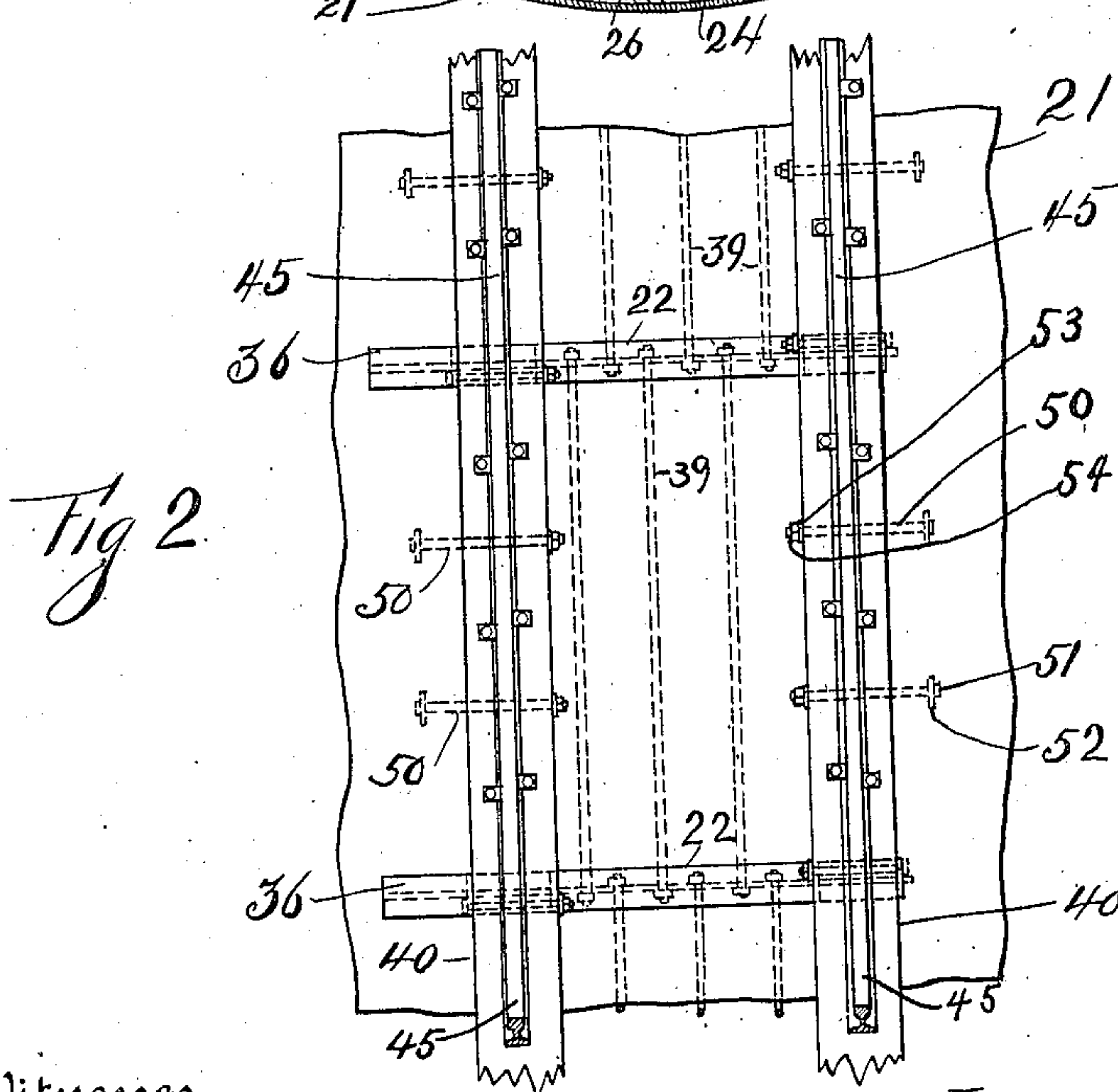
