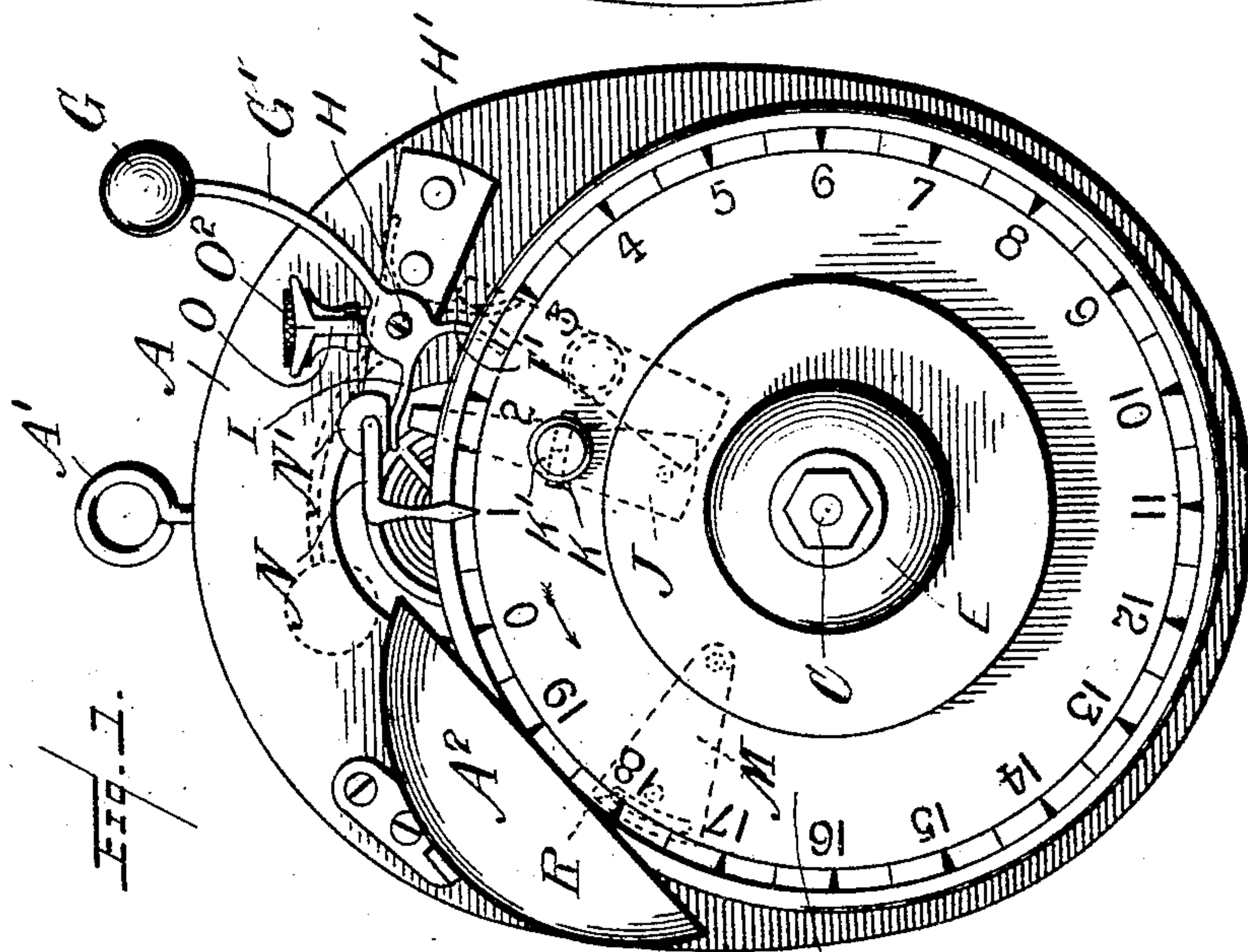
