

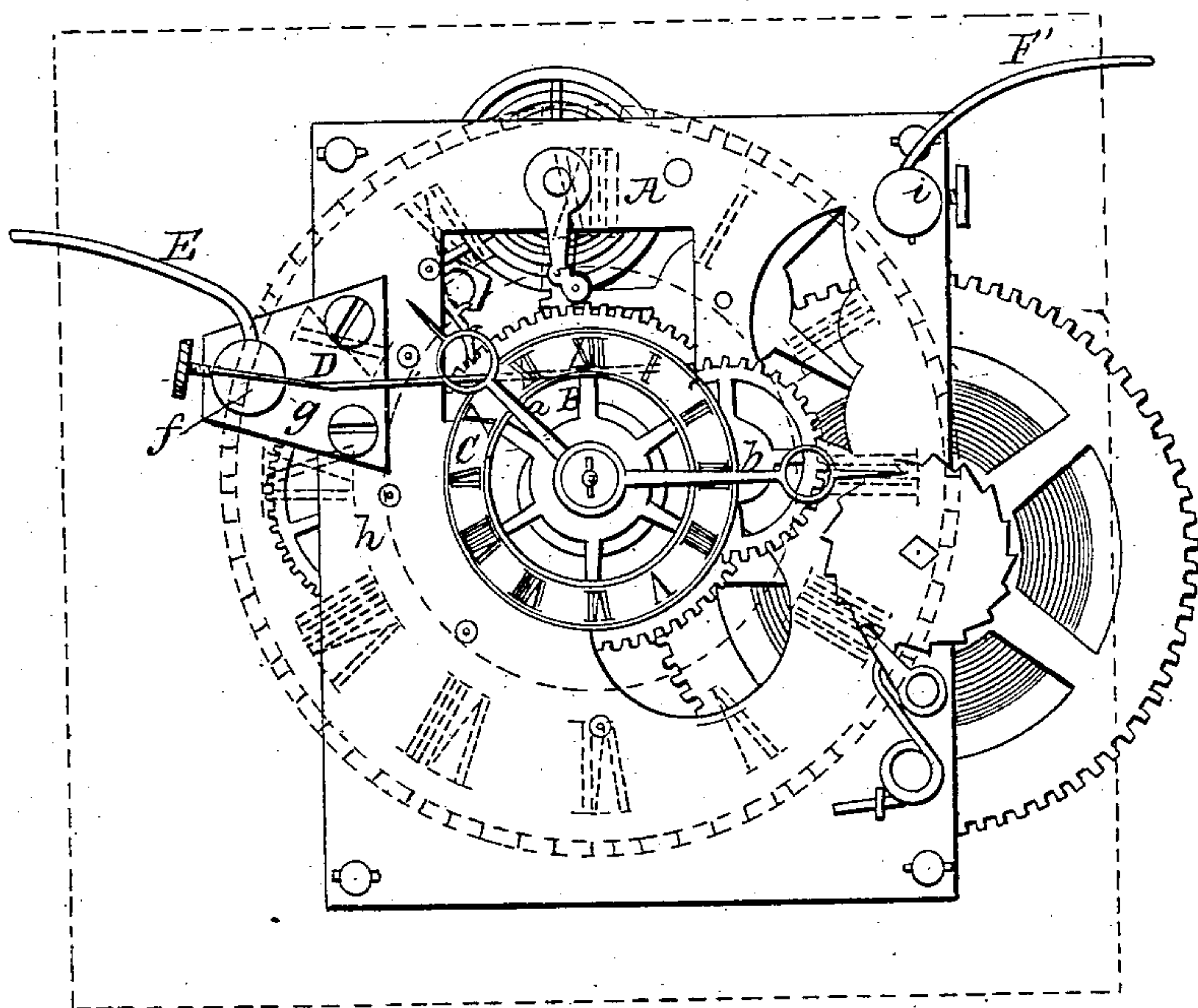
E. HOLMES.

Electric Clock.

