

(No Model.)

E. L. ORCUTT.
CONTACT BRUSH.

No. 374,198.

Patented Dec. 6, 1887.

Fig. 1.

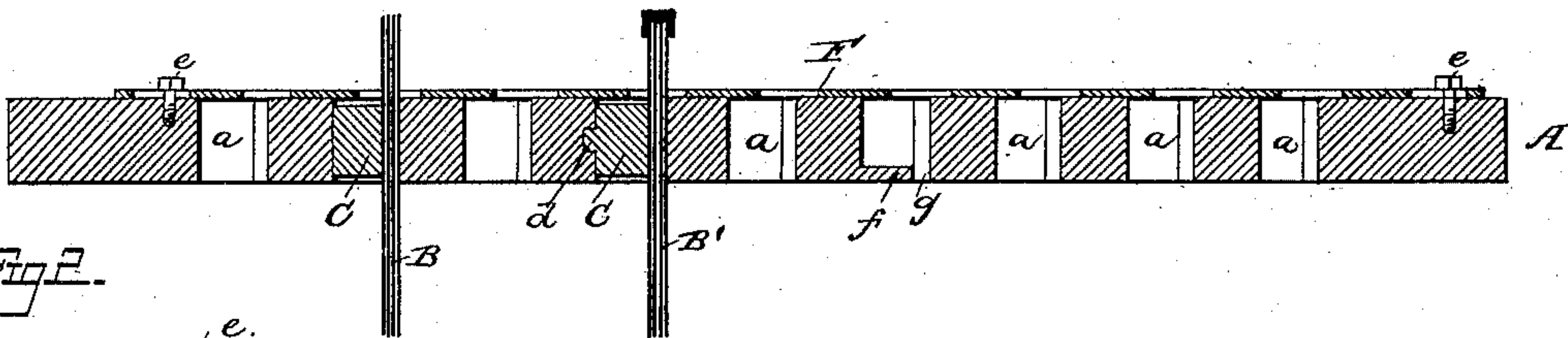


Fig. 2.

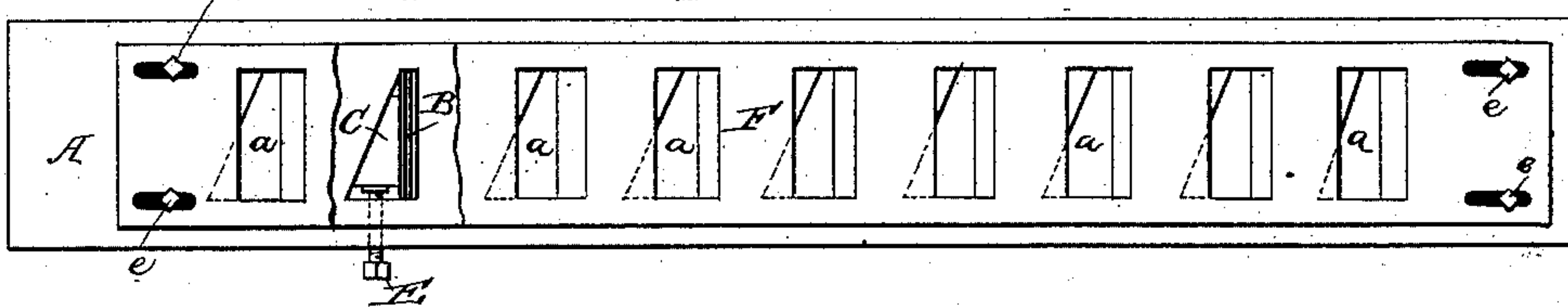


Fig. 3.

