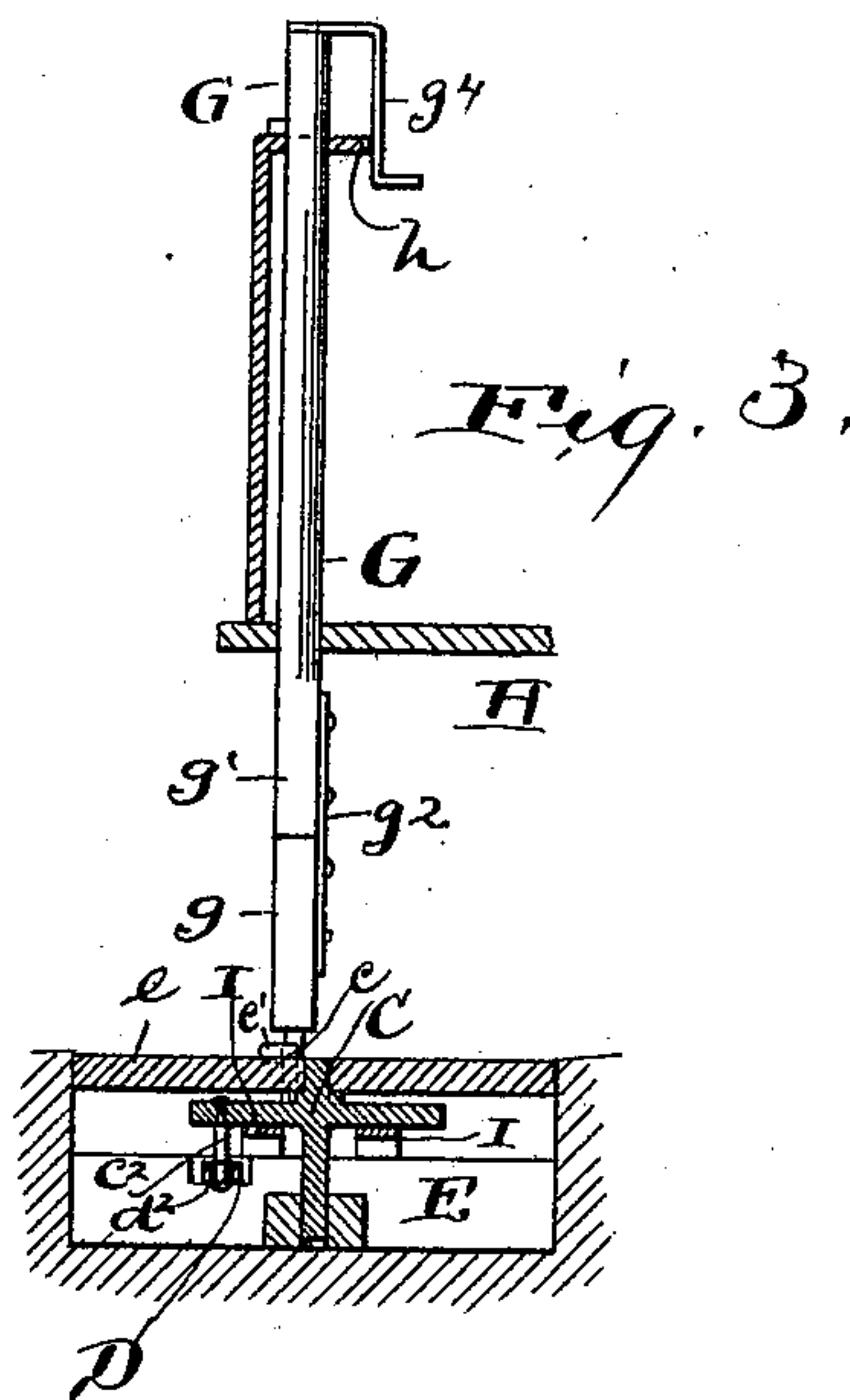
