

(No Model.)

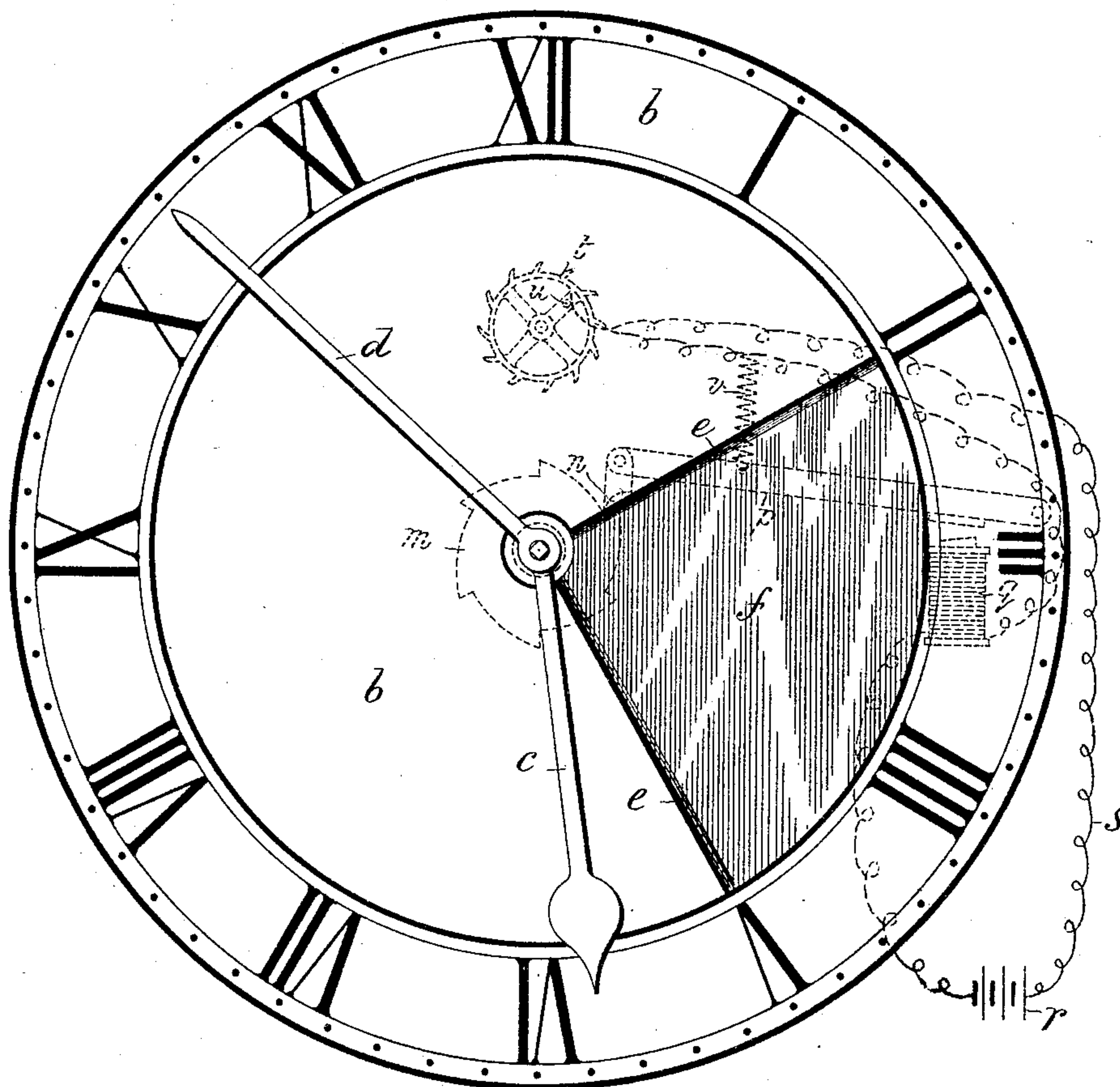
2 Sheets—Sheet 1.

F. REDMAN.  
ADVERTISING CLOCK.

No. 451,248.

Patented Apr. 28, 1891.

*Fig. 1.*



Witnesses  
*John Becker*  
*Fred White*

Inventor  
*Frederick Redman,*  
By his Attorneys

*Arthur C. Braser & Co.*

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Fig. 3.

