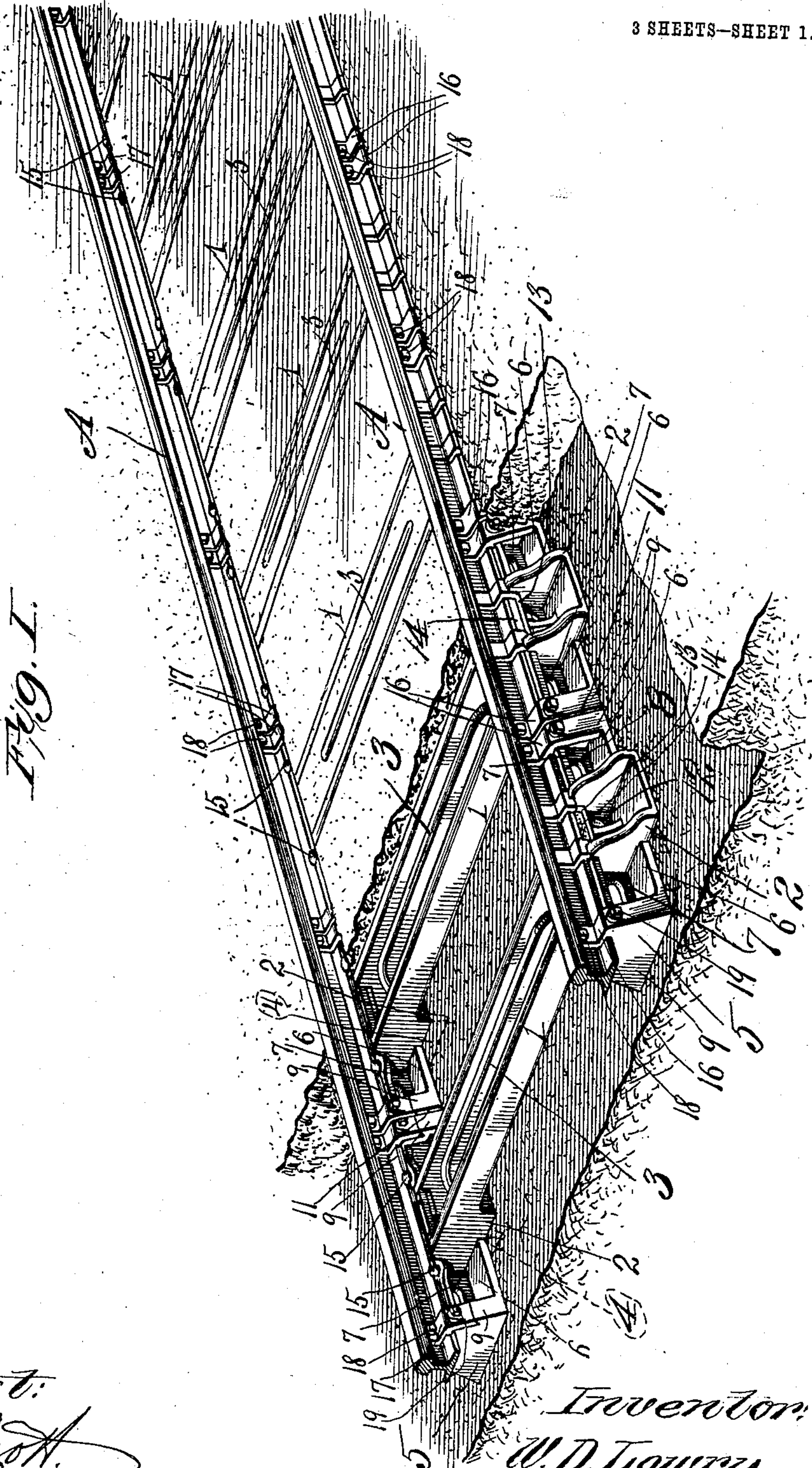


W. D. LOWRY.
METALLIC RAILWAY TIE.
APPLICATION FILED JAN. 11, 1908.

898,490.

