

(No Model.)

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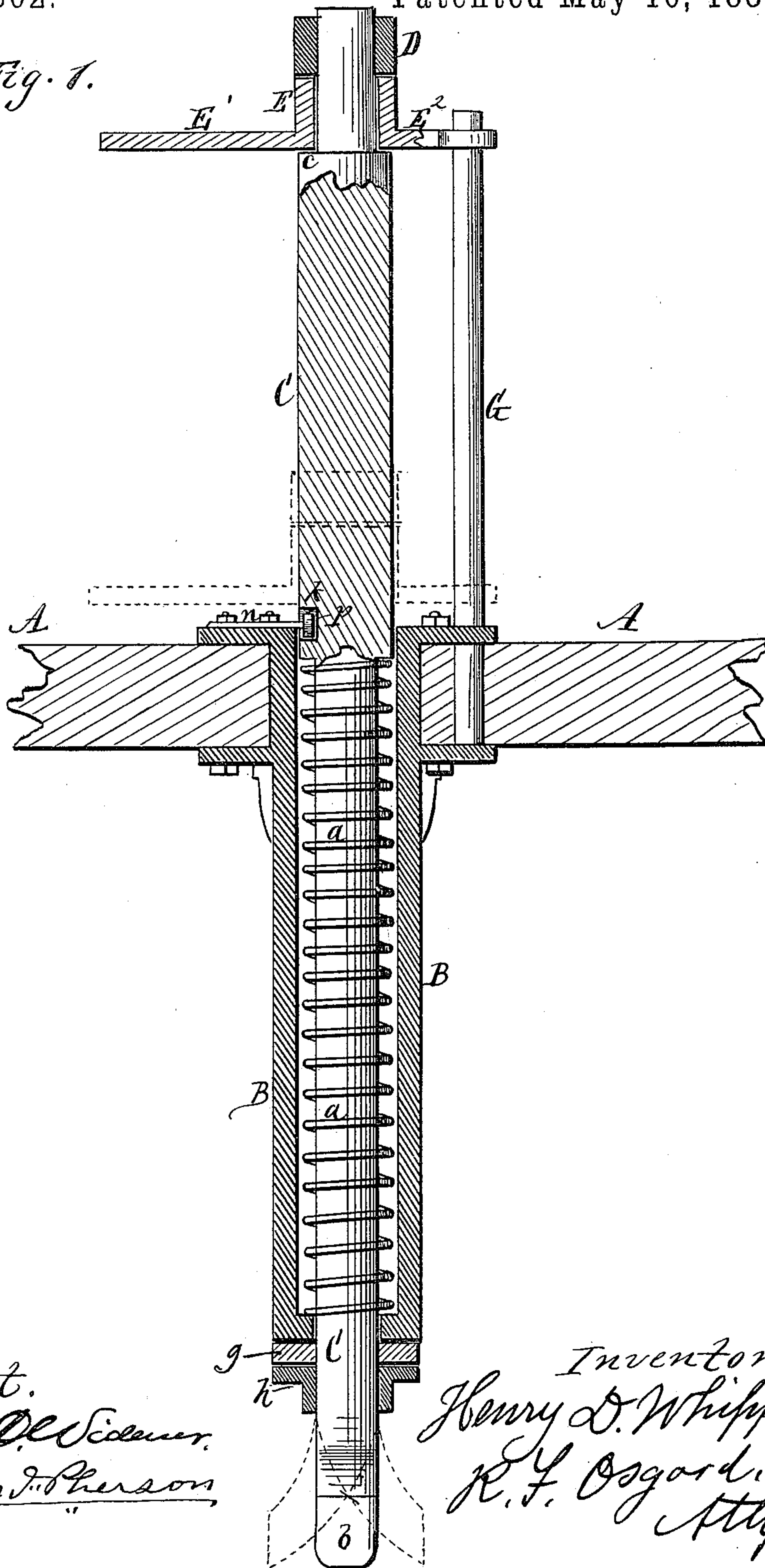
H. D. WHIPPLE.

DEVICE FOR OPERATING STREET RAILWAY SWITCHES.

No. 362,802.

Patented May 10, 1887.

Fig. 1.



Attest.
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(No Model.)