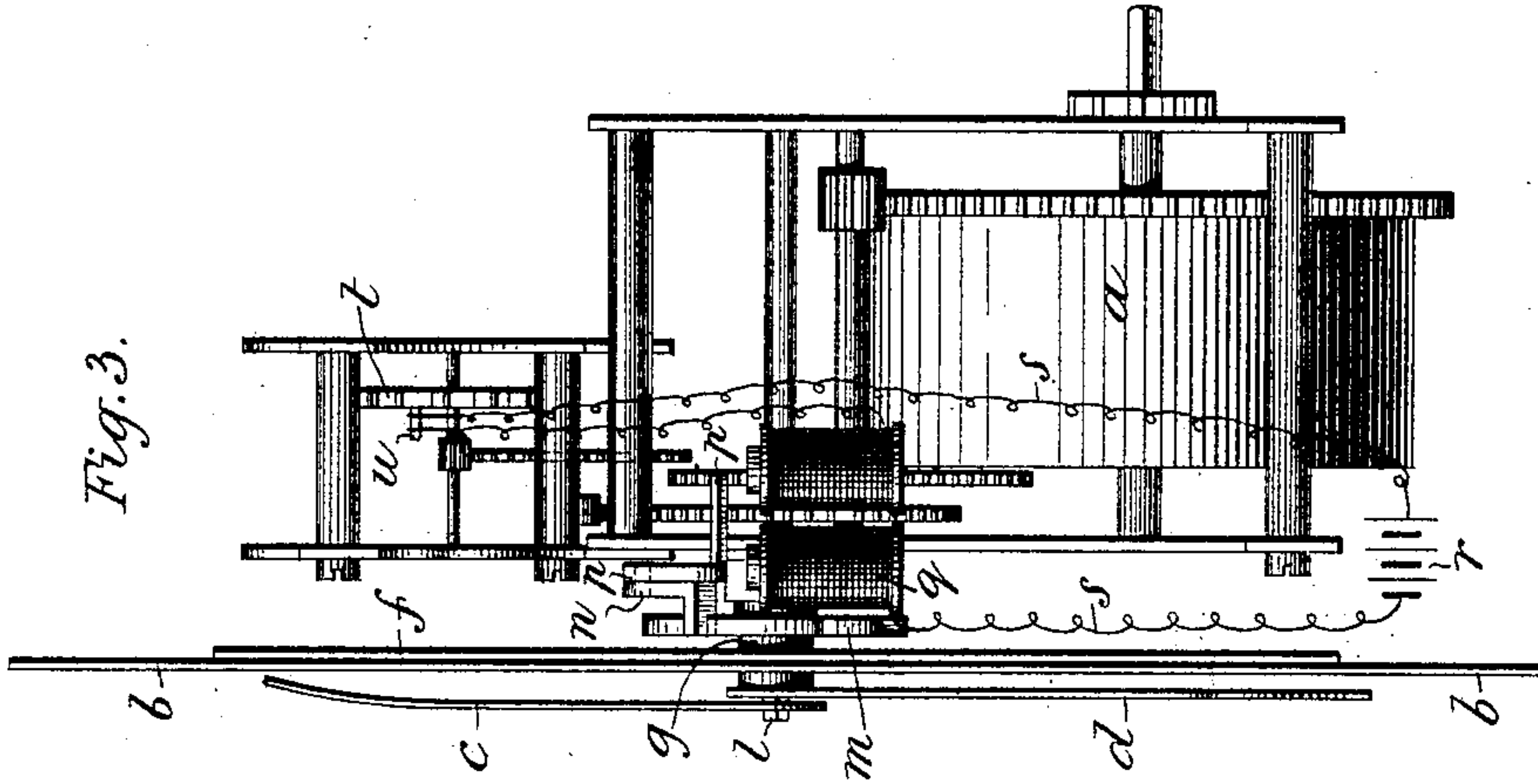
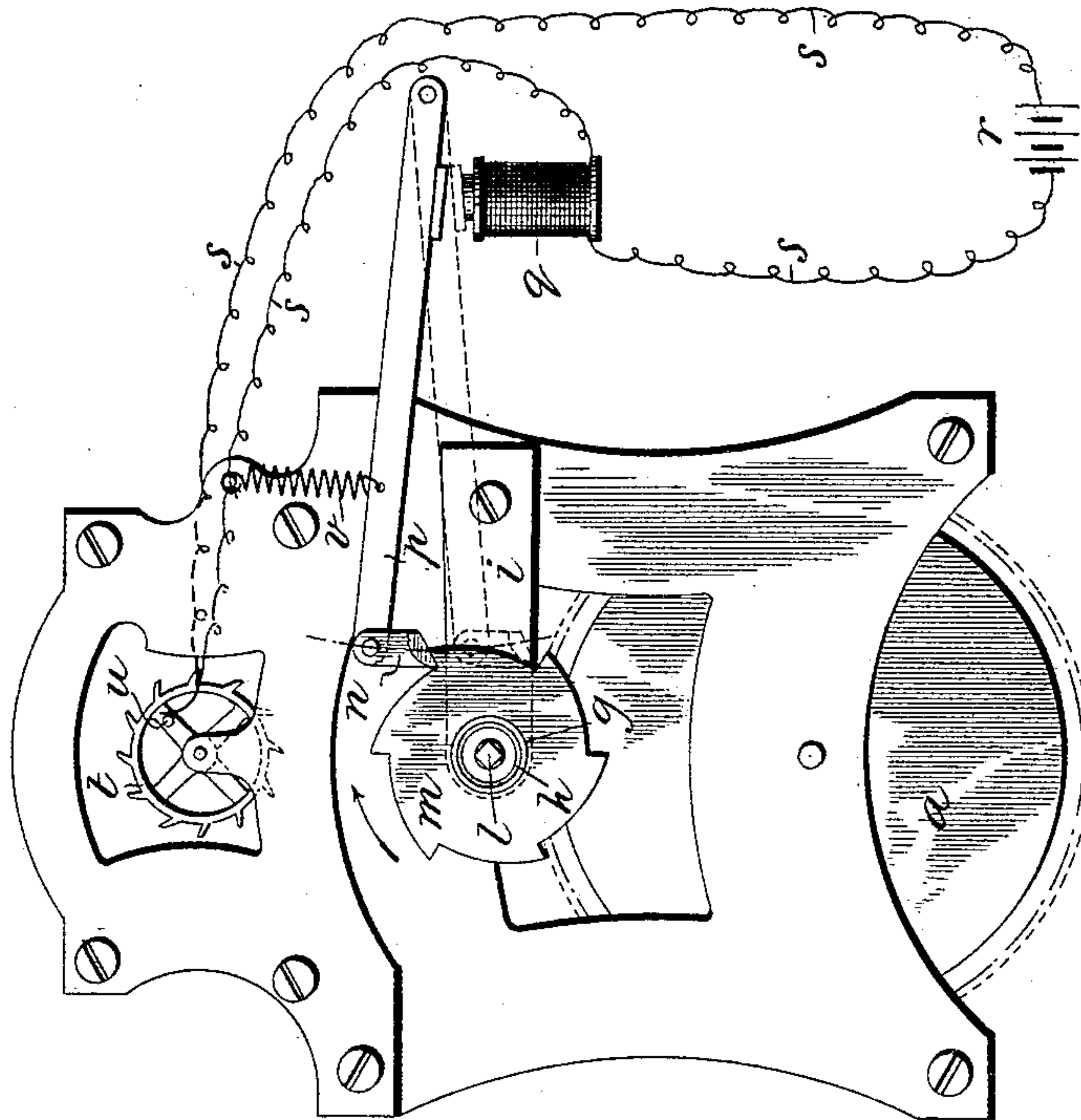


