(No Model.) 2 Sheets—Sheet 1.

J. ELMER.

TUBULAR RAILROAD RAIL.

No. 262,384. Patented Aug. 8, 1882.

Fig. 1.

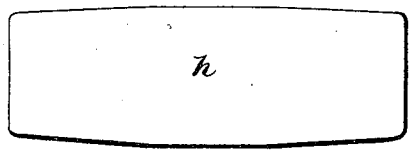


Fig. 2.

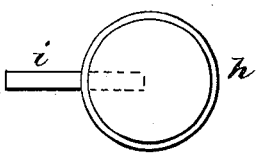


Fig. 3.

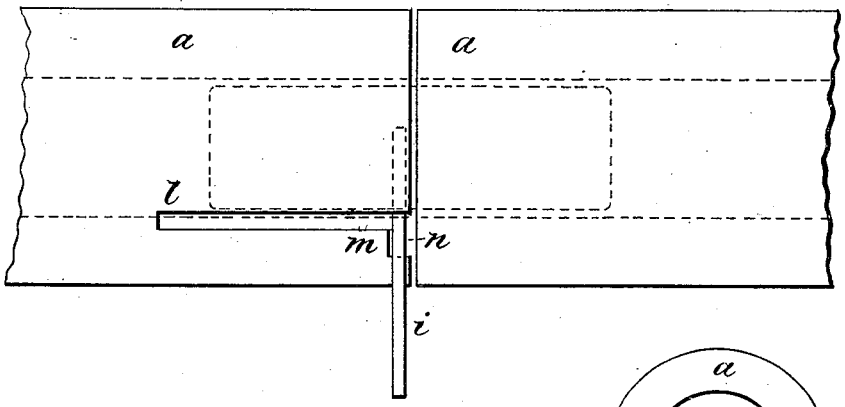


Fig. 4.

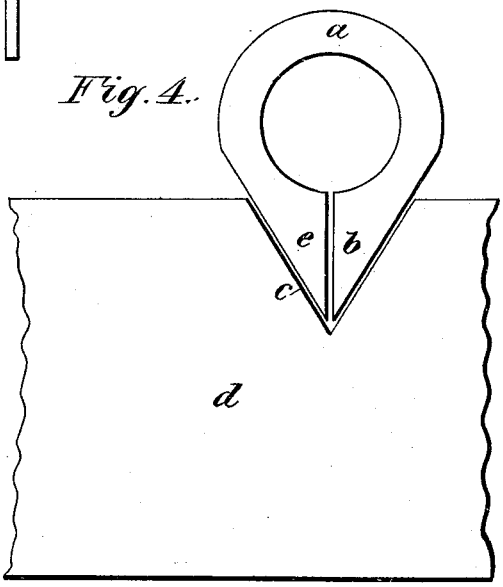
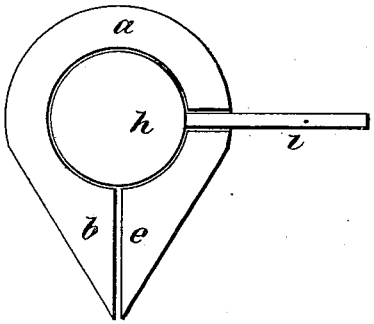


Fig. 5.



Witnesses.

John C. Kenyon

Chas. A. Pettit

Inventor.

Jacob Elmer,

By Munn & Co

Attorneys.

(No Model.) 2 Sheets—Sheet 2.

J. ELMER.

TUBULAR RAILROAD RAIL.

No. 262,384. Patented Aug. 8, 1882.

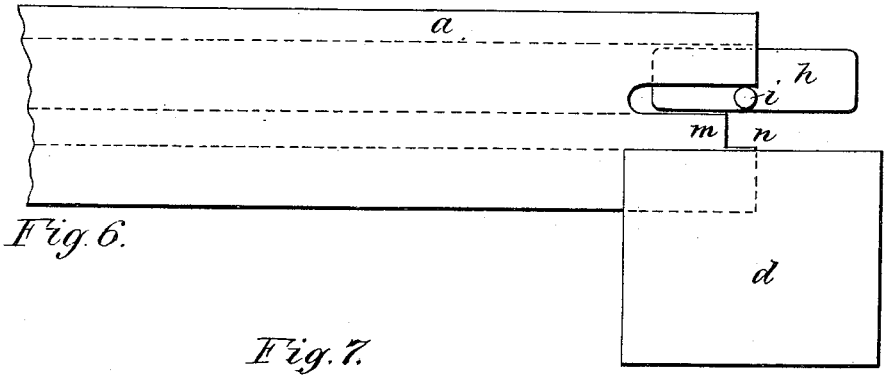


Fig. 6.