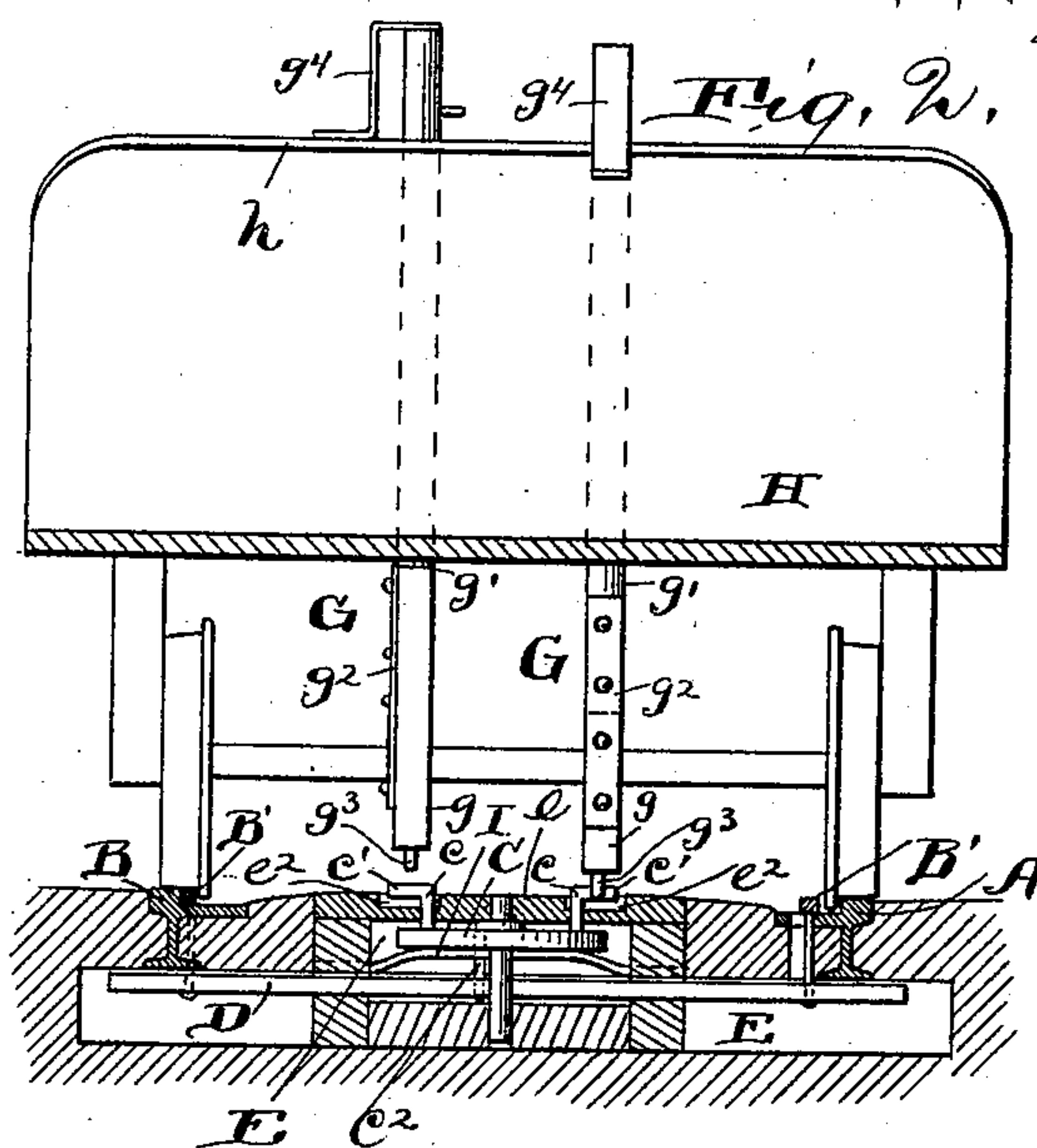
