

(No Model.)

A. M. EDWARDS.
TEACHER'S DIAL.

No. 407,183.

Patented July 16, 1889.

Fig. 1

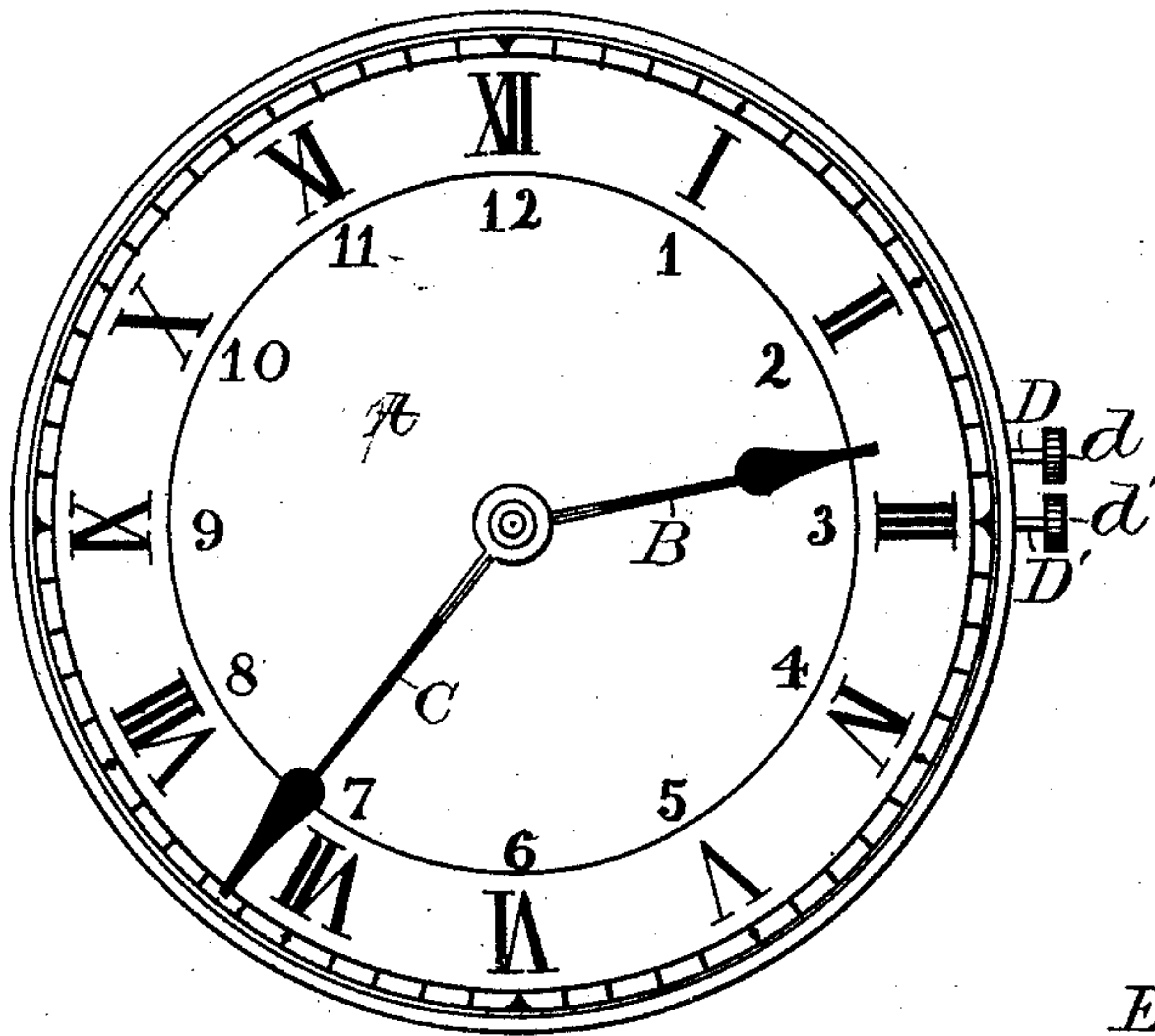


Fig. 2.

