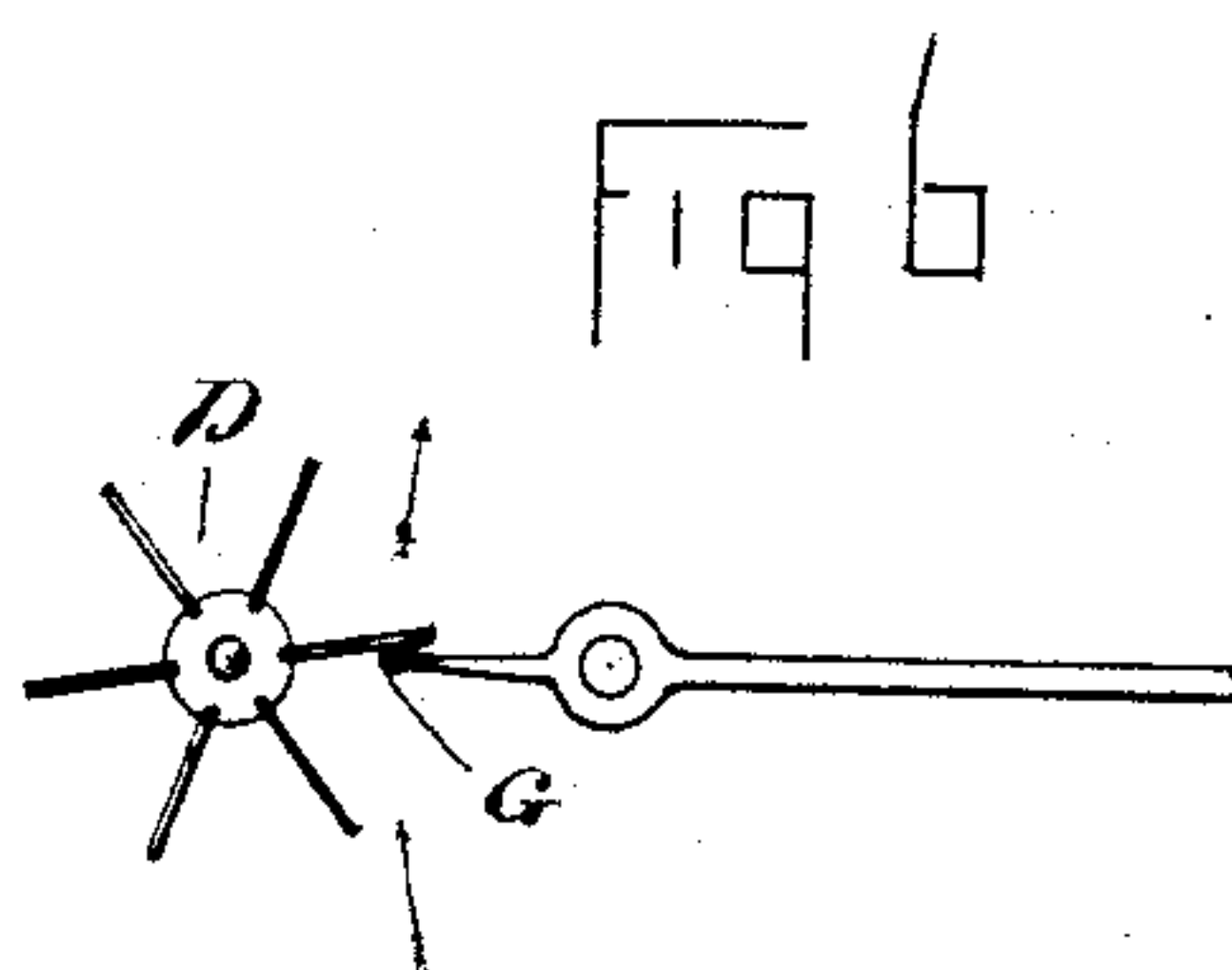
