

H. HÜBSCHER.
PHOTOGRAPHIC APPARATUS.
APPLICATION FILED MAR. 13, 1908.

924,465.

Patented June 8, 1909.

5 SHEETS—SHEET 1.

Fig. 1.

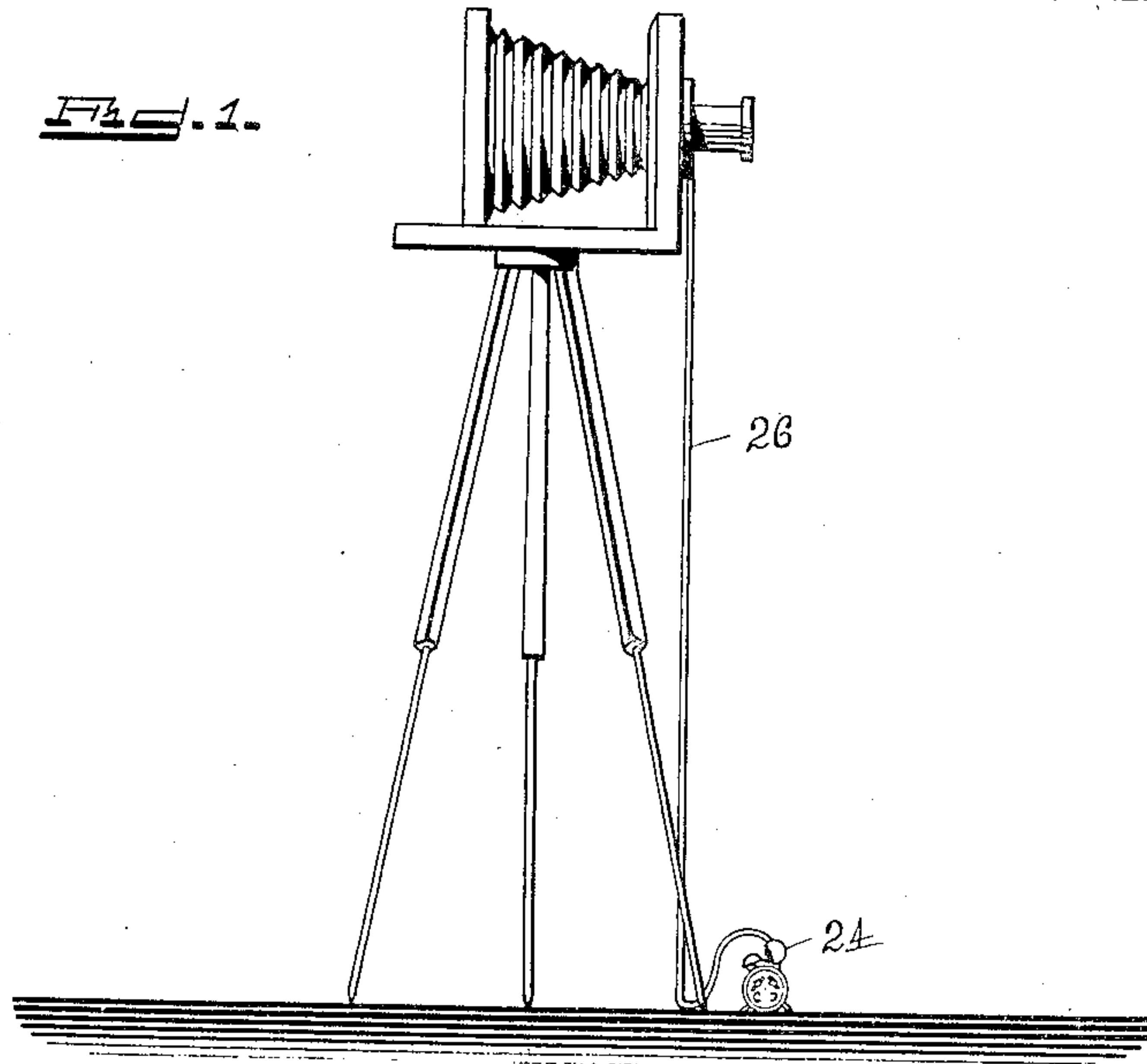


Fig. 2.