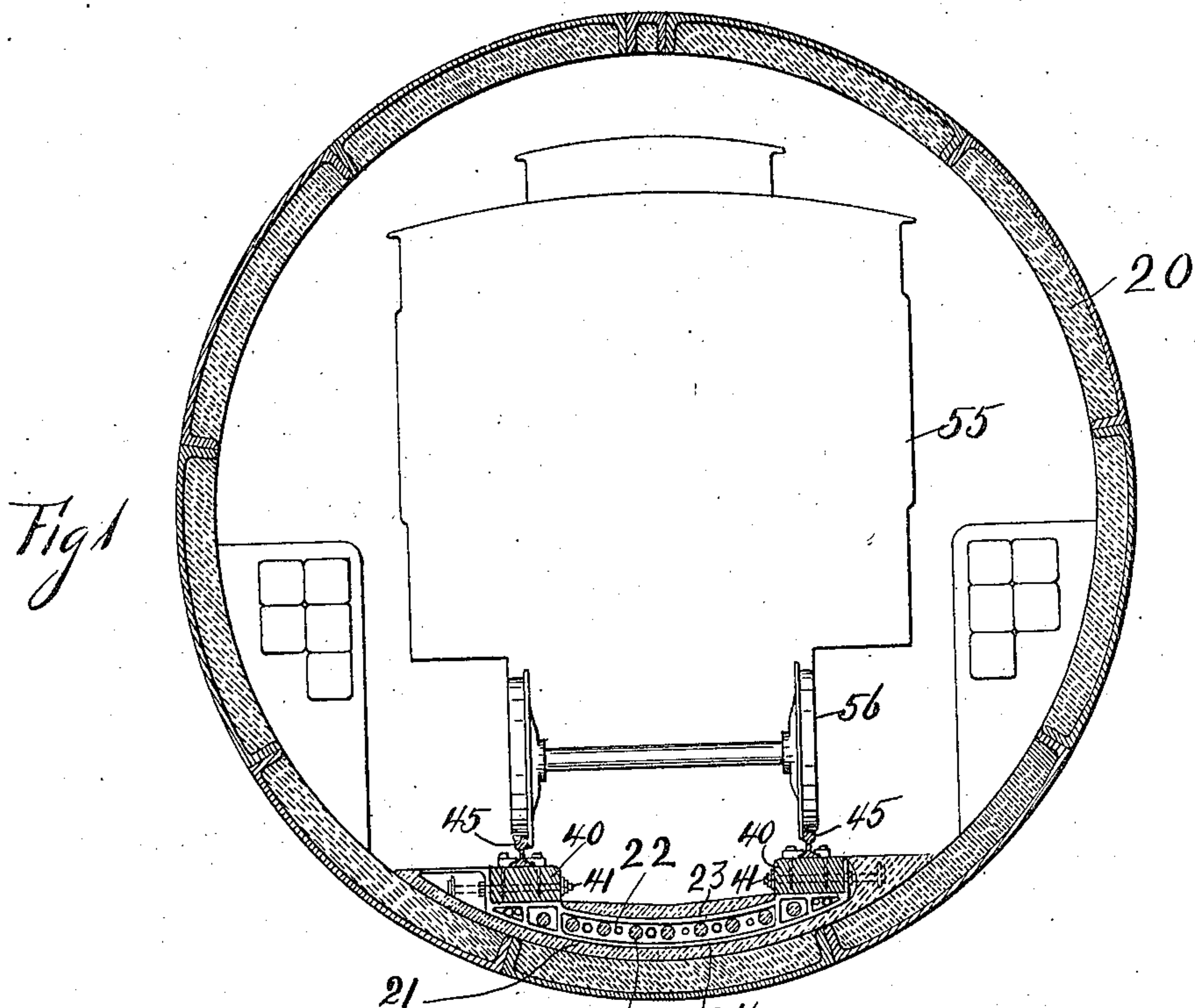


