

(No Model.)

3 Sheets—Sheet 1.

J. L. BLACKWELL.

CURRENT COLLECTOR FOR ELECTRIC RAILWAYS.

No. 389,189.

Patented Sept. 11, 1888.

Fig 1

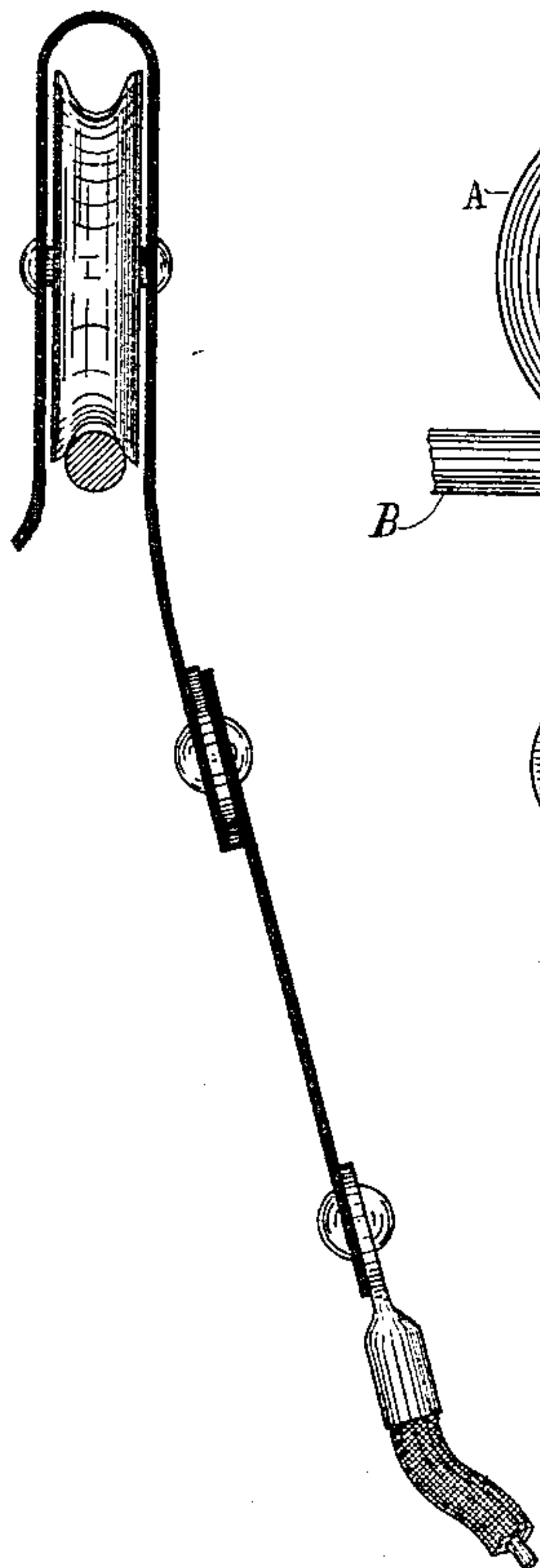


Fig 2

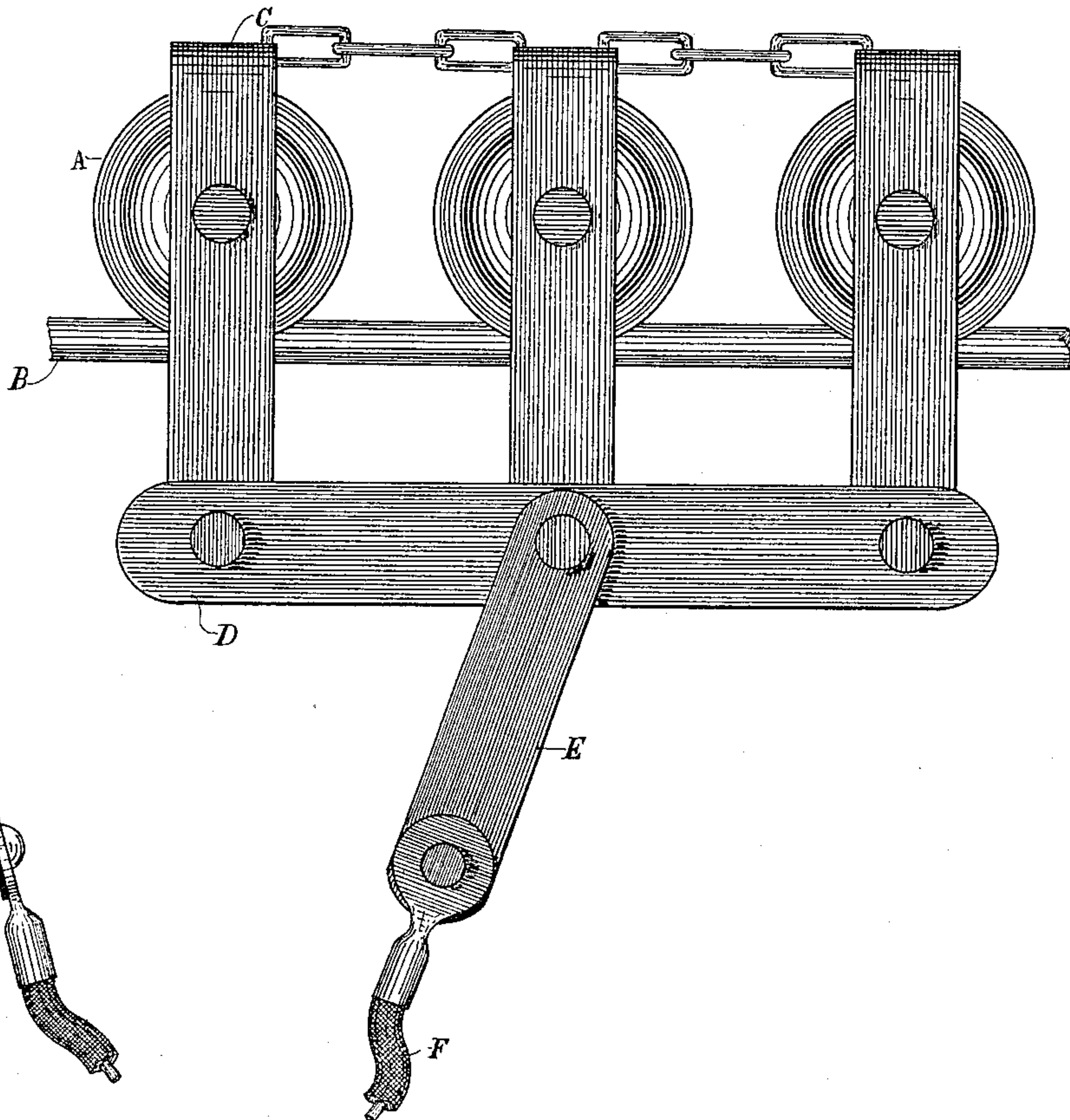