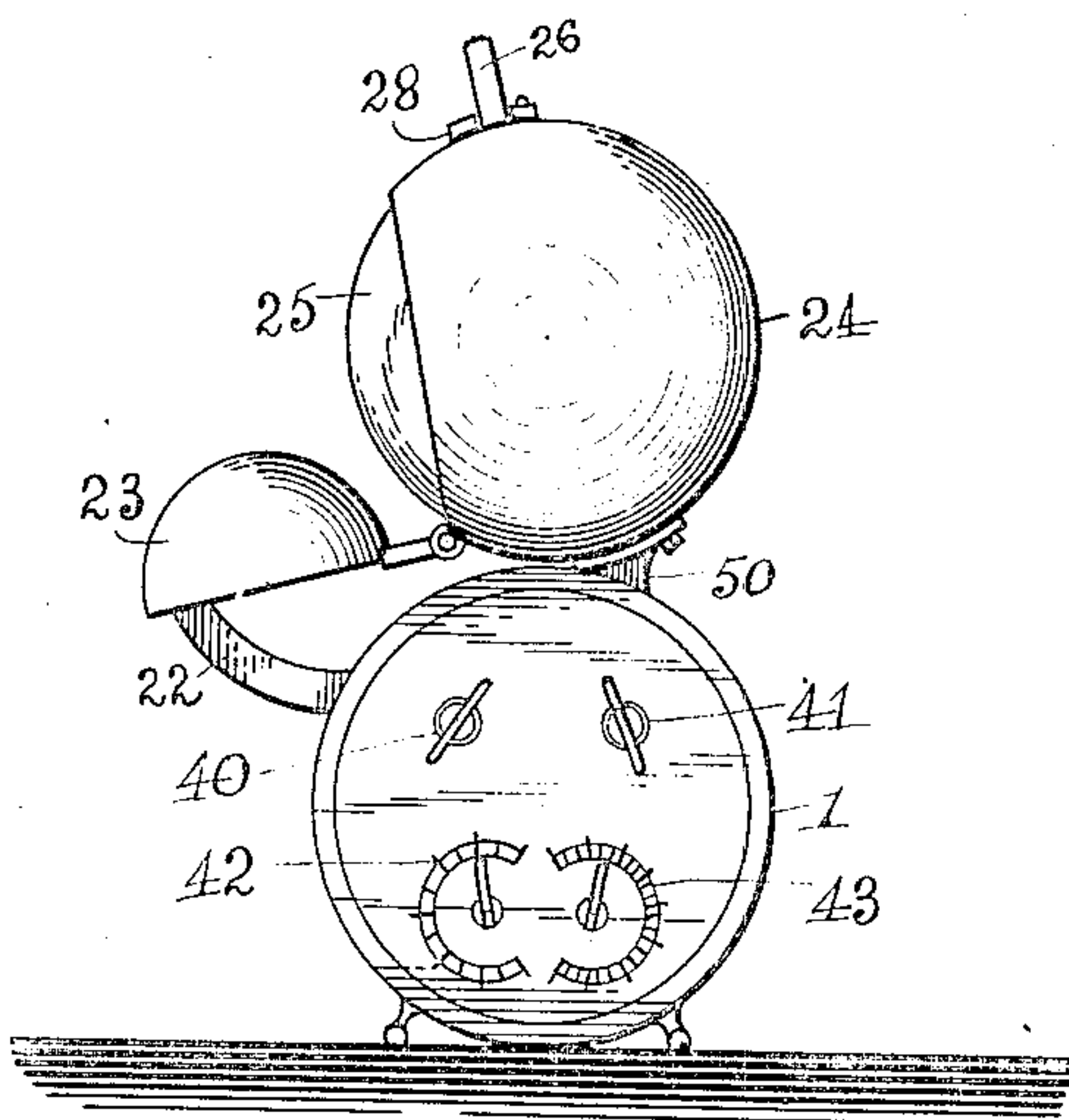
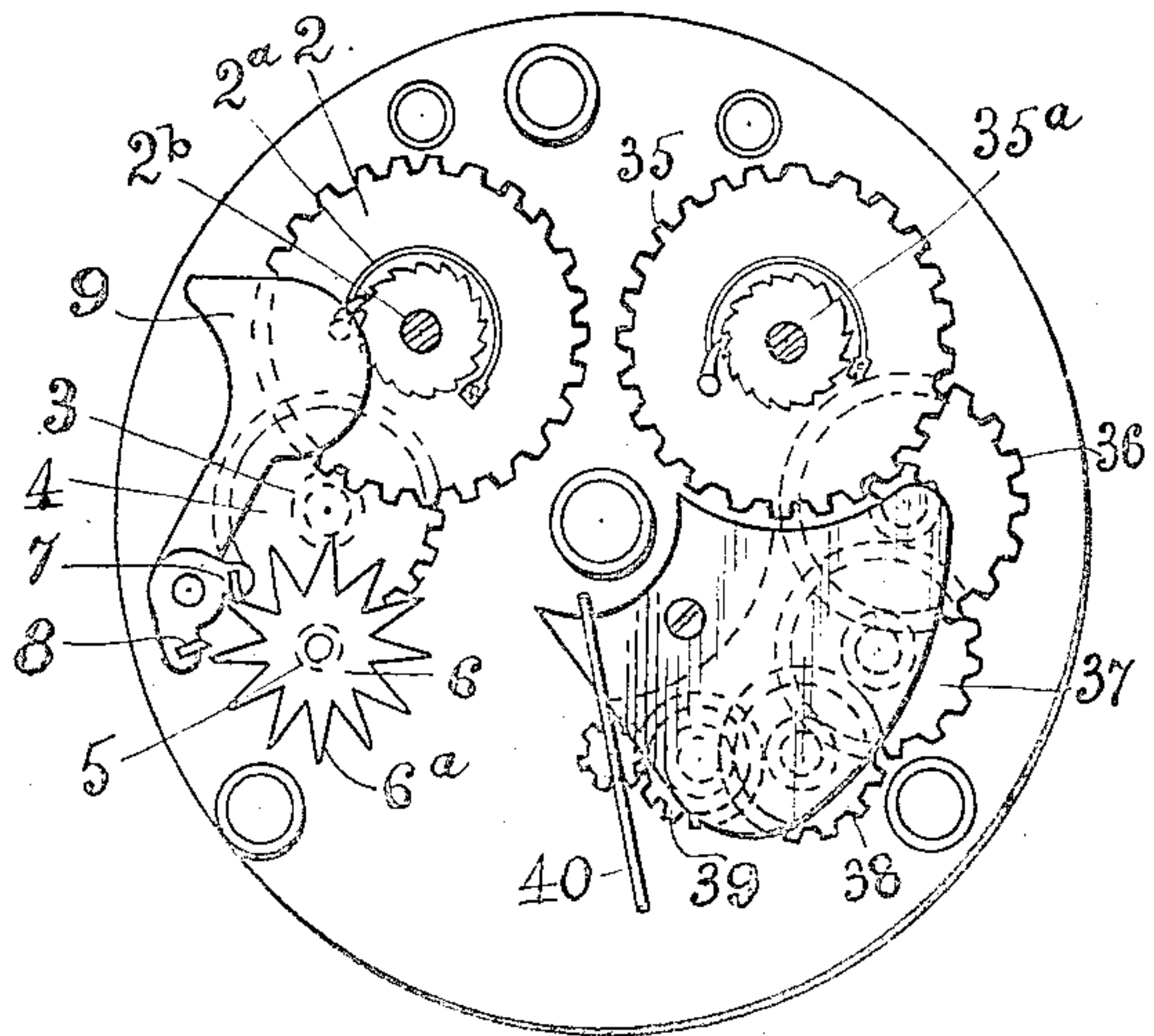


Fig. 3.



