

No. 889,277.

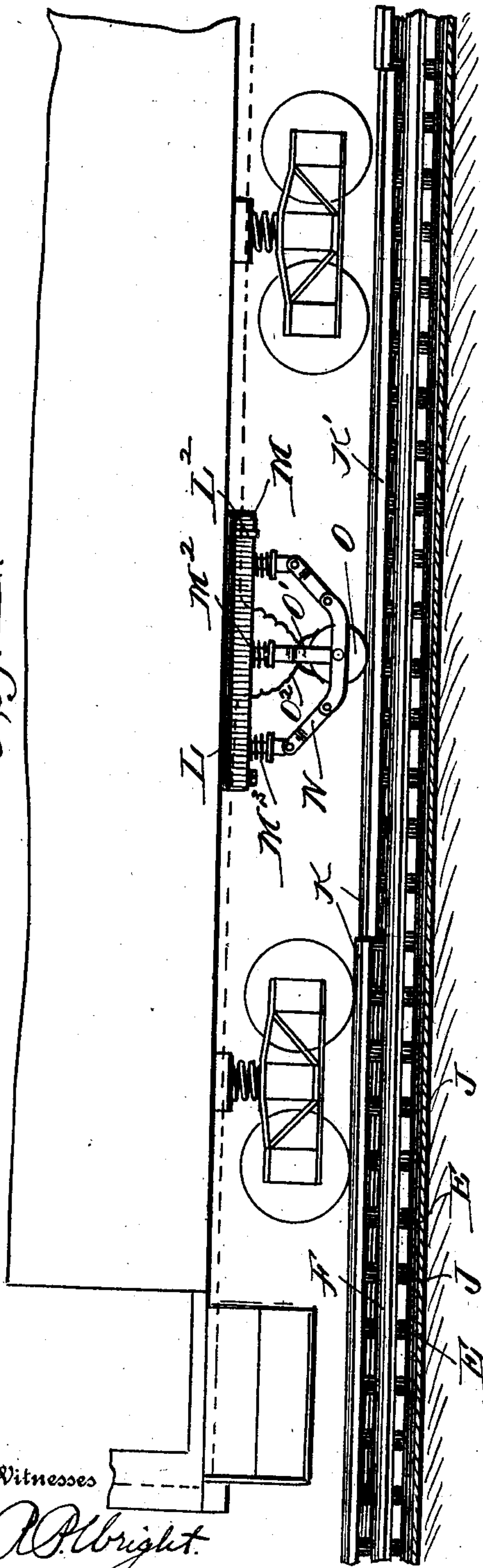
PATENTED JUNE 2, 1908.

C. VON GIZINSKY & W. McCLURE.  
ELECTRIC RAILWAY.

APPLICATION FILED DEC. 19, 1908.

3 SHEETS—SHEET 1.

Fig. 1.



Witnesses

A. Albright.  
E. B. McBath

Fig. 3.

