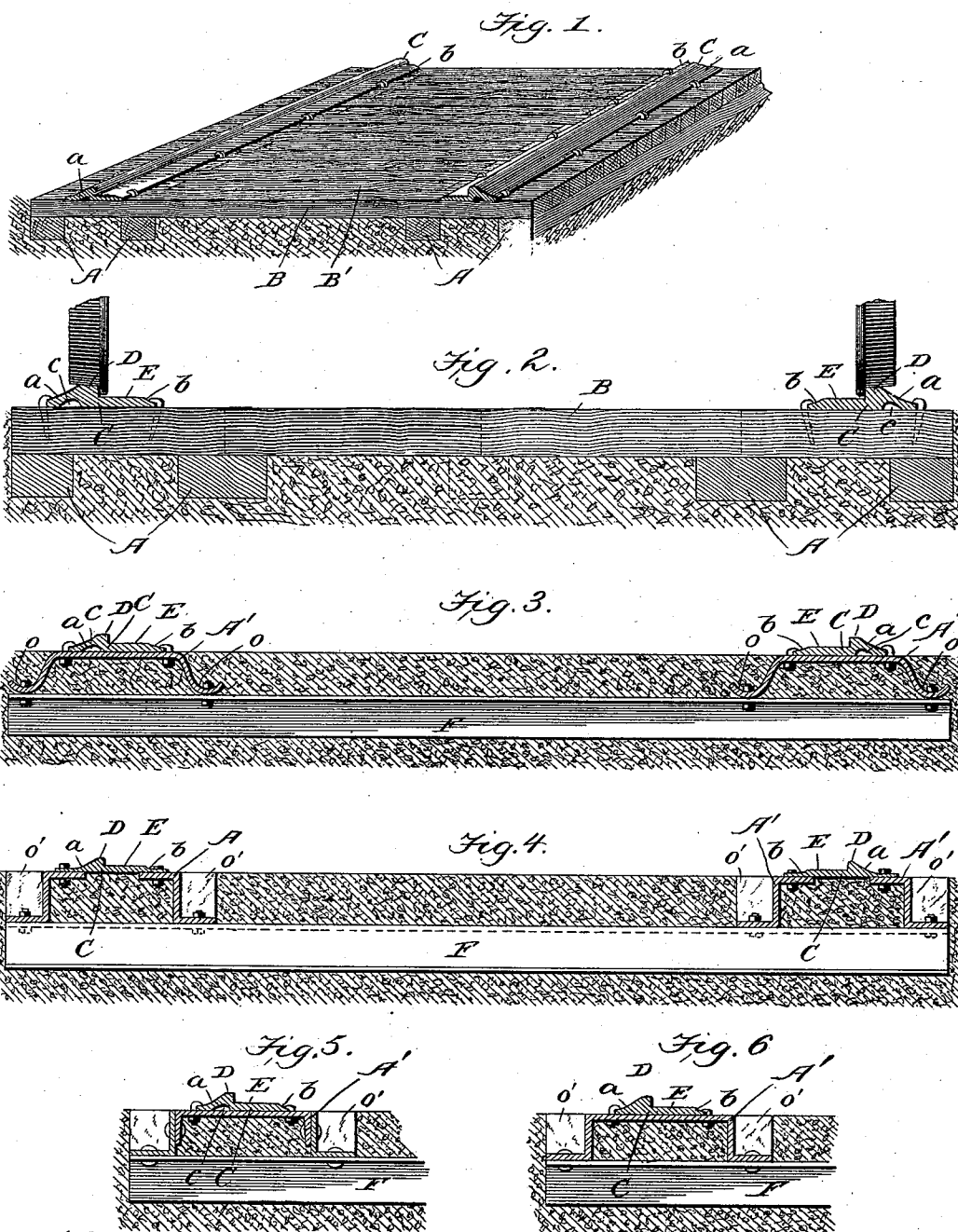


(No Model.)

F. MELBER.
ROADWAY.

No. 532,800.

Patented Jan. 22, 1895.



Witnesses
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UNITED STATES PATENT OFFICE.

FREDERICK MELBER, OF ROSS, ALLEGHENY COUNTY, PENNSYLVANIA.

ROADWAY.

SPECIFICATION forming part of Letters Patent No. 532,800, dated January 22, 1895.

Application filed July 27, 1894. Serial No. 518,753. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK MELBER, a citizen of the United States, residing in Ross township, county of Allegheny, and State of Pennsylvania, have invented certain new and useful Improvements in Roadways; and I 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 appertains to make and use the same.

My present invention relates to the construction of road or tramways for vehicles, and has special reference to metallic plate-rails employed in connection therewith, being in the latter respect an improvement on Letters Patent of the United States No. 511,023, granted to me on the 19th day of December, 1893.

It is a well known fact that plank roads as ordinarily constructed are kept in repair only by constant attention, much difficulty, and expense, due partly to their warping tendencies, and that while undergoing repair they are totally disqualified for use; also that they are peculiarly liable to rot owing to the custom of topping off such roads with a light layer of earth which accumulates moisture and promotes decay; also that such roads are subjected to the greatest amount of wear and tear at points where engaged and constantly ground by the metallic tires of vehicle wheels, thus wearing in time side ruts which can only be repaired by the substitution of an entire new road bed.