Attest:
W. M. Ashley
W. M. Ashley

by

Inventor:
Heinrich Hübscher
per *Alexander J. Bois*
his Atty

H. HÜBSCHER.
PHOTOGRAPHIC APPARATUS.
APPLICATION FILED MAR. 13, 1908.

924,465.

Patented June 8, 1909.

5 SHEETS—SHEET 2.

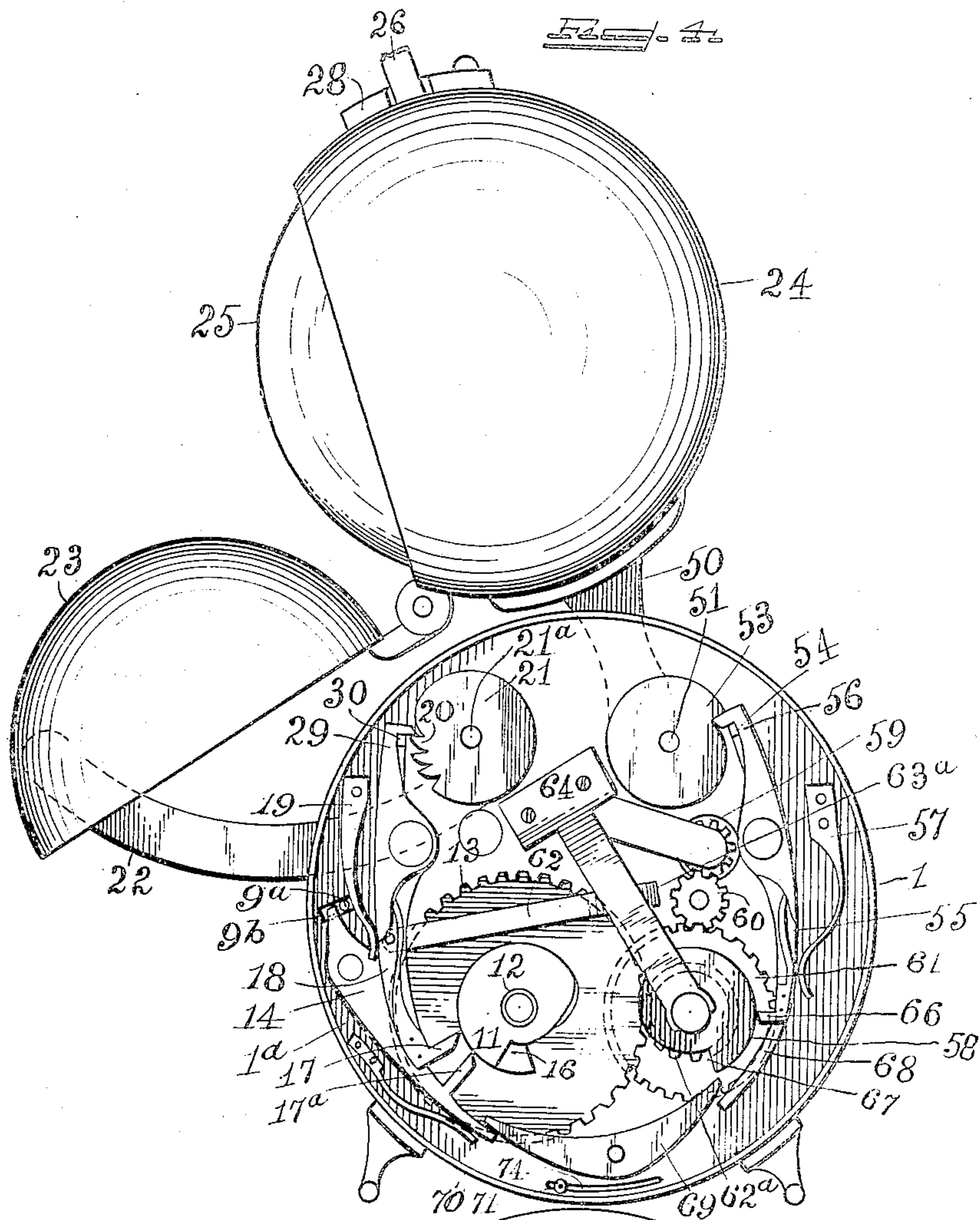
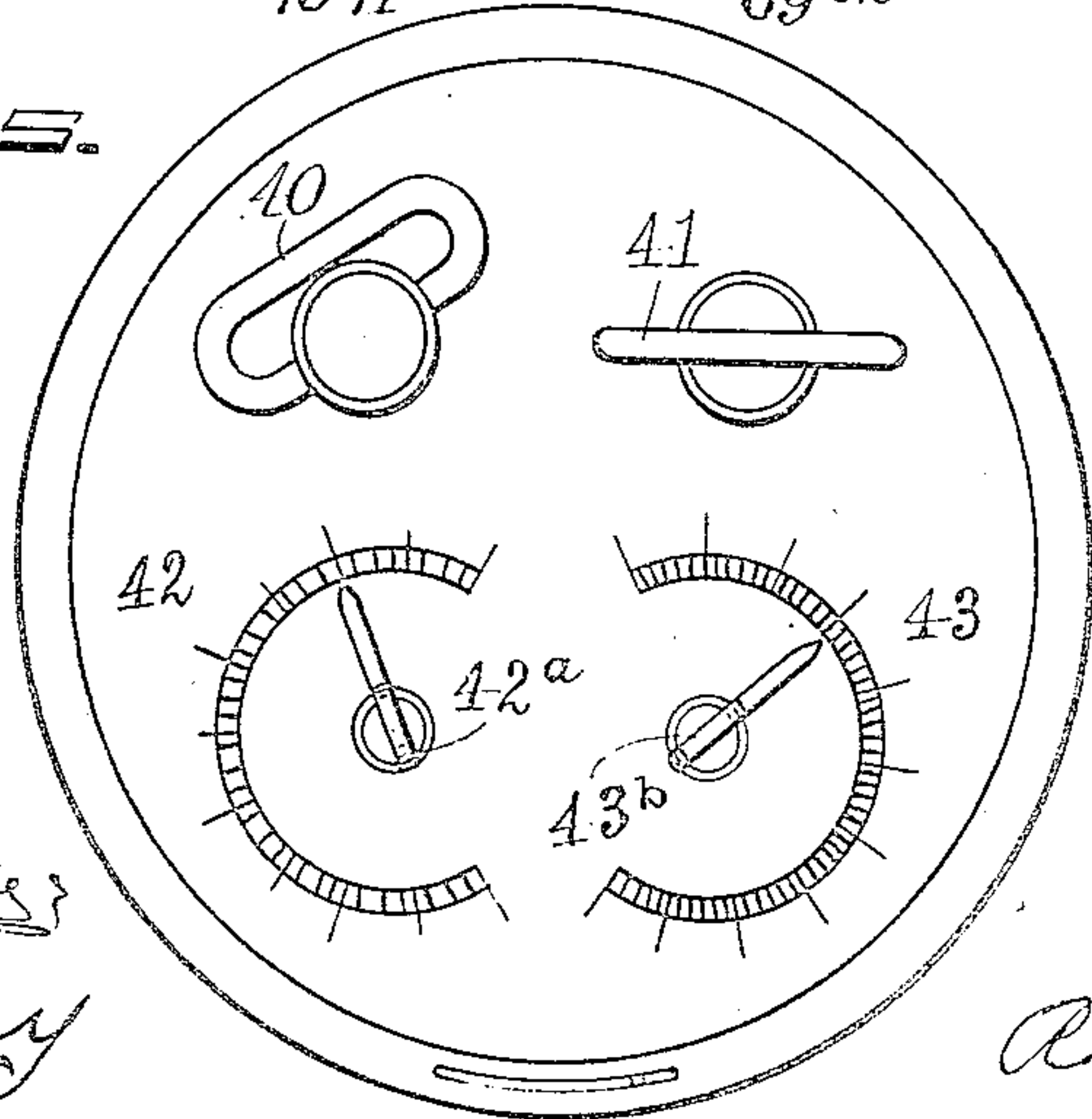