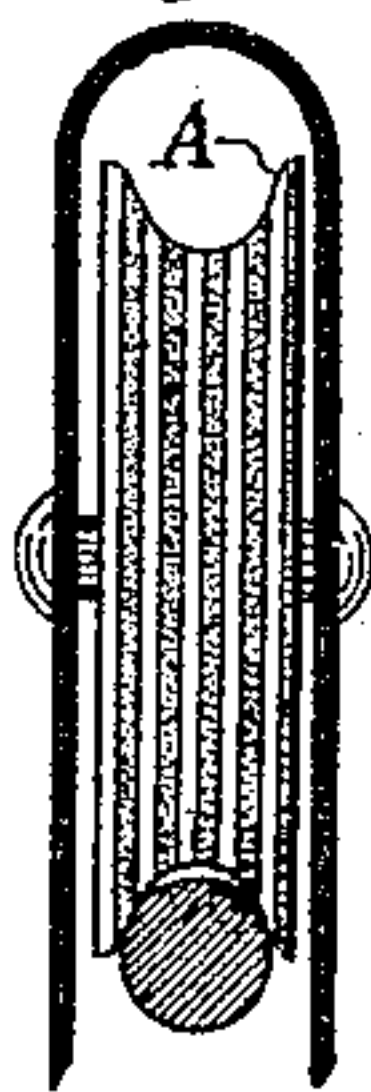


Fig. 3.



WITNESSES,

Edward S. McKinney,

T. P. Remond

INVENTOR,

J. L. Blackwell
By Brubley & Knight.
Attys.

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Fig. 4.

