

C. A. BLUHM.

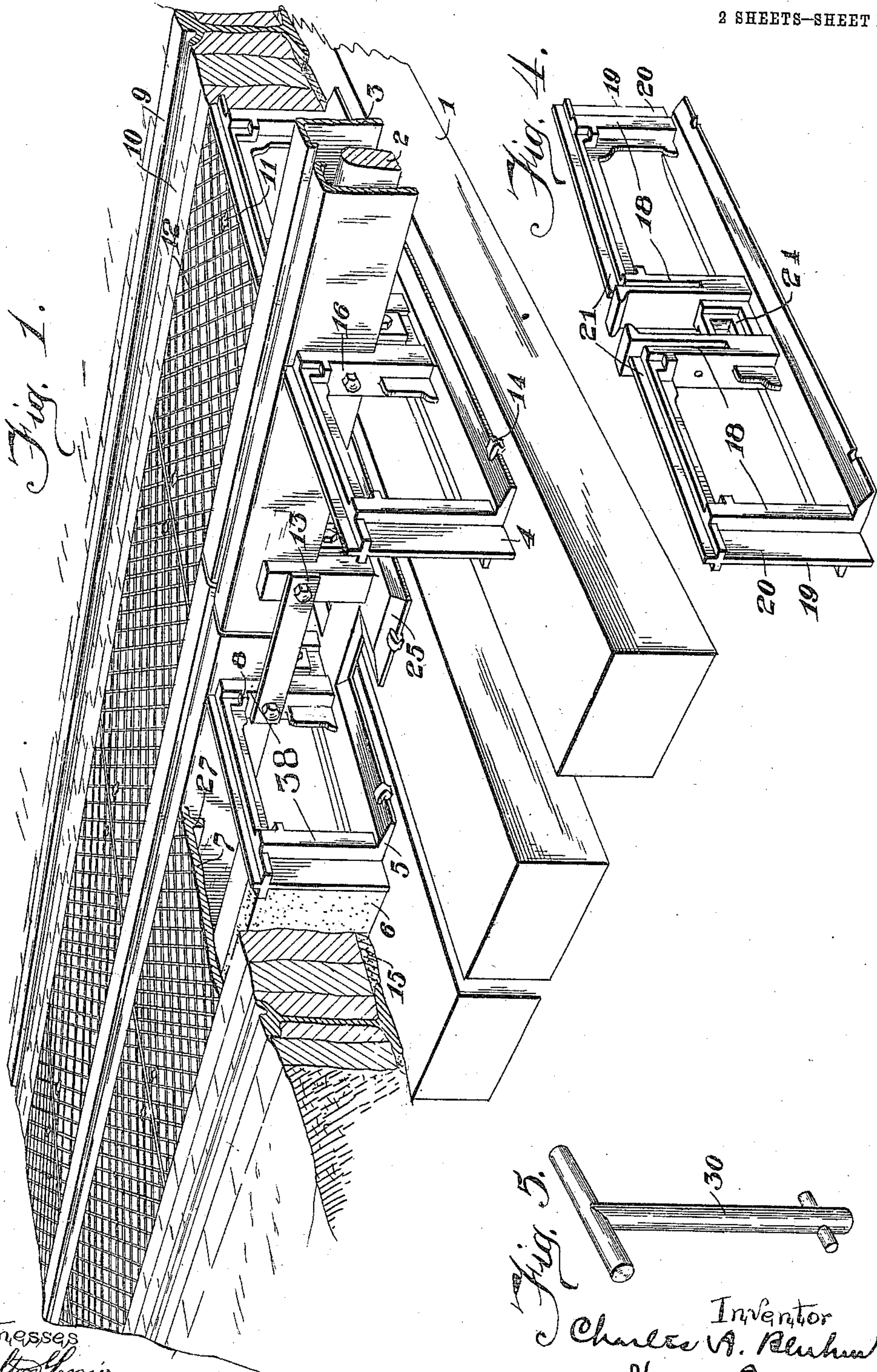
THIRD RAIL.

APPLICATION FILED JUNE 9, 1909.

985,388.

Patented Feb. 28, 1911.