Fig. 2.



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# UNITED STATES PATENT OFFICE.

FREDERICK REDMAN, OF LONDON, ENGLAND.

## ADVERTISING-CLOCK.

SPECIFICATION forming part of Letters Patent No. 451,248, dated April 28, 1891.

Application filed October 11, 1890. Serial No. 367,886. (No model.)

*To all whom it may concern.*

Be it known that I, FREDERICK REDMAN, of London, England, have invented certain new and useful Improvements in Advertising-Clocks, of which the following is a specification.

My invention has reference to clocks in which a disk bearing advertisements on its face is caused to rotate behind the ordinary dial or face-plate, so as to bring its advertisements in succession behind one or more openings formed for the purpose in said dial, and thereby allow them to be seen. In these advertising-clocks as hitherto constructed the advertising-disk has been driven by mechanical devices connecting it with one of the ordinary wheels or pinions of the clock-work. I have found, however, that in the case of large clocks and of correspondingly large disks the power for driving the clock is insufficient, or at any rate is not sufficiently reliable to drive the disk. It is the object of the present invention to overcome this difficulty.

The invention consists in the combination, with an advertising-disk adapted to rotate behind the face-plate or dial of a clock, so as to show its advertisements successively through one or more openings in said dial, of an electro-magnet and spring-armature, conducting-wires connecting said magnet with a battery, a contact or contacts on a rotating part of the clock to complete or break the electric circuit at regular intervals and thereby move said armature, and a mechanical connection between said armature and the advertising-disk, whereby the periodical movement of the armature imparts an intermittent rotary motion to the disk.