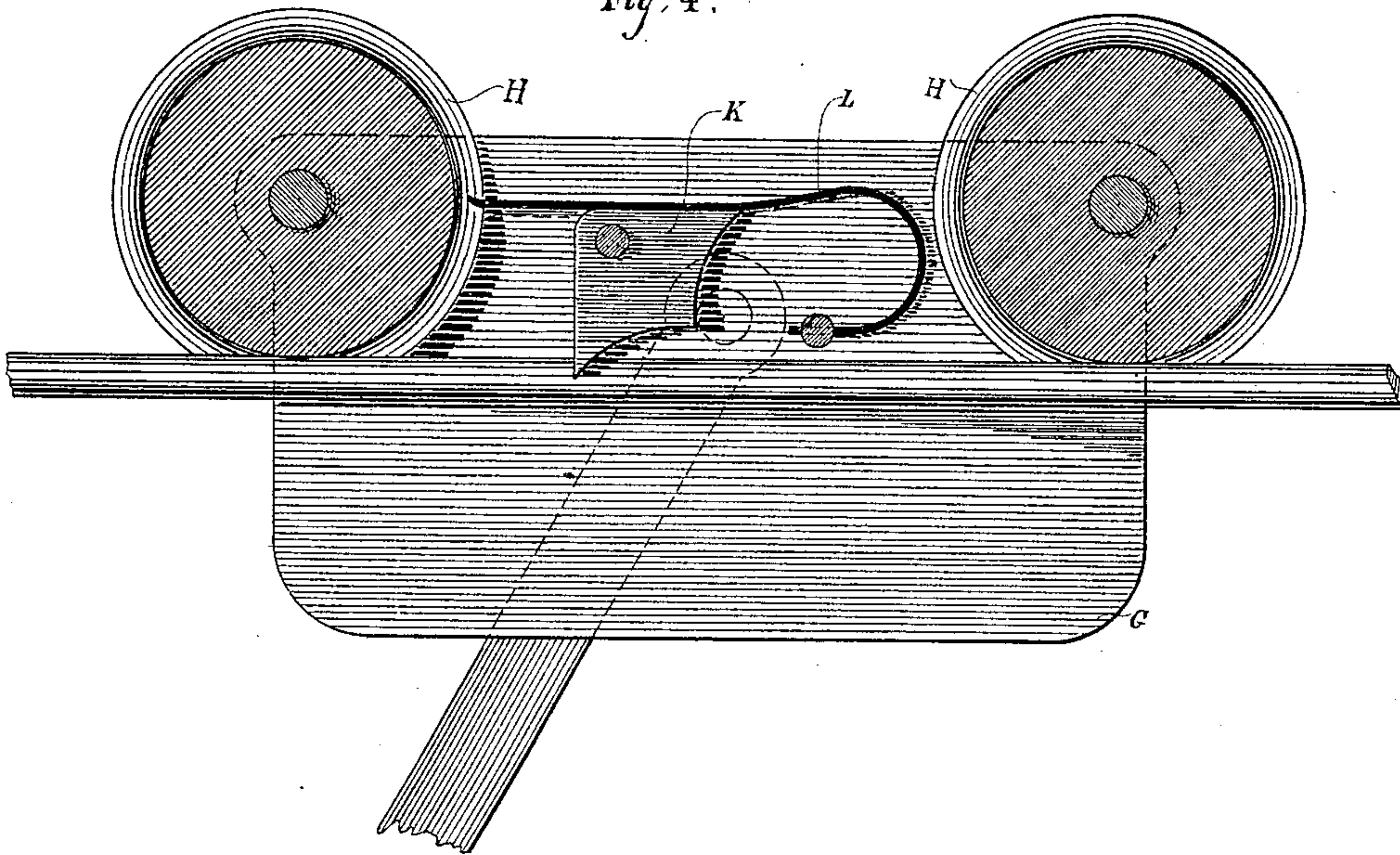
