

(No Model.)

I. F. PHEILS.

FLASH LIGHT ATTACHMENT FOR PHOTOGRAPHIC CAMERAS.

No. 576,821.

Patented Feb. 9, 1897.

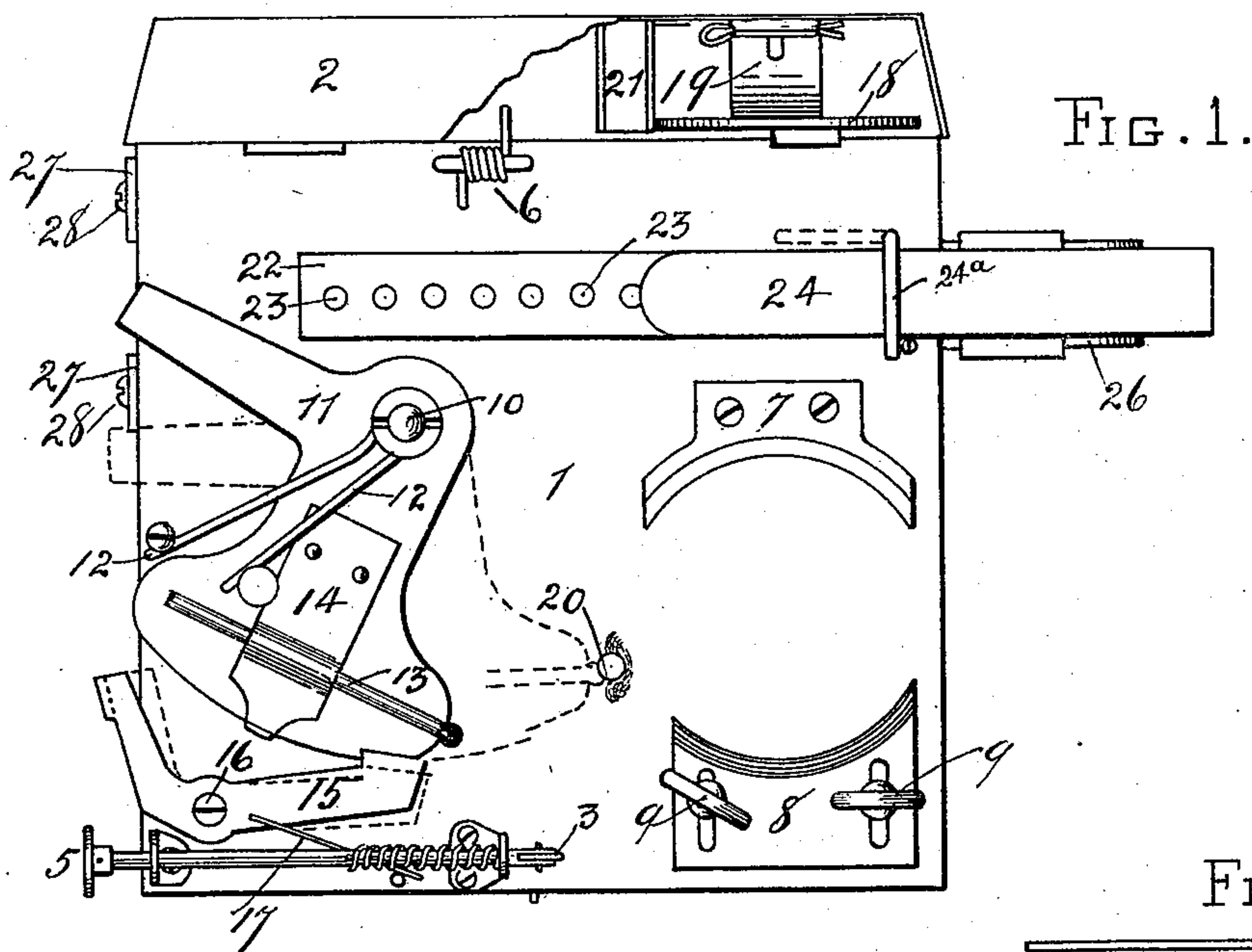


FIG. 1.

FIG. 2.