Patented Sept. 15, 1908.

3 SHEETS—SHEET 1.



Attest:
Wm. H. Scott
Lily Root

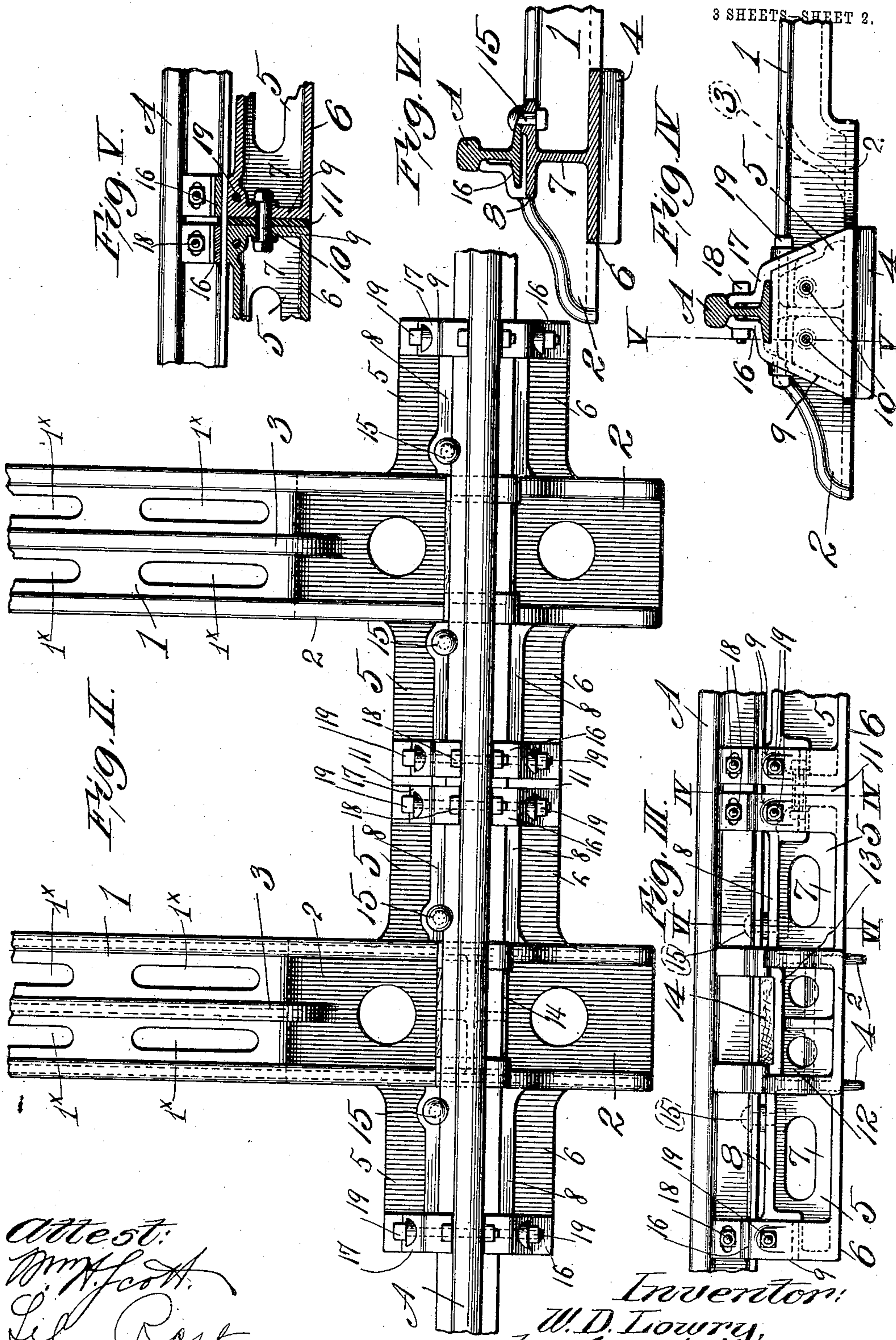
Inventor:
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by Geo. H. Knight
Atty.