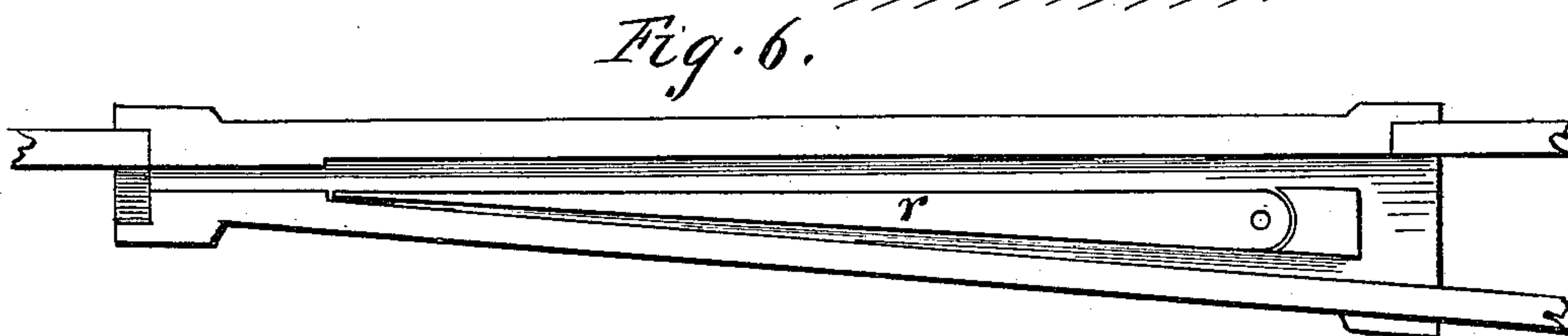