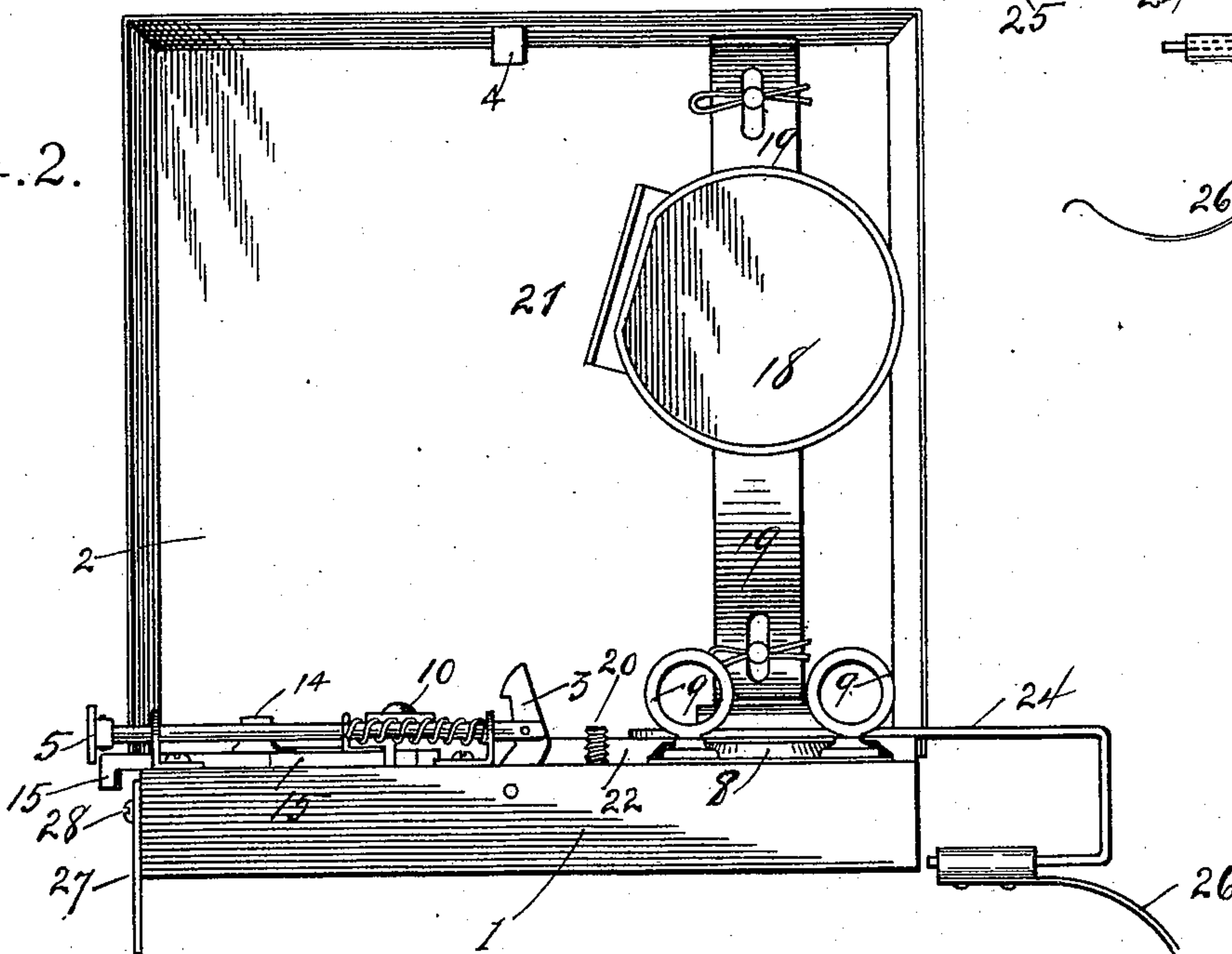
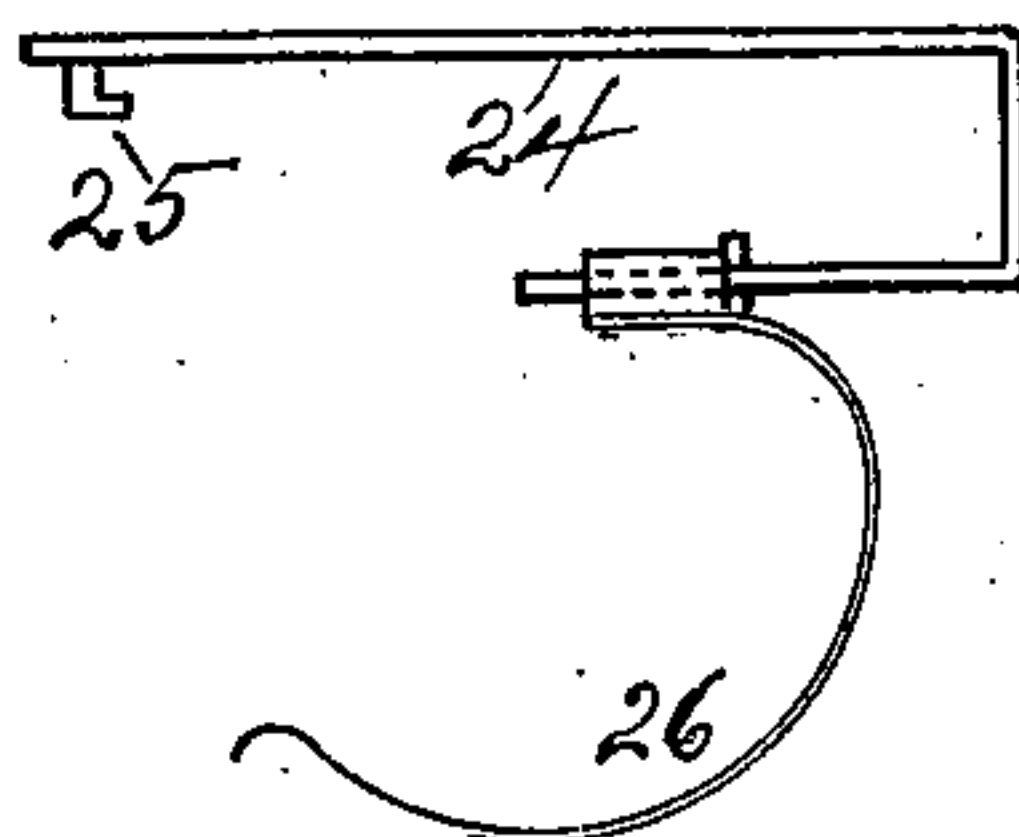