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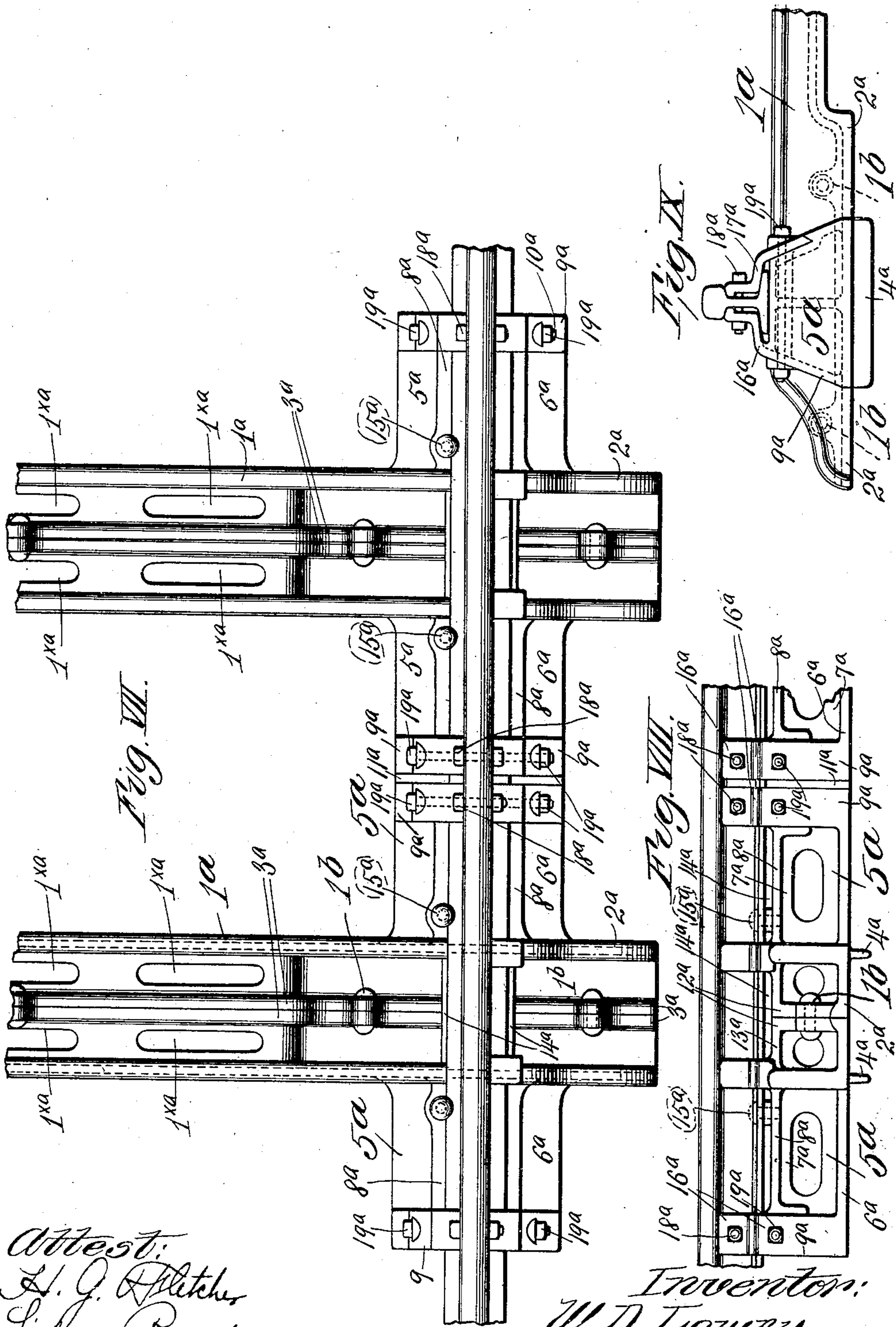
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UNITED STATES PATENT OFFICE.