2 SHEETS—SHEET 1.



Witnesses  
Milton Lenoir  
A.A. Hammond

Fig. 5.  
Inventor  
Charles A. Blum  
By Vernon C. Hodges  
his Attorney.



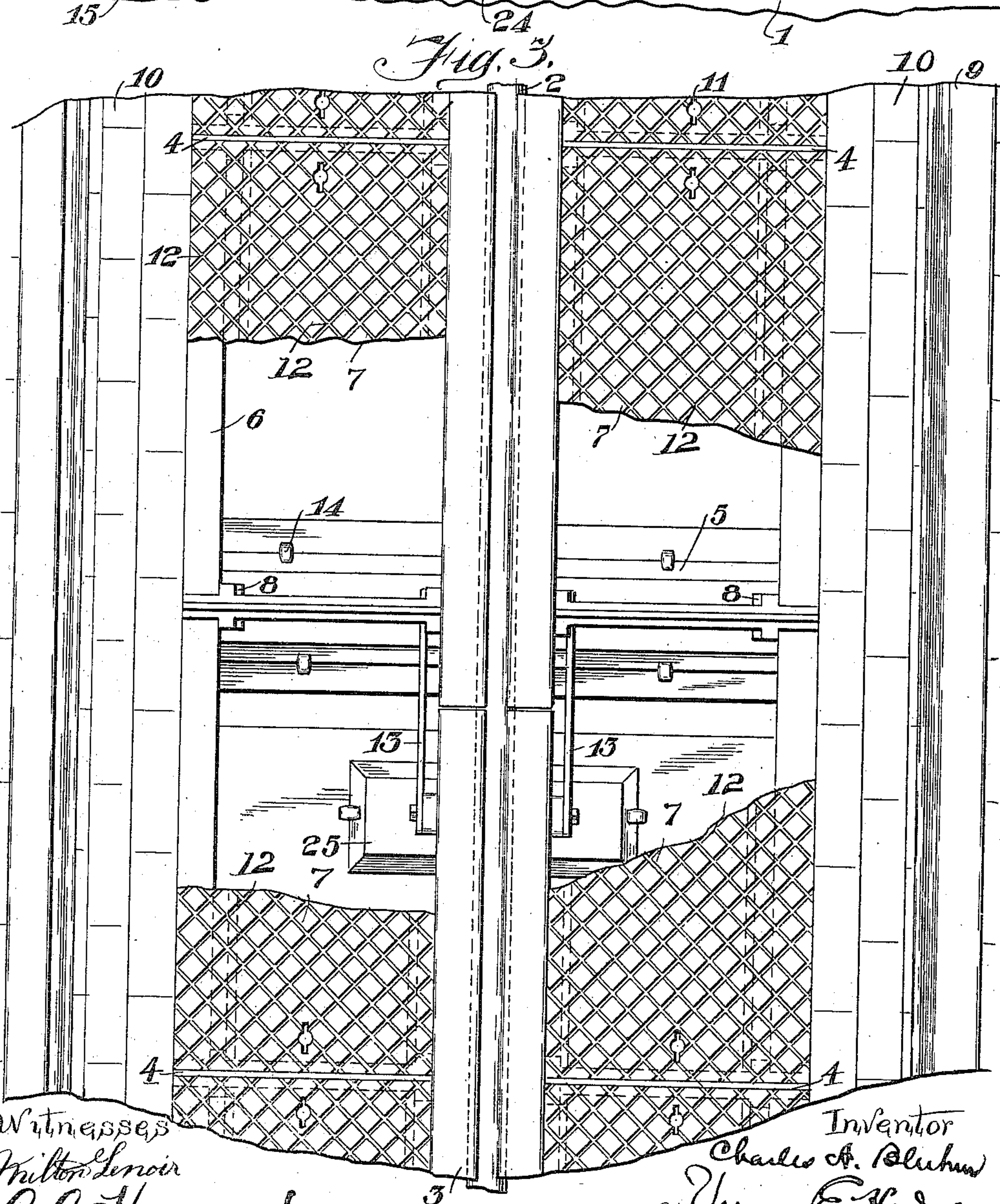
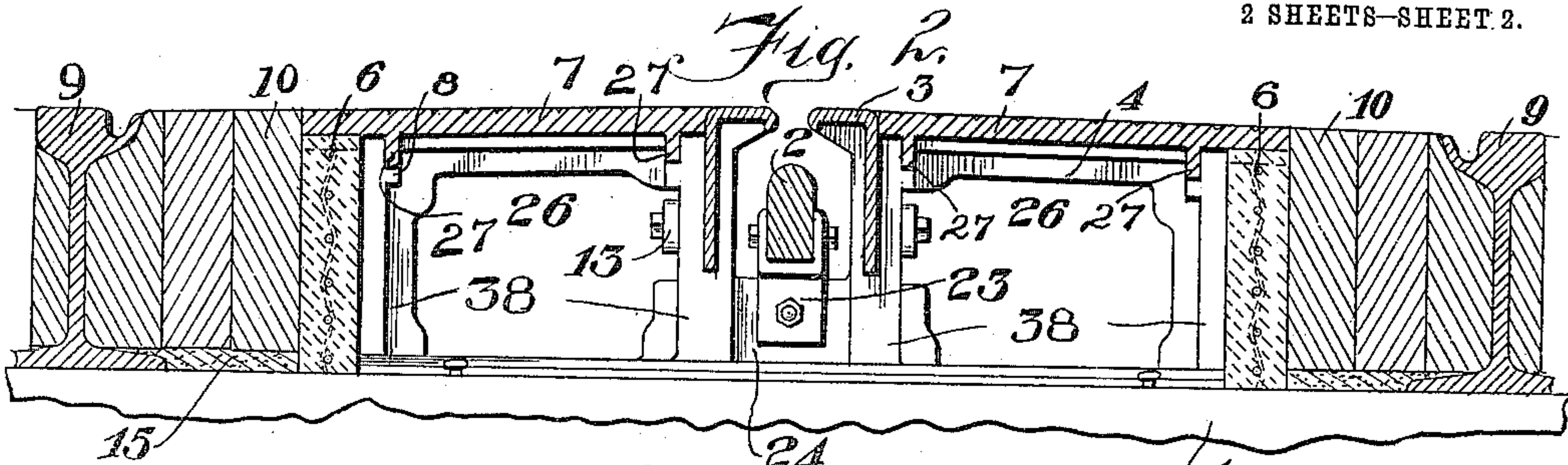
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# UNITED STATES PATENT OFFICE.