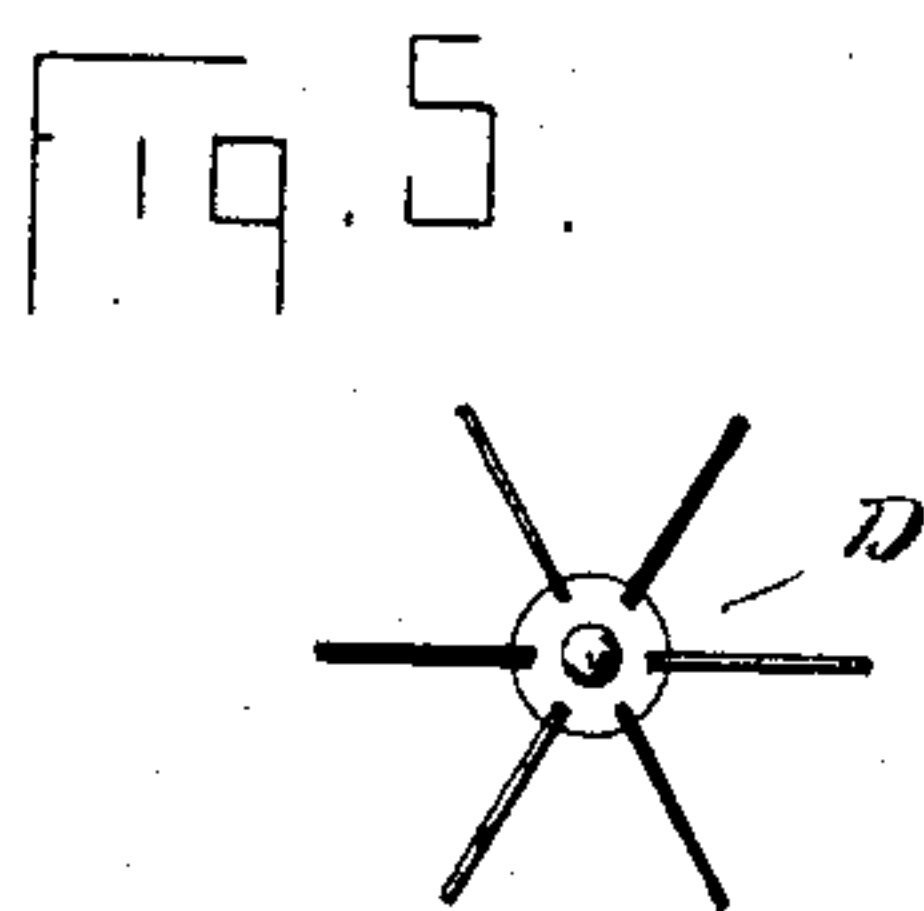