WILLIAM D. LOWRY, OF ST. LOUIS, MISSOURI.

METALLIC RAILWAY-TIE.

No. 898,490.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed January 11, 1908. Serial No. 410,356.

To all whom it may concern:

Be it known that I, WILLIAM D. LOWRY, a citizen of the United States of America, residing at the city of St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Metallic Railway-Ties, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to metallic railway ties and it has for its object the production of skeleton railway ties of this description so made as to diminish the number of ties necessary in a railway for the proper support of the rails and also at the same time provide more efficient supports for the rails.

Figure I is a perspective view of a section of railway track having my improved ties therein. Fig. II is an enlarged top or plan view of portions of two adjoining railway ties constructed in accordance with my invention, and a section of railway rail mounted thereon. Fig. III is an end elevation of one of the ties shown in Fig. II and a fragment of the adjoining tie. Fig. IV is a vertical cross section taken on line IV—IV, Fig. III. Fig. V is a vertical section taken on line V—V, Fig. IV. Fig. VI is a vertical cross section taken on line VI—VI, Fig. III. Fig. VII is a view similar to Fig. II illustrating a modification. Fig. VIII is a view similar to Fig. III illustrating the modification shown in Fig. VII. Fig. IX is a side elevation of one end of one of the ties shown in Figs. VII and VIII.

In the accompanying drawings: A designates railway rails shown supported by my railway ties.

1 designates skeleton metallic ties which are of bridge and channel shape the central portions being elevated above the outer foot portions 2. The channels of the ties are located at their upper sides and the webs at the bottom of said channels are provided with parallel longitudinal slots or openings 1^x and strengthened by longitudinal reinforcing ribs 3. It will be apparent that inasmuch as the webs of the channels are at the bottoms of the ties the road bed material of the railway may be readily tamped beneath the elevated central portions of the ties to firmly embed them in such road bed material. To provide against slipping of the ties in a lateral direction relative to the ties and longitudinal direction relative to the railway

track, I produce at the bottoms of the foot portions of the ties parallel longitudinal fins 4, see dotted lines Fig. I and full lines Figs. III, IV and VI.

5 designates skeleton cross arms extending laterally from the ties and the top surfaces of which are disposed flush with the railway rail receiving seats of said ties in order that the railway rails may rest upon said cross arms in conjunction with the ties. These cross arms may extend to any desired length and they serve to assist the ties in the support of the railway rails and as a consequence make it possible to employ a lesser number of railway ties in a railway in view of the fact that the ties may be spaced more widely apart than they commonly are. The cross arms 5 are preferably constructed with base flanges 6, see Figs. I, II, III, V and VI, vertical webs 7, top webs 8 and end webs 9, see Figs. I and IV. The adjacent cross arms of the adjoining ties may be connected to each other by bolts 10, as seen in Fig. V. For the purpose of separating the cross arms of the ties from each other and providing for the insulation of these cross arms where it is desirable for electrical purposes I interpose between the adjacent cross arms distance pieces 11 that may be of non-conducting material when necessary and may be used in any desirable thicknesses to separate the cross arms to greater or lesser degree. It is obvious that the distance pieces may be employed to advantage in a curved section of railway track for the purpose of affording necessary separation of the cross arm to a greater degree at the outside of the curve than at the inside of such curve.

The ends of the ties are provided with pedestals 12, see Figs. I and III, which are located within the channels of the ties adjacent to the rail seats and at the upper ends of which are ledges 13 located beneath the rail seat faces of the ties. These pedestals serve as supports for sound deadening blocks 14 that may be of wood or other suitable material and which serve to lessen the noise incident to the passage of cars along the railway rails supported by my ties.

The railway rails are secured to my ties by bolts 15 that are seated in the top webs 8 of the cross arms 5, see Figs. I, II and VI, and they are further secured to the ties and held from lateral movement upon the ties by braces 16 and 17 and bolts 18 which pass through said braces and the railway rails.