Fig. 5.



WITNESSES:
E. O. Mitchell
b. S. Ashley

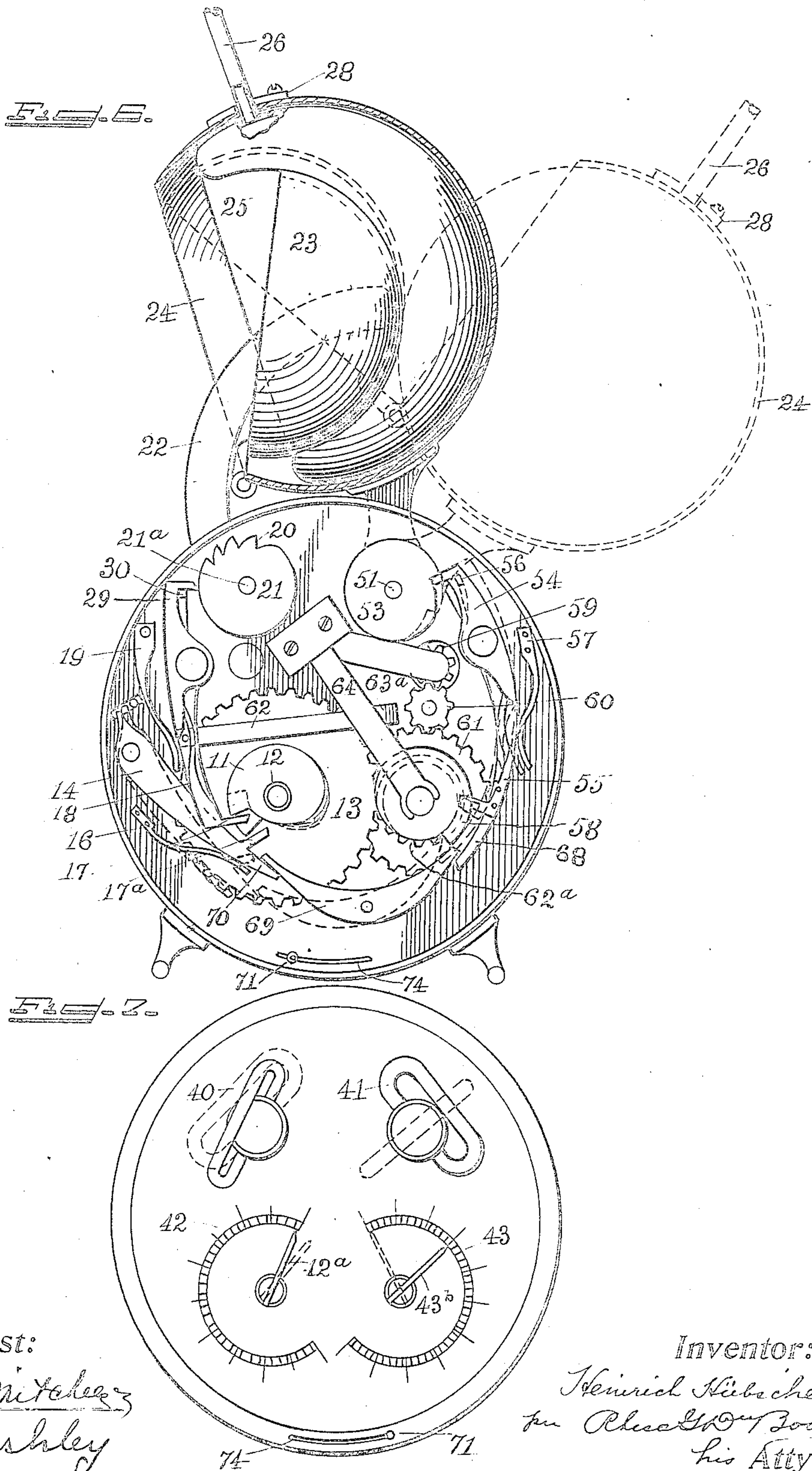
INVENTOR
Heinrich Hübscher
BY
Alfred D. J. J. J.
his ATTORNEY

