

No. 886,169.

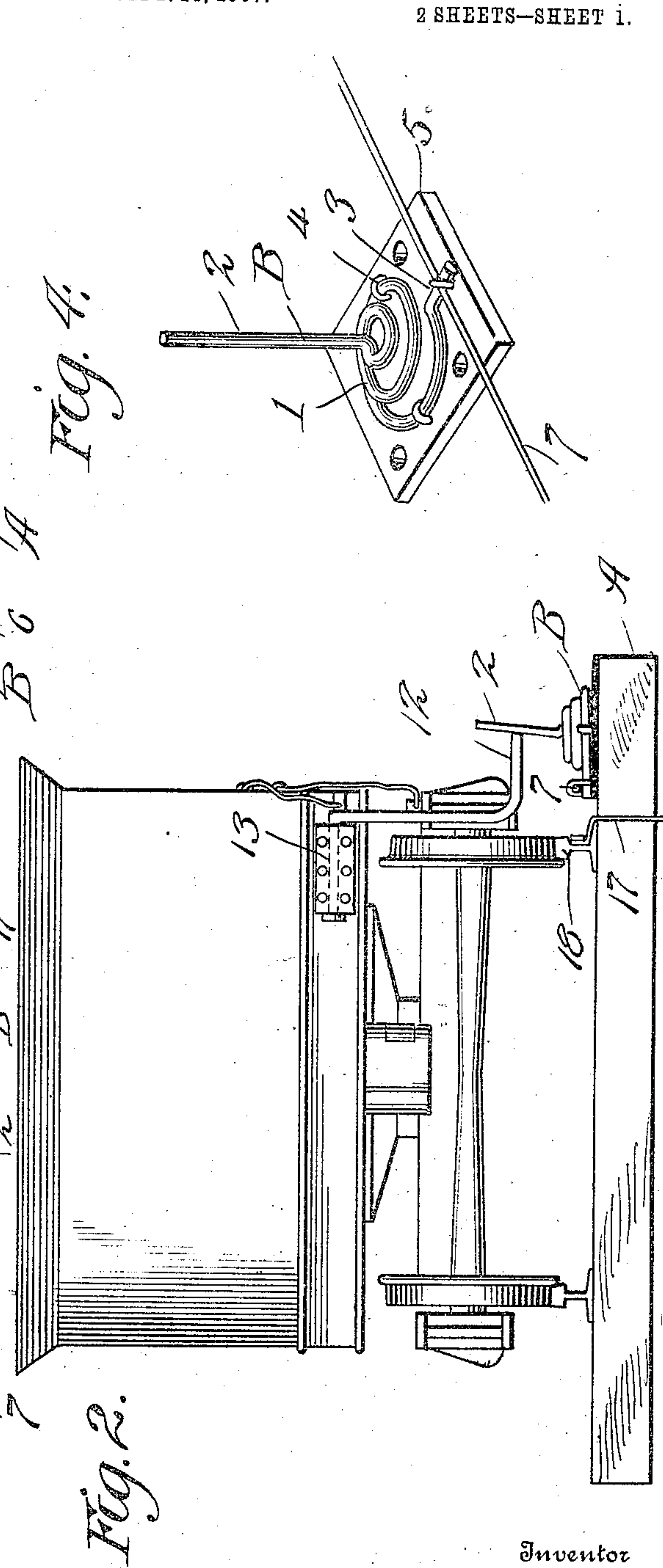