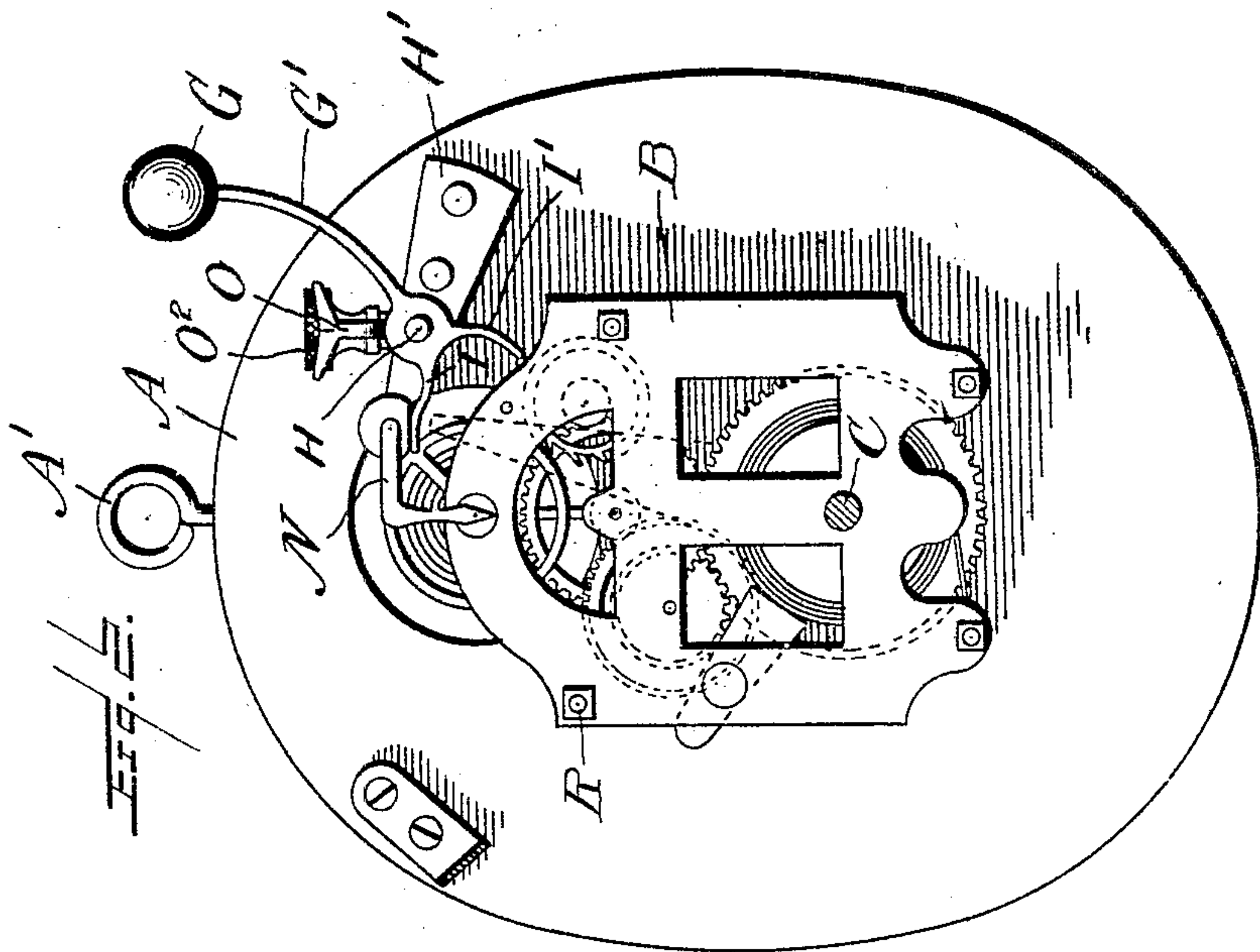