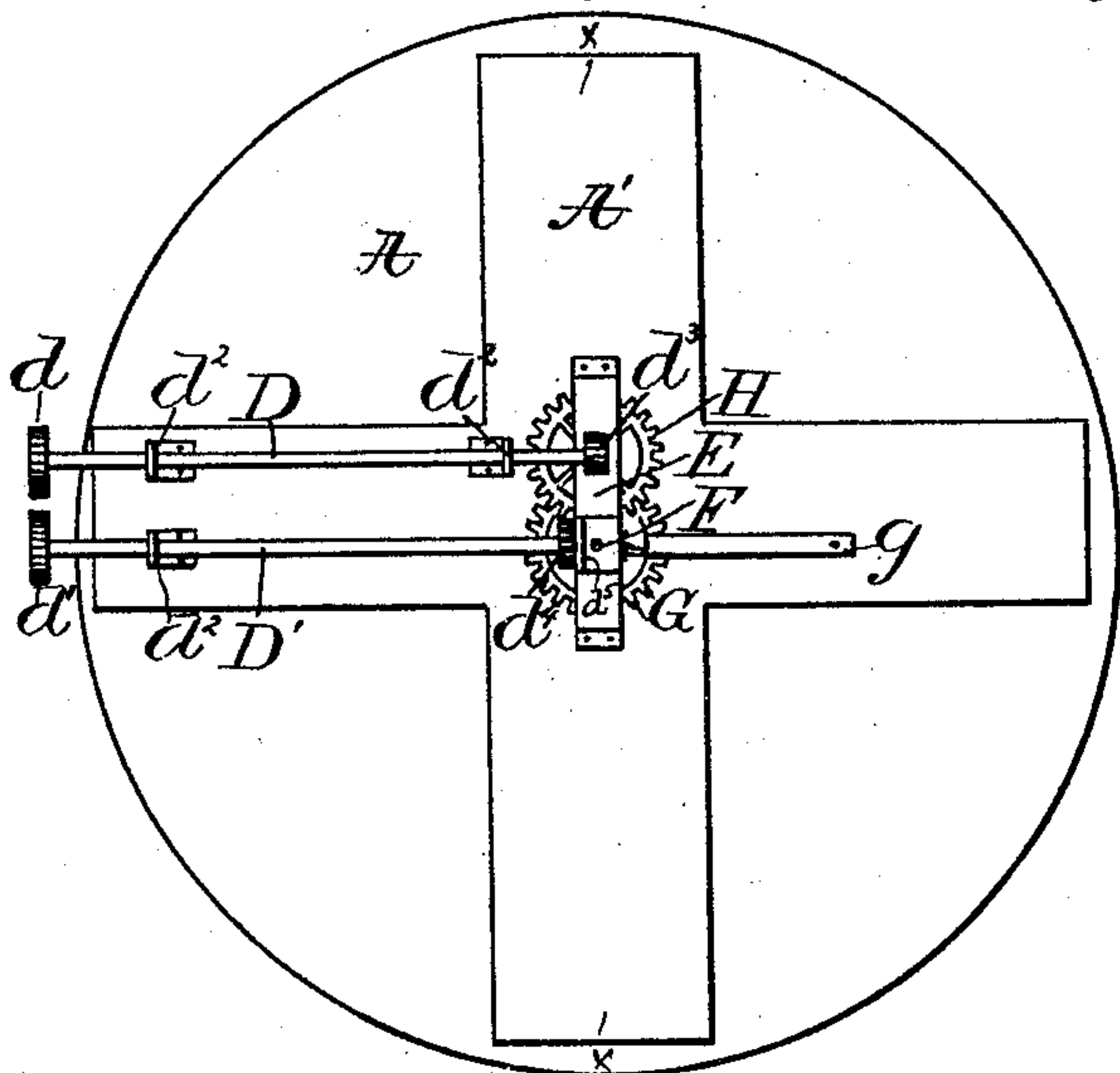