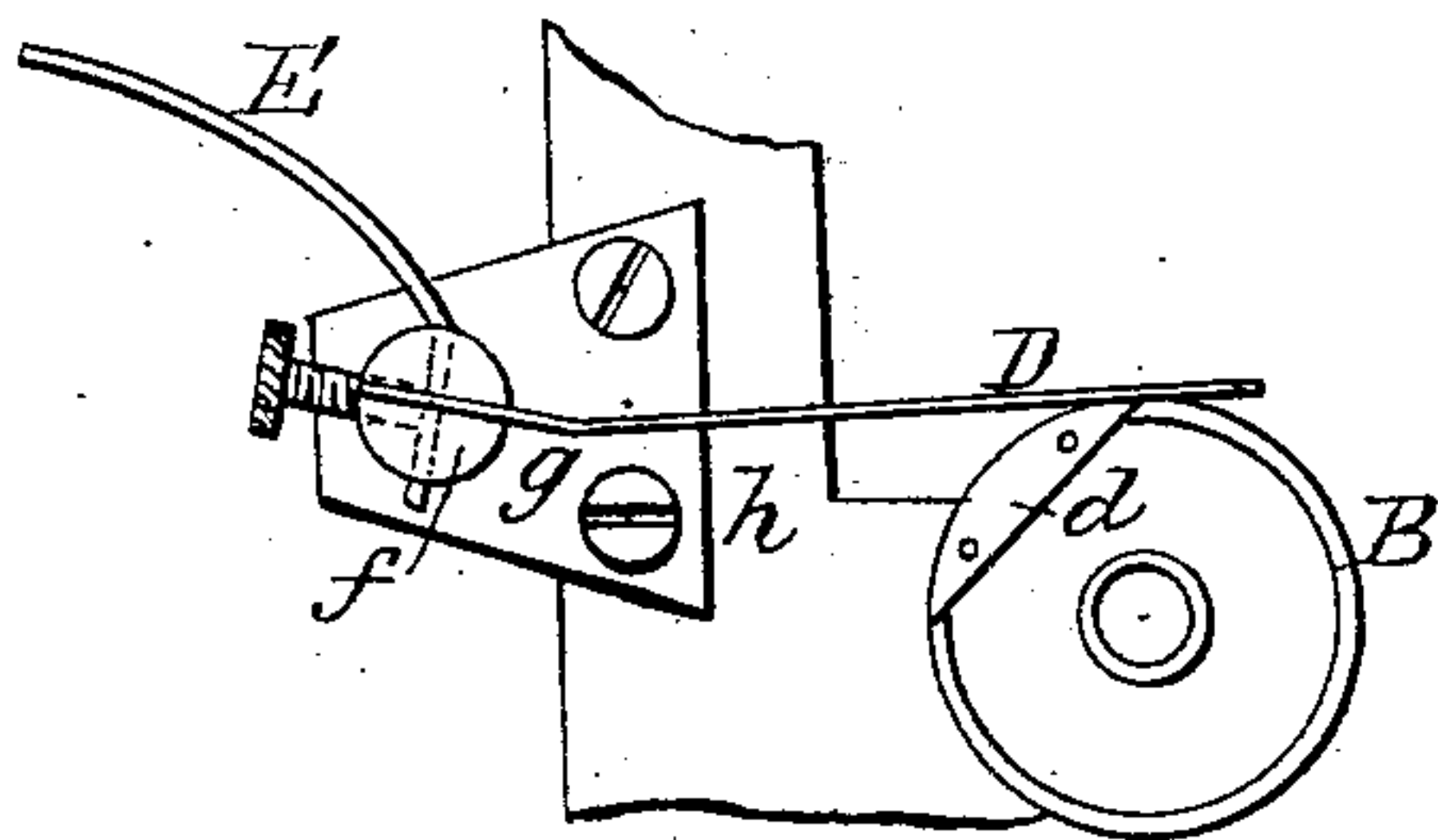
No. 63,158.

Patented March 26, 1867.

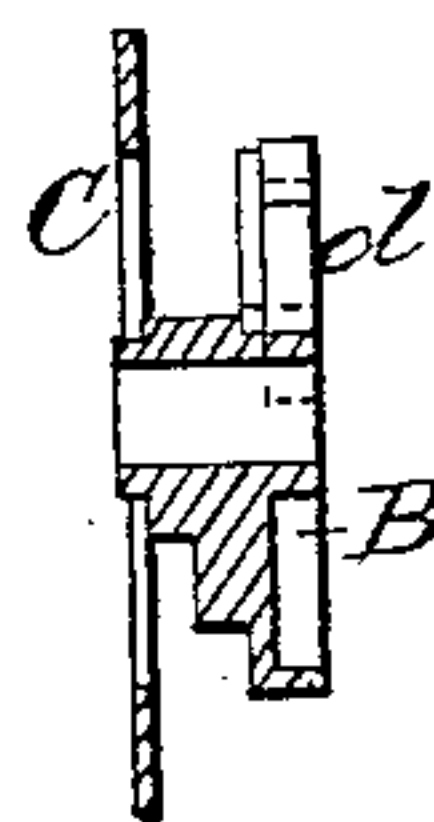
*Fig: 1.*



*Fig: 2.*



*Fig: 3.*



*Witnesses.*

*Samuel N. Piper*  
*Geo. H. Andrews.*

*Inventor.*

*Edwin Holmes.*  
*by his attorney*  
*R. H. Eddy.*

# United States Patent Office.

EDWIN HOLMES, OF NEW YORK, N. Y.