Fig. 2

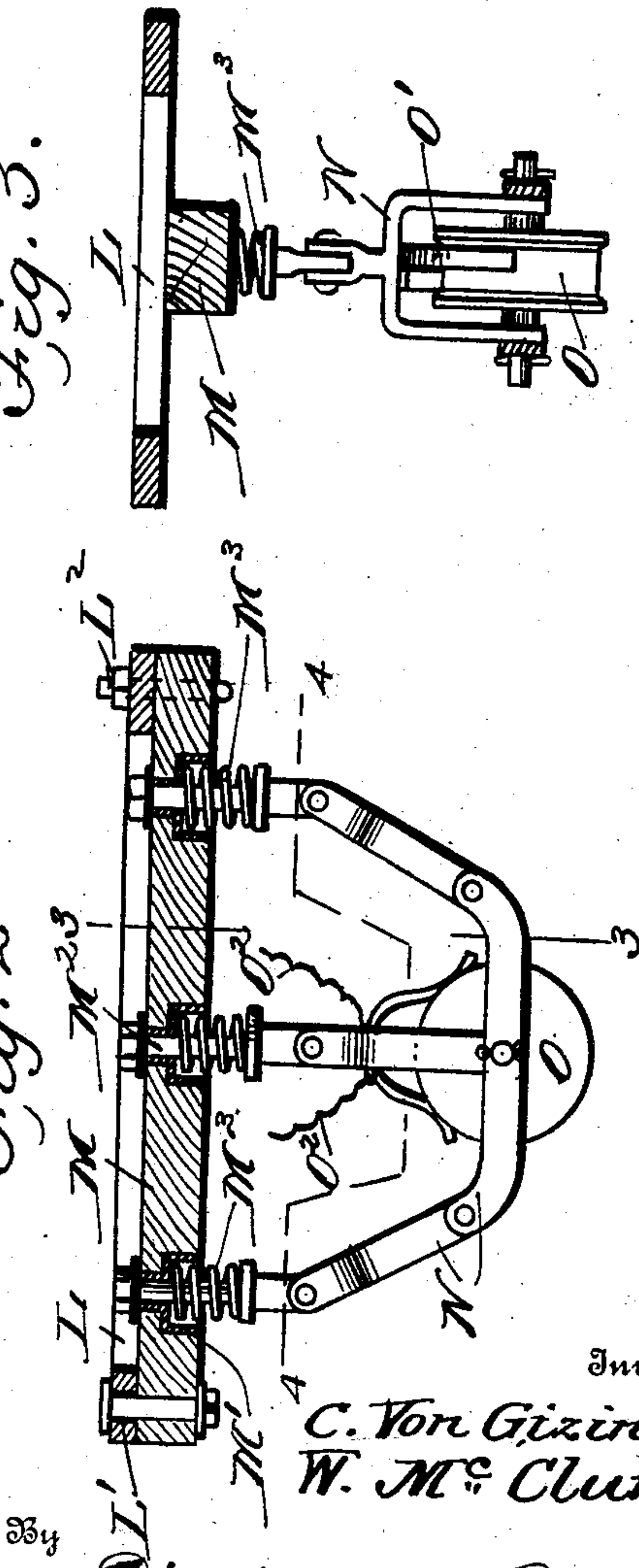
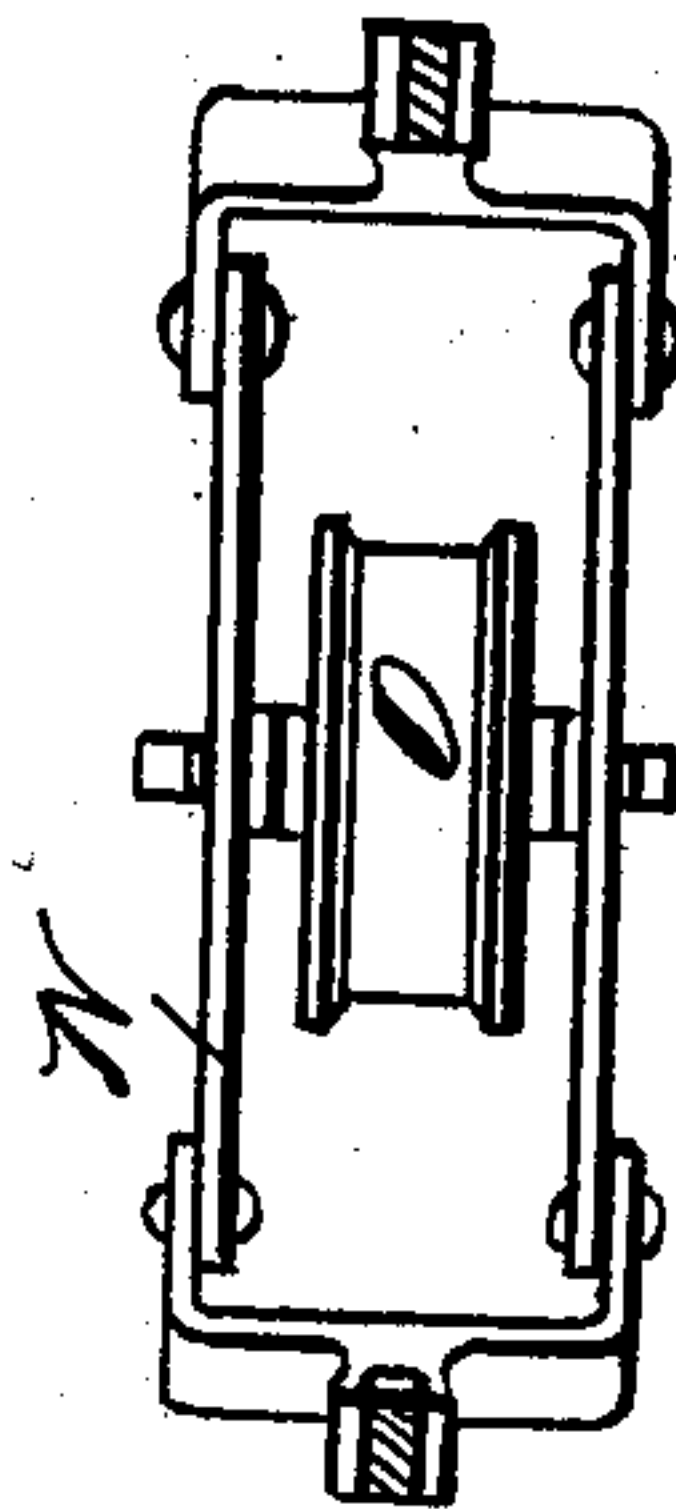


Fig. 4.



