

No. 682,416.

Patented Sept. 10, 1901.

F. I. MATTHEWS.
AUTOMATIC ADVERTISING DEVICE.

(Application filed Apr. 18, 1901.)

(No Model.)

Fig. 4.

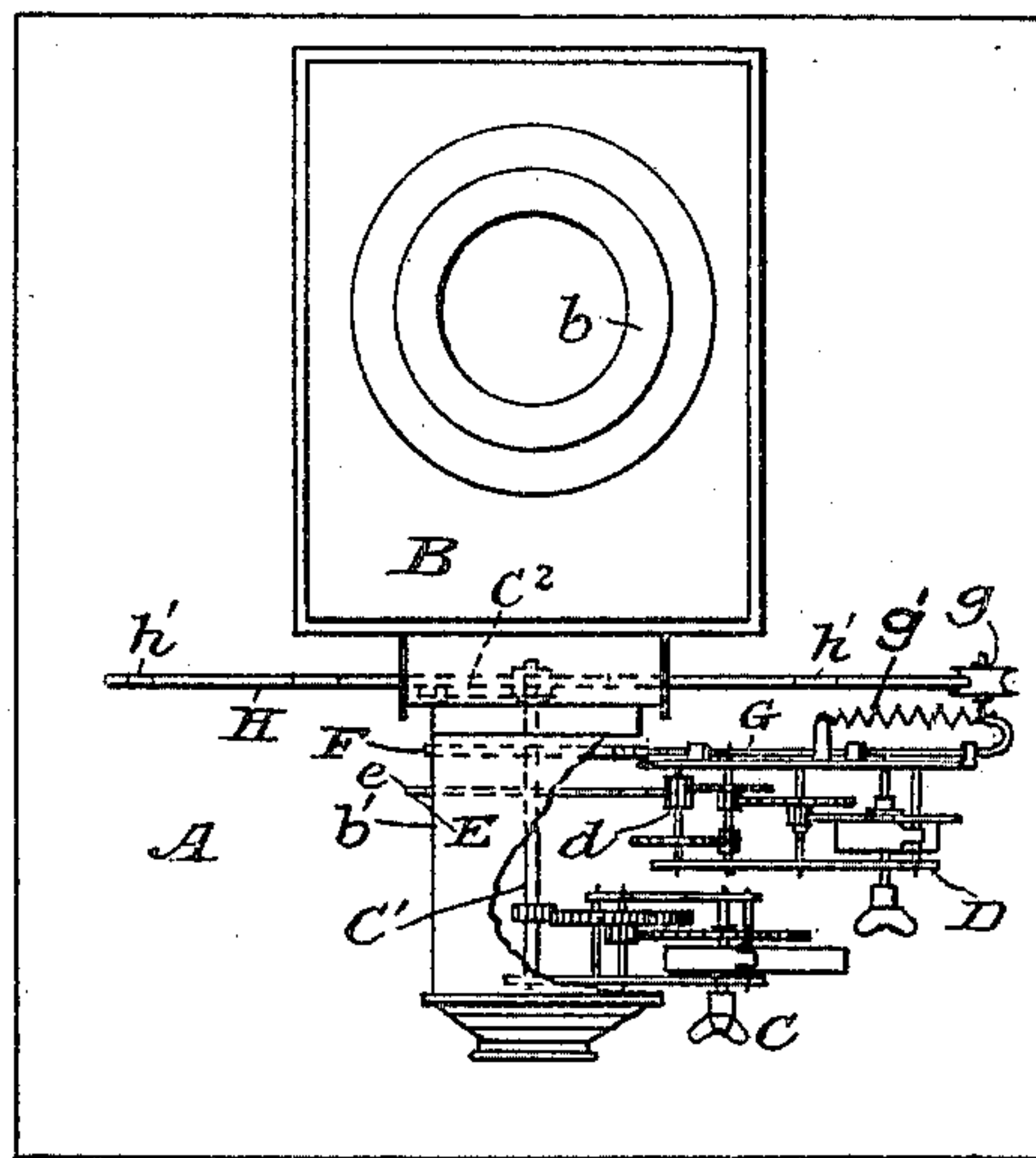
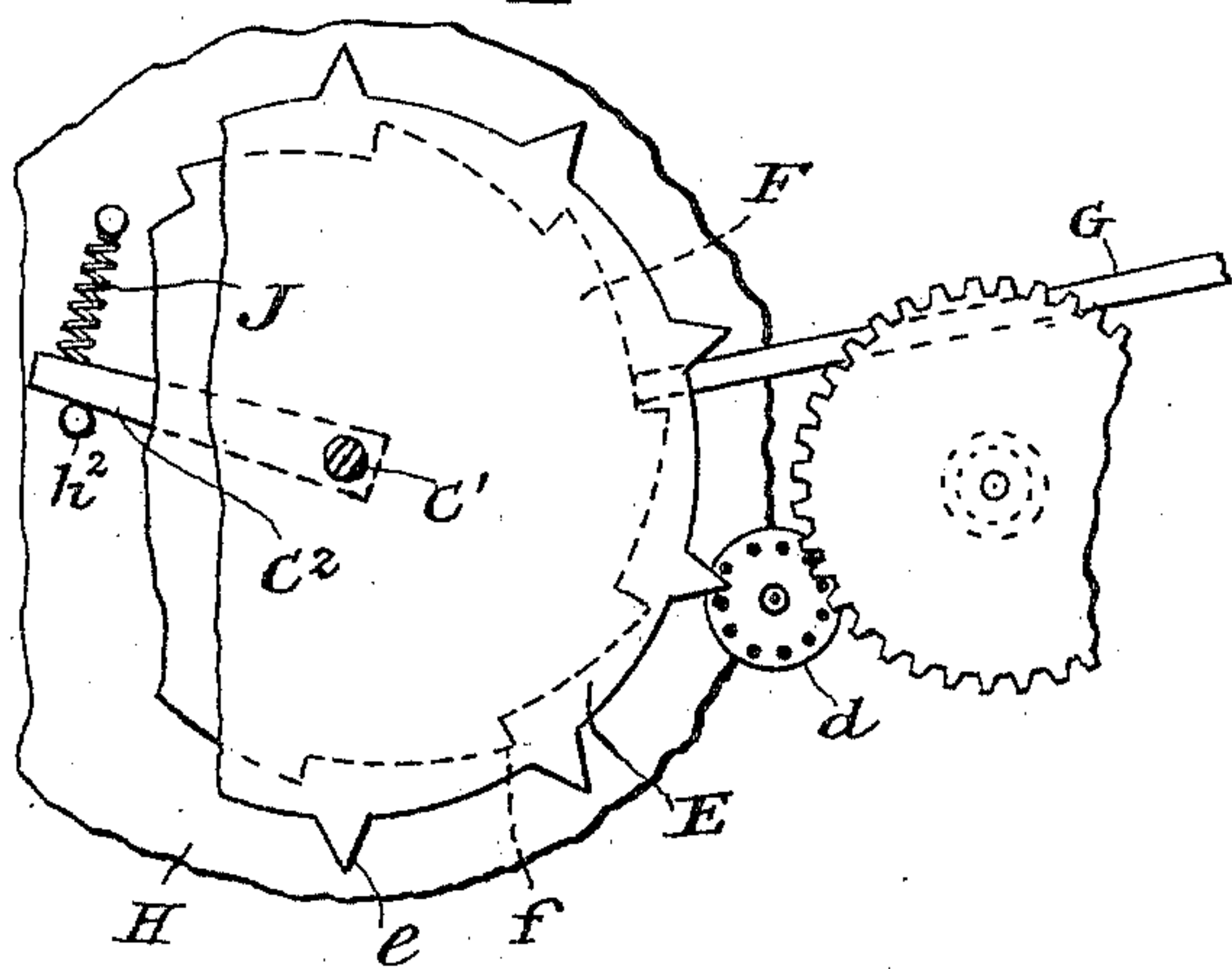