Fig. 7.

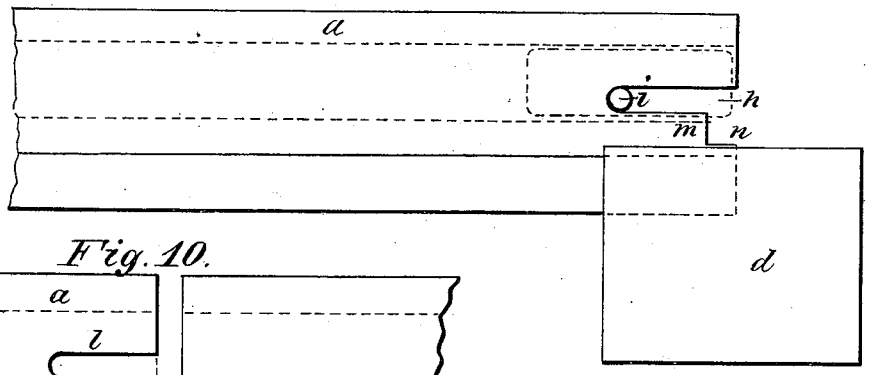


Fig. 10.

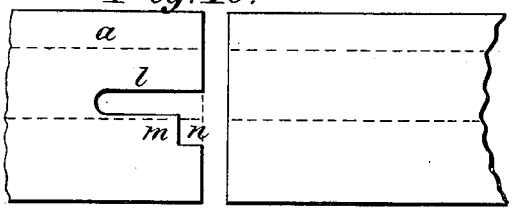


Fig. 8.

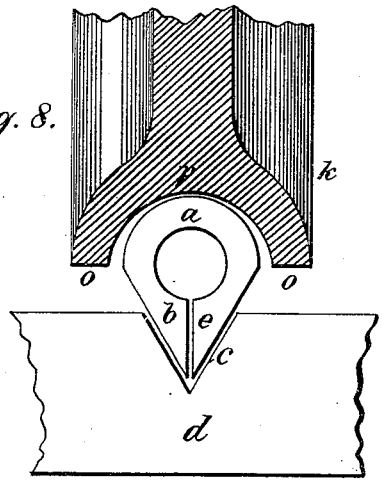
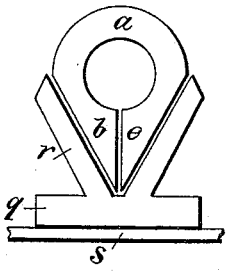


Fig. 9.



Witnesses.
Solon C. Kemon
Chas. A. Pettit

Inventor.
Jacob Elmer
By Munn & Co
Attorneys

UNITED STATES PATENT OFFICE.

JACOB ELMER, OF BILOXI, MISSISSIPPI.

TUBULAR RAILROAD-RAIL.

SPECIFICATION forming part of Letters Patent No. 262,384, dated August 8, 1882.

Application filed January 5, 1882. (No model.)

To all whom it may concern:

Be it known that I, JACOB ELMER, of Biloxi, in the county of Harrison and State of Mississippi, have invented certain new and useful Improvements in Tubular Railroad-Rails, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings and letters of reference marked thereon, in which—

Figure 1 is a side elevation of a cylindrical adjusting-bolt for connecting and holding two adjoining tubular rails together. Fig. 2 is an end elevation of the same, showing a lever or pin secured to one side of the adjusting-bolt. Fig. 3 is a top view of two adjoining tubular rails connected together by the adjusting-bolt and lever. Figs. 4 and 5 are vertical cross-sectional views. Figs. 6 and 7 are side elevatons of a tubular rail, bolt, and its lever, and a cross-tie with the bolt in different positions. Fig. 8 is an end view of the tubular rail resting in the cross-tie, and a sectional view of the wheel resting on the tubular rail. Fig. 9 is a cross-section of the tubular rail and a chair resting on an ordinary cross-tie, and Fig. 10 is a side elevation of the opposite ends of two adjoining tubular rails.