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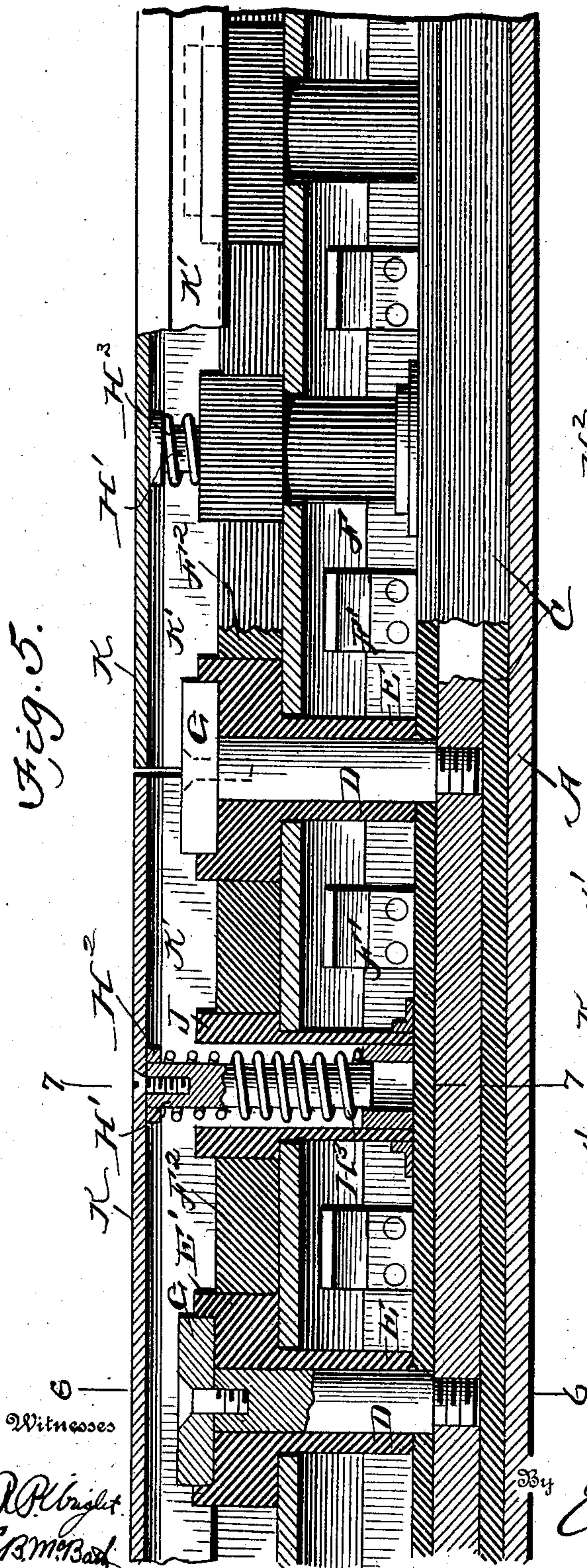
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3 SHEETS—SHEET 2.

Fig. 5.