P. H. WHEELER.
 PHOTOGRAPHIC TIMING APPARATUS.
 APPLICATION FILED JUNE 22, 1908.

912,516.

Patented Feb. 16, 1909.
 2 SHEETS—SHEET 1.



WITNESSES:
H. F. Kelly
M. E. Kelly

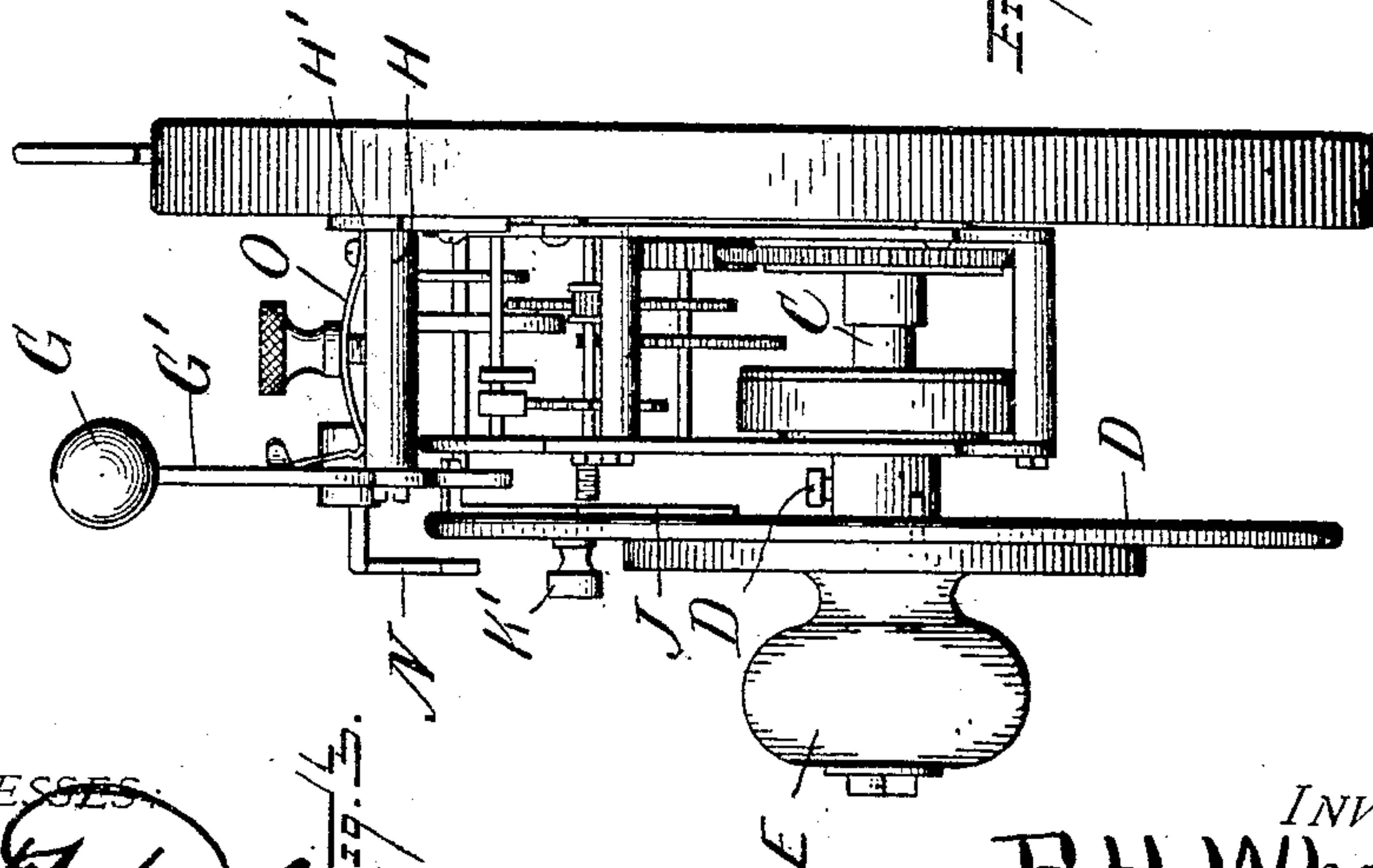