H. HÜBSCHER.
 PHOTOGRAPHIC APPARATUS.
 APPLICATION FILED MAR. 13, 1908.

924,465.

Patented June 8, 1909.

5 SHEETS—SHEET 3.



Attest:
Comitaker
 b. S. Ashley

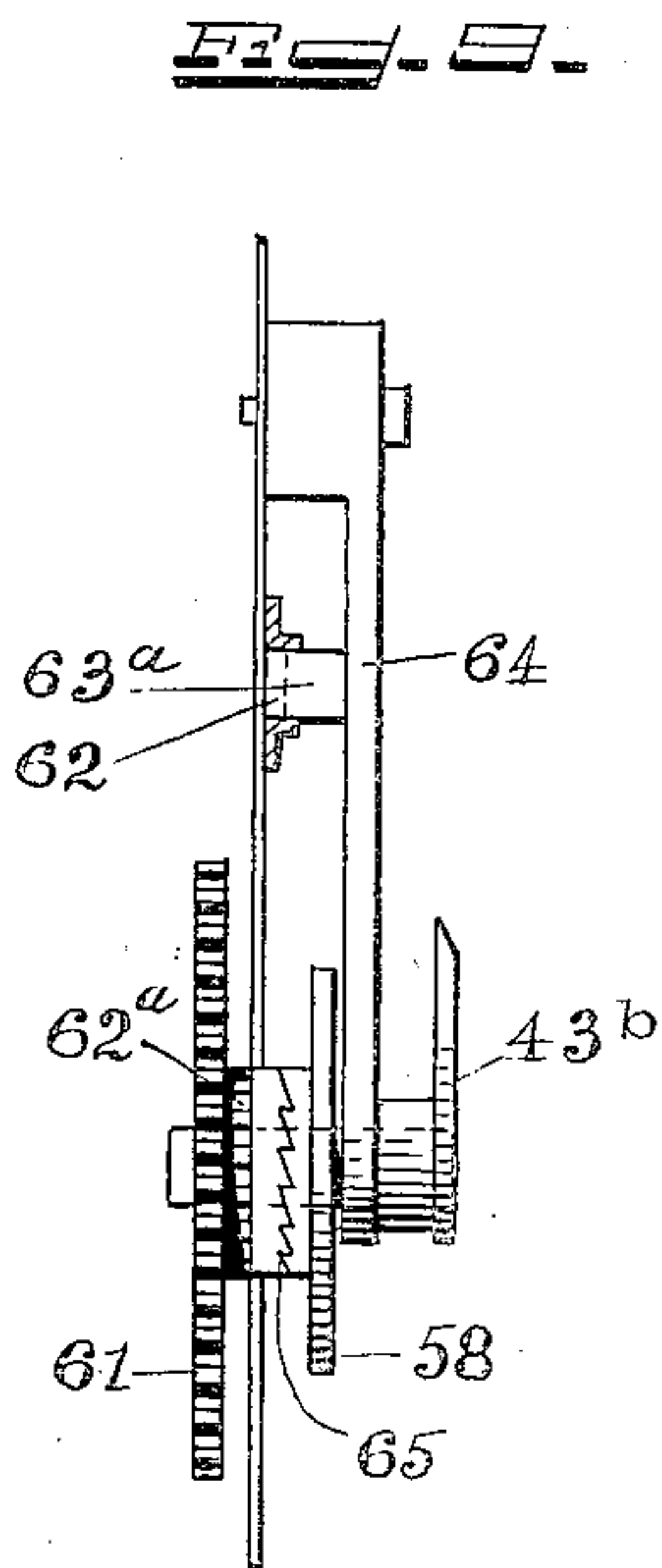
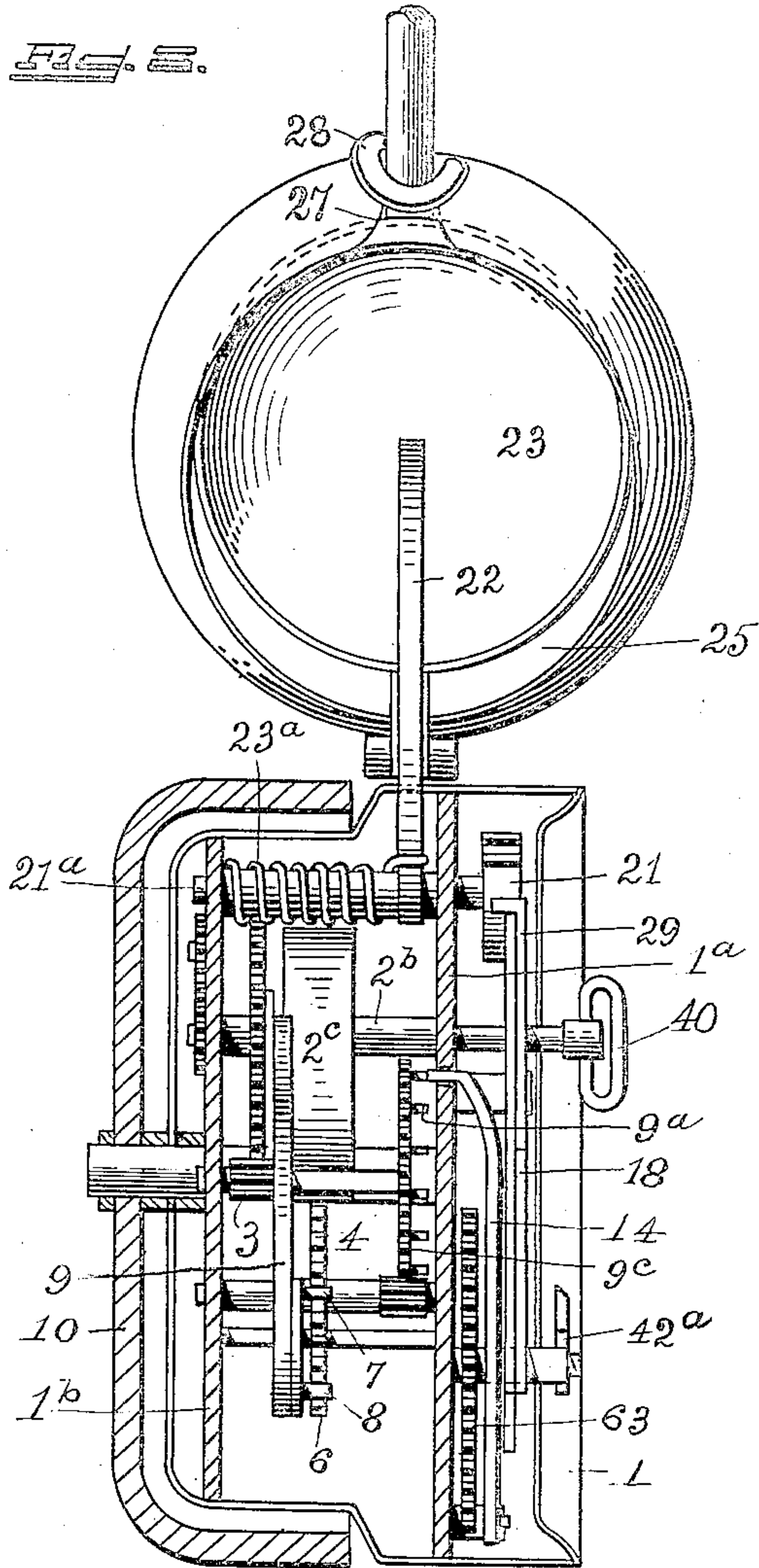
Inventor:
 Heinrich Hübscher
 per *Alfred W. Boig*
 his Atty