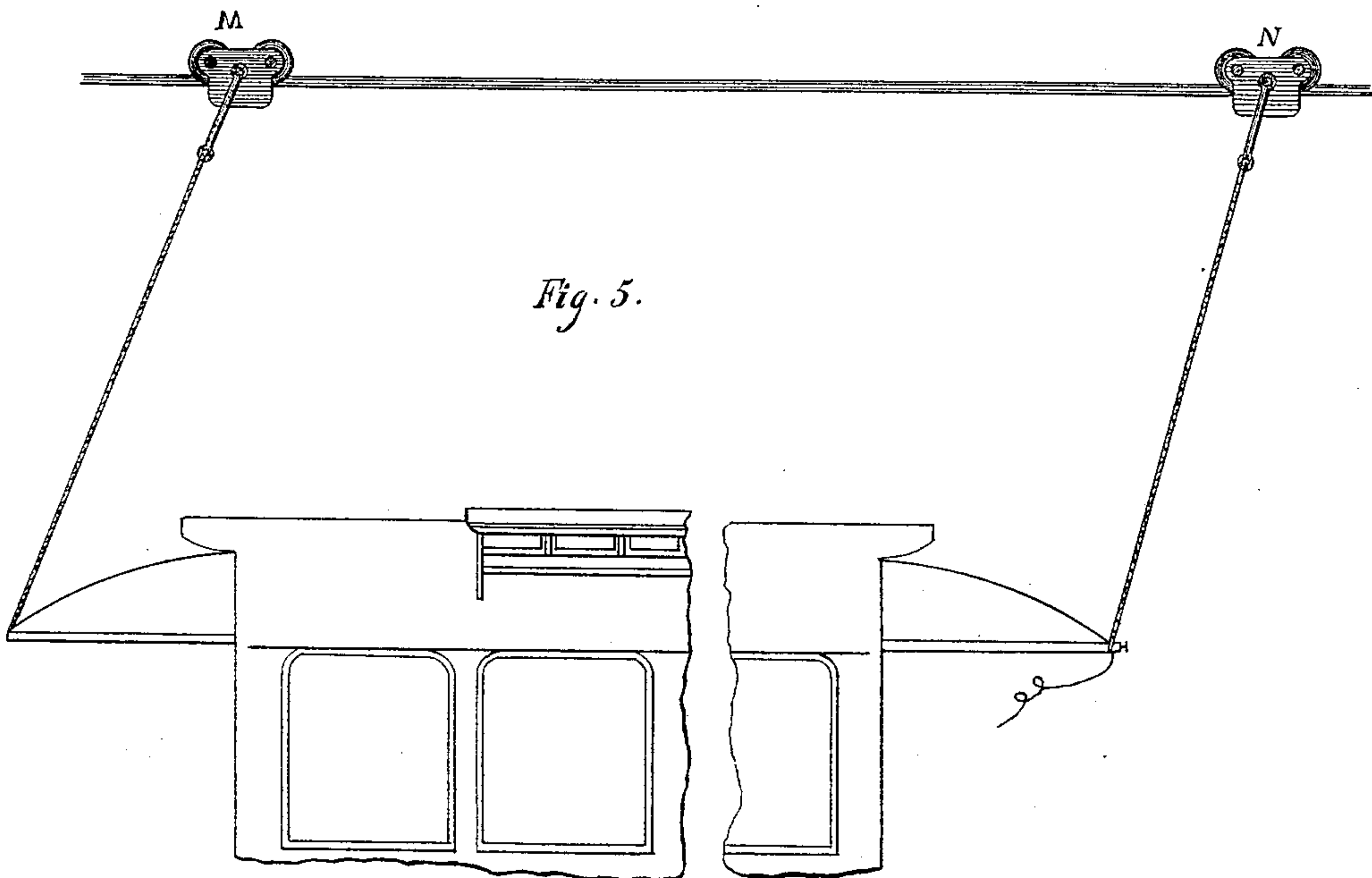