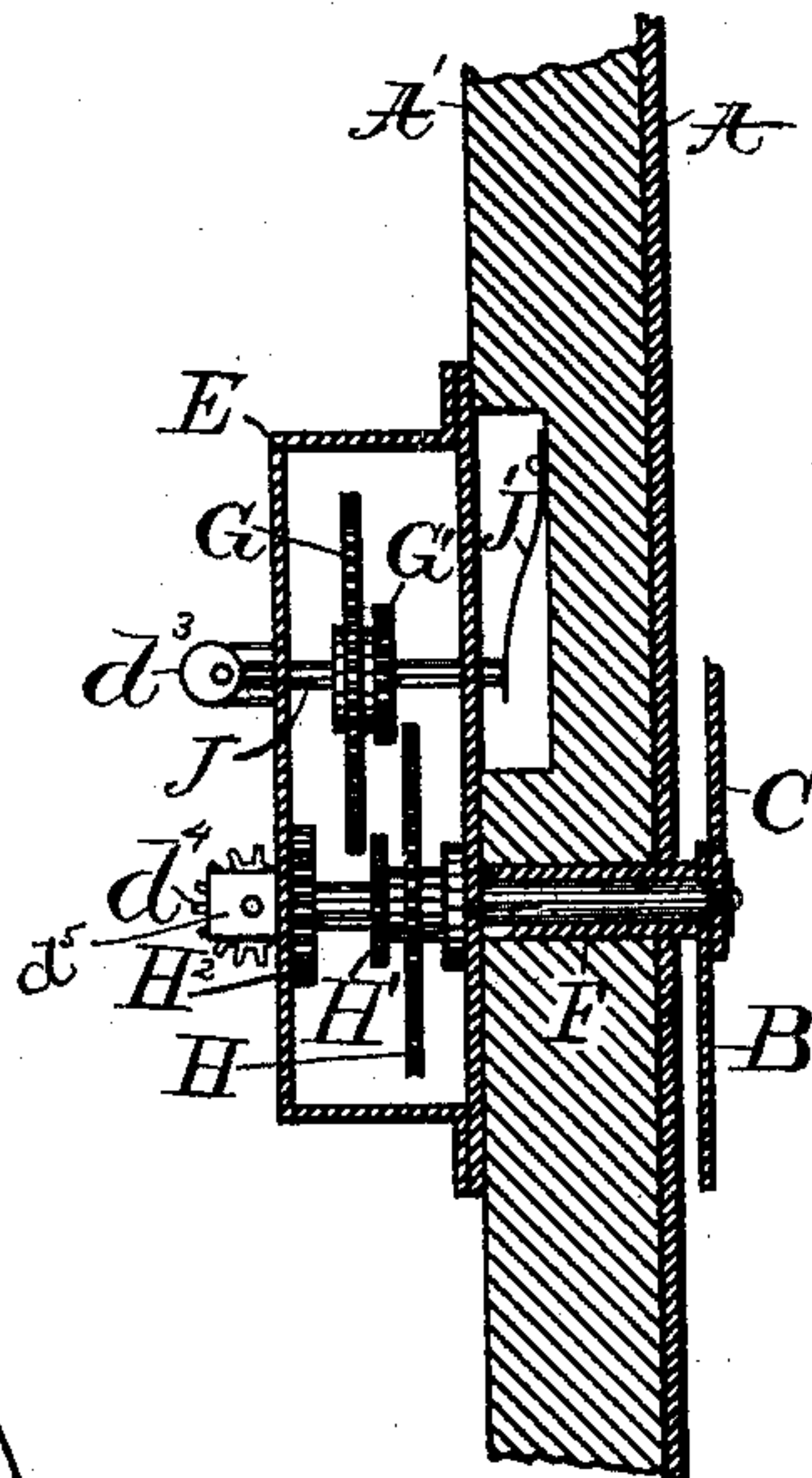