No. 846,799.

PATENTED MAR. 12, 1907.

J. W. LEAHY.
TRACK CONSTRUCTION.
APPLICATION FILED DEC. 20, 1906.

2 SHEETS—SHEET 1.



Witnesses
M. Grimsby.
Chas. Dounell

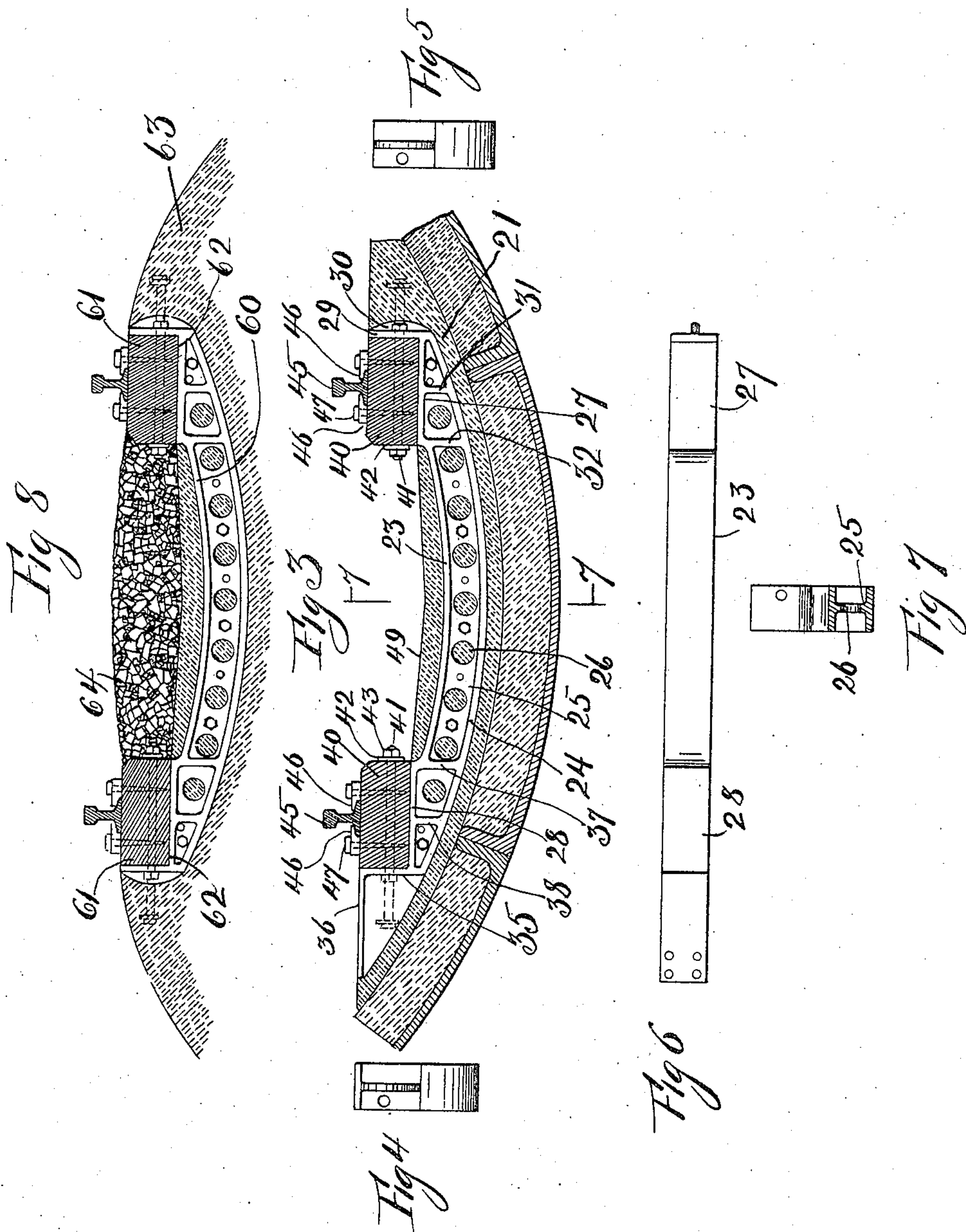
Inventor
James W. Leahy
By his Attorney
A. de Borneville

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2 SHEETS—SHEET 2.



Witnesses
M. Girmiansky
Chas. O'Donnell

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UNITED STATES PATENT OFFICE.

JAMES W. LEAHY, OF JERSEY CITY, NEW JERSEY.

TRACK CONSTRUCTION.

No. 846,799.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed December 20, 1906. Serial No. 348,740.

To all whom it may concern:

Be it known that I, JAMES W. LEAHY, a citizen of the United States, and a resident of Jersey City, in the county of Hudson and State of New Jersey, have invented a certain new and useful Track Construction, of which the following is a specification.

This invention relates to track construction. Its organization comprises longitudinal runways that carry tracks and which are connected by and supported upon metallic ties embedded in concrete or the like material.

The invention is applicable to all kinds of trackwork of which it permanently maintains the gage and alinement. It secures the perfect electric insulation of tracks and permits the exact elevation of the outer track for curves. It can be easily made to conform to the various conditions required for different road-beds.

The invention is further specially applicable to concrete track construction in tunnels where long cross-ties are objectionable on account of the small cross-sections of said tunnels and their imperfect alinement.

In the drawings, Figure 1 represents an exemplification, partly in section, of my invention located in a tunnel. Fig. 2 is a plan view of a portion of Fig. 1. Fig. 3 is an enlarged view of a portion of Fig. 1. Fig. 4 shows a left-hand end view of the tie shown in Fig. 3, and Fig. 5 is a right-hand end view thereof. Fig. 6 represents a top plan view of a portion of Fig. 3. Fig. 7 shows a partial section of Fig. 3 on the line 7-7, and Fig. 8 shows the invention applied to open road construction.