Witnesses

A. P. Wright  
E. B. McLeod

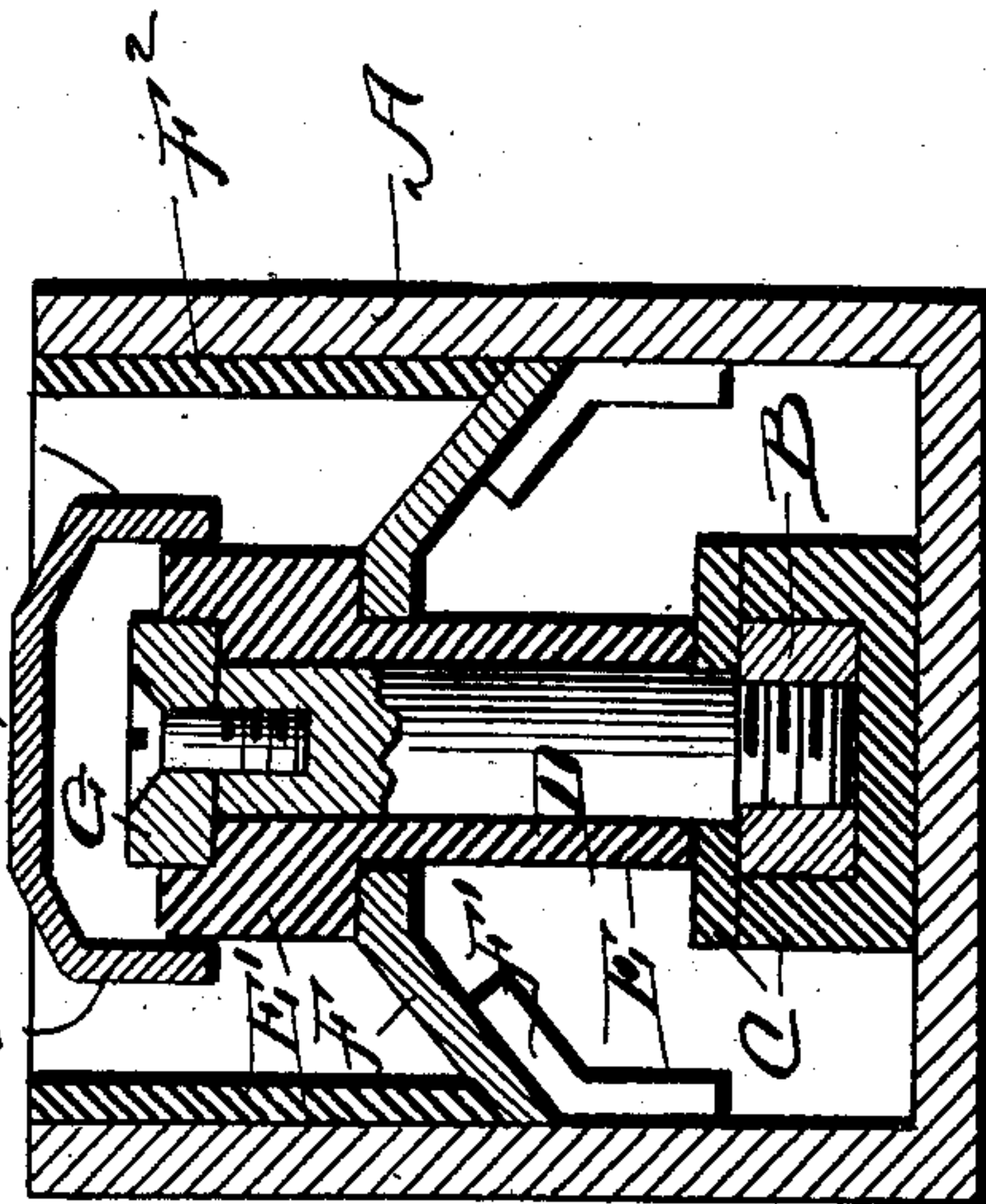
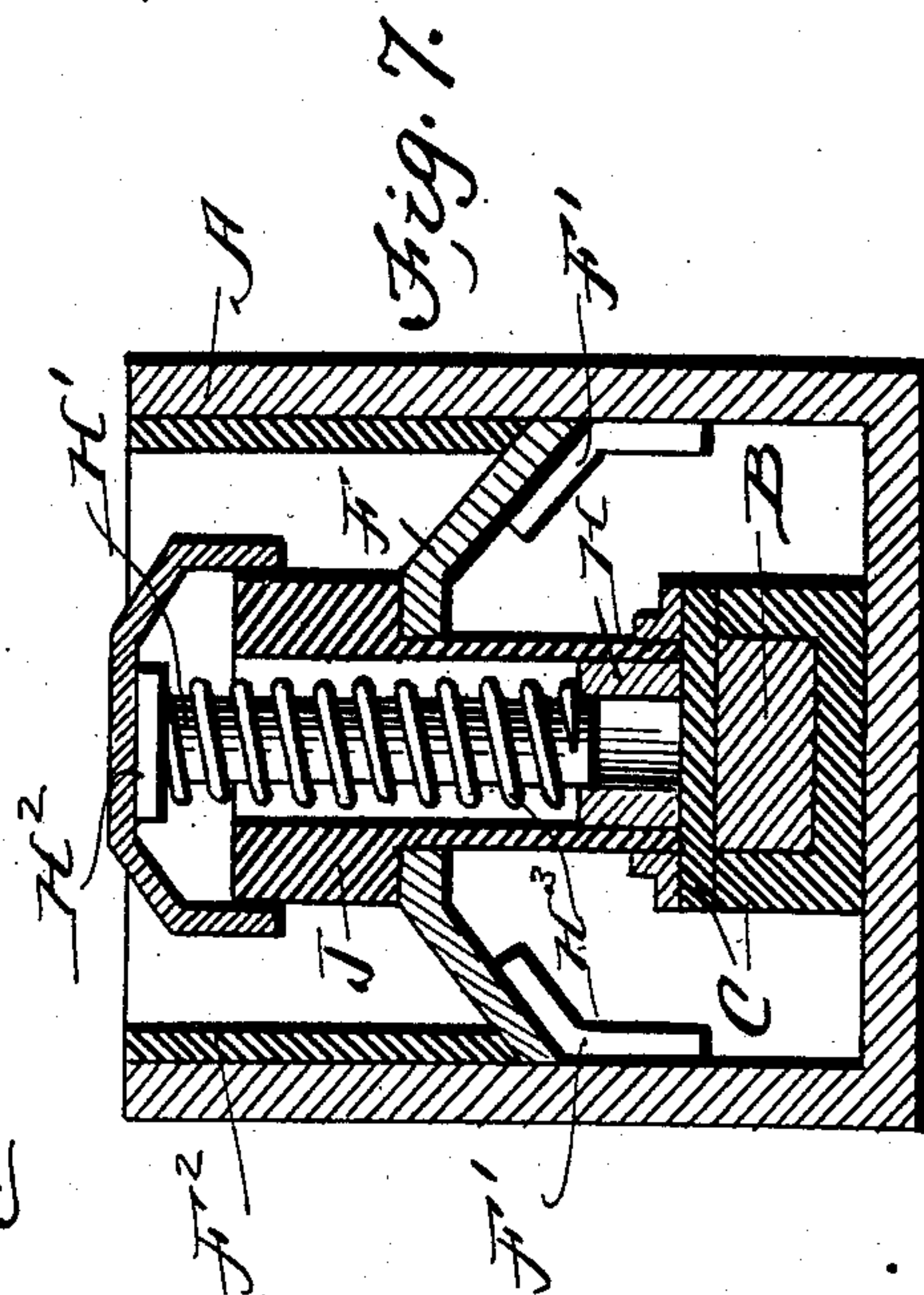