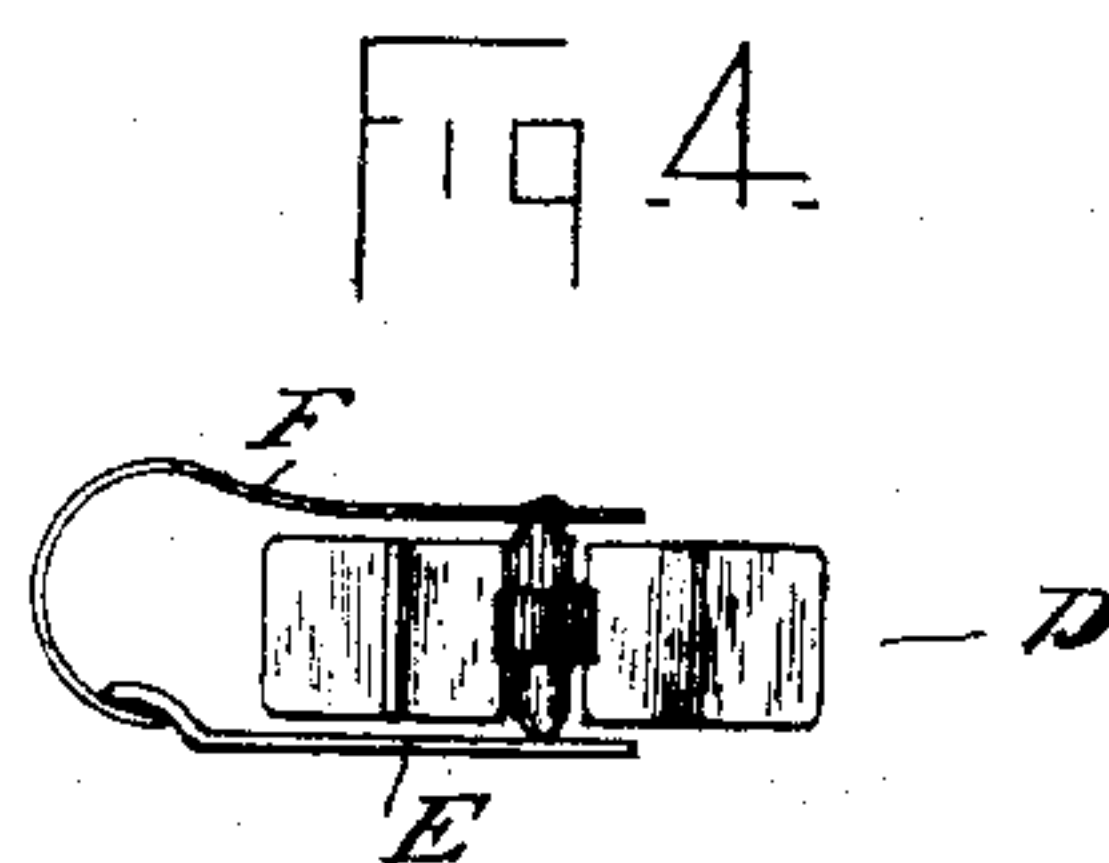
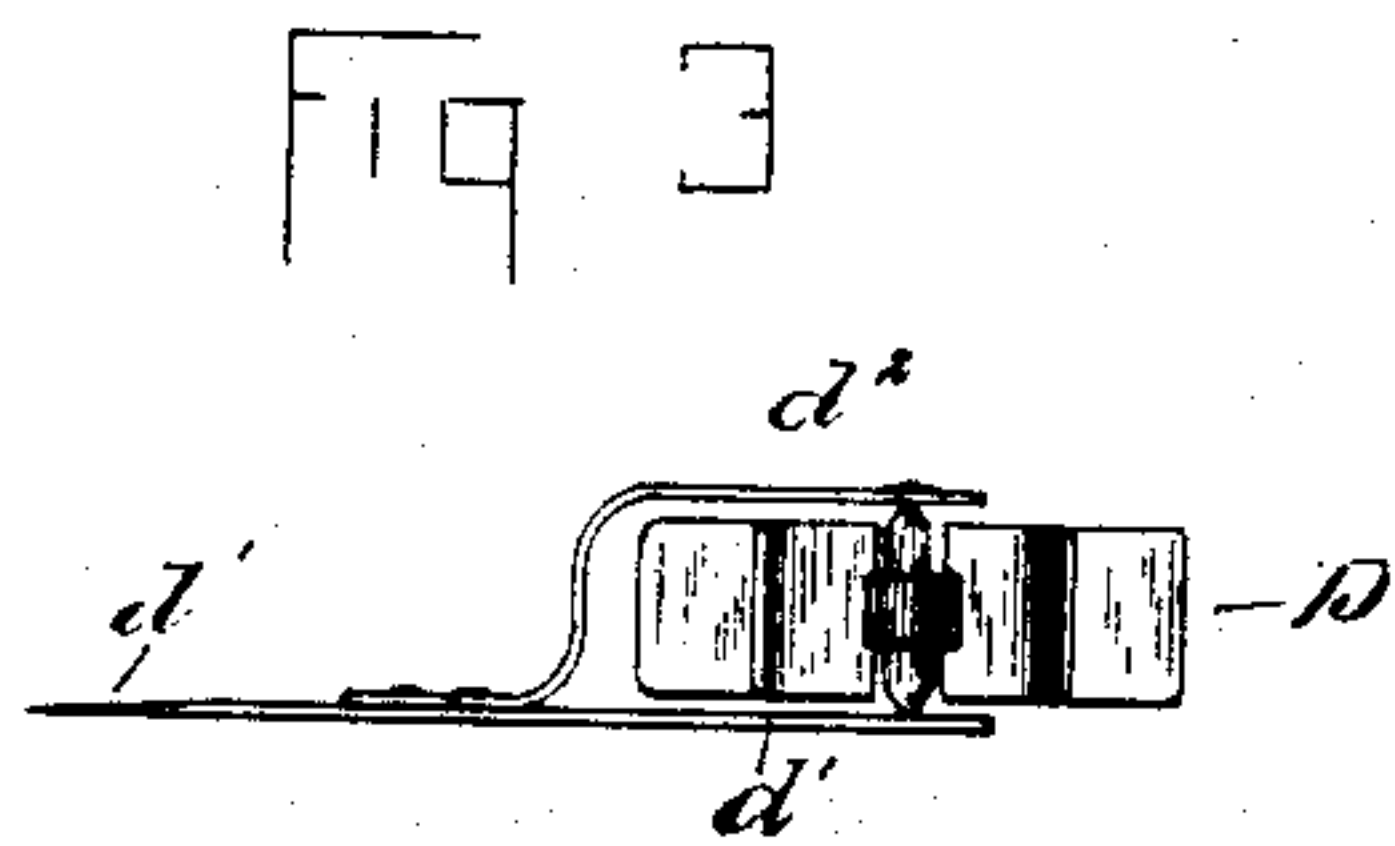