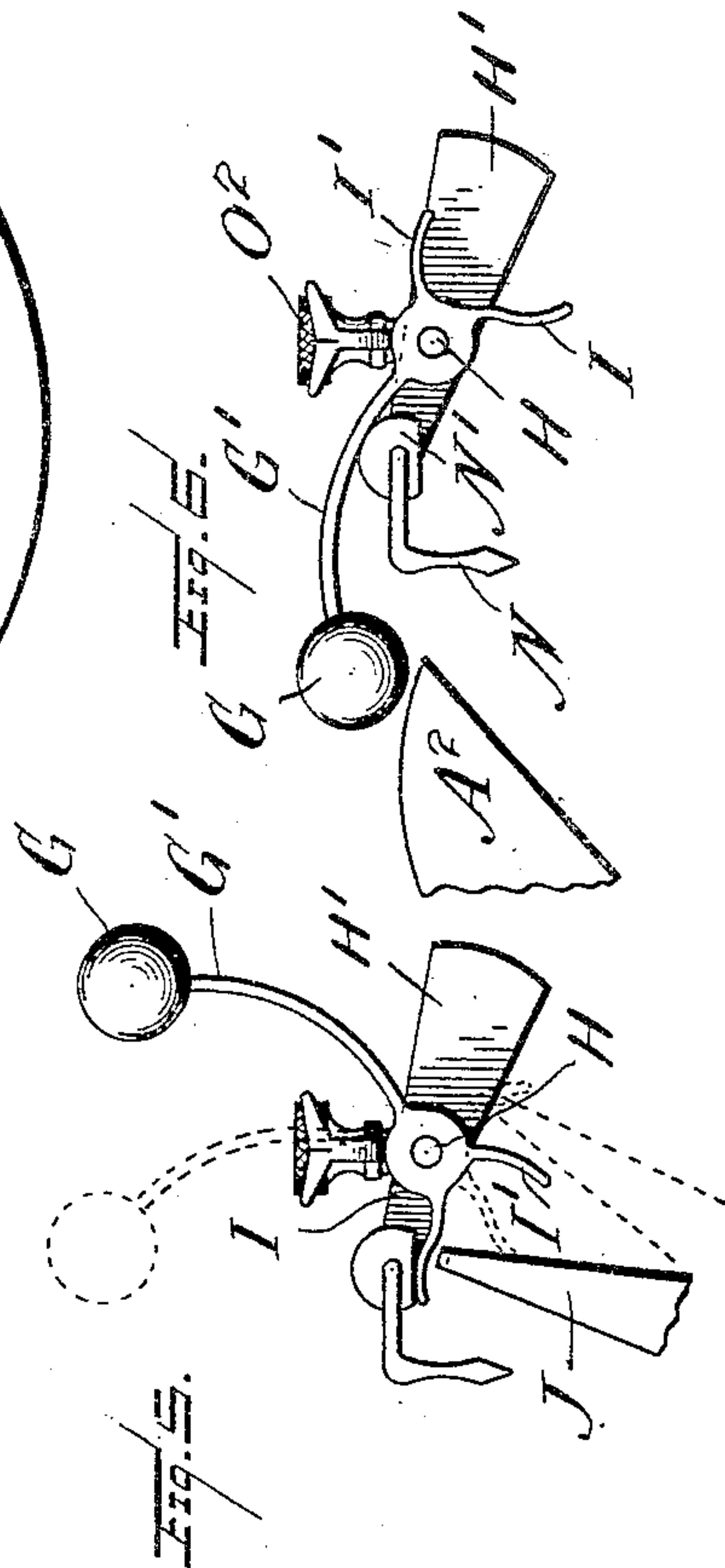
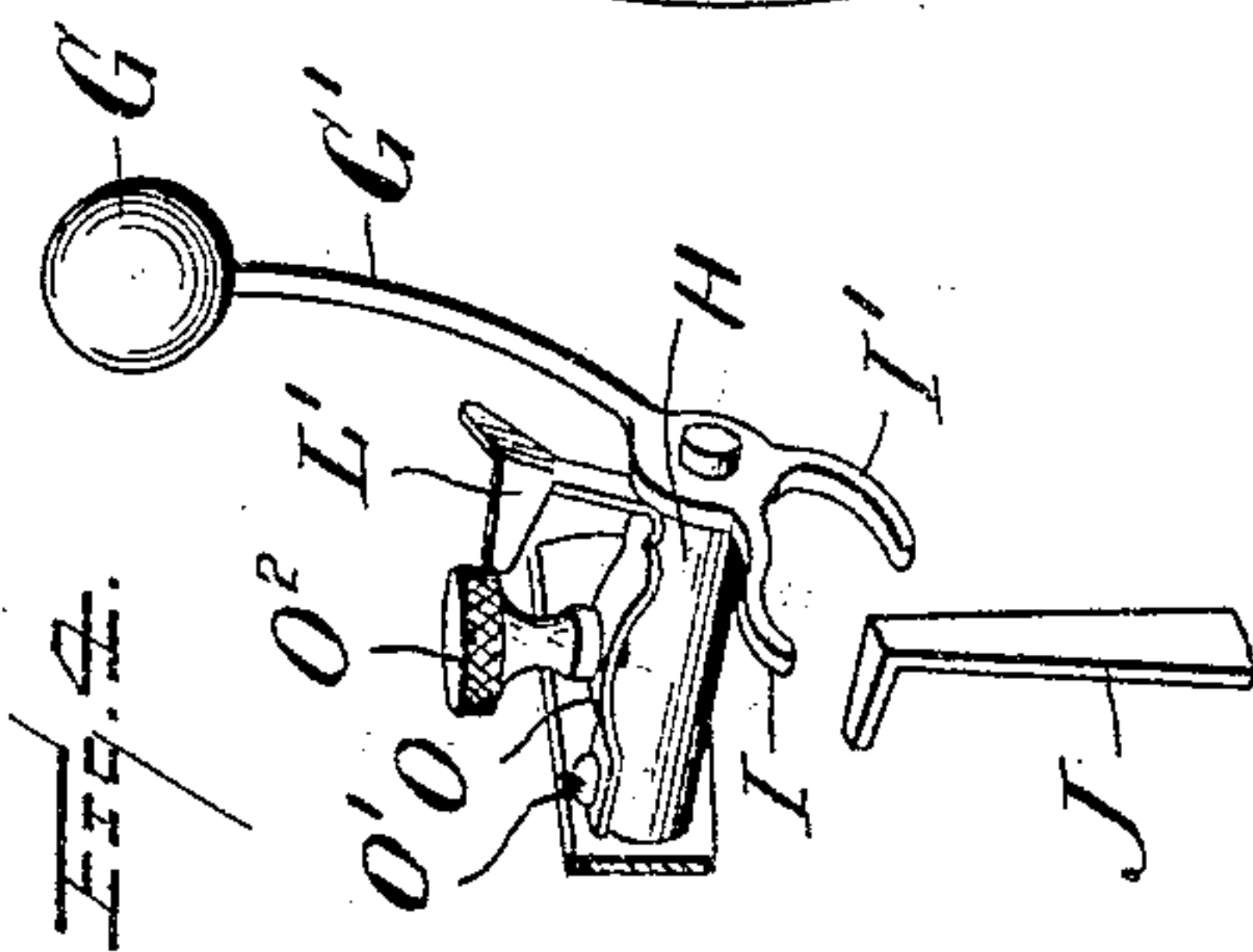
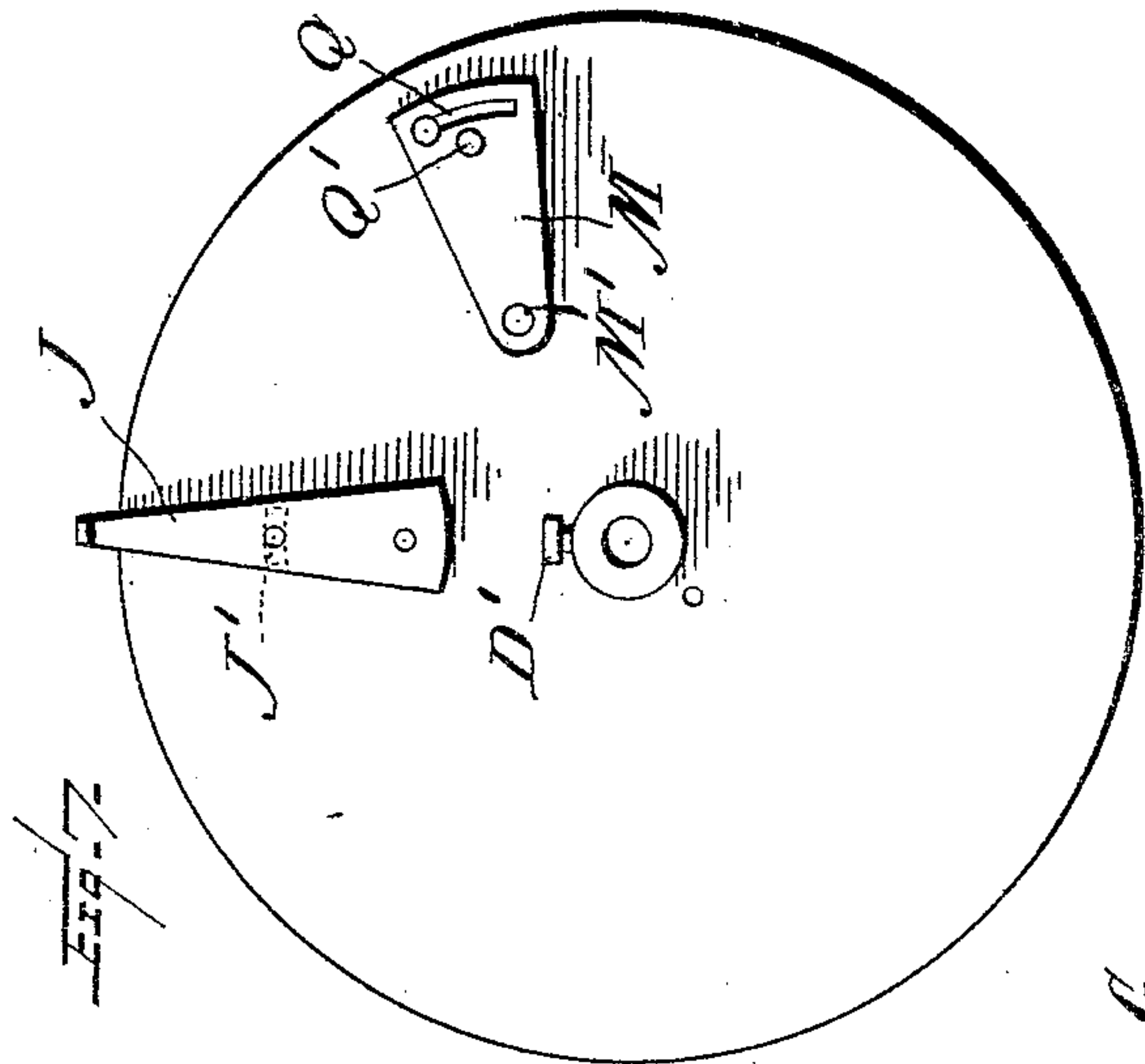
INVENTOR
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UNITED STATES PATENT OFFICE.