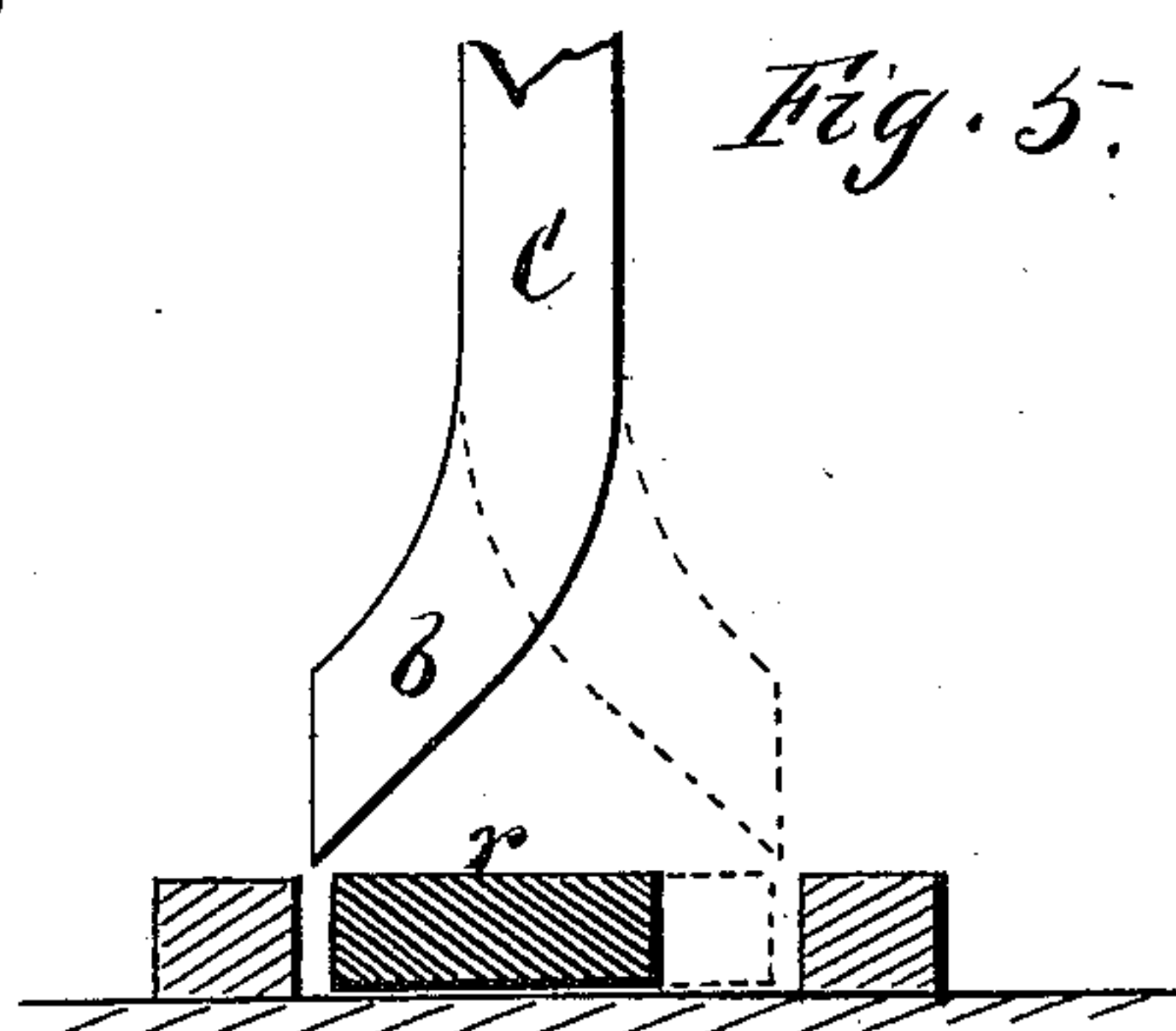
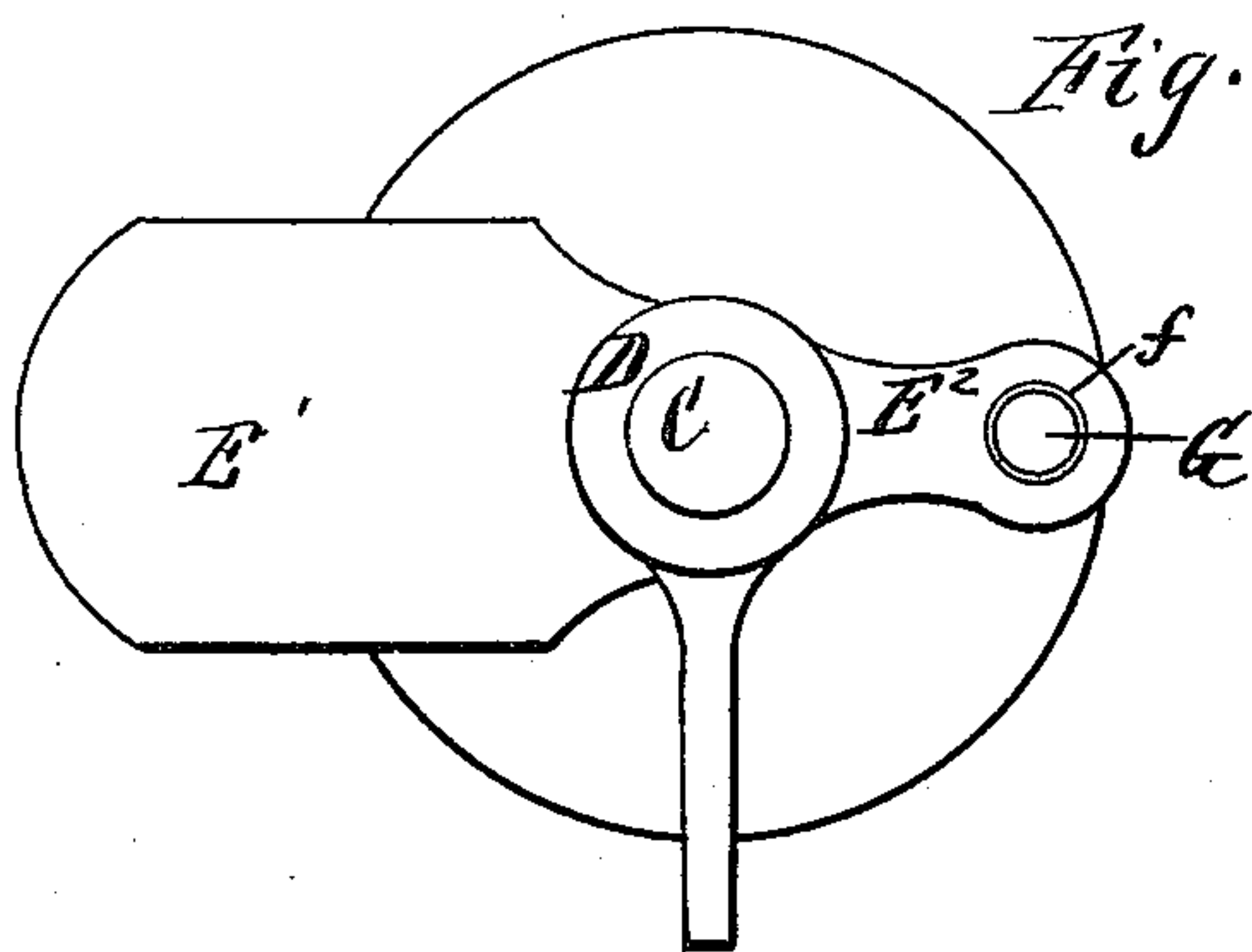