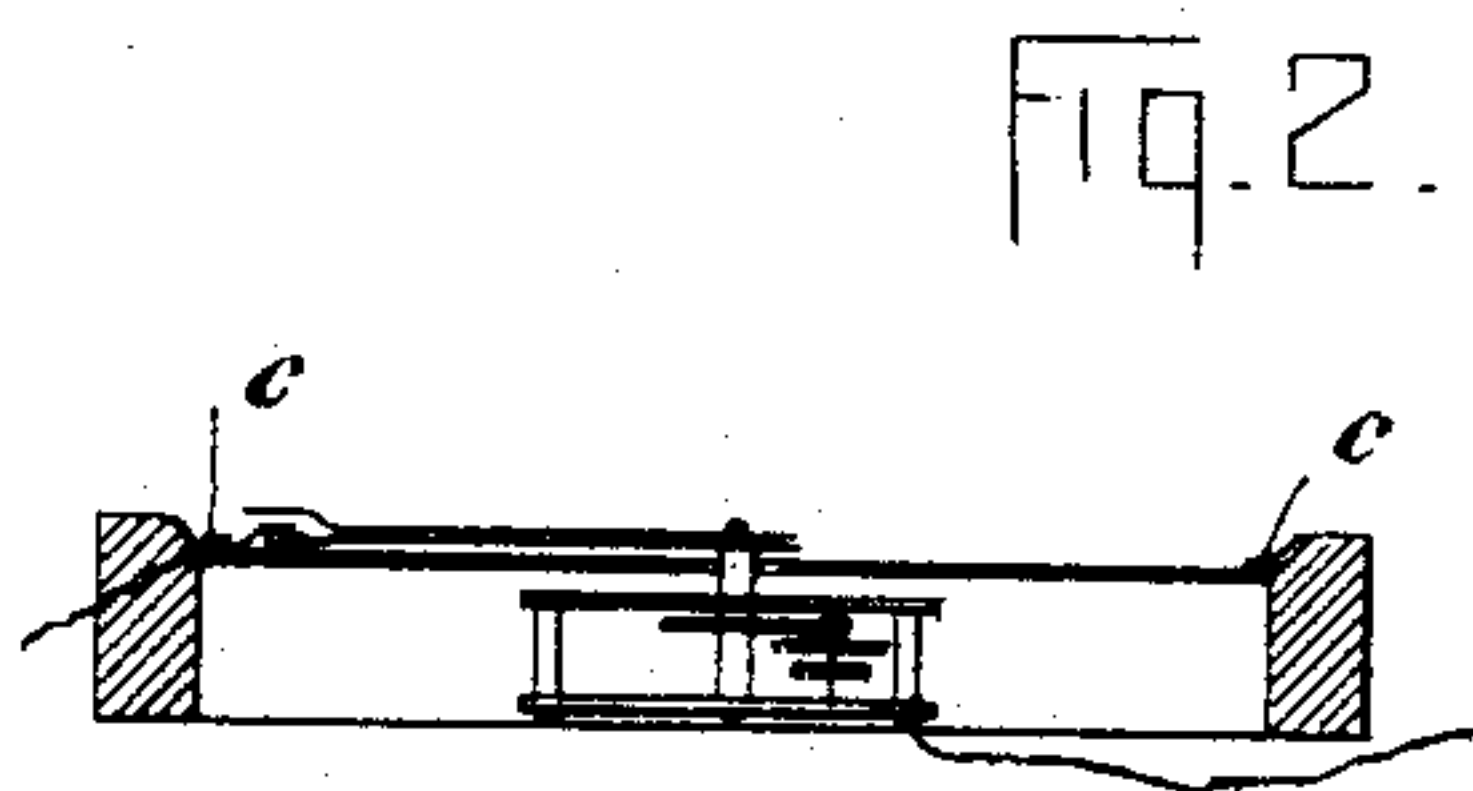