In the accompanying drawings, Figure 1 is a front elevation of a clock constructed according to my invention. Fig. 2 is a front elevation with the face-plate and the advertising-disk removed so as to expose the mechanism behind; and Fig. 3 is a side elevation.

*a* is the spring-barrel driving the clock-work, which may be of any ordinary construction.

*b* is the dial or face-plate, *c* the hour-hand, and *d* the minute-hand.

*e* is an opening in the dial *b*.

*f* is the advertising-disk behind the dial, a portion of it being always visible through the opening *e*. This opening may be of any desired form, and instead of one opening, as shown, the dial may have two or more openings. The disk *f* is fitted on a sleeve or tube *g*, mounted loosely on a fixed tube *h*, carried by a fixed bracket *i*. The tube *h* surrounds the hands-arbor *l* and keeps the sleeve *g* from contact therewith. On the sleeve *g* is fixed a ratchet-wheel *m*. In gear with this ratchet-wheel is a pawl or pusher *n*, hinged to the armature *p* of an electro-magnet *q*. *r* is the battery in connection with this magnet, and *s s* are the two conducting-wires, the ends of which are led to a position contiguous to one of the wheels of the clock-work, either the seconds-wheel *t* or any other suitable wheel or pinion. The said wheel is insulated by fitting it with a bush of ebonite or in any other convenient manner, and it carries a metallic stud or contact-piece *u*, which at every revolution of said wheel comes in contact with the two wires *s s*. The electric circuit being thus completed, the armature *p* is attracted to the magnet *r*, and consequently the pawl *n* pushes round the ratchet-wheel *m*, together with the disk *f*, the distance of one tooth. As soon as the stud *u* has, in the continued rotation of the wheel *t*, passed clear of the wires *s s* the circuit is broken, and the armature *p*, being no longer attracted by the electro-magnet, is lifted to its previous position by the spring *v*, the pawl in this upward movement moving over the ratchet-wheel and finally taking up a position ready to act on the next movement of the armature. It will thus be seen that once in every revolution of the wheel *t* the disk *f* receives a partial rotation equivalent to one tooth of the ratchet-wheel *m*. This wheel is shown as having six teeth, so that the disk *f* will make one complete revolution for every six revolutions of the wheel *t*. It is evident, however, that the number of teeth in the wheel *m*, and therefore the extent of each movement of the disk, are quite arbitrary, and may be varied as thought best; also, that instead of one stud or contact-piece *u* in the wheel *t* there may be two or more such studs, so that the electric circuit will be completed



and the disk *f* therefore moved twice or oftener in every revolution of the wheel *t*.

What I claim, and desire to secure by Letters Patent, is—

- 5 1. In an advertising-clock, the combination, with a disk situated behind a dial or face-plate having an opening therein, of an electro-magnet, a spring-armature adapted to be attracted by said electro-magnet, a metallic  
10 contact-piece upon an insulated moving part of the clock for periodically completing and breaking the circuit through the coils of the electro-magnet, whereby the armature is alternately attracted to and allowed to recede from  
15 said electro-magnet, and a mechanical connection between the armature and the advertising-disk, whereby the armature imparts intermittent rotary motion to said disk, substantially as and for the purpose set forth.
- 20 2. In an advertising-clock, the combination, with the disk *f* and a dial or face-plate *b*, having an opening *e* therein and situated in front of said disk, of the ratchet-wheel *m*, fixed on same axis as said disk, pawl or pusher *n*, en-  
25 gaging said ratchet-wheel, spring-armature *p*, operating said pawl, electro-magnet *q*, adapted

to attract said armature, battery *r*, conducting-wires *s s*, metallic contact-piece *u* for closing and breaking the circuit through said magnet, and insulated rotating wheel *t* for  
30 operating said contact-piece, substantially as and for the purpose set forth.

3. In an advertising-clock, the combination, with a face-plate having an opening therein and a disk behind said face-plate bearing ad-  
35 vertising-matter, one of said parts being constructed to be movable relatively to the other, of an electro-magnet constructed to operate said movable part, and a circuit-breaker oper-  
40 ated by a moving part of the clock and adapted to periodically complete and break the electric circuit of said magnet, whereby it is periodically excited and demagnetized  
45 and said movable part is correspondingly operated, substantially as set forth.

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

FREDERICK REDMAN.

Witnesses:

JOHN C. MEWBURN,  
THOMAS L. WHITEHEAD.