Fig. 6.

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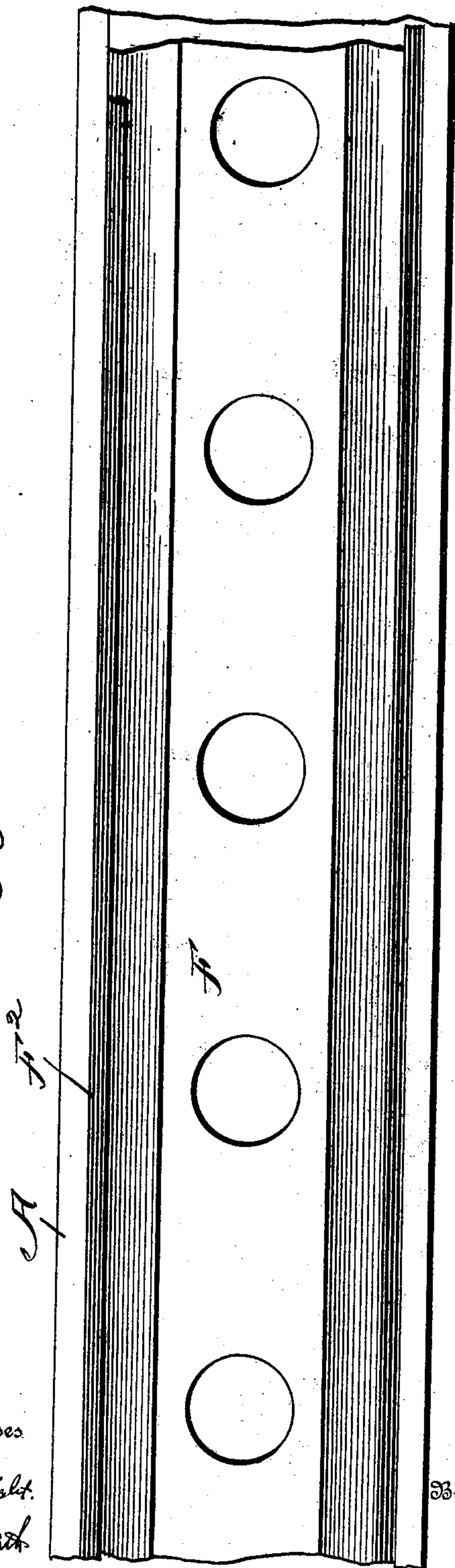
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3 SHEETS—SHEET 3.

Fig. 8.



Witnesses

R. W. Wright.  
E. B. M. B. A. B.

Fig. 10.