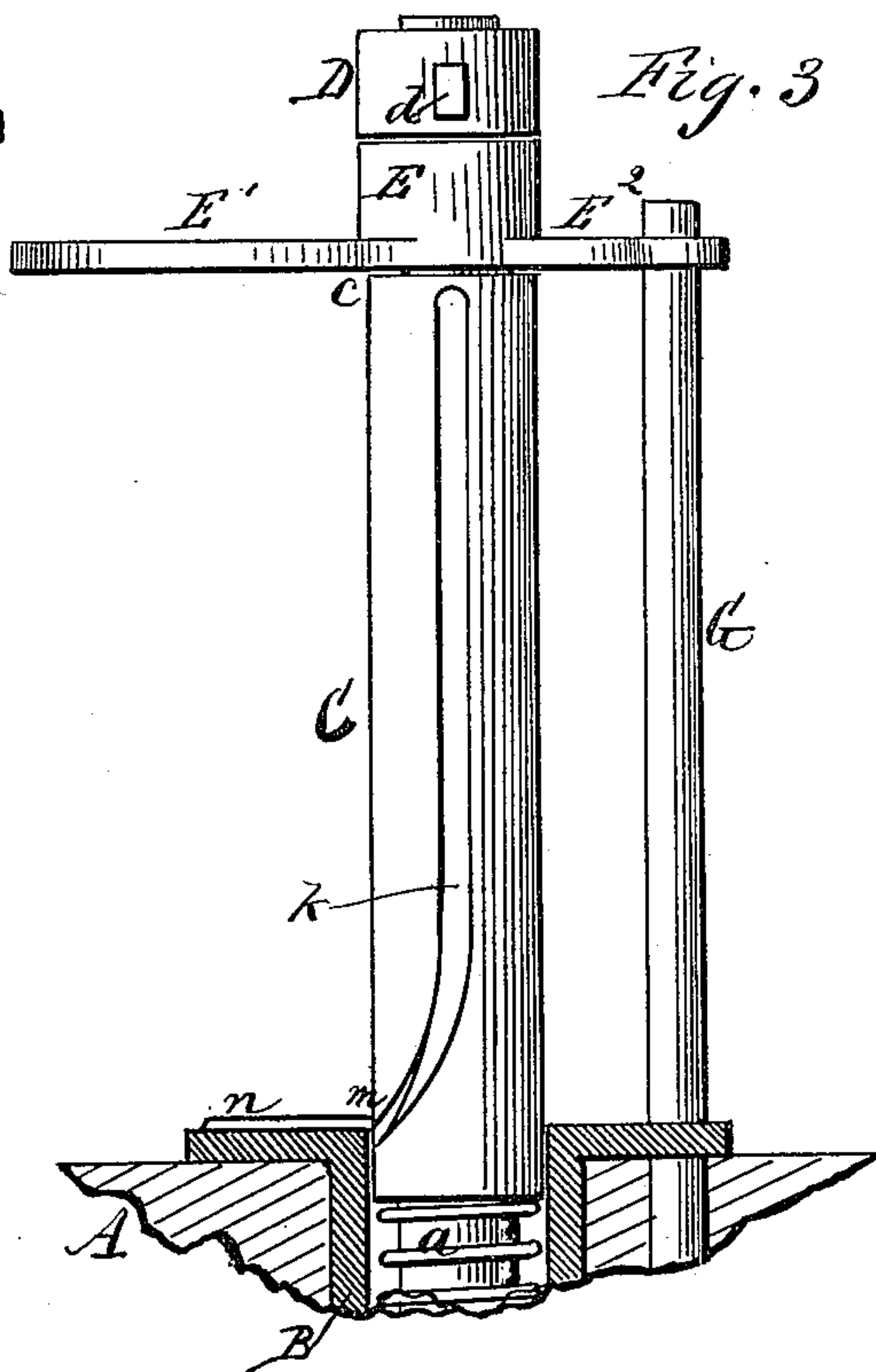