H. HÜBSCHER.
 PHOTOGRAPHIC APPARATUS.
 APPLICATION FILED MAR. 13, 1908.

924,465.

Patented June 8, 1909.

5 SHEETS—SHEET 4.



Attest:
H. Hübscher
C. S. Ashley

by

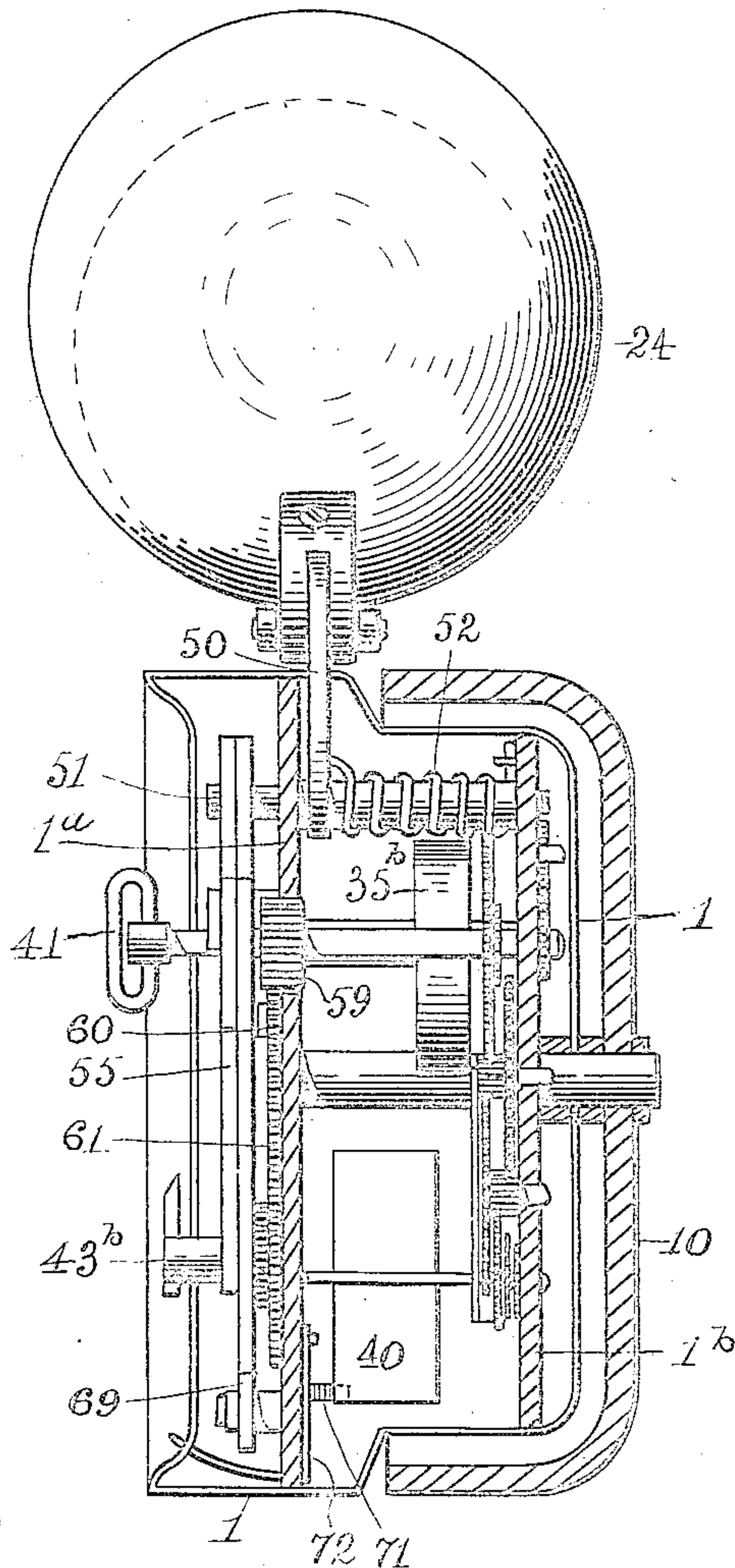
Inventor:
Heinrich Hübscher
per Rhesa G. D. Jorg
his Atty