PARIS H. WHEELER, OF NEW YORK, N. Y.

PHOTOGRAPHIC TIMING APPARATUS.

No. 912,516.

Specification of Letters Patent.

Patented Feb. 16, 1909.

Application filed June 22, 1908. Serial No. 439,832.

To all whom it may concern:

Be it known that I, PARIS H. WHEELER, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Photographic Timing Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in photographic timing apparatus, and the object in view is to produce a simple and efficient apparatus of this nature, so arranged that a bell will be caused to automatically ring at the expiration of a certain length of time, the apparatus being used in connection with the ordinary clock works.

The invention comprises various details of construction, combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claims.

I illustrate my invention in the accompanying drawings, in which:—

Figure 1 is a front elevation of the timing apparatus. Fig. 2 is a similar view showing the dial and bell removed. Fig. 3 is an edge view of the apparatus. Fig. 4 is an enlarged detail perspective view of a brake attachment to the bell hammer. Fig. 5 is a detail perspective showing the manner in which the bell hammer is actuated. Fig. 6 is a detail view showing the bell hammer at its farthest limit in one direction, and Fig. 7 is a rear elevation of the dial.

Reference now being had to the details of the drawings by letter, A designates a board upon which the device is mounted, so arranged that it may be conveniently hung up by means of a screw eye A'. A clock work, designated by letter B, is supported upon said board and has a shaft C projecting therefrom to which the dial D is held by means of a set screw D', in order to provide means whereby the dial may be turned in the direction of the arrow for setting the device. Upon the face of the dial appear the numerals 0 to 19, designating as many min-

utes, 20 minutes being the limit that the device can be set to strike the alarm. A hammer, designated by letter G, has an arm G', which is pivotally mounted upon a post H, projecting from the plate H', which is fastened to the board, as shown clearly in Figs. 1 and 2 of the drawings. One end of the arm G is forked, forming two fingers I and I'. Pivotaly mounted upon the rear face of the dial is a hook J. The shank portion of said hook has a threaded aperture for the reception of a headed screw K' which passes through a slot K formed in the dial and, by turning said screw in one direction, the head thereof may cause the hook to be held frictionally against the rear face of the dial to hold the hook in an adjusted position. The outer angled end of said hook projects beyond the circumference of the dial and is inwardly turned and designed to form a trip to engage the fingers I and I' to cause the arm upon which the hammer is mounted to tilt upon its pivot. The elongated slot formed in the dial and through which the screw passes is for the purpose of allowing a slight adjustment to said hook, whereby the hammer may be thrown into a position to fall against the bell, simultaneously with mechanism which will be presently described the stopping of the clock work, through

N designates a pointer which projects at right angles from the board A and has its free end extending down over the dial, as shown in Fig. 1 of the drawings. A buffer, designated by letter N', is mounted upon a horizontally disposed shank portion of said pointer and serves as means to prevent a jar to the apparatus in the event of the hammer being thrown to its limit in one direction or the other, the finger coming into contact with the under flat portion of the buffer, when the hammer is moved in one direction, and into contact with the upper convexed portion thereof when the hammer is moved toward the bell.

Referring to Fig. 4 of the drawings there will be seen a resilient brake member designated by letter O, one end of which is held by means of a screw O' to the post H and the free end of said member is upwardly turned and is provided with flaring wings L' which are disposed at angles to each other, the apex of the angle between said wings being adapted to be moved into the path of the

arm G', so as to offer a slight resistance to the movement of the arm immediately before the bell hammer falls by gravity against the bell A², which is mounted at any suitable location upon the board, as shown clearly in Fig. 1 of the drawings. A set screw O² is mounted upon the threaded aperture in the post H and has a shouldered portion which bears against the outer face of the member O. Said member O, it will be noted upon reference to the drawings, is upwardly bowed and a shoulder upon the screw O² bears against the outer surface of said member and, as the screw is turned down against the latter, the upwardly extending winged end will be drawn away from the arm G' and, when the screw is loosened, said winged end will be drawn by the natural resiliency of the member away from the board and in the path of the arm G'.

Referring to Fig. 7 of the drawings, it will be seen a segment plate M is pivotally mounted upon a pivot M' carried by the dial, said segment plate being provided with an elongated slot Q and a pin Q' projects therefrom which is adapted to come into contact with the projecting end of a post R to cause the clock work to stop when the dial indicates zero and simultaneously with the falling of the hammer against the bell. Said slot in the segment is provided to allow the dial to make a complete revolution which it would not do if the segment were held rigidly upon the dial. Said segment being provided with a slot, as shown, will allow the dial to register zero in the event of the dial being set at its highest limit for twenty minutes by the pin Q' coming into contact with the post R, which will arrest the movement of the segment plate while the dial is allowed to move a distance limited by the length of the slot Q.