Referring to Figs. 1 to 7, the lining of a tunnel is represented at 20 and at the lower portion thereof is spread a bed of concrete 21, in which are embedded the metallic ties 22. The ties comprise the upper curved flange 23 and lower curved flange 24, connected by the vertical rib 25 with openings 26. On the opposite ends of the tie are formed shoes 27 and 28. The shoe 27 has formed therewith the vertical side bearing-plate 29, which is strengthened by an end rib 30, and vertical legs 31 and 32 constitute substantial supports for the shoe. The shoe 28 has extending therefrom the end plate 35, which joins with the horizontal plate 36, which latter may support a third rail for electric connections. Legs 37 and 38 constitute supports for the shoe 28. Longitudinal tie-

bolts 39 connect a pair of the ties 22. On each of the shoes is bolted the longitudinal runway 40 by means of bolts 41, the heads of which bolts bear against the vertical side bearing-plates of the said shoes, and washers 42 are located between the nuts 43 and the sides of the said runways. On the top of the runways are placed tracks 45, which are held in place by clips 46, secured by the spikes 47. The concrete bed 21 is spread between the ties 22 and is forced through the openings 26 and around and about the longitudinal bolts 39 to bind all the parts securely together. The concrete is also spread under the runways and preferably beyond their outer longitudinal sides, as well as under the ties. The top surface 49 of the concrete between the runways inclines from the lower edges of said runways toward the central longitudinal line of the road-bed. Bolts 50, with their heads 51 and washers 52, are embedded in the concrete and pass through the runways 40, with the washers 53 bearing against them under the nuts 54.

The drawing in Fig. 1 shows the outline of the car 55 with its truck-wheels 56 on the tracks 45.

In Fig. 8 a tie 60, similar to the tie 22, is shown applied to an open road-bed construction. Longitudinal runways 61 are secured to the shoes 62, as described for the tunnel construction. Concrete 63 is embedded with the ties as described, and a bed of ballast or concrete 64 is placed on the concrete between the runways to prevent water accumulating between the runways and tracks.

The runways are preferably made of wood of a greater specific gravity than water. They can easily be replaced for repairs by backing them off of horizontal bolts 41 and 50, that bind them to the shoes of the cross-ties and to the concrete bed.

Having described my invention, I claim—

1. The combination in a track construction of cross-ties, shoes in said ties, longitudinal runways secured to said shoes and tracks fastened on said runways.

2. The combination in a track construction of a bed of concrete, cross-ties embedded in the concrete, longitudinal tie-bolts connecting the ties, shoes at the ends of each tie, longitudinal runways bolted to the shoes, and tracks secured to the runways.

3. The combination in a track construction of a bed of concrete, cross-ties having open-

ings therethrough embedded in the concrete said openings allowing the concrete on each side of each tie to bind the whole mass thereof, shoes in the ties, longitudinal runways bolted to the shoes, bolts extending from the runways between the ties and embedded in the concrete, track on the runways, clips for the tracks and means to fasten the clips to the runways.

4. The combination in a track construction of a bed of concrete, curved cross-ties embedded in the concrete, an upper and a lower flange contained in each tie, a shoe formed at each end of each tie, a side bearing-plate extending from each shoe, a longitudinal runway supported on each shoe, bolts connecting the runways with the said side plates, and tracks secured to the runways.

5. The combination in a track construction of a bed of concrete, cross-ties embedded in the concrete, shoes formed in the ends of the cross-ties, longitudinal runways secured to the shoes, and ballast located between the longitudinal runways.

6. In a tunnel the combination of cross-ties, shoes extending up from the cross-ties, longitudinal runways bolted to the shoes, concrete around and about the ties, the portions of concrete between the runways on a level and below the lower faces thereof, and tracks fastened to the said runways.

7. In a tunnel the combination of metallic curved cross-ties, shoes formed at the opposite ends of each tie, side bearing-plates

formed with each shoe, wooden longitudinal runways supported on the shoes, horizontal bolts clamping the runways with the side bearing-plates, and concrete embedding the ties.

8. The combination in a track construction of a bed of concrete, cross-ties embedded in the concrete, shoes formed in the ends of the cross-ties, a plate extending from one of the shoes for a third rail, and longitudinal runways on the shoes.

9. The combination in a track construction of metallic cross-ties, shoes extending from the ties, wooden longitudinal runways secured to the shoes, tracks fastened to the runways, concrete between the ties disposed so that the lower surfaces of the runways will clear the concrete when the said runways are disengaged from the shoes.

10. The combination in a track construction of a bed of concrete, cross-ties embedded in the concrete, shoes at the ends of the ties, longitudinal runways secured by the shoes, tracks fastened to the runways, and ballast between the inner accompanying faces of the runways.

Signed at the borough of Manhattan, in the county of New York and State of New York, this 18th day of December, A. D. 1906.

JAMES W. LEAHY.

Witnesses:

M. ZIMANSKY,
M. H. COOK.