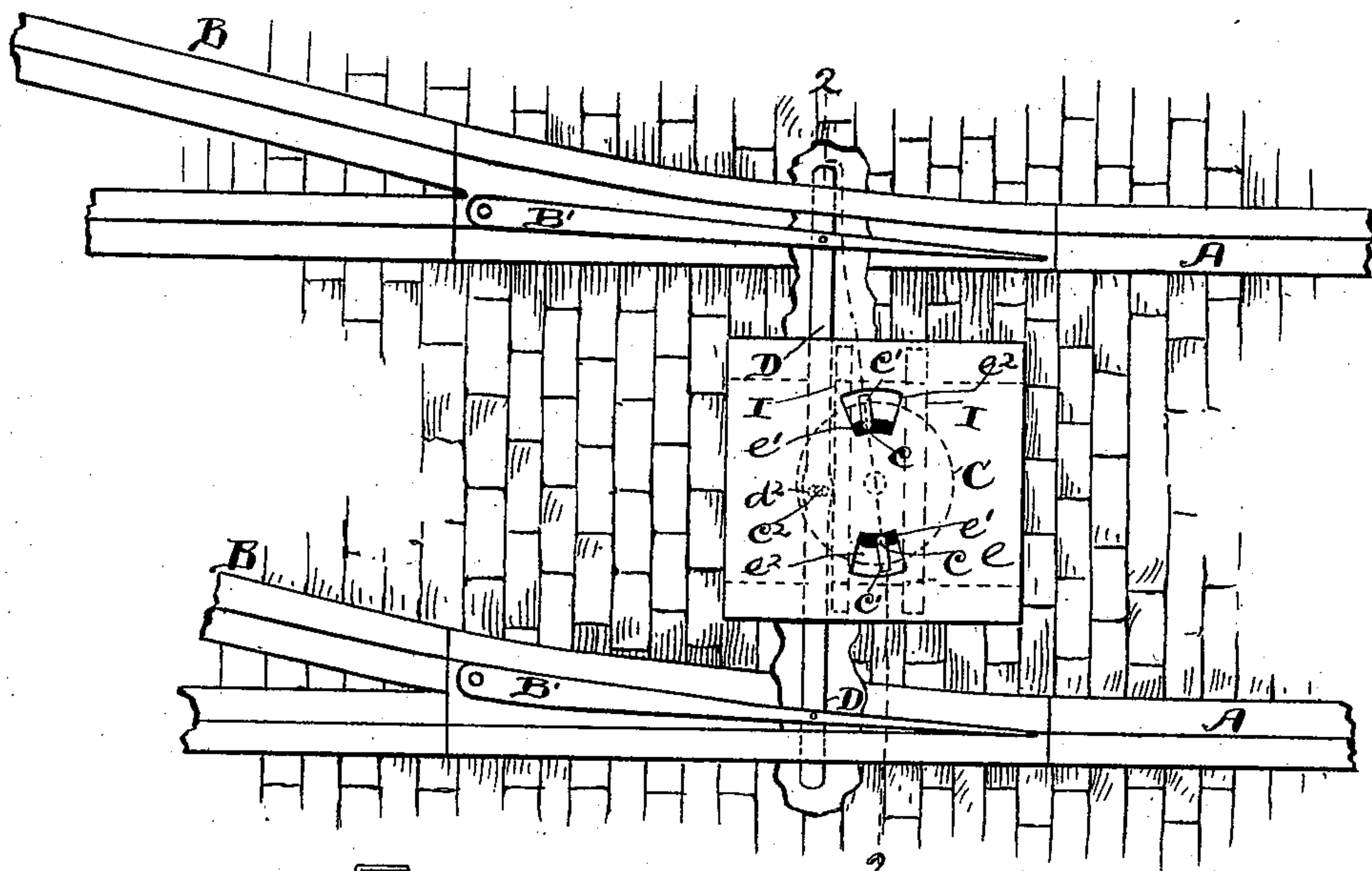