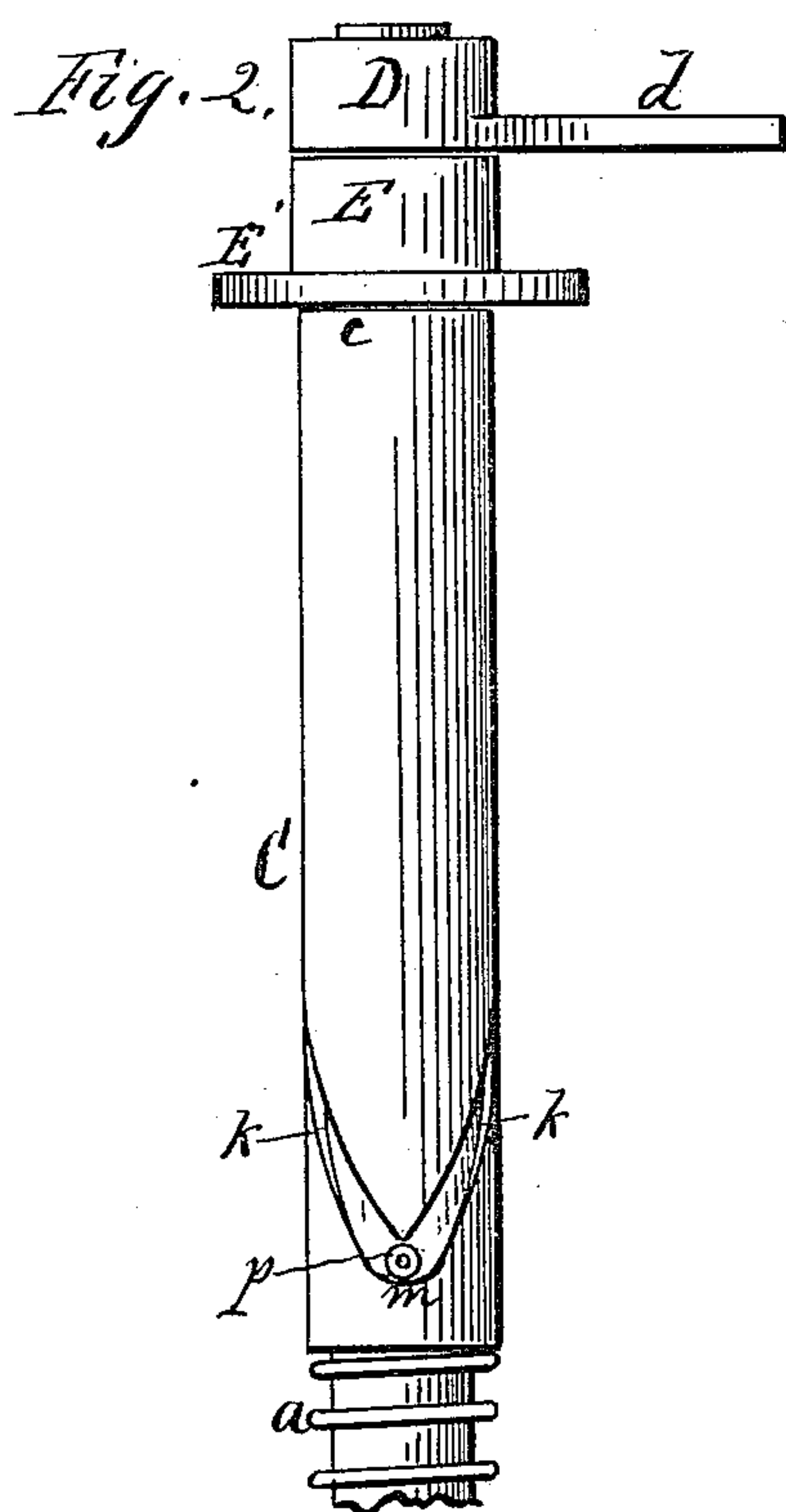
2 Sheets—Sheet 2.