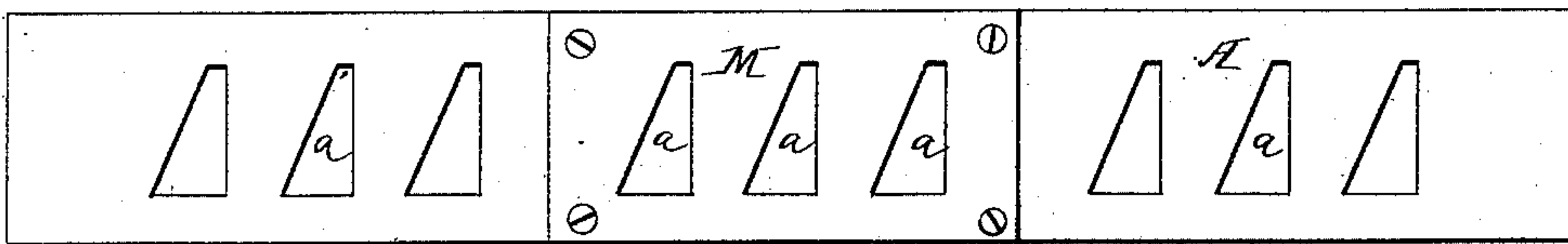


Fig. 4.

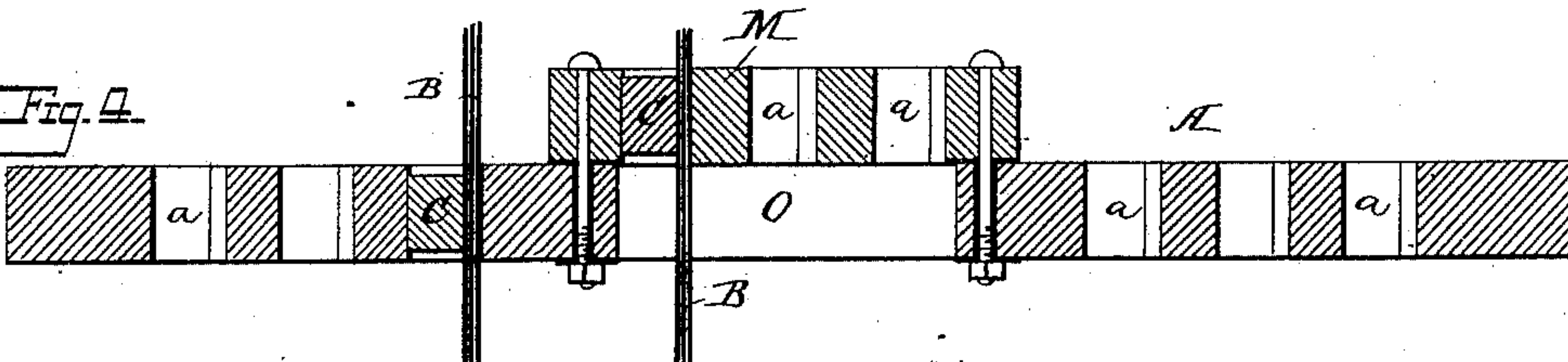
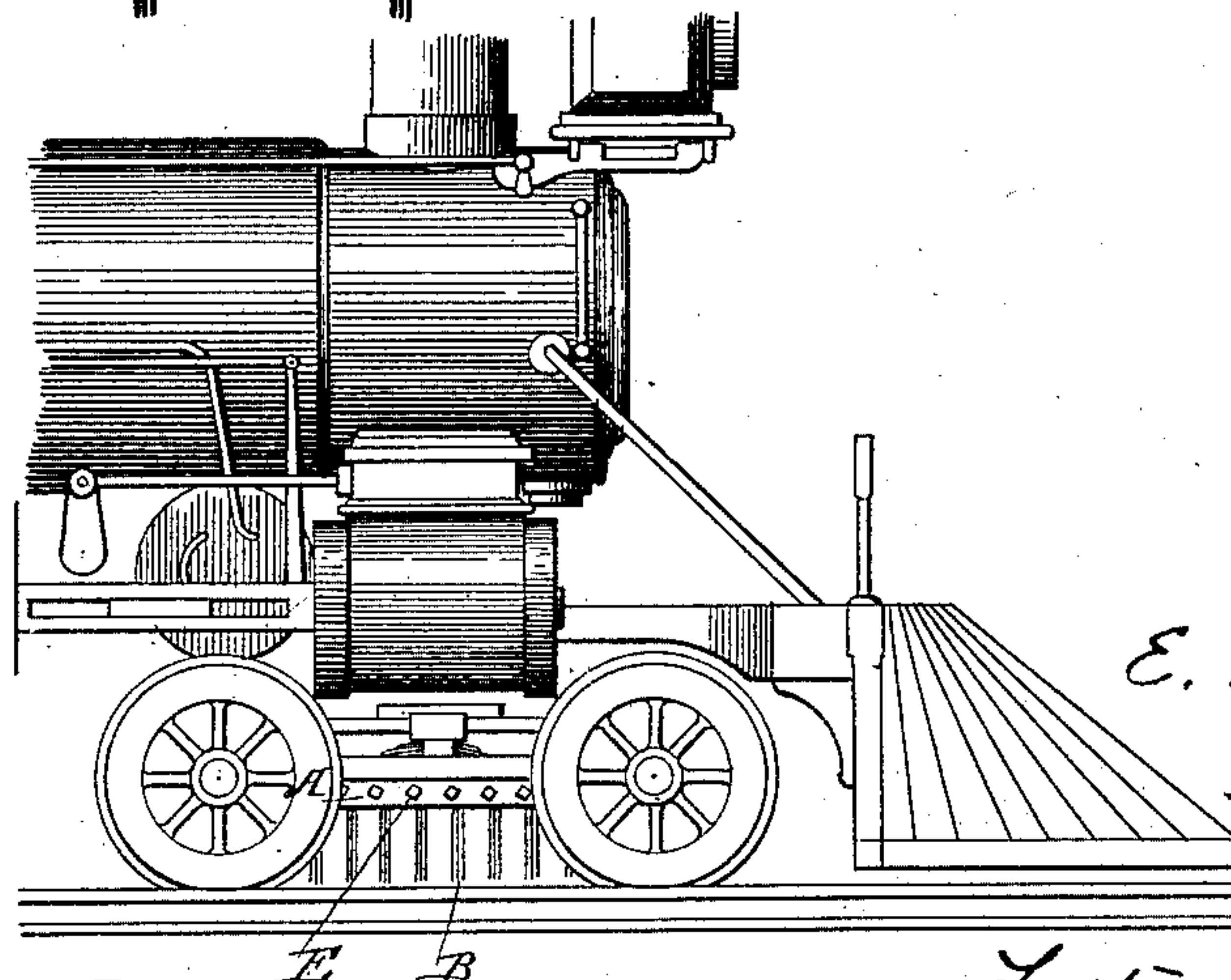