H. HÜBSCHER.
 PHOTOGRAPHIC APPARATUS.
 APPLICATION FILED MAR. 13, 1908.

924,465.

Patented June 8, 1909.
 5 SHEETS—SHEET 5.

Fig. 10.



Attest:
C. Mitchell
 C. S. Ashley

Inventor:
 Heinrich Hübscher
 by *per Rhesa G. D. Bois*
 his Atty

UNITED STATES PATENT OFFICE.

HEINRICH HÜBSCHER, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO H. C. NIELSEN, OF NEW YORK, N. Y.

PHOTOGRAPHIC APPARATUS.

No. 924,465.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed March 13, 1908. Serial No. 420,915.

To all whom it may concern:

Be it known that I, HEINRICH HÜBSCHER, a subject of the Emperor of Germany, and resident of New York, in the county of New York and State of New York, have invented certain new and useful Photographic Apparatus, of which the following is a specification.

The object of my invention is to provide a portable camera attachment of very small size which can be conveniently carried about and attached to any ordinary camera, and set and timed to operate automatically in connection with an adjustable time-exposure mechanism, whereby the photographer may take either an instantaneous or time-exposure picture of himself or other objects.

With these ends in view my invention consists in the peculiar features and combinations of parts more fully described herein after and pointed out in the claims.

In the accompanying drawings, Figure 1 is a general view of my invention as applied to the shutter of an ordinary camera; Fig. 2, a front view of my complete device ready for action; Fig. 3, a side elevation of the plate carrying the alarm and time-exposure mechanisms; Fig. 4 is a front elevation of my complete invention with the face removed, the mechanism being set for taking a picture; Fig. 5 is the face on which are located the winders, dials and pointers. Fig. 6 is a front elevation, with the face removed, showing the power mechanism sprung and in action and the position of the parts resulting therefrom. Dotted lines show the closing mechanism released to close the shutter; Fig. 7, a view showing the positions of the winders and dials in relation to the adjustments shown in the preceding view; Fig. 8, a side elevation, partly in section, showing most of the parts on the left-hand side of my device; Fig. 9, a detail view of the clutch mechanism for throwing the shutter closing mechanism, and Fig. 10, a side elevation, partly in section, showing most of the parts on the right-hand side of my device.

This apparatus comprehends three principal organisms which coöperate for performing the three operations in the following order: first, the time-mechanism adapted to be set to work for any number of minutes, from 1 to 4, in order to allow ample time for the photographer to leave the instrument and pose; second, the alarm mechanism which sounds a warning just before the shutter

opens and continues during the exposure; third, the shutter closing mechanism which closes the shutter and stops the alarm.

The clock-work mechanism of my device is mounted on two circular plates 1^a and 1^b inclosed within a circular case 1 like that of an ordinary alarm clock. To condense the several mechanisms above described within the space of a small alarm-clock having the form of a short cylinder closed at the ends, is regarded as a very important feature of my invention, for without doing so the whole device would be too cumbersome and unwieldy for the work of amateurs and others in practicing outdoor or indoor photography. On one side is a face which is provided with the winding handles, dials and pointers.

40 and 41 indicate the handles, and 42 and 43, the dials.

The alarm mechanism, as seen in Fig. 3, consists of a spring actuated gear 2 carrying a pawl and ratchet 2^a on a shaft 2^b revolved by a coiled flat spring 2^c meshing with pinion 3 fixed to gear 4 which in turn meshes with a pinion 5 on a tripping wheel 6, the radiating arms of which trip the projections 7 and 8 on a hammer 9 which plays upon a large sounder 10. The means for releasing the alarm just before the shutter opens, Figs. 4 and 5, consists of a cam wheel 11 secured to turn on a tubular pinion 12 adjustably held in the center of a large gear wheel 13, whereby the two will revolve together, but allow the cam wheel to be turned hard within the gear. The turning of the cam wheel is done by a handle 42^a on the pointer of a dial 42. In order to adjust it to the action of a bell-controlling lever 14 and a pawl-trigger 18, both of which have inwardly projecting points 17^a and 17 bearing on the cam wheel, the lever 14 serves to release or stop the alarm hammer 9. The trigger 18 releases a compressing arm 22 for compressing a bulb, and transmitting pneumatic power to the shutter of a camera, as shown in Fig. 1. The power transmitting mechanism remains idle momentarily while the cam wheel is advancing until the projection 17 on the tail of the pawl-trigger 18 is forced into the cam notch 16 by spring 19, and releases the pawl 29 of trigger 18 from any one of a series of notches 20 on wheel 21 fixed on transverse shaft 21^a carrying the compressing arm 22. This arm 22 projects out of the casing and is impelled by a spiral spring 23^a encircling the shaft 21^a on which

the compressing arm is mounted. A compressing cup 23 is hinged to the edge of a hollow ball-shaped bulb holder 24 located outside above the top of the case 1. This compressing cup or thimble rests by gravity upon the free end of the compressing arm in position to be pushed into the open side of the bulb holder.