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DEVICE FOR OPERATING STREET RAILWAY SWITCHES.

No. 362,802.

Patented May 10, 1887.



Attest.
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UNITED STATES PATENT OFFICE.

HENRY D. WHIPPLE, OF ROCHESTER, NEW YORK, ASSIGNOR OF TWO-THIRDS TO LEMUEL A. JEFFREYS AND F. DE WITT CLARKE, BOTH OF SAME PLACE.

DEVICE FOR OPERATING STREET-RAILWAY SWITCHES.

SPECIFICATION forming part of Letters Patent No. 362,802, dated May 10, 1887.

Application filed January 29, 1887. Serial No. 225,833. (No model.)

To all whom it may concern:

Be it known that I, HENRY D. WHIPPLE, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Devices for Operating Street-Railroad Switches; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this application.

My improvement relates to that class of devices for operating railroad-switches in which a rod or plunger is attached to the street-car platform and is forced down into the joint between the rail and switch to throw the switch over. Such devices are already known.

My invention consists in an improved combination of parts for effecting the object, hereinafter more fully described and definitely claimed.

In the drawings, Figure 1 is a longitudinal vertical section of the device attached to a street-car platform. Figs. 2 and 3 are elevations of the upper portion of same, the two views being at right angles to each other. Fig. 4 is a top plan view of the device. Fig. 5 is a diagram showing in full and dotted lines the different positions of the bent lower end of the plunger and a cross-section of the frog and switch beneath. Fig. 6 is a plan view of the frog and switch.

A indicates the street-car platform.

B is a cylinder or barrel bolted to the under side of the platform.

C is the plunger or rod, which rests in the barrel and is retracted or thrown up by a spiral spring, *a*. The upper end of the plunger is enlarged in diameter and extends up some distance above the top of the platform. The lower end of the plunger is bent outward on one side, usually about one and a half inch from the central line, and is made wedge-shaped, as shown at *b*.

D is a fixed collar or shoulder on the upper end of the plunger, provided with a projecting arm, *d*.

E is a loose collar resting around a circular part of the plunger under the fixed collar and

above a shoulder, *c*, of the plunger, and allowing the plunger to turn freely therein.

E' is a foot-pedal attached to the loose collar E, and E' is an arm on the opposite side, also attached to the loose collar and provided with a hole, *f*, that slides freely up and down on a vertical fixed standard, G, that rises from the car-platform. By this means when the foot is pressed on the pedal the plunger can be forced down and can be turned axially at the same time without turning the foot-pedal.

g is a rubber spring, and *h* a washer on the plunger, which holds the spring in place. The rubber spring breaks the concussion when the plunger goes up.

k k are two longitudinal slots in the face of the upper portion of the plunger, which rests above the platform. The upper ends of these slots extend down vertically the main portion of their length; but toward the bottom they converge, and finally meet at the apex *m*.

n is an arm provided with a friction-roller, *p*, the arm being bolted or otherwise attached to the top of the case and the roller resting in the slots *k*. When the plunger is thrown up and at rest, the roller rests centrally at the apex of the slots, as shown in Fig. 2. If desired, the roller can be dispensed with, and the end of the bar, or any permanent stud, can act as the fulcrum.

The operation is as follows: In its natural position the plunger is thrown up, as shown in Fig. 1. To operate it, the foot is pressed against the arm *d* and the plunger is turned axially slightly to the right or left, according to the direction in which the switch-point is to be thrown. This turning movement brings the roller *p* into one or other of the slots *k k* on one side of the apex. The foot is then placed on the pedal E' and pressed down, which forces the plunger downward. The incline of the slot *k* at the bottom causes the shaft to make a quarter-revolution till the roller enters the vertical part of the slot, when the shaft ceases turning and moves down in a straight line. The quarter-turn of the shaft brings the wedge-shaped bent end of the plunger over the joint between the side of the frog and the switch-point *r* and shifts the latter. By changing the

roller to the opposite slot in starting the shaft turns in the opposite direction. The two positions of the bent end of the plunger are indicated by full and dotted lines in Fig. 5.

5 The device above described is of convenient form, as it enables the foot to do all the work, and the hands of the driver are free to drive the horses and attend the brakes.

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

1. The combination of the plunger provided with a wedge-shaped bent lower end, the fixed arm at the top of the plunger, and the foot-
15 pedal swiveled on the plunger, so as to force the plunger down and allow it to turn without turning the pedal, said plunger being provided with means, substantially as described, whereby as the plunger is pressed down it turns to

bring the bent lower end in position to strike 20 in the joint between the frog and switch, as described.

2. The combination of the plunger provided with a wedge-shaped bent lower end and with slots which meet at an apex at the bottom, a 25 fixed arm attached to the top of the plunger, whereby it can be thrown to the right or left, a foot-pedal swiveled on the plunger, so as to allow the plunger to turn as it is forced down, and a fixed fulcrum with a roller or pin enter- 30 ing the slots, as and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HENRY D. WHIPPLE.

Witnesses:

R. F. OSGOOD,

P. A. COSTICH.