The braces 16 are preferably formed integral with the end webs 9 of the cross arms while the braces 17 are detachably fitted to said webs as most clearly seen in Fig. IV. The rail
5 braces 17 are held to the cross arms by bolts 19.

In the modification illustrated in Figs. VII to IX inclusive, the ties 1^a are made of sectional form instead of being made in single
10 pieces and the sections of said ties are united by rivets or bolts 1^b which are seated in the central longitudinal ribs 3^a of the ties. In this construction the laterally extending arms 5^a are carried by the sections of the ties but it is obvious that when said sections are
15 united the resultant ties correspond in construction to the ties first described and that their utility is the same as the first described ties. In this modification no provision is made for the connecting of the cross arms
20 such as that furnished by the bolts 10, in the main form of the invention, and therefore the ties are merely placed together so as to be held upon a railway road bed in assemblage with each other so that the ends of
25 their cross arms will be in juxtaposition with each other without the cross arms being united.

The balance of the parts shown in the modification corresponding to that shown in
30 the first described construction are designated by similar reference numbers having prime-marks or exponents.

I claim:

1. A metallic skeleton railway tie, of
35 bridge and channel shape, constructed with an elevated central portion, a longitudinal rib extending centrally of the tie, foot portions, at the ends of the tie, and cross arms extending from the foot portions at each end
40 of the tie.

2. A metallic skeleton railway tie, of bridge and channel shape, constructed with an elevated central portion, having longitudinal parallel slots, a longitudinal rib extending
45 centrally of the tie, between the parallel slots, foot portions, at the ends of the tie, and cross arms extending from the foot portions at each end of the tie.

3. A metallic skeleton railway tie, of
50 bridge and channel shape, constructed with an elevated central portion, a longitudinal rib extending centrally of the tie, foot portions, at the ends of the tie, having parallel longitudinal fins, and cross arms extending
55 from the foot portions at each end of the tie.

4. A metallic skeleton railway tie, of

bridge and channel shape, constructed with an elevated central portion, having longitudinal parallel slots, a longitudinal rib extending centrally of the tie, between the parallel
60 slots, foot portions, at the ends of the tie, having parallel longitudinal fins, and cross arms extending from the foot portions at each end of the tie.

5. A metallic skeleton railway tie of bridge
65 and channel shape, constructed with an elevated central portion, a longitudinal rib extending centrally of the tie, foot portions, at the ends of the tie, having pedestals formed with ledges, sound deadening blocks supported upon the ledges, and cross arms extending from the foot portions at each end of the tie.

6. A metallic skeleton railway tie, of
75 bridge and channel shape, constructed with an elevated central portion, a longitudinal rib extending centrally of the tie, foot portions, at the ends of the tie, and cross arms, consisting of base flanges, vertical webs, top webs, and end webs and extending from the
80 foot portions at each end of the tie.

7. A metallic skeleton railway tie, of bridge and channel shape, constructed with an elevated central portion, a longitudinal
85 rib extending centrally of the tie, foot portions, at the ends of the tie, having pedestals formed with ledges, sound deadening blocks supported upon the ledges, and cross arms extending from the foot portions at each end of the tie, consisting of base flanges, vertical
90 webs, top webs and end webs.

8. A metallic skeleton railway tie, of bridge and channel shape, constructed with an elevated central portion, a longitudinal
95 rib extending centrally of the tie, foot portions, at the ends of the tie, and cross arms, consisting of base flanges, vertical webs, top webs, and end webs, provided with integral and detachable braces, and extending from the foot portions at each end of the tie. 100

9. A metallic skeleton railway tie, of bridge and channel shape, and divided its whole length, longitudinally, constructed with an elevated central portion, a longitudinal
105 rib extending centrally of the tie, foot portions, at the ends of the tie, and cross arms extending from the foot portions at each end of the tie.

WM. D. LOWRY.

In presence of—

LILY ROST,
H. G. FLETCHER.