Fig. 5.



Attests:

John G. Hinkley
Wm. A. Harris

E. L. Orcutt

Inventor: By
his attys.

Foster & Freeman

UNITED STATES PATENT OFFICE.

EDWARD L. ORCUTT, OF SOMERVILLE, MASSACHUSETTS.

CONTACT-BRUSH.

SPECIFICATION forming part of Letters Patent No. 374,198, dated December 6, 1887.

Application filed February 7, 1887. Serial No. 227,063. (No model.)

To all whom it may concern:

Be it known that I, EDWARD L. ORCUTT, a citizen of the United States, residing at Somerville, Middlesex county, Massachusetts, have
5 invented certain new and useful Improvements in Contact-Brushes, of which the following is a specification.

My invention is a contact-brush, and is intended more especially for use upon locomotives or other traveling vehicles, and is adapted to take the electric current to or from a rail or other conductor forming part of an electric circuit in a signaling system, an electric railway, or other similar arrangement.

15 In practice it is desirable to have some sort of a contact maker or brush attached to some part of the moving vehicle that is simple, effective, and durable; and it is the object of my present invention to supply such a device.
20 The brush may be attached to the vehicle or locomotive in different positions, depending upon the use to be made of it. If it is to be used to complete a signaling-circuit, by means of conductors placed between the rails, I have
25 found it convenient to attach the brush to the spider-frame of the forward truck of the locomotive, as it may be easily adjusted to the desired position and does not interfere with any operative part of the engine.