Fig. 1.

Fig. 2.

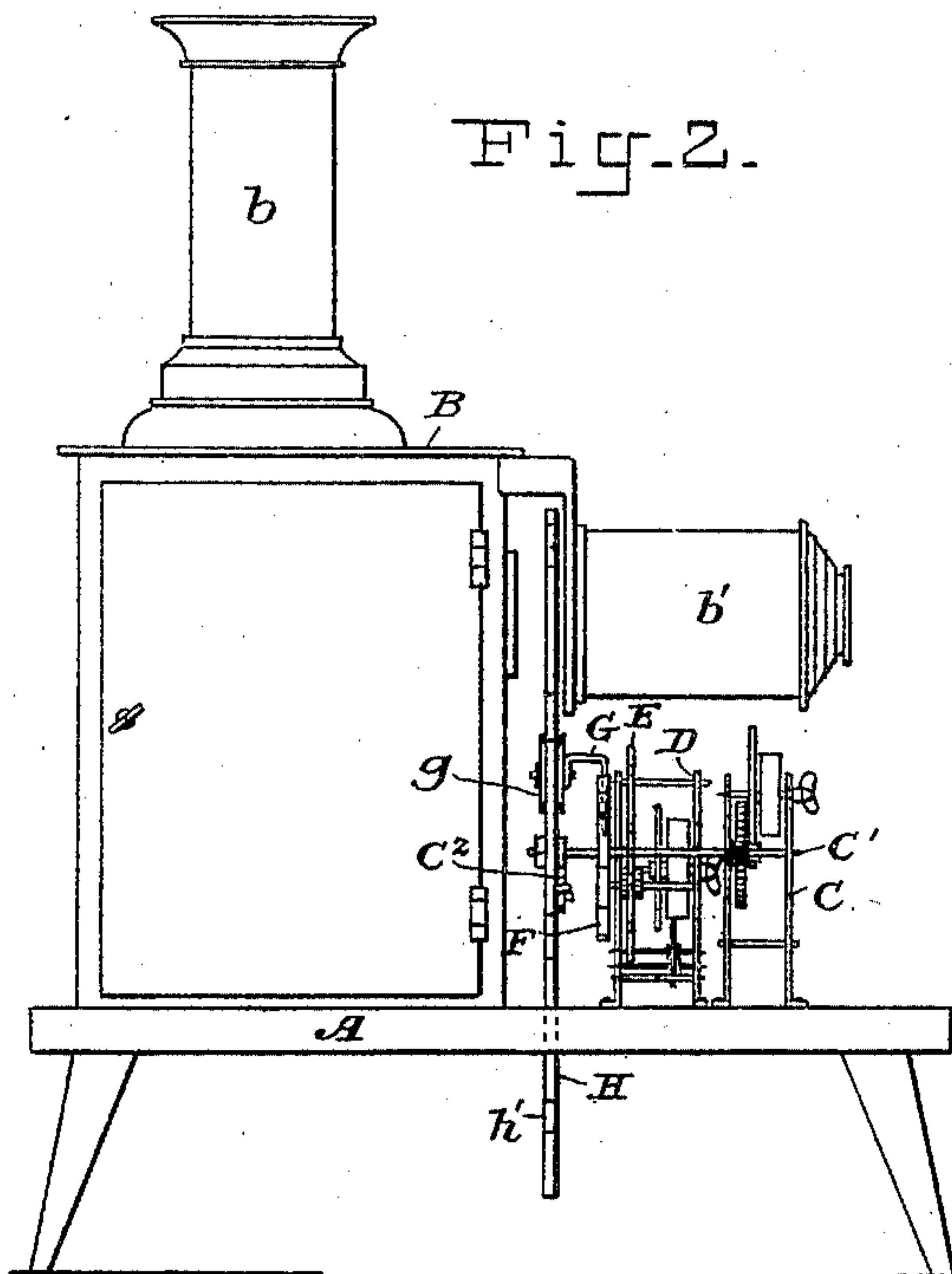
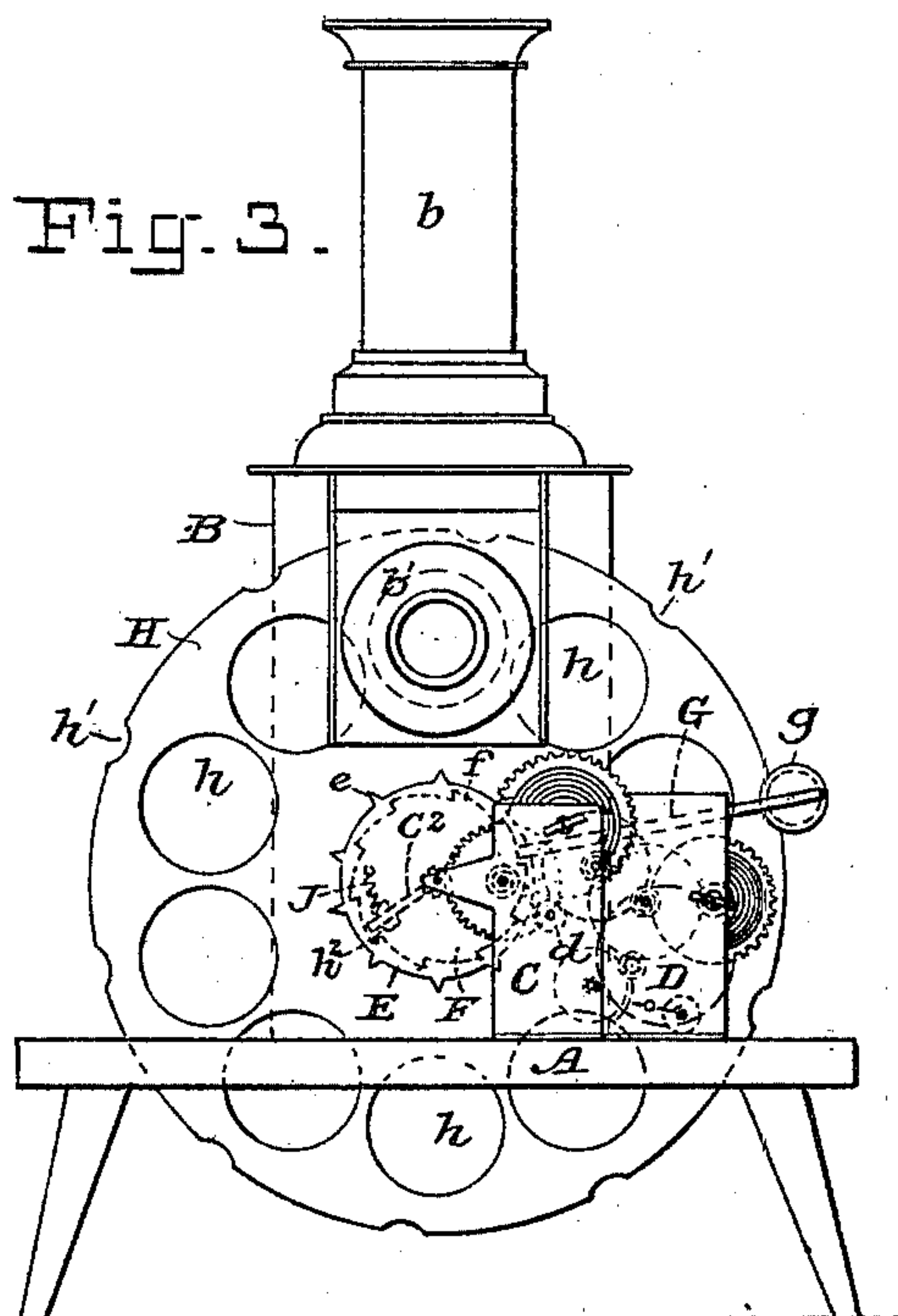