The operation of my apparatus is as follows:—When it is desired to set the hammer so that it will ring the bell at any particular time up to twenty minutes, the dial is turned to the left until the pointer registers with a certain numeral upon the dial indicating the number of minutes or fractions of a minute for which it is desired to set the device. When the dial indicates zero, the hammer is at its farthest throw to the left and the hook will be in contact with the finger I of said arm G'. When the clock work is started, which may be accomplished by the operator moving the balance wheel of the clock work, the dial will begin to turn to the right and, as the hook J comes into contact with the finger I', the hammer will be drawn to the position shown in dotted lines in Fig. 5 of the drawings from which position it is prevented from falling against the bell by reason of the upturned winged end of the member O being positioned in the path of the arm G'. Said upturned arm of the

member O will bear against the arm G' only with a slight pressure which is readily overcome when the hook J comes into contact with and bears upon the finger I' as the dial approaches zero. When the pressure of the hook against the finger I' is sufficient to overcome the friction intermediate the upturned end of the member O and the arm G' and after the hammer passes a vertical line above its pivot, the hammer will fall by gravity against the bell and simultaneously with the striking of the bell the pin Q' upon the segment M will come into contact with the post R upon the frame of the clock work and cause the latter to stop. By adjusting the set screw K, the hook may be made to actuate the hammer at the proper moment so that the bell will strike the very instant zero is indicated and at the same time of the stopping of the clock work.

What I claim to be new is:—

1. A timing apparatus for photographers' use, etc., comprising clock work, a dial actuated thereby, a bell, a pivotal bell hammer having a forked end, a hook carried by the dial and adapted to engage the arm of the forked end to cause the hammer to tilt to one side of its center of gravity, and yielding means positioned in the path of the arm of said hammer and adapted to arrest the movement of the hammer, as set forth.

2. A timing apparatus for photographers' use, etc., comprising clock work, a dial actuated thereby, a bell, a post, a bell hammer pivotally mounted thereon and provided with a forked end, a hook carried by the dial and adapted to contact with one of the fingers at the forked end of the hammer rod, a brake member mounted upon said post, and means for moving said brake member into or out of the path of the arm of said hammer, as set forth.

3. A timing apparatus for photographers' use, etc., comprising clock work, a dial actuated thereby, a bell, a post, a bell hammer pivotally mounted thereon and provided with a forked end, a hook carried by the dial and adapted to contact with one of the fingers at the forked end of the hammer rod, a brake member made of resilient material and fastened to said post, said member being bent so that a portion thereof will be positioned in the path of the arm of the hammer, a set screw carried by the posts and adapted to engage said member and cause an upturned portion of the member to move into or out of the path of the arm of said hammer, as set forth.

4. A timing apparatus for photographers' use, etc., comprising clock work, a dial actuated thereby, a bell, a post, a bell hammer pivotally mounted thereon and provided with a forked end, a hook carried by the dial and adapted to contact with one of the fingers at the forked end of the hammer rod,

a brake member made of resilient material and fastened to said post and having an upturned portion with inclined wings thereon, a set screw carried by the post and engaging said member and adapted to move the upturned portion thereof into or out of the path of the arm of said hammer, as set forth.

5. A timing apparatus for photographers' use, etc., comprising clock work, a dial actuated thereby, a bell, a pivotal bell hammer, means carried by the dial and adapted to tilt said hammer so that it will fall by gravity against the bell, a post projecting from the frame of the clock work, a segment member pivotally mounted upon the dial, a pin projecting from said segment member and adapted to contact with the projecting end of said post, said segment having a limited pivotal movement, as set forth.

6. A timing apparatus for photographers' use, etc., comprising clock work, a dial actuated thereby, a bell, a pivotal bell hammer, means carried by the dial and adapted to tilt said hammer so that it will fall by gravity against the bell, a post projecting from

the frame of the clock work, a segment member pivotally mounted upon the dial, the outer end of said segment having a transverse slot, a pin projecting from the dial and extending through said slot and adapted to limit the pivotal movement of the segment, as set forth.

7. A timing apparatus for photographers' use, etc., comprising clock work, a dial actuated thereby, a bell, a pivotally mounted bell hammer having forked ends, a hook pivotally mounted upon the dial, a set screw passing through a slot in the dial and engaging a threaded hole of said hook, the free end of said hook adapted to contact with one of the fingers of the forked end of the bell hammer to cause the latter to tilt upon its pivot, as set forth.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

PARIS H. WHEELER.

Witnesses:

A. L. HOUGH,
FRANKLIN H. HOUGH.