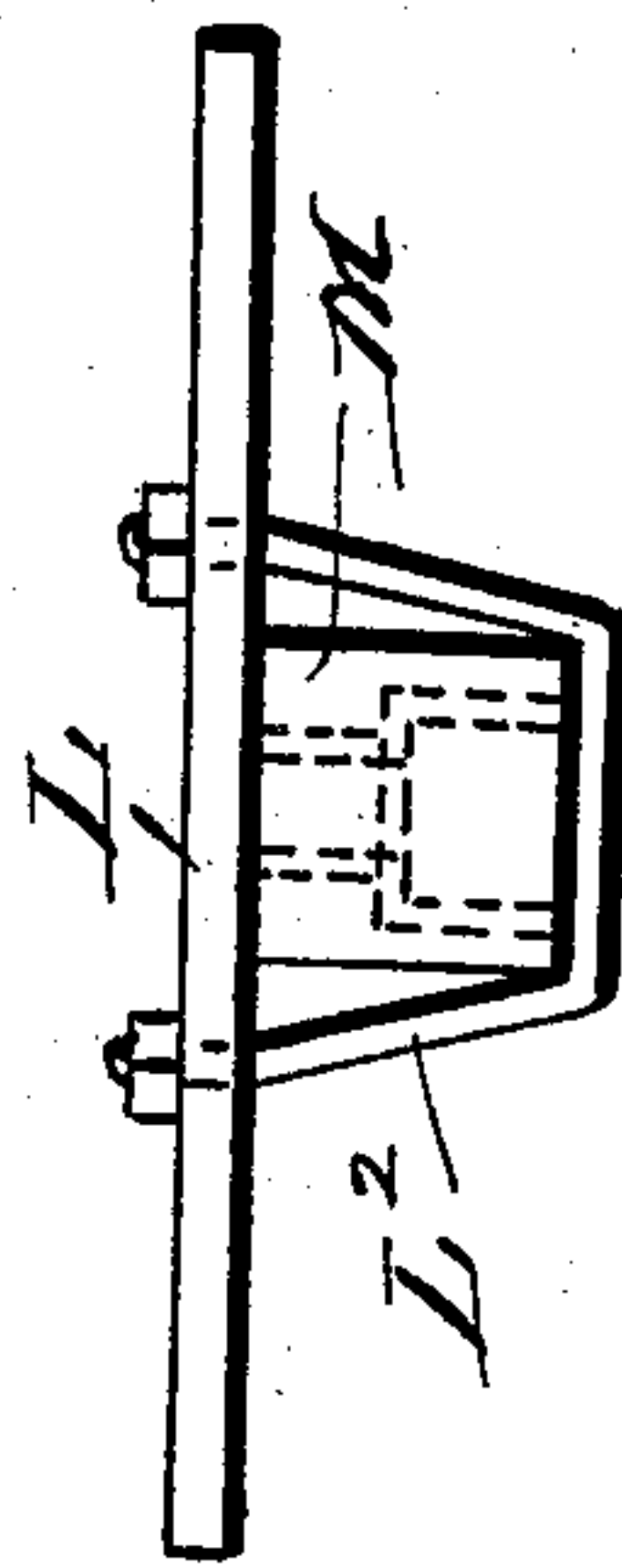
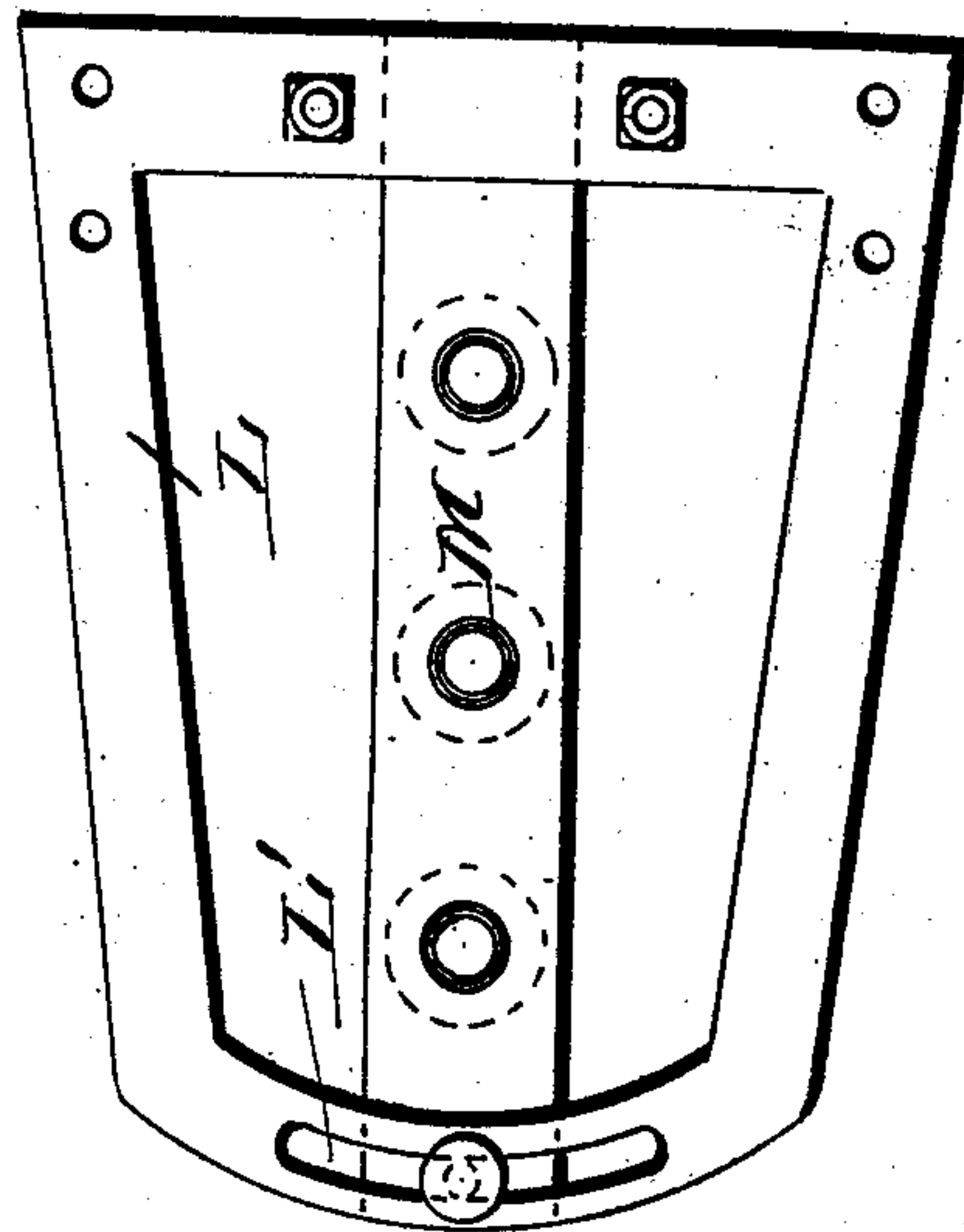