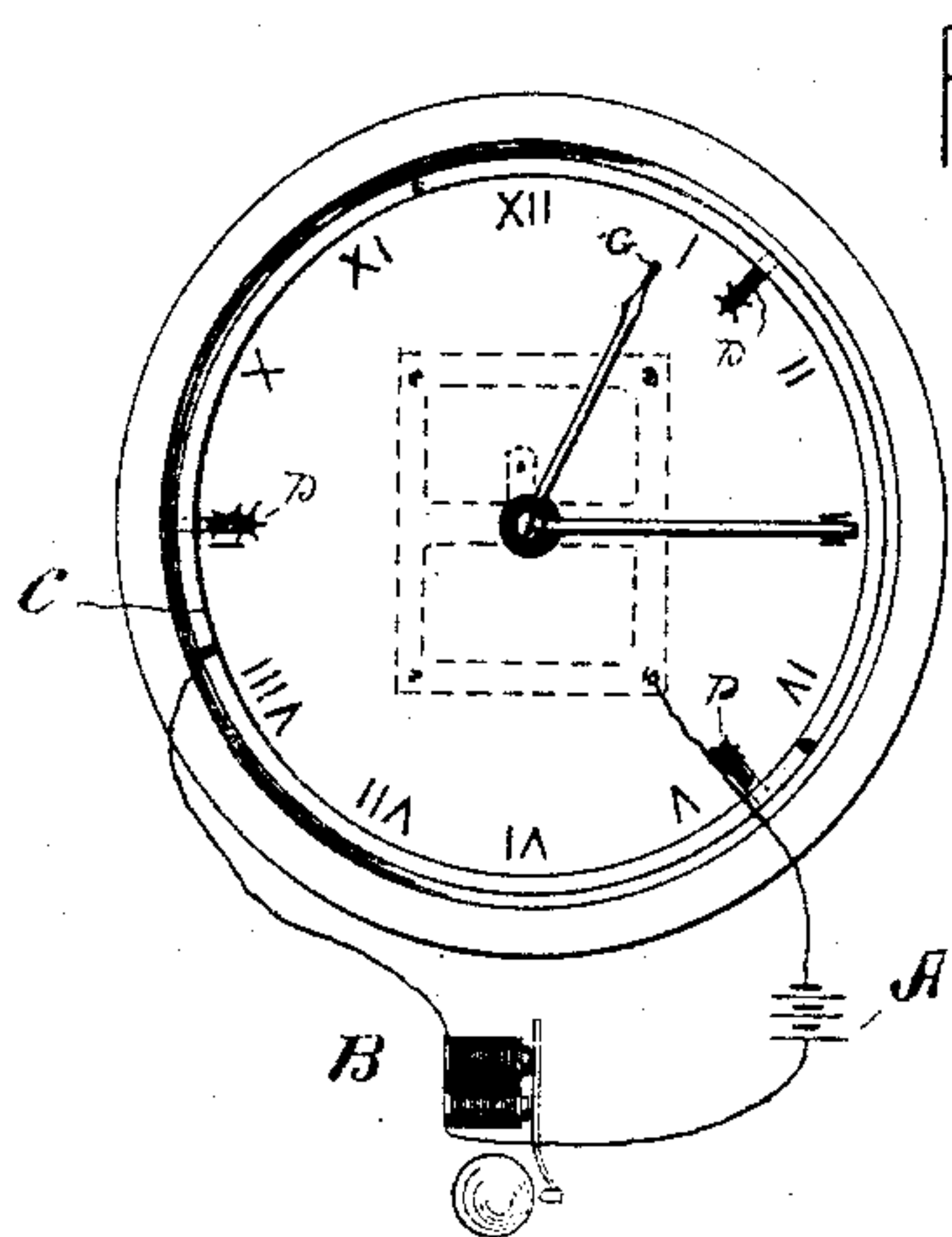