Fig. 3.



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UNITED STATES PATENT OFFICE.

FREDERICK IRVING MATTHEWS, OF NEW YORK, N. Y.

AUTOMATIC ADVERTISING DEVICE.

SPECIFICATION forming part of Letters Patent No. 682,416, dated September 10, 1901.

Application filed April 18, 1901. Serial No. 56,501. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK IRVING MATTHEWS, a citizen of the United States, and a resident of New York, in the county and State of New York, have invented a certain new and useful Automatic Advertising Device, of which the following is a specification.

My invention relates to optical instruments by which small figures, images, or objects or advertisements are thrown on a wall or screen magnified to any size at pleasure; and it has for its object the provision of an appliance or apparatus of the kind set forth simple in construction, inexpensive to manufacture, and which operates smoothly and efficiently in practical use.

To attain the desired end, this my invention consists in the construction, arrangement, and operation of parts herein set forth.

In order to enable my invention to be fully understood, I will proceed to explain the same by reference to the drawings which accompany and form a part of this specification, in which—

Figure 1 represents a plan view of an apparatus constructed according to my invention. Fig. 2 is a side elevation, and Fig. 3 a front elevation, of the same; and Fig. 4 is a view in detail of my display-disk and trip mechanism therefor.

Like letters of reference indicate like parts in all the views.

I have found it desirable to make an apparatus that may be used in displaying advertisements and pictures at stated intervals by means of an optical instrument, ordinarily designated as a "magic lantern," controlled and operated by a suitable source of power, as a clock-train or other power movement, and I have therefore constructed according to my invention an organization of the class described embodying the preferred construction of parts and their mutual relationship, combination, arrangement, and organization in a composite body or structure, as hereinafter described.

Referring particularly to the drawings, A denotes the base of my apparatus, and B indicates an optical instrument, by means of which magnified images of small pictures, advertisements, &c., are thrown upon a wall

or screen. The instrument consists of a lantern containing a lamp and provided with a chimney *b*. In the side of the lantern B is inserted a horizontal tube *b'* on a level with the flame, and the light is made to pass through the tube by reflection from a concave mirror placed on the opposite side of the lantern. The tube *b'* is provided with two lenses, one at each end. The inner one is a hemispherical illuminating-lens of short focus to condense a strong light on the pictures or advertisements contained in the orifices *h* of the vertical display-disk H, which display-disk H is inserted into the tube *b'* between the lenses through a transverse slit. The other end of the tube is fitted with a double-convex lens, which receives the rays after passing through the picture, &c., and throws them upon the screen or wall.