Fig. 9.



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# UNITED STATES PATENT OFFICE.

CASIMIR VON GIZINSKY AND WILLIAM McCLURE, OF SCHENECTADY, NEW YORK.

## ELECTRIC RAILWAY.

No. 889,277.

Specification of Letters Patent.

Patented June 2, 1908.

Application filed December 19, 1906. Serial No. 348,655.

*To all whom it may concern:*

Be it known that we, CASIMIR VON GIZINSKY and WILLIAM McCLURE, citizens of the United States, residing at Schenectady, in the county of Schenectady and State of New York, have invented a new and useful Improvement in Electrical Railways, of which the following is a specification.

This invention relates to an electric railway construction and more especially to a third rail system in which the third rail is formed in short sections, each section being of a length not exceeding the length of a motor car, the said sections being brought into electrical circuit only as they are reached by the car, and cut out of circuit as the car leaves them, thereby avoiding the danger attendant upon the use of the ordinary form of third rail.

The invention consists of a sectional third rail the various sections being held normally out of engagement with certain contact posts, of the contact posts arranged beneath said sectional rail, the said posts being in an electrical circuit and means carried by a car for forcibly depressing in succession the various sections of the rail as the car moves along, thereby bringing the sections successively into the electrical circuit and supplying current to the car motor.

In the drawings forming a part of this specification:—Figure 1 is a longitudinal sectional view taken through the track, a portion of the car wheels being shown in elevation. Fig. 2 is a detail side elevation of a bracket and trolley wheel carried beneath the car, a casing being shown in section. Fig. 3 is a section on the line 3—3 of Fig. 2. Fig. 4 is a section on the line 4—4 of Fig. 2, certain collector brushes being removed. Fig. 5 is an enlarged longitudinal section taken through the track, parts being shown broken away, and also in elevation. Figs. 6 and 7 are sections upon the lines 6—6 and 7—7 respectively, of Fig. 5. Fig. 8 is a plan view of a conduit with the sectional rail and cooperating parts removed. Fig. 9 is a plan view of a frame carried by a car. Fig. 10 is an end view of said frame.

In these drawings A represents a conduit U-shaped in cross-section which is placed between the track rails and in which is arranged a conductor bar B of any suitable electrical conducting material which bar is insulated from the conduit A by means of insulating material C of any desired kind.