(No Model.)

G. H. DAVIS.
ELECTRIC ALARM CLOCK.

No. 338,935.

Patented Mar. 30, 1886.



WITNESSES

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W. C. Muddock

INVENTOR

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UNITED STATES PATENT OFFICE.

GEORGE H. DAVIS, OF WASHINGTON, DISTRICT OF COLUMBIA.

ELECTRIC ALARM-CLOCK.

SPECIFICATION forming part of Letters Patent No. 338,935, dated March 30, 1886.

Application filed December 14, 1885. Serial No. 185,628. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. DAVIS, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Electrical Alarm-Clocks, of which the following is a full and exact description, reference being had to the accompanying drawings.

My invention relates to that class of alarm-clocks that actuate electric signals at predetermined times, and has for its objects to provide easy adjustment of the contacts by means of which the circuit is completed and the signal operated; to provide means for regulating the length of circuit-contact; to provide means whereby the signal can be operated at predetermined unequal intervals, or at intervals of greater length than twelve hours, and to provide a simple and inexpensive construction for accomplishing the objects herein set forth.

Figure 1 is a view of a clock-dial provided with my improvements. Fig. 2 is a section of the same, showing the adjustment of the clock-pointers with reference to my improvements. Fig. 3 is one form of my improved contact-wheel to be used upon clocks with large dials. Fig. 4 is another form of the same to be used upon clocks with small dials in connection with my improved rim attachment. Fig. 5 is a detached view of my contact-wheel provided with alternate conducting and non-conducting blades. Fig. 6 is a detail view showing my circuit-breaker in position with contact-wheel.

Emanating from the battery A are two conductors, one of which is connected with the frame-work of the clock mechanism or "works," the other, after passing through the electro-magnets B, to the rim C upon the clock-face. Under this rim C is inserted a sharpened end, d' , of the frame of the contact-wheel D, being held firmly in position by the pressure of the rim upon the dial. The contact-wheel, as shown in Fig. 3, is pivoted upon its axis between sockets formed in the frame d' and the spring d'' , which latter presses upon and regulates its movement. The contact-wheel, as shown in Fig. 4, is pivoted on its axis between sockets in the rim E and the spring F. The rim E is fastened to the dial by small screws, the outer edge being flared, as shown in drawings, and provided with small

depressions for the reception of wheel D. Rim E is only used where the clock is not provided with a conducting-rim, as C, and is of the shape shown in Fig. 4. The spring F is formed so as to extend under the flared portion of the rim E and over the pivot of the wheel D, forming a small socket for the same, the pressure or strain of said spring on the under side of flared part of the rim and pivot of wheel D retaining it in position. The contact-wheel D is provided with six blades, each alternate one being composed of conducting material and the remainder of non-conducting material. This may be altered at will. It may be desired to have an alarm only once in thirty-six hours, in which case there would be two non-conducting blades between the conducting-blades, as will be hereinafter more fully explained. The contact-wheels D are placed in the path of the hour-pointer only, the minute-pointer passing over them, as shown in Fig. 2, in this way getting one contact only in twelve hours. So if an alarm were desired every thirty-six hours only, two non-conducting blades would be placed between conducting-blades, the hour-pointer making thus three revolutions of the dial between alarms. On the end of the hour-pointer is a small insulator-cap, G, of the form shown in drawings. The dial of the clock is insulated from the mechanism or works. A circuit is completed when the hour-pointer comes in contact with a conducting-blade of the wheel D, the hour-pointer being connected with the mechanism, and the wheel D with the rim. The circuit being closed, the alarm is operated until the circuit is broken by the insulator-cap G coming in contact with the blade. In passing this blade it will be observed that the pointer has placed one of the non-conducting blades in its path. When the pointer again reaches the wheel D, it will come in contact with and move in passing the non-conducting blades the same as it did the conducting-blades, placing in position another blade, conductor, or non-conductor, as the case may be. So on, each revolution of the pointer passing one of the blades of the wheel D and placing another in position in its path. The contact-wheels D may be placed at will around the rim C, using one or more, and any form of wheels, as desired, so that one day the alarm may be operated at one hour

and another day at a different hour, if so desired. When it is desired not to use the alarm, the wheels D are removed.

It is obvious that I may not use any non-conducting blades in my contact-wheel D; nor do I confine myself to the exact constructions shown in drawings.

What I claim is—

1. The contact-wheel D, provided with a spring, d^2 , and frame d' , said frame having sharpened end, as shown in drawings, substantially as set forth and described.

2. In an electrical alarm clock, a contact-wheel provided with three or more blades, as shown, composed of a conducting material, said blades extending into the path of the hour-pointer of said clock, substantially as set forth and described.

3. In an electrical alarm-clock, a contact-wheel

provided with three or more blades, alternately conductors and non-conductors, said blades extending into the path of a pointer of said clock, substantially as set forth.

4. In an electric alarm-clock, the combination of the insulating-cap G, the hour-pointer of said clock with adjustable contacts, and conducting-rim, substantially as set forth.

5. In an electric alarm-clock, a circuit-breaker consisting of an insulating-cap so placed upon a pointer of said clock as to bear against contacts placed in the path of said pointer, substantially as set forth.

In testimony whereof I have hereunto set my hand this 11th day of December, A.D. 1885.

GEO. H. DAVIS.

Witnesses:

W. C. MURDOCK,
A. K. BROWNE.