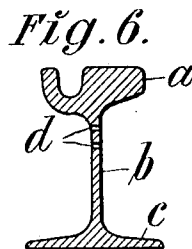
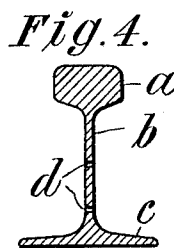
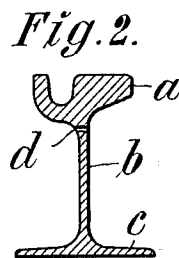
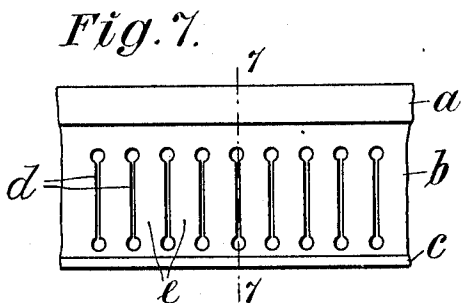
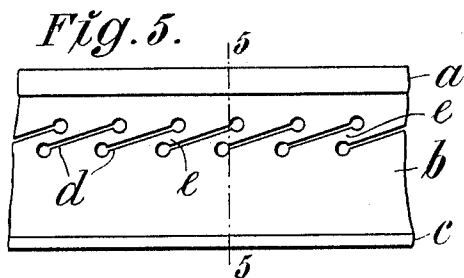
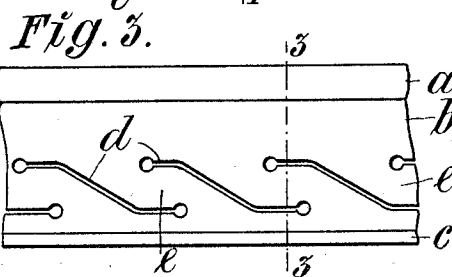
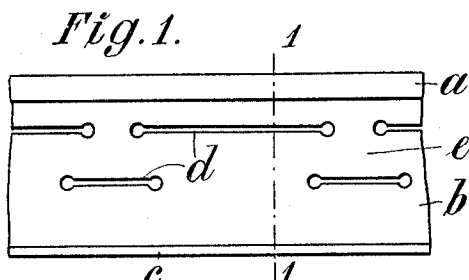


E. ZELL.
RAIL, ESPECIALLY A TRAM RAIL.
APPLICATION FILED OCT. 28, 1911.

1,040,482.

Patented Oct. 8, 1912.



WITNESSES:
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UNITED STATES PATENT OFFICE.

ERLAND ZELL, OF GOTTENBORG, SWEDEN.

RAIL, ESPECIALLY A TRAM-RAIL.

1,040,482.

Specification of Letters Patent.

Patented Oct. 8, 1912.

Application filed October 28, 1911. Serial No. 657,314.

To all whom it may concern:

Be it known that I, ERLAND ZELL, a subject of the King of Sweden, residing at 17 Stora Badhusgatan, Gottenborg, in the Kingdom of Sweden, have invented certain new and useful Improvements in Rails, Especially Tram-Rails, of which the following is a specification.

On account of the increased speed and weight of the rolling stock there has been used in tramways and railways, especially in electric tramways, heavier and respectively higher and stiffer shapes of rails.

In spite of the yielding effect of the car springs there has arisen by this means a certain stiffness in the system resulting in the formation of so-called ripples, that is more or less regular transverse elevations or cavities on the treads of the rails as well as on the wheels. These ripples which cause a jolting action of the cars and a loosening of the rails from the bed, etc., arise on account of the vertical movements and shocks of the wheels against the rails.

The present invention has for its object, by arranging slits in the rail, suitably in the web, said slits passing in the same or almost the same direction and leaving between them a number of yielding parts or panels lying in the same or almost the same direction, to make the head of the rail movable to a certain extent with respect to the foot of the rail and yielding and thus to moderate the vertical movements of the wheels and to modify the impacts of the same against the head, so that the formation of ripples is prevented.

On the annexed drawing four embodiments of the device are shown in Figures 1, 3, 5 and 7 in side elevation. Figs. 2, 4, 6 and 8 are vertical sections on lines 1—1, 3—3, 5—5 and 7—7 of Figs. 1, 3, 5 and 7 respectively.

A rail consists of the head *a*, the stem *b* and the foot *c*.

By arranging a system of parallel horizontal slits as shown in Figs. 1 and 2, said slits being arranged in a suitable relation to each other, there are formed yielding parts or panels *e* receiving and distributing the vertical strains. In the embodiment according to Figs. 3 and 4 the slits *d* are of an extended S-shape, the panels *e* thereby not becoming horizontal, but partly inclined. In the embodiment according to Figs. 5 and 6 the slits *d* as well as the panels *e* are inclined. In the embodiment shown in Figs. 7 and 8 the slits *d* run in a vertical plane, the panels *e* being bent laterally to form an angle to the vertical line for attaining a yielding effect. It is obvious that the slits in this embodiment with bent panels may run obliquely instead of in a vertical plane.

Of course the rail can be provided with more than one system of slits, whereby the different systems of slits may run in different directions. Also it is possible to arrange the slits in the ends of the rails, if for instance a yielding effect need only be effected in the rail joints.

What I claim as my invention and desire to secure by Letters Patent of the United States is:—

1. A rail divided by slits into yielding parts or panels forming an angle to the vertical line.

2. A rail having the web divided by slits into a series of yielding parts or panels forming an angle to the vertical line.

3. A rail having the web divided by oblique slits into a series of yielding parts or panels forming an angle to the vertical line.

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

ERLAND ZELL.

Witnesses:

ADOLF ERIKSTON,
OSCAR MALMER.