Fig. 5.



WITNESSES.

Edward S. McKinney.

T. Pennington

INVENTOR.

J. L. Blackwell
by Brutley & Knight
Attys.

(No Model.)

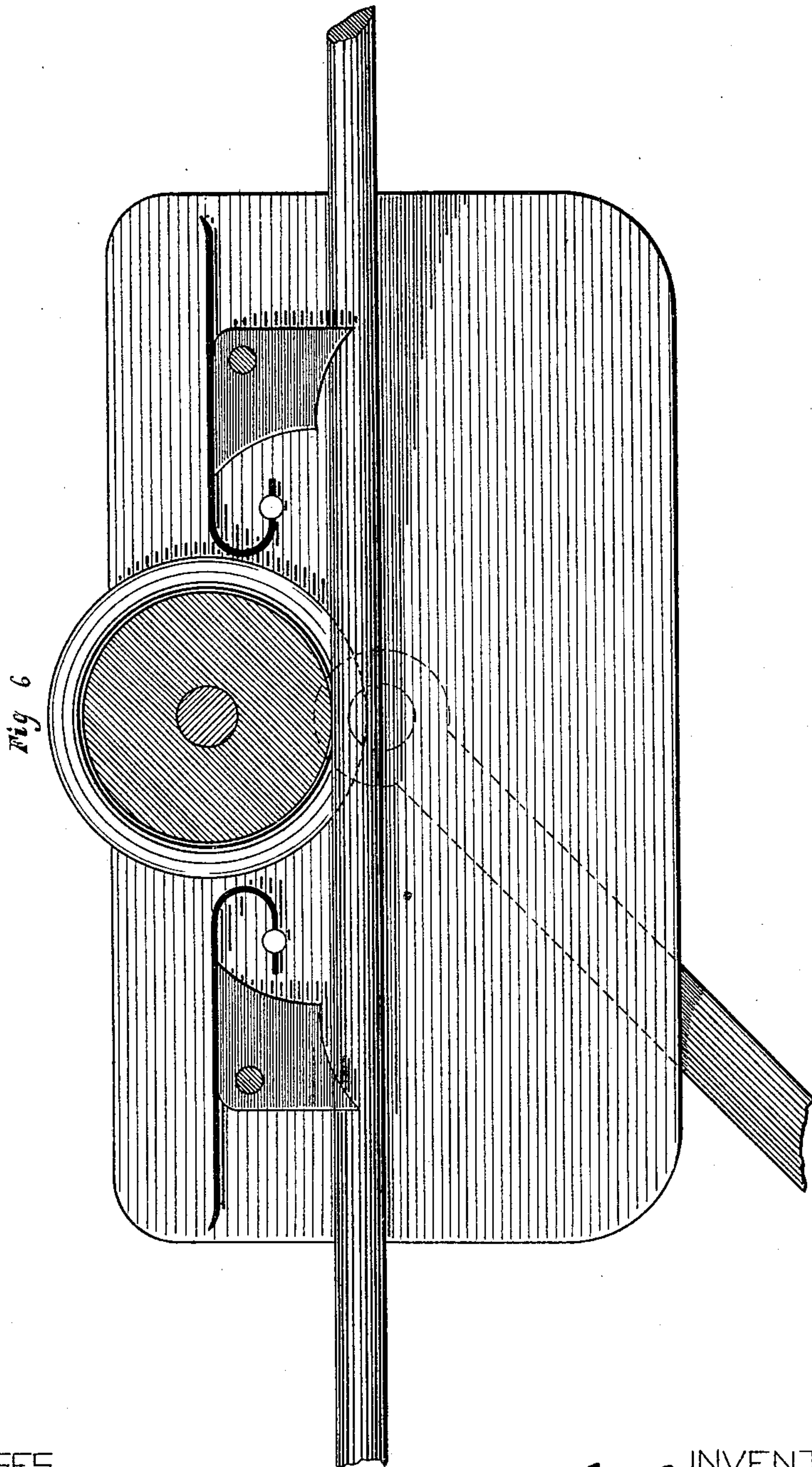
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WITNESSES.

Edward S. McKinney,
G. F. Penault

INVENTOR,

J. L. Blackwell
by Brutley & Knight,
attys.

UNITED STATES PATENT OFFICE.

JOSIAH LOW BLACKWELL, OF NEW YORK, N. Y.

CURRENT-COLLECTOR FOR ELECTRIC RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 389,189, dated September 11, 1888.

Application filed July 3, 1888. Serial No. 278,960. (No model.)

To all whom it may concern:

Be it known that I, JOSIAH LOW BLACKWELL, a citizen of the United States, residing at New York, in the county of New York, State of New York, have invented certain new and useful Improvements in Current-Collectors for Electric Railways, of which the following is a specification.

My invention relates to contact-trolleys for an electric railway where the supply-conductor is overhead, consisting of a wire suspended between supports, and the contact device connected to the vehicle is adapted to ride upon said conductor.