In the accompanying drawings, *a* represents a tubular rail of my improved construction, provided with the wedge-shaped flange *b* on its lower side, adapted to be inserted in the correspondingly-formed wedge-shaped notches or recesses *c*, made transversely in the cross-ties *d*, and secured therein by any suitable means. The flange *b* is divided into two equal parts by a slit, *e*, extending longitudinally the entire length of the rail, and extending laterally from the hollow of the tubular rail to the lower end of the flange of the rail. By this construction great elasticity is given the rail laterally, which yields in that direction as a train of cars passes over it. One end of each rail *a* is made square, as shown in the sectional views seen in Fig. 4, and also in Figs. 3 and 10, and the opposite end of the rail is provided with a longitudinal slot, *l*, terminating near the outer end of the slot in a shoulder, *m*, so that when the slotted end of the rail is placed in contact with the square end of the adjoining rail a notch or recess, *n*, is formed, for a purpose hereinafter described.

h represents a cylindrical adjusting-bolt, tapered at its ends and intended to connect together two adjoining tubular rails. The adjusting-bolt *h* is rounded, so as to fit into the ends of the tubular rails, and can readily turn therein, and be moved back and forth longitudinally in the tubular rails. The ends of the tubular rails are drilled out to receive the bolt *h*.

i represents a rod or lever secured to one side of the adjusting-bolt *h*, by which the bolt may be turned in the tubular rails or reciprocated therein, and also serves to connect two adjoining tubular rails together.

When it is desired to connect two adjoining tubular rails the adjusting-bolt *h* is inserted in the slotted end of the tubular rail, and turned by the lever *i* until the latter lies opposite the slot *l*, when the lever is slid along the slot *l*, as seen in Fig. 9. The square end of the adjoining tubular rail *a* is then brought up against the slotted end of the adjoining rail, forming a notch or recess, *n*, at the end of the slotted tubular rail. The lever *i* is then moved forward in the slot *l*, as seen in Fig. 6, carrying the adjusting-bolt *h* with it, until the lever *i* comes opposite the notch *n*, formed by the shoulder *m* and the square end of the adjoining tubular rail, when the lever *i* is turned down into the notch *n*, thus connecting the two adjoining tubular rails.

In lieu of the wedge-shaped recessed notches *d* in the cross-ties, adapted to receive the wedge-shaped flanges on the lower side of the tubular rails, chairs A may be employed to support the tubular rails, each chair consisting of a base, *q*, bolted to the top face of an ordinary cross-tie, *s*, and provided with the oppositely-inclined arms *r*, adapted to receive between them the wedged-shaped flange *b* of the tubular rail *a*.

This form of tubular railroad-rail is especially adapted for city railroads, where the streets are paved with asphalt or stone, by means of forming wedge-shaped grooves in the asphaltum or stone pavement to receive the flanges of the tubular rails and dispensing with cross-ties.

I am aware that the ends of tubular rails have heretofore been connected together by inserting in the ends thereof an iron plug or dowel, movable in the tubular rails by means

of a pin or handle attached to the plug, and then driving a transverse wedge or key through a slot fitted for it, cut one-half in the end of each contiguous rail, and through a recess in the under face of the plug, the wedge also passing through side plates or washers fitted to the side flanges of the rails, and the wedge secured in place by spikes, and I therefore lay no claim to such invention.

What I claim, and desire to secure by Letters Patent, is—

1. The tubular railroad-rail *a*, provided on its lower side with a wedge-shaped flange, *b*, having the slit *c*, substantially as described.

2. The combination, with a tubular railroad-rail, *a*, provided with a wedge-shaped flange, *b*, having the slit *c* on its lower side, of a wedge-shaped seat adapted to receive the flange of the tubular rail, substantially as described.

3. The combination, with the tubular railroad-rails *a a*, each square at one end, and provided with the slot *l* and shoulder *m* at the opposite end, of the cylindrical adjusting-bolt *h*, provided with the lever *i*, substantially as described, and for the purpose set forth.

JACOB ELMER.

Witnesses:
L. B. WETZEL,
F. W. ELMER.