CHARLES A. BLUHM, OF MICHIGAN CITY, INDIANA.

## THIRD RAIL.

985,388.

Specification of Letters Patent.

Patented Feb. 28, 1911.

Application filed June 9, 1909. Serial No. 501,171.

*To all whom it may concern:*

Be it known that I, CHARLES A. BLUHM, a citizen of the United States, residing at Michigan City, in the county of Laporte and State of Indiana, have invented certain new and useful Improvements in Third Rails, of which the following is a specification.

My invention relates to an improvement in third rails, or guard rail protected conductors used in connection with underground trolleys, and more particularly to those employed in paved streets and railway crossings; and it consists in connection with the third rail, of chairs and twin chairs upon which the guard rail and conductor are mounted, and means whereby a conduit is formed at either side of the third rail to receive the dirt, water, or other accumulations that may pass through or in the slot of the guard rails, and wherefrom the dirt may be removed at any time without incurring the danger of coming in contact with the live conductor when the current is on; and removable plates for covering the conduits, said plates having holes at their ends into which a key is adapted to be placed for removing them.

The invention further consists of chairs so constructed upon the sides of their ends as to receive reinforced concrete slabs which extend from chair to chair to form a continuous side wall for the conduit.

My invention still further consists in certain novel features of construction and combinations of parts which will be hereinafter described and pointed out in the claims.

In the accompanying drawings:—Figure 1 is a view in perspective, Fig. 2 is a transverse section, Fig. 3 is a plan view, Fig. 4 is a view of one of the chairs, and Fig. 5 is a view of the key used in removing the covers.