*Letters Patent No. 63,158, dated March 26, 1867.*

## IMPROVEMENT IN ELECTRIC CIRCUIT-BREAKING CLOCKS.

*The Schedule referred to in these Letters Patent and making part of the same.*

### TO ALL PERSONS TO WHOM THESE PRESENTS SHALL COME:

Be it known that I, EDWIN HOLMES, of the city, county, and State of New York, have invented a new and useful Electro-Magnetic Circuit-Breaking Clock; and I do hereby declare the same to be fully described in the following specification, and represented in the accompanying drawings, of which—

Figure 1 is a front elevation of a common clock or time-piece provided with a circuit-breaking apparatus in accordance with my invention, the face and hour-denoting figures or characters of the clock being exhibited in red lines.

Figure 2 is a section of the breaker-wheel and its spring.

Figure 3 is a vertical and transverse section of such breaker-wheel and its adjusting wheel.

The purpose of my invention is to effect the breaking of an electro-magnetic circuit at any particular time of the day, and to keep it broken for a determined period thereafter, if desirable. It may also be constructed for closing a circuit at any definite time of the day, and for keeping it closed during such period or part of such day thereafter as may be desirable.

My invention is specially designed to be used with the circuit of an electro-magnetic alarm apparatus, particularly such as was patented by Augustus R. Pope, June 21, 1853, in which case it would be designed to break the circuit at an early period in the morning just previous to the time necessary for opening the house or one of the windows or doors thereof included in the circuit or to which the circuit may be applied. By so breaking the circuit, the sounding of the alarm will be prevented whenever such door or window may be opened, and thus persons in the house, whom the alarm, if sounded, would awaken, can remain asleep. Therefore it will be seen that the particular object of thus breaking the circuit is to enable a person at the proper time to open a door or window in the circuit without at the same time causing the alarm to be sounded and awaken the inmates of the house who may be desirous of remaining asleep.

In the drawings, A denotes a clock of ordinary construction, *a* being its hour hand and *b* its minute hand. On the arbor of the hour hand *a*, and concentrically therewith, I arrange what I term the breaker-wheel B, which, by a short tubular shaft, *c*, is connected with an adjusting-wheel, C, on whose face are marked the figures or signs representing the twelve hours. A portion of the periphery of the wheel B, viz, that marked *d*, is a non-conductor of electricity, the remainder of the wheel being made of metal. On the said periphery of the wheel B, a metallic spring, D, bears, it being extended from a circuit-wire screw-connection, *f*, projected from an arm, *g*, which is secured or fixed to the metallic frame *h* of the clock, and should be a non-conductor of electricity. One of the battery wires of the circuit, viz, that marked E, leads into and is to be fixed to the connection *f*. The continuation of the circuit is by a wire, F', leading from another screw-connection, *i*, fixed to the frame *h*. While the spring D is in contact with the metallic part of the periphery of the breaker B the circuit will be closed, but as soon as it comes into and while it may remain in contact with the part *d*, the circuit will be broken or open. When the meridian hour mark, viz, XII, of the adjusting-wheel is in its highest position, the spring D should be in contact with one extremity of the part *d*. The circuit-breaker B and its adjusting-wheel should revolve together on the arbor of the hour hand, with friction sufficient to enable them to be carried around or revolved by it, and to be turned at other times on the arbor in order to adjust the part *d* with reference to the hour hand. In order to set the breaker B so as to cause the current to be broken at any particular hour, the number or character designating such hour on the wheel C should be brought around into juxtaposition with the hour hand. When the hour hand may reach that particular hour on the dial, the part *d* will be brought into contact with the spring and the circuit will be broken.

What I claim as my invention, is—

The combination as well as the arrangement of the circuit-breaker B, its adjuster C, and the spring D, with a clock or time-piece A, and an electric or electro-magnetic circuit, the whole being substantially as and for the purpose as hereinbefore specified.

EDWIN HOLMES.

Witnesses:

R. H. EDDY,

F. P. HALE, Jr.