It is the object of my invention therefore to rectify these evils, and this I accomplish by the production of a sectional tramway consisting of a systematic arrangement of parallel longitudinal stringers embedded in suitable ballasting, transverse surface planking connecting said stringers, and metallic parallel plate-rails of peculiar construction spiked to the planking, all as will later more fully appear. By this construction a road is produced which is adapted to all conditions of surface, climate, and weather; one which can be used for electric car, cable, or steam propulsion as well as for the ordinary road vehicles, and one which is particularly durable, but at the same

time readily and cheaply repaired when necessary.

The invention will be hereinafter described and particularly pointed out in the claims following.

In the accompanying drawings, forming part of this application, in which like letters indicate like parts wherever employed, Figure 1, represents a perspective view of a section of my improved tramway with rails applied; Fig. 2, a transverse section of road, showing rails slightly modified to accommodate the flanged wheels of electric or steam cars; Fig. 3, a transverse section similar to the last, illustrating my invention in its preferred all metal form, and Figs. 4, 5, and 6, modifications thereof, each being a transverse section through rails and adjacent parts.

Reference being had to the drawings and letters thereon A indicates longitudinal foundation stringers preferably arranged in parallel pairs at both sides of the road-way and laid in suitable stone, gravel, or cement ballasting.

B and B' indicate transverse planking resting upon and secured to the stringers A, planks B constituting solid and continuous cross bonds connecting the outer stringers A, and planks B' of shorter length reaching to and connecting the inner stringers only, thus providing for quick and easy removal of such intermediate planks should occasion require it.

C C indicate the plate-rails, said rails having certain characteristics, to wit: The outer flange of each rail is provided with a concave or arc-shaped curve *a* (in cross section) so that the road-bed, or planking B B', shall form a tangent therewith whereby climbing of the rail from without by a vehicle wheel is facilitated.

D indicates the ridge of the rail, which may be broadened as in Fig. 2, to accommodate the wheels of cars.

E is the tread of substantially horizontal form, lying to the inner side of and extending inward from the longitudinal rib D and of a width to insure retaining vehicle wheels with ease.

b represents the inner flange which termi-

nates the horizontal tread E and said flange b is beveled or tapers to its edge in like manner to flange a so that the heads of the spikes or other fastenings used to secure the rail in place shall not project above the rail surface and be struck by the wheels of vehicles which would cause a jolting or jumping of the vehicle. This beveling or tapering of the inner flange at b also facilitates the mounting of the rail by the corresponding vehicle wheel.

Beneath the ridge D of each rail is a continuous depression or groove c serving to lighten the structure, and when desired, to receive and pocket the return wire of a trolley system.

In Fig. 3—which illustrates the preferred form of construction—it will be observed that all timbers are dispensed with, and in place of the stringers A, are substituted inverted trough-shaped metallic stringers A'. These stringers A' are formed at either side with continuous longitudinal quirks or gutters o for a purpose that will later appear, and to the top or flattened surface are securely bolted the plate rails C before described.

Firmly embedded in suitable ballasting at proper intervals are parallel metallic ties F made of structural iron, or of other form, as for instance that of the stringers A', and to the ends of these ties are firmly bolted said stringers A' as shown by Fig. 3.

The various parts of a roadway having been thus assembled are embedded in the ballasting to the level of base of rails C as in Figs. 3, 4, 5, and 6, the ties F constituting a complete and sufficient bond for stringers A' and the rails C which they support. In this position it will be seen that the side quirks o perform an important function, namely: they support and uphold the ballast and earth immediately above at times when the wheels of vehicles are ascending to, or leaving, the tracks C, or perchance have accidentally jumped the same, thus preventing such earth from being tamped into ruts by action of the wheels at either side of rails C.

In the modifications Figs. 4, 5, and 6, it will be observed that the quirks or flanges o are omitted and that their places are supplied by paving stones or slabs o' for a like purpose, while in these modifications the trough shaped stringers A' are formed by one or more sections of structural iron bolted together, se-

cured to the transverse ties F in the usual way, and upholding the rails C on surface of the roadway as before described.

This being substantially the construction of my improved roadway its utility and advantages need not be further dwelt upon, but,

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

1. A plate rail for vehicle tracks said rail having a longitudinal rib, a concave or arc shaped outer flange, and a longitudinal horizontal wheel tread to the inside of and extending from the longitudinal rib, substantially as and for the purposes specified.

2. A plate rail for vehicle tracks having a longitudinal ridge, a concave or arc-shaped reduced outer flange, a horizontal tread, and a reduced inner flange; substantially as described.

3. A plate rail for vehicle tracks having a longitudinal ridge and tread, tapering side flanges, and a continuous longitudinal groove beneath the ridge; substantially as described.

4. A plate rail for vehicle tracks, in combination with a longitudinal supporting stringer having side quirks or wings; substantially as described.

5. A plate rail for vehicle tracks, in combination with parallel longitudinal supporting stringers of inverted trough shape provided with side quirks or wings; substantially as described.

6. The combination with a plate rail having a horizontal wheel tread, longitudinal rib, and a concave or arc-shaped outer flange, of a longitudinal supporting stringer having a side quirk or wing; substantially as and for the purposes specified.

7. A plate rail for vehicles, said rail having a horizontal wheel tread which terminates in a beveled flange for the reception of the spike head, whereby the head of the spike is prevented from projecting above the horizontal wheel tread, substantially as specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 17th day of July, 1894.

FREDERICK MELBER.

Witnesses:

THOS. McCaffrey,
ROBT. DALZELL.