Suitable upright posts D also of conducting material have their lower end portions threaded into the conducting bar B and these posts are placed throughout the length of the conduit at certain desired intervals apart. Each post D is insulated by means of a sleeve E which is provided at its upper end with an enlarged head E'. We also place in the conduit and about midway its depth a protecting cover F which is supported by suitable tracks F', which cover is suitably perforated to receive the post D and the sleeves E, the heads E' of the sleeves bearing upon the said cover, and the marginal portions of the cover are preferably inclined downwardly as shown most clearly in Figs. 6 and 7. Above this covering the inner walls of the conduit are also provided with any suitable insulated lining F<sup>2</sup>. Upon the upper end of each post D is secured metal contact strip, the said strip being held by a suitable screw or being otherwise firmly connected to the post. In between the posts D we place upon the insulation C which surrounds the conductor bar B, an upwardly open socket H in which works vertically the lower end of a supporting standard H'.

The standard H' is provided at its upper end with a head H<sup>2</sup> and a collar spring H<sup>3</sup> encircles each of said standards and bears upon the heads H<sup>2</sup> and upon the upper edges of the socket H, normally holding the said standards in an elevated position. The standards H' are inclosed in suitable insulating sleeves J which are substantially the same as the sleeve E.

A sectional third rail K is provided along its opposite side edges with depending guide-flanges K'. This rail is formed in sections preferably of a less length than the cars to be operated and the sections are supported normally by the standards H'.

It will be obvious from the above construction that as long as the sections K are maintained in an elevated position and out of contact with the strips G, they will be out of circuit as the standards H' are insulated from the conductor bar B. However, when one of said sections of the rail K is depressed and comes into contact with the strips H, the sections so depressed will be thrown into circuit with the conductor bar B, and it will be noted from Fig. 5 that the sections K are insulated from each other by a suitable air gap. In order to depress these sections at the proper time, we provide upon the bottom of the motor



cars a suitable frame L which is slotted adjacent one end as shown at L' and which at its opposite end carries a metal bail L<sup>2</sup> in which is held an end portion of a block M, 5 the other end portion of the block being held to the frame L by a suitable bolt, provided with the usual nut and washer, which bolt works through the slot L'. The block M is provided with a plurality of downwardly 10 open sockets M' lined with suitable insulating material and is also provided with bolt openings communicating with said sockets, and bolts M<sup>2</sup> work through said sockets and openings and coil springs M<sup>3</sup> are partially 15 seated in the sockets and encircle the bolts M<sup>2</sup>. It will be obvious from Fig. 2 that the tendency of these springs bearing downwardly upon the bolt heads will be to force the said heads as far below the block M as 20 will be permitted by nuts threaded upon the upper end of the bolts.

The bolts M<sup>3</sup> carry a pivoted bracket N in which is journaled a wheel I and the bracket also carries suitable collector brushes 25 O' from which lead circuit wires O<sup>2</sup>. The wheel I forms a trolley wheel which runs upon the sectional rail K and the brushes O' collect current from said wheel and convey it to the wires O<sup>2</sup> which lead to the motor, 30 and through electrical devices carried by the cars.

The operation of the construction above described has already been outlined and it will be obvious that the downward pressure 35 of the springs M<sup>3</sup> will force the bracket N downwardly and the wheel O as it passes upon a section of the rail K will depress said section and thus place it in the electrical cir-

cuit of which the bar B is a part and a circuit will be established from said bar through the 40 post D, strips G, wheel O, brushes O' and wires O<sup>2</sup> to the electrical devices upon the car. As the car moves along the track one section after the other of the rail K will be depressed and brought into the circuit. As 45 the wheel O leaves the section, it will be lifted again by the springs H' and be cut out of the circuit, thus rendering it harmless as a third rail, and avoiding the dangers consequent upon the use of a third rail which is 50 electrified throughout its entire length.

Having thus fully described our invention, what we claim as new and desire to secure by Letters Patent, is:—

A device of the kind described consisting 55 of a conduit, an insulated conducting bar arranged therein, upright posts of conducting material threaded into said bar, an insulating sleeve on each post, a cover provided with 60 openings to receive the posts and sleeves, the walls of the conduit being insulated above the said cover, upwardly open sockets arranged between the posts and insulated from 65 the bar, standards working in said sockets, springs for holding said standards in an elevated position, a sectional third-rail, flanged on each side, said sections being normally supported by the standards, and means carried by a car for depressing the rail sections, as and for the purpose set forth.

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Witnesses:

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AMIL M. FRANCHOIS.