(No Model.)

J. E. YOUNG & G. MORDEN.
RAILWAY SWITCH OPERATING MECHANISM.

No. 602,249.

Patented Apr. 12, 1898.



Witnesses.
E. B. Gilchrist
A. M. Hutchison.

Inventors
Jonathan C. Young,
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UNITED STATES PATENT OFFICE.

JONATHAN E. YOUNG AND GEORGE MORDEN, OF CONNEAUT, OHIO.

RAILWAY-SWITCH-OPERATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 602,249, dated April 12, 1898.

Application filed June 5, 1897. Serial No. 639,497. (No model.)

To all whom it may concern:

Be it known that we, JONATHAN E. YOUNG and GEORGE MORDEN, citizens of the United States, residing at Conneaut, in the county of Ashtabula and State of Ohio, have invented certain new and useful Improvements in Railway-Switch-Operating Mechanism; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The invention relates to improvements in the mechanism whereby railway-switches may be operated by the motorman or engineer on a moving car or train, to the end that the switch shall be set to guide the car in the desired direction.

The invention has to do with the mechanism for moving the switch tongue or tongues and to the construction of the devices carried by the car for operating such mechanism.

The invention consists in the construction and combination of parts hereinafter described, and pointed out definitely in the claim.

In the drawings, Figure 1 is a plan view of the switch and operating mechanism. Fig. 2 is a rear view of the car and a vertical transverse sectional view of the switch and the operating mechanism on line 2 2 of Fig. 1. Fig. 3 is a vertical sectional view at right angles to the view shown in Fig. 2.

Referring to the parts by letters, A A represent the main tracks, B B the branch tracks, and B' B' the pivoted switch-tongues, which are of the usual well-known construction.

Below the road-bed a lever C is pivoted on a vertical axis. As shown, this lever is in the form of a disk; but its essential characteristics are two horizontal lateral projections on opposite sides of the axis, to which the tripping-pins c c may be attached, and a horizontal projection at substantially right angles to the said lateral projections, to which the transversely-movable bar D may be connected. In the disk form of this lever these projections are necessarily present. This disk may be inclosed in a box E, sunk in the road-bed and having a top plate e , whereby the mechanism is protected.

The bar D extends transversely of the tracks through the sides of the box. It is pivotally

connected near its ends with the switch-tongues. Near its center it is pivotally connected with the disk C, preferably by means of a pin c^2 , projecting vertically down from said disk, which enters a slot \bar{c}^2 in the bar. Obviously when the disk C is turned in one direction one switch-tongue is opened and the other closed. When the disk lever is turned in the opposite direction, the reverse movements of the two switch-tongues take place.

In the top of the plate are two curved slots e' , through which project the tripping-pins c , which are secured to the disk C, the upper ends c' c' of said pins being turned over into horizontal positions approximately transverse to the tracks. The disk C is normally pressed upward by means of a spring or springs I. As shown, these springs are flat springs, which rest upon their ends, their middle parts, which are curved upward, supporting the disk. These springs normally hold the disk up, so that the horizontal ends c' c' on the tripping-pins are half an inch, more or less, above the top of plate e . If a wagon-wheel rolls upon one of these pins, the disk C will be forced downward against the action of the springs I, the turned-over ends of the pins entering a depression e^2 in the top plate adjacent to the slot e' .

The car H carries two vertical tripping-bars, which project through the floor of the car and are movable up and down through said floor. These bars are composed of two parts, the lower part g being hinged to the upper part g' by means of a spring-hinge g^2 , which operates to bring the two parts into line. On the lower end of the lower section of these bars are the metal pins g^3 , which are adapted to contact with the turned-over ends of the tripping-pins c . Suitable means must be provided for holding these bars in their raised position except at such times as it is desired to utilize them for the operation of the switch. In the construction shown the upper part of said bars is cylindrical and is adapted to be turned in its bearing in the car. A bracket-arm g^4 is secured to each bar G and is adapted, when said bar is turned to the proper position, to rest upon a shelf h , carried by the car, thereby holding the bar G in its raised position. When it is desired to turn the switch, the bar G is turned so as to release the bracket-arm

- g^4 from the shelf h , whereupon the bar falls and the pin g^3 on its lower end is brought into line with one of the tripping-pins c . These two pins c and g^3 come in contact as the car moves forward, thereby causing the disk lever C to turn upon its vertical axis, with the result of causing the endwise movement of bar D and the consequent operation of the switch-tongues, as before described.
- 10 The continued forward movement of the car causes the lower part g of bar G to swing backward in opposition to the spring of its hinge until it snaps over the tripping-pin c with which it is engaging.
- 15 It is obvious that the described mechanism may be used whether there be one or two pivoted switch-levers.
- Having described our invention, we claim—

In switch-operating mechanism, the combination of a switch-tongue, a bar D pivotally connected with said tongue and arranged below the same and moving endwise transversely of the track, a disk movable on a vertical axis, a pivotal connection between said disk and bar, springs acting to force said disk up, a cover-plate e having slots, and tripping-pins secured to said disk and projecting through said slots, substantially as and for the purpose specified.

In testimony whereof we affix our signatures in presence of two witnesses.

J. E. YOUNG.
GEORGE MORDEN.

Witnesses:

F. M. COLSON,
O. F. CAPRON.