Wood ties 1, 1, are placed in the usual manner a suitable distance below the surface, and the single extension chairs 4, 4, are securely held thereon by spikes 14, 14. These chairs are preferably constructed as illustrated in Fig. 4 with a broad base flange at the bottom with four uprights, 18, 18, erected thereon, and the end flanges 19, 19, whereby recesses 20, 20, are formed, and the vertical flanges 21, 21, at the top. The conductor 2, which latter is held in the insulating clamps 23, 23, is bolted to the central webs 24, of the chairs, as shown in Fig. 2. The twin extension chairs 5, of which only one is shown, are located at the points

of the guard rails. These chairs are very similar to the chairs 4, 4 except that they have T-shaped extension bases 25, and the inner uprights 38, 38, are connected by fish-plates 13, 13, bolted at their ends, thereto, as shown in Fig. 1. Guard rails 3, 3, are fastened by bolts 16, of which but one is shown to the inner uprights of the chairs.

The numerals 6, 6, indicate reinforced concrete slabs which fit at their ends in the recesses 20, 20, of the chairs, and thereby form a continuous outer wall for the conduits 26, 26; and from the outer surfaces of these slabs 6, 6, to the rails 9, 9, the space is filled in with bricks 10, 10, the same resting on a bed of sand 15 as illustrated in Fig. 2.

Over the top of each conduit, iron plates 7, 7, are removably secured, they filling the space between the bricks, and the guard rails, and extending flush with their upper surfaces, and extending between the flanges 21, 21, on the chairs, and resting and being supported upon the upper edges of the chairs. The covers 7, 7, with the ribs 27, 27, on their lower surfaces, fit in the recesses 8, 8, in the chairs. These covers are preferably grooved or roughened, as at 12, 12, to prevent animals or pedestrians walking over them from slipping, and each plate also has a key-hole slot 11 adapted to receive a key (as shown in Fig. 5), which is inserted therethrough and turns to facilitate the removal of the cover or covers from the conduit when access is to be gained thereto.

From the foregoing it will be seen that a simple, construction or road bed for city third-rail systems is provided, as well as for crossings, and one which may be used with perfect safety as well as cleaned and repaired without danger of contact with the conductor.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The combination with cross-ties and chairs supported thereon, of a conductor, and guard-rails supported by the chairs, the chairs having openings therethrough on each side of the center and provided with recesses at their free ends, and slabs extending from the recesses of one chair to the corresponding recesses of neighboring chairs, whereby the outer walls of two conduits are formed which extend from the guard rails to the outer ends of the chairs above the cross-ties.



2. The combination with cross-ties, chairs supported thereon, guard-rails, and a conductor carried by the chairs, the chairs being slotted on each side of the center and provided with central webs, and having recesses at their free ends, and slabs extending from between the outer recesses of a chair to the corresponding recesses of neighboring chairs whereby the outer walls of two conduits are formed which conduits extend from the guard-rails to the outer ends of the chairs above the cross-ties, and removable covers over the openings from chair to chair and from guard-rail to each upright slab.

3. The combination with chairs, guard rails, and conductor, said chairs having openings therethrough, of reinforced concrete slabs extending from chair to chair, and forming the outer walls of conduits, said chairs having recesses therein, and removable covers having ribs adapted to enter said recesses in the chairs.

4. The combination with chairs, guard rails, and conductor, said chairs having openings therethrough, of reinforced concrete slabs extending from chair to chair, and forming the outer walls of conduits, said chairs having recesses therein, and remov-

able covers having ribs adapted to enter said recesses in the chairs, said covers having key-hole slots therein, and a key adapted to enter the slots whereby to remove the covers from their position over the conduits.

5. The combination with single and twin chairs, the twin chairs having T-shaped bases and outer and inner uprights thereon, the inner uprights slightly removed from the centers of the chairs, and fish plates connecting the inner uprights, guard rails secured to the inner uprights, and a conductor supported at a point between the guard rails.

6. The combination with ties, chairs secured thereon, said chairs each having a central opening and openings at each side thereof, of a conductor located in and secured at the center of the chairs, guard rails adjacent thereto, slabs at the outer ends of the chairs forming outer walls for the conduits at either side of the guard rails, and covers removably secured over said conduits.

In testimony whereof I affix my signature, in the presence of two witnesses.

CHARLES A. BLUHM.

Witnesses:

HENRY H. BLUHM,  
THERON F. MILLER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."