25 is an ordinary rubber bulb, bellows or air holder from which a tube 26 leads to the camera shutter in the old and well known way, as seen in Fig. 1. This bulb is held in place by means of an open slot 27 and hook 28. When the trigger 18 is tripped by the cam wheel 11, the pawl carried on the trigger is pulled back with it by a lug 30 through the force of spring 19, thereby releasing the compressing arm, forcing the cup 23 into the bulb and transmitting power to the shutter.

The time-exposure mechanism is located on the right of the alarm mechanism, as seen in Fig. 3, and it consists of a large gear 35 carrying a pawl and ratchet 35^a, and connected with a train of gears 36, 37, 38, and 39, terminating in a fan-wheel governor 40, and being actuated by a main-spring 35^b wound by a handle 41. After the shutter has first been opened by the power mechanism, it is allowed to close when the power is withdrawn from it, in the manner now to be described. The bulb-holder 24 is secured to the free end of a rock-arm 50 on a rock-shaft 51 encircled by a coil spring 52, and the arm is rigidly held to the action of the compressing arm 22 by a ratchet 53 on shaft 51, in conjunction with a spring-actuated pawl 54 on a pawl-trigger 55, the pawl being released by a spring 57 and a lug 56 on the short end of the trigger. This spring 57 holds the long arm of the trigger to the action of a tripping cam 58, the latter being actuated by a main spring 35^b and train of gears 59, 60, 61, and 62^a, (Fig. 4). The cam 58 is fixed to turn hard with its center within the gear 61, like the other tripping cam 11, for the purpose of adjusting it with the pointer 43^b of dial 43, the pointer being fixed to the cam, whereby it may be set to operate earlier or later. During the preliminary running of the timing mechanism, that is to say, before the alarm is set off, and before the compressing arm is tripped, the shutter-closing mechanism, which is held out of action through the medium of an arm 62 loosely pinned to the long arm of trigger 18, has upon its right-hand end a wedge 63^a which lies beneath a thin flexible clutch-thrower 64, the free end of which passes astride the hub of tripping cam 58, and throws the clutch teeth 65 (Fig. 9) on the underside of cam 58 in engagement with similar teeth upon the upper part of gear 61. When the trigger 18 is tripped, the wedge is pushed out from under said clutch-thrower 64. This movement locks

the parts together, revolving tripping cam 58 until its notch 67 allows the inwardly projecting point 66 on the tail of the bulb-holder trigger 55 to drop into said notch as seen in dotted lines in Fig. 6. The pawl 54 on the opposite end of the trigger 55 frees the bulb-holder 24 which is immediately thrown back bodily by its spring 52, carrying the bulb with it and allowing the bulb to expand and the shutter to close. Simultaneously with the springing back of the bulb-holder the alarm mechanism is stopped through the action of an extension 68 on the tail of the trigger 55 which extension lifts one end of a rock-arm 69 causing its opposite end to press down upon a similar extension 70 on the alarm controlling lever 14. This lever 14 stops the alarm by moving its upper intumed end inward in the way of teeth 9^a on a crown-wheel 9^c. The intumed end of the lever 14 projects through a slot 9^b in the plate 7^a, as seen more clearly in Fig. 8.

The whole machinery is thrown in and out of action by a stop 71 shown in Figs. 6 and 10, which stop is projected in and out of the way of the fan wheel 40 by a hinged arm 72 extending out of an arc-shaped slot 74. When this arm 72 is swung to the left it presses the stop 71 back out of the path of the fan-wheel and allows the machinery to work. A reverse movement will stop the machinery.

Thus constructed the operation of my device may be briefly summed up as follows: The alarm and time exposure mechanisms should first be wound by the handles 40 and 41. The pointer or dial 42 should now be moved around to any one of the figures from 1 to 5 which indicate the number of minutes which will elapse before the shutter will work. This will give the photographer time to leave the instrument and take a picture of himself in any desired position, such as running, jumping, swimming, etc. If a time exposure is desired, it can be had by setting the pointer 43^b of dial 43 at any one of the divisions from 0 to 60, representing the number of seconds that will be allowed. The apparatus may now be placed upon the ground near the camera, and the compressing arm pulled back by hand until the trigger holds it. The bulb holder is also brought forward by hand into set position. The starting and stopping arm 72 should be thrown from right to left to start the machinery going. It will continue to go until the alarm releasing lever operates, then the alarm begins to sound and continues while the photograph is being taken. The further revolution of the cam wheel 11 trips the compressing arm and works the shutter. When the bulb holder drops back, the shutter closes, the alarm stops, and the picture is taken.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. In a portable camera attachment, an automatic time-mechanism and an automatic alarm-mechanism, in combination with a time-exposure mechanism, means for graduating the time exposure mechanism, a casing within which all of said mechanisms are housed, an exterior bulb-holder, and means for compressing a bulb within the holder.

2. In a portable camera attachment, an automatic timing mechanism, in combination with an alarm mechanism, a power mechanism, and a bulb-holder which automatically recedes from the power-mechanism, substantially as described.

3. In a camera attachment, the combination with an alarm and timing mechanism, of a power-mechanism, a bulb-holder held to

the action of the power mechanism, and means for retreating the bulb-holder from the power mechanism, substantially as described.

4. In a camera attachment, a power mechanism, and a bulb-holder, in combination with means for moving the bulb-holder bodily, substantially as described.

5. In a camera attachment, a shutter-worker having an automatic closing mechanism, in combination with an alarm mechanism thrown out of action by the closing mechanism.

Signed at New York city in the county of New York and State of New York February A. D. 1908.

HEINRICH HÜBSCHER.

Witnesses:

H. C. NIELSEN,
R. G. DuBois.