The pictures or advertisements are formed in any suitable manner and ordinarily with transparent varnish on glass or celluloid plates and are inserted into the display-disk H in an inverted position in order that the images may appear erect.

The display-disk H is provided with a series of notches *h'*, cut in the periphery thereof and corresponding in number with the display-orifices *h*, and also with a lug or projection *h²*, adjacent to which is located a spring J, also carried by the display-disk. The said disk H is mounted loosely on the shaft *C'* of the clock-train C, which drives the display-disk H by means of the arm *C²*, firmly connected with said shaft *C'*, the end of which arm is held between the lug *h²* and the spring J. The shaft *C'* when rotated also carries with it the serrated disk E, provided with teeth *e*, and the cam-disk F, having cams *f*, the said serrations and cams corresponding in number with the display-orifices of the disk H. The movement of the disks H E F, arm *C²*, and shaft *C'* is stopped periodically at stated predetermined intervals by means of the engagement with the pinion *d* (of the controlling clock-train D) of the serrations or teeth *e* of the disk E, which pinion serves as a detent.

A reciprocating bar G is provided at one extremity with a flanged wheel *g*, which works on the periphery of the display-disk

H and is constructed and arranged to engage *seriatim* the notches *h'* of the display-disk H, and the other end of said bar G rides along the cam edge of the disk F and is held
5 against the same by means of the spring *g'*.

It is manifest that various omissions of some particulars could be made without materially affecting the essential features of my invention or the operation of the remaining
10 parts, and I do not therefore wish to be limited to the specific structural details of the organization herein set forth. Obviously the elements of the structure described may be located at an angle to the plane in which they
15 are shown. I accordingly use the words "horizontal," "vertical," and the like in a relative sense.

In operation a disk H is charged in any suitable or preferred manner with the required number of pictures or advertisements,
20 or both, and preferably screwed on the end of the shaft *C'* and engaged with the arm *C*². The disks H E F, arm *C*², and shaft *C'* will now be turned by the clock-train C until one of the teeth *e* engages the pinion *d*. The movement of the disks E and F will now almost cease for a period or until the said tooth has passed across and away from the pinion
25 *d*, while the display-disk H will stand absolutely at rest on account of the flanged wheel *g* being engaged with a notch *h'* of the display-disk H, and the movement of the arm *C*² now serves simply to compress the spring J of said disk. When, however, the tooth *e* has become
30 released from the pinion *d*, the disks E and F will be driven forward by the clock-train C until the next tooth *e* strikes the pinion *d*, and the rotation of the disk F causes one of the cams *f* to throw the reciprocating bar G backward or outward, thereby pushing the wheel *g* out
35 of the notch *h'*, whereupon the arm *C*² will carry the display-disk H around a sufficient distance to bring the next orifice *h* in the display-disk H in the proper position for display purposes. As soon as the parts are in
40 this position the bar G, having been released by the cam *f*, is pushed in an inward direction by the spring *g'*, and the wheel *g* engages another notch of the disk H, thereby

stopping the same in the predetermined required position. 50

It will be observed that the display-disks H are detachable and interchangeable, and thus the pictures or advertisements to be displayed may be readily changed at will. 55

As it is evident that many changes in the construction, form, proportion, and relative arrangement of parts might be resorted to without departing from the spirit and scope of my invention, I would have it understood
60 that I do not restrict myself to the particular construction and arrangement of parts shown and described, but that such changes and equivalents may be substituted therefor, and that 65

What I claim as my invention is—

1. In combination illuminating means, a rotatable display-disk H provided with notches *h'* and a series of exhibiting-faces to register with said illuminating means, a power movement provided with a disk E having teeth *e*
70 to operate the disk, and another power movement provided with pinion *d* to engage the teeth *e* and to control the movement of the said disk, and means to stop the same, so that each exhibiting-face will successively register with the illuminating means, consisting of a reciprocating bar G and wheel *g*. 75

2. In combination a rotatable display-disk H provided with the notches *h'* in its periphery, a cam-disk F having cams *f*, a serrated disk E having teeth *e*, a power movement to operate the same, and another power movement to control the movement of the said disks, provided with a pinion *d* to engage
80 one of the teeth *e* of the serrated disk E, and also a bar G having wheel *g* to engage the notches of the display-disk and also the cams *f* of the cam-disk F. 85

In testimony of the foregoing specification I do hereby sign the same, in the city of New York, county and State of New York, this 6th day of April, A. D. 1901. 90

FREDERICK IRVING MATTHEWS.

Witnesses:

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