Fig. 3.



Witnesses

W. W. Deane

Wm. W. Haggett.

Inventor

Ayres Mason Edwards

by S. M. Bates

his atty.

UNITED STATES PATENT OFFICE.

AYRES MASON EDWARDS, OF LEWISTON, MAINE.

TEACHER'S DIAL.

SPECIFICATION forming part of Letters Patent No. 407,183, dated July 16, 1889.

Application filed April 19, 1889. Serial No. 307,809. (No model.)

To all whom it may concern:

Be it known that I, AYRES MASON EDWARDS, residing at Lewiston, in the county of Androscoggin and State of Maine, have invented certain new and useful Improvements in Teachers' Dials; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to a dial fitted up with appliances for teaching numbers, time, &c., and is designed for the use of teachers.

The device consists of a dial provided with the usual hour and minute hands geared together as in the common clock-movement, means being provided for disconnecting the two hands with hand-wheels for rotating both hands together, as in the regular clock-movement, or the minute-hand alone, as desired.

In the accompanying drawings I have illustrated the preferable manner of constructing my dial.

In the drawings, Figure 1 represents a face view of my dial. Fig. 2 represents a back view, and Fig. 3 is a section on the line xx of Fig. 2.

A is a dial, which I prefer to make of heavy paper-board, the usual numbers or figures being marked or printed on it. The dial A is attached to a rigid back A', of wood or other suitable material. The usual hour-hand B and minute-hand C are attached, respectively, to the hour-hand dial-wheel H and to the center post F. On the center post is the center pinion H'.

J is a pintle to which is secured the dial-wheel G and the pinion G', which engage, respectively, the center pinion H' and the hour-hand dial-wheel H, and by which the motion of the minute-hand is imparted to the hour-hand.

E is the casing, to which the gears are pivoted.

The parts thus far described are of the ordinary clock-movement construction, and do not, therefore, need further description.

I will now describe the additions and changes which embody my invention.

On the end of the center post F, I secure a gear or pinion H², which is adapted to engage a gear d^4 , acting at right angles to it. The

gear d^4 is secured to the end of a shaft D', which extends parallel with the face of the dial and somewhat beyond the edge thereof. The shaft turns in suitable bearings d^2 d^5 , and has secured to its end a knob or handle d' . The pintle J is so constructed as to have a longitudinal movement in its bearings. A spring J' is secured in a recess in the back A' and impinges on the inner end of the pintle, forcing it continually outward. A cam or eccentric d^3 acts on the outer end of the pintle J to depress it against the force of the spring J'. The cam d^3 is secured to the end of a shaft D, which, as here shown, extends side by side with the shaft D' and is supported in bearings d^2 . It also has secured to its end a knob or handle d . When the cam d^3 is rotated by turning the knob d , the pintle J is pressed inward, and the dial-wheel G and the pinion G' are made to engage the pinion H' and the hour-hand dial-wheel H. If, now, with these gears in engagement the minute-hand is rotated, the hour-hand will turn with the ordinary clock-motion. The minute-hand is turned and placed in any desired position by means of the knob d' .

If it is desired to move the minute-hand independently of the hour-hand, the knob d is turned until the cam d^3 allows the pintle to be pushed up by the spring J' until the wheels G and G' are disengaged. The minute-hand can then be turned by the knob d' in either direction without moving the hour-hand. In teaching numbers and time it is often desirable to turn the minute-hand independently, as shown, and the readiness with which it can be engaged and disengaged from the hour-hand renders the device very useful for purposes of instruction.

Although the dial is made primarily for the use of teachers, it may be used to indicate the time of arrival and departure of trains, and for other like purposes.

I claim—

1. The herein-described teacher's dial, having an hour and a minute hand, an hour-hand dial-wheel and a center pinion connected with said hands, a pintle having thereon a dial-wheel, and a pinion adapted to engage said center pinion and hour-hand dial-wheel and having a longitudinal movement in its bearings, a spring for forcing said dial-wheel and

pinion out of gear, and a cam for forcing them into gear, substantially as shown.

2. The herein-described teacher's dial, having an hour-hand and an hour-hand dial-wheel
5 connected therewith, a minute-hand and a center post attached thereto, a center pinion and an extra pinion on said center post, a shaft having on one end a knob or handle and on the other end a gear for engaging said
10 extra pinion, an independent dial-wheel and pinion adapted to connect said hour and minute hands, and means for throwing the same in and out of gear, substantially as shown.

3. The pintle movable longitudinally in its

bearings, gears thereon for connecting the 15 hour and minute hand gears, a spring for moving said pintle in one direction, and a hand-controlled cam for moving it in the other, whereby said gears are connected and disconnected, substantially as shown. 20

In testimony that I claim the foregoing as my own I have affixed my signature in the presence of two witnesses.

AYRES MASON EDWARDS.

Witnesses:

STEPHEN A. WUNEL,
NATHAN W. HARRIS.