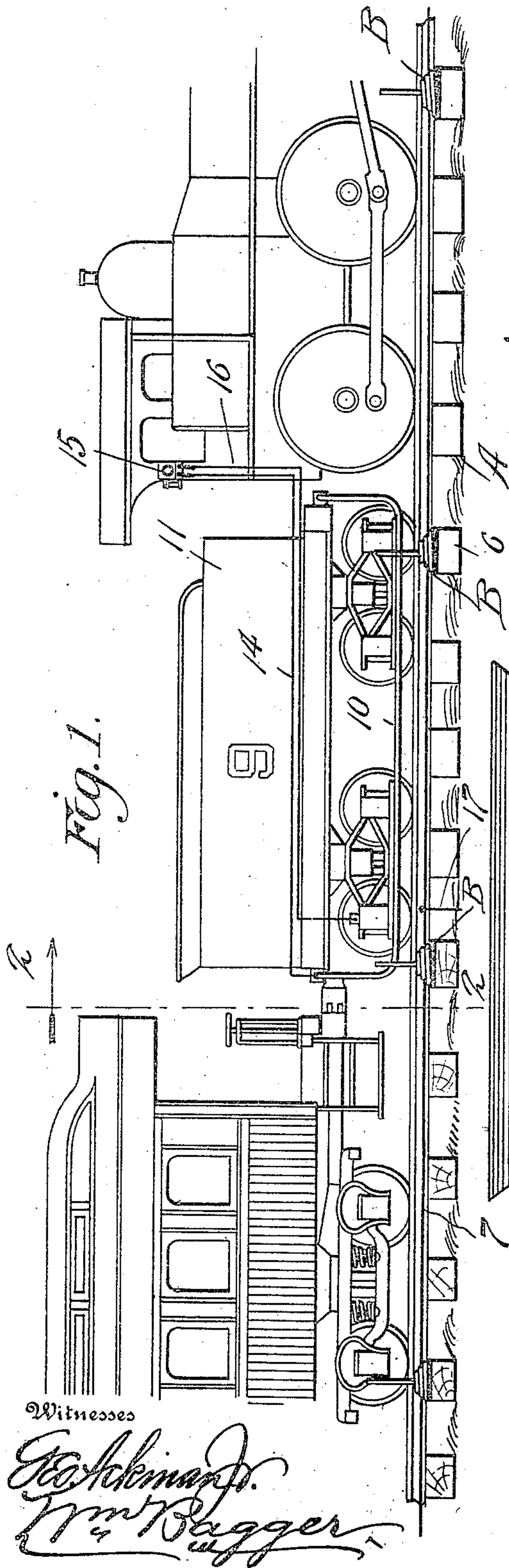
J. AMES.