It consists in providing two or more wheels, each of which has its bearing in an independent metallic strip, these strips being pivoted to a common bar by which the device is propelled.

It also consists in a deadening device for the wheel, tending to diminish the noise made by the trolley as it travels along the wire.

It further consists in a cleaning device for the wire, adapted to be independently attached to the vehicle and drawn along thereby in advance of the contact-trolley.

In the accompanying drawings, Figure 1 is an end elevation of the trolley; Fig. 2, a side elevation of the same; Fig. 3, a detail showing the deadened wheel. Fig. 4 is a section of my cleaning device, and Fig. 5 shows its attachment to the car. Fig. 6 is a modification.

In Figs. 1 and 2, A A represent grooved contact-wheels fitted to the supply-wire B. Each of these wheels has its bearing in a curved strip, C, bent down upon opposite sides, as shown in Fig. 1. Each of these strips C is pivoted independently to a bar, D, which in turn is connected to the vehicle by a pivoted link, E, and a flexible wire, F. In Fig. 3 a wheel, A, is shown made up of linked disks of brass or copper and rawhide or other deadening material. It will be readily seen that in operation, the trolley being drawn by bar D, each wheel will be to a considerable extent independent of all of the others, independently riding over an obstruction and not communicating any shock to the others. I have found in practice that a trolley of this construction has the further advantage of being "dead" and flexi-

ble, so that it will not "race" ahead of the car nor make a noise.

In Fig. 4, G is a plate or frame, in which are journaled two grooved wheels, H, similar to contact-wheels A, and adapted to ride upon the line-wire in the same manner. K is a triangular scraper, pivoted to G, and held by spring L in a position to have its lower edge scrape along the upper surface of the wire, so as to remove any snow, ice, or other obstruction which would interfere with the contact-trolley. When proceeding, as shown in the drawings, from right to left, the spring L gives the scraper K a yielding impact against any obstruction on the wire, and when proceeding in an opposite direction the scraper will be automatically reversed, so that the end before bearing on the wire will be thrown up against the spring and the point before bearing on the spring will be thrown down upon the wire, an intermediate point serving to carry it over the dead-center.

In Fig. 5, M represents a scraping-trolley like that shown in Fig. 4, while N is a contact-trolley, by which the current is conducted to the propelling-motor. As shown in Fig. 6, the cleaning-trolley may have one or more wheels in the center, with the scraper outside of the wheels before and behind, so that the accumulation on the wire may be pushed off in advance of the main bearing-wheel.

A wheel composed of metal may be deadened by placing disks of rawhide fiber or similar material upon one or both sides thereof without departing from the spirit of my invention. (Illustrated in Fig. 3.)

As shown in Fig. 2, the strips C, carrying the wheels, are loosely connected at their upper ends by chain-links, which prevent too great play between them.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In an electric railway, the combination, with an overhead supply-wire, of a contact-trolley having a connecting-bar and two or more contact-wheels, each pivoted to a strip and the strips independently pivoted to the said bar.

2. In an electric railway, the combination, with an overhead supply-wire, of a contact-trolley having two or more contact-wheels, a

common bar, a strip for each wheel pivoted to said bar and forming a bearing-piece for the wheel, and a pivoted link by which the trolley is propelled.

5 3. In an electric railway, the combination, with an overhead supply-wire, of a contact-trolley having a bearing-piece, and a wheel pivoted thereon having concentric disks of deadening material.

10 4. In an electric railway, the combination, with a suspended overhead supply-wire, of a contact-trolley having a wheel composed of alternate disks of metal and deadening material.

15 5. In an electric railway, the combination, with an overhead suspended supply-wire, of a contact-trolley having a bar, D, with two or more strips, C, pivoted thereto, and wheels A on each strip, respectively.

6. In an electric railway, the combination, with a vehicle and an overhead supply-wire, 20 of a contact-trolley for maintaining electrical connection between said supply-conductor and the vehicle, and a cleaning device for said wire independently attached to the vehicle in advance of the contact-trolley.

25 7. The combination, with an electrically-propelled vehicle and an overhead supply-conductor, of a cleaning device for said conductor attached to the vehicle, and having a scraper adapted to bear on the conductor.

JOSIAH LOW BLACKWELL.

Witnesses:

ROBT. W. BLACKWELL,
JULIEN M. ELLIOT.