30 Referring to the accompanying drawings for a more particular description of my invention, I have illustrated in Figure 1 a longitudinal cross-section of one form of brush. Fig. 2 is a plan view of the same. Fig. 3 is a plan view
35 of a modified form. Fig. 4 is a longitudinal cross-section of the same, and Fig. 5 is an outline showing one manner of attaching the brush to the truck of a locomotive.

The body A of the brush is of metal, preferably brass or other non-corrosive material, having a series of apertures, *a*, formed therein, and while these apertures may be of any desired contour I have found it convenient for my present purposes to form them in the shape
45 of triangles, substantially as shown, one side being at right angles to the length of the body A. In each of these apertures is placed a brush, B, with one of its sides bearing against the face of the aperture, and the brush may be
50 adjustably secured therein by any suitable means. I have shown a wedge, C, fitting the

aperture and adjusted by a screw, E, passing through the side of the body, and as it is preferred to form the wedge of brass or similar metal I prefer to place an iron washer between
55 the end of the screw-bolt and the head of the wedge.

The brush B may be variously constructed; but I have found that a very desirable and durable brush may be made of thin plates or
60 laminae of metal laid face to face, and these plates may be of brass, copper, iron, or steel, or a combination of materials; and while I prefer to make them of non-corrosive material, it is not necessary, as the wearing-surfaces will
65 be kept bright and clean by contact with the conductor. Another form of brush I have found useful consists of a number of wires free at their lower ends, but having a head cast or formed about and uniting their upper ends, as
70 illustrated at B', Fig. 1.

The desired number of brushes B are secured in the apertures, and if the wedges C are used some means is desirable to prevent the wedges becoming detached from the apertures, and
75 this may be done by forming a lip or flange on one side adapted to fit a groove in the side of the aperture, as shown at *d*, Fig. 1; or a thin film, *f*, may be formed in the aperture by casting it with suitable core-pieces, leaving only a
80 slot, *g*, for the passage of the brushes through the plate. I have found it desirable, however, to use a thin plate, F, having rectangular holes corresponding to the apertures in the body, through which the wedges and brushes may be
85 adjusted, and the plate is provided with elongated slots through which the screws *e* pass, whereby it may be slipped along the surface of the plate and secured in position to retain the wedges and help support the brushes. Two
90 of these plates may be used, if desired, one on each side of the body. By this construction it will be evident that the brushes may be adjustably and rigidly secured to the body-piece, and good electric contact assured, and the current passing to or from the rail or conductors
95 will not be retarded or lost.

It is sometimes desirable to complete two circuits through the same rail or conductor, and to so time the contact that signals will be
100 given in a certain definite order, and to accomplish this result I prefer to arrange the

body M of the second circuit-brush upon the body A of the first and insulate it therefrom, the brushes passing through the large recess O, formed in the body of the first brush, as clearly shown in Figs. 3 and 4.

It is evident that various modifications of my improvement may be made without departing from the spirit of the invention.

While I do not limit myself to the construction and arrangement shown, I claim—

1. A contact-brush consisting of a metallic body having formed therein angular apertures, brushes extending through said apertures, each arranged against one side of one of said apertures and transverse to the conductor with which it engages, and wedges securing the brushes in the apertures, substantially as described.

2. A contact-brush consisting of a body having angular-shaped apertures and webs partially closing the apertures, brushes in the apertures, and wedges for securing the brushes, substantially as described.

3. In a contact-brush, the combination of a body having apertures, brushes secured in the apertures, and a plate secured to the body and provided with apertures corresponding to the apertures in the body, whereby the brushes may be adjusted through said plate, substantially as described.

4. The combination, with the body carrying brushes secured in apertures near the ends, of a second body-piece secured to and insulated from the first and carrying brushes extended through a recess therein, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

EDWARD L. ORCUTT.

Witnesses:

F. L. FREEMAN,
WM. A. HARRIES.