PATENTED APR. 28, 1908.

MEANS FOR ESTABLISHING ELECTRICAL COMMUNICATION WITH MOVING  
TRAINS.

APPLICATION FILED SEPT. 16, 1907.

2 SHEETS—SHEET i.



Witnesses

Franklin J.  
Wm. Ragger

Inventor

Joel Ames

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Wm. Victor J. Evans

Attorney

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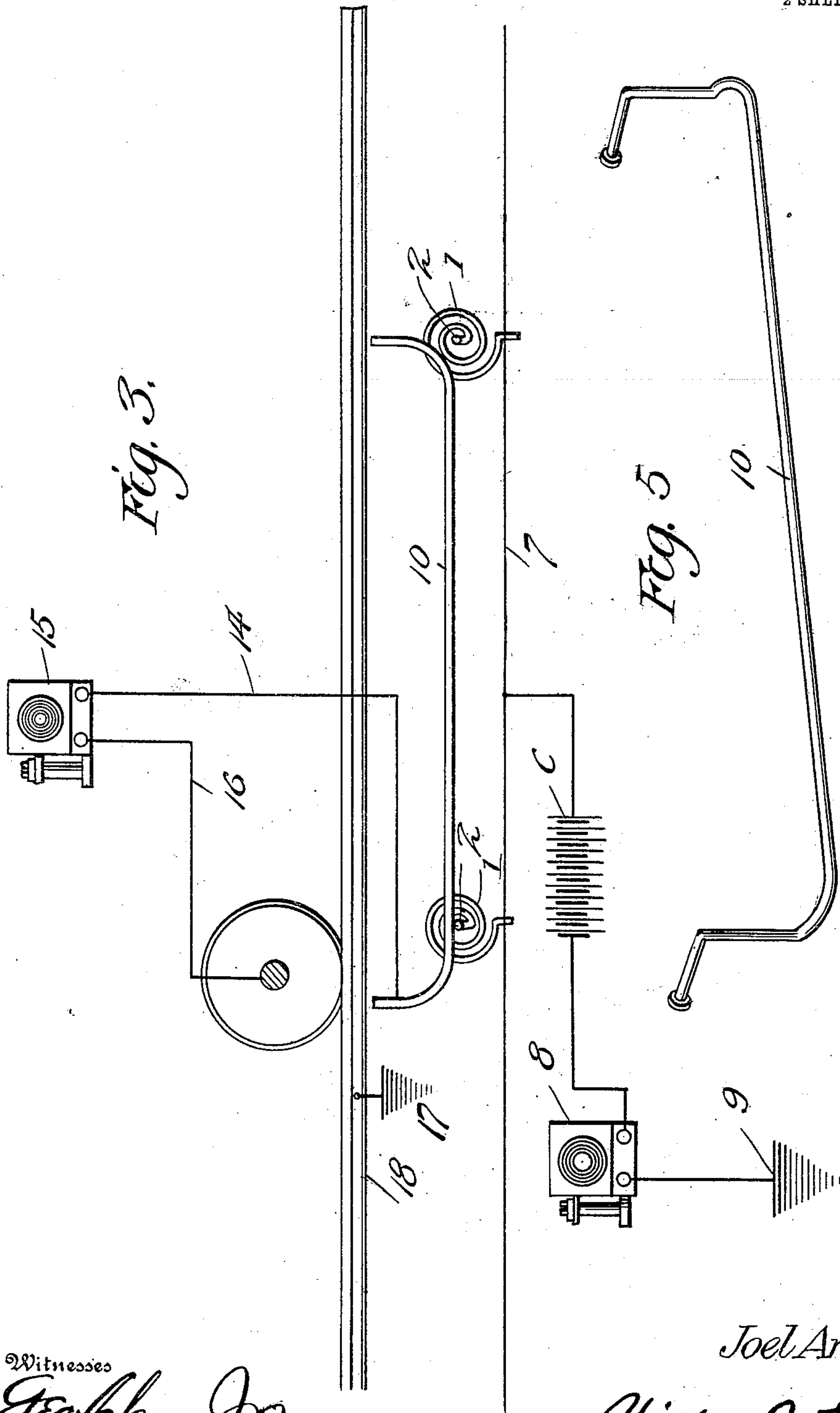
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Witnesses  
*Geo. H. Klemm*  
*Wm. Bagger*

Inventor  
*Joel Ames*  
By *Victor J. Evans*  
Attorney



# UNITED STATES PATENT OFFICE.

JOEL AMES, OF MONTROSE, IOWA, ASSIGNOR OF ONE-HALF TO EDWARD LEECH, OF MONTROSE, IOWA.

MEANS FOR ESTABLISHING ELECTRICAL COMMUNICATION WITH MOVING TRAINS.

No. 886,169.

Specification of Letters Patent.

Patented April 28, 1908.

Application filed September 16, 1907. Serial No. 393,216.

*To all whom it may concern:*

Be it known that I, JOEL AMES, a citizen of the United States, residing at Montrose, in the county of Lee and State of Iowa, have  
5 invented new and useful Improvements in Means for Establishing Electrical Communication with Moving Trains, of which the following is a specification.

This invention relates to an improved  
10 means for establishing electrical communication with railway trains while in motion for the purpose of communicating with such trains by telephone, telegraph or by any suitable pre-arranged system of signals for  
15 the purpose of actuating brakes when adapted to be set in motion by power actuated or energized by means of electricity; or for any other purposes to which an electrical current  
20 may be applied; the object being to simplify and improve the construction and operation of this class of devices.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists  
25 in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claims.

In the accompanying drawings has been  
30 illustrated a simple and preferred form of the invention; it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the invention may  
35 be resorted to when desired.

In the drawings, Figure 1 is a side elevation of a portion of a railroad track and a portion of a train equipped with the improved  
40 device. Fig. 2 is a transverse sectional view taken on the plane indicated by the line 2—2 in Fig. 1. Fig. 3 is a diagram of the electrical circuit. Fig. 4 is a perspective view showing the preferred form of one of the contact  
45 members arranged alongside the railroad track. Fig. 5 is a perspective detail view of the collector shoe.

Corresponding parts in the several figures are denoted by like characters of reference.

50 At suitable intervals along the railroad track A are arranged contact members B consisting of spiral wire coils 1 having vertically disposed terminals 2 and horizontally disposed terminals 3; said wire coils being secured by means of staples 4 or in any other

suitable manner upon insulators consisting of plates 5 which may be spiked or otherwise secured upon the cross ties 6 of the track, at suitable intervals.

It may be stated that the insulator plates 5  
60 may be dispensed with and that in lieu thereof the wire coils 1 may be insulated in any other suitable manner; said wire coils being then spiked or otherwise secured directly upon the cross ties or upon any other suitable supports.  
65

The contact members B—B are connected in series by a feed wire, or electrical conductor 7 which is part of a circuit including a battery C and which may also include a telephone 8 or other suitable apparatus; and  
70 which is grounded as shown at 9.

The railroad train with which communication is to be established is provided with a collector shoe 10 which may be connected  
75 with any one of the cars or, as shown in Fig. 1 of the drawings, with the locomotive tender 11; said collector shoe being composed of a wire yoke having a laterally extending portion 12 adapted to contact with the upstanding terminals 2 of the contact members B; the ends of the yoke being mounted in suitable supports 13 upon the car or tender, and one end of said collector 10 being connected  
80 with a conductor consisting of a wire 14 leading to a telephone or other instrument 15 suitably disposed in the locomotive cab or in some other convenient location, and electrically connected by means of a wire 16 with the metallic structure of the car which is  
85 grounded, as indicated at 17 to contact with the rails 18, thus completing the circuit.

From the foregoing description taken in connection with the drawings hereto annexed, the operation and advantages of this  
90 invention will be readily understood by those skilled in the art to which it appertains.

It will be understood that the collector shoe 10 is to be of such a length, and that the contact members B are to be placed at such  
100 distances apart that the collector shoe will at all times be in contact with at least one of the contact members, thus enabling communication at any time to be established between the instruments 8 and 15.  
105

In lieu of the telephones conventionally indicated in the drawings, it is obvious that telegraphic apparatus may be employed, and that the electrical circuit may be utilized to operate signals of any character or for the  
110



purpose of actuating brakes or other apparatus which has been suitably constructed with a view to being thus actuated.

Having thus fully described the invention, what is claimed as new is:—

1. A railroad track, an electrical conductor arranged parallel thereto, contact members arranged at suitable intervals and consisting of wire coils having upwardly extending vertical terminals and laterally extending horizontal terminals, the latter being connected with the conductor, and a collector shoe carried by a moving train and adapted for engagement with the upstanding terminals of the contact members.

2. In a device of the class described, a contact member consisting of a resilient wire coil having an upstanding terminal and a laterally extending terminal.

3. In a device of the class described, a contact member consisting of a resilient wire coil having a vertically upstanding terminal and a horizontal laterally extending terminal, said coil being secured upon an insulating plate.

4. In a device of the class described, a col-

lector shoe consisting of a resilient wire yoke having a laterally extending portion and upward extending limbs, and suitable supporting members connected with a railroad car.

5. In a device of the class described, a collector shoe supported by a car of a moving train and consisting of a resilient yoke having a laterally extended portion, a plurality of contact members consisting of resilient wire coils supported at intervals upon the track and having upward extending terminals adapted to be engaged by the collector shoe and laterally extending terminals, a conducting wire connected with the laterally extending terminals of the contact members, an electrical conductor connecting the collector shoe with the ground through the metallic car structure, and a battery connected with the conductor connecting the contact members along the track.

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

JOEL AMES.

Witnesses:

WILSON HALES,  
R. E. WORSTER.