FIG. 3.



Witnesses.

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FLASH-LIGHT ATTACHMENT FOR PHOTOGRAPHIC CAMERAS.

SPECIFICATION forming part of Letters Patent No. 576,821, dated February 9, 1897.

Application filed April 2, 1896. Serial No. 585,994. (No model.)

To all whom it may concern:

Be it known that I, ISAAC F. PHEILS, a citizen of the United States, residing at Woodville, Sandusky county, Ohio, have invented certain new and useful Improvements in Flash-Light Attachments for Photographic Cameras, of which the following is a specification.

My invention relates to and its object is to provide a flash-light apparatus of improved construction with an adjustable fastener for hand-cameras of any size which can be attached and detached in a few seconds, which shall be cheap, durable, easily operated, with which the operator shall be able to take instantaneous pictures in all kinds of weather and at any time desirable, and which may be safely and easily carried in an ordinary coat-pocket, and to provide such apparatus with a convenient guard and shield by means of which the flash-light powder may be held in place ready for operation without being scattered or spilled, and which shall prevent the premature or accidental ignition of such powder. I attain these objects by means of the apparatus hereinafter described, and shown and illustrated in the accompanying drawings, made part hereof, in which—

Figure 1 is a plan view of my apparatus with the lid raised and with part of the lid broken away; Fig. 2, a side elevation of the same; and Fig. 3, a view, on a reduced scale, of my adjustable fastening device detached.

Like numerals of reference indicate like parts throughout the views.

In the drawings, 1 is the base of my attachment, provided with a lid 2, pivotally secured thereto, the base and lid being formed, preferably, of stamped sheet metal. Pivotally secured to the base is a catch 3, adapted to engage a stud 4 on the lid when closed.

A spring-controlled thumb-piece 5 on the exterior of the case leads through the lid when closed and is connected with the catch 3. Secured to the rear of the base is a spring 6, pressing against the base and against the lid and tending constantly to force the lid open to its limit.

When the lid is closed, the stud 4 is engaged by the catch 3. A slight pressure on the thumb-piece disengages the catch from the stud, and spring 6 causes the lid to fly open. Upon the

base are two segmental clamps of such proportions as to conveniently grasp the round paper box in which flash-light powder is usually sold. One of the clamps, 7, is fixed, while the other, 8, is adjustable horizontally and may be secured at any desired position by thumb-screws 9, the shanks of which pass through slots in the movable clamp. Pivoted upon a stout pin 10, projecting upwardly from the base, is a hammer 11, shaped after the fashion of a bell-crank lever and provided with a spring 12, which constantly tends to force the hammer into the position indicated by the dotted lines in Fig. 1. The upper side of the hammer 11 is grooved to receive a match 13, and is provided with a flat spring 14, under which the match may be slipped into place, and which holds the match against accidental displacement. One arm of the hammer 11 projects slightly beyond the base, the edge of the lid being notched, so that when the lid is closed the hammer may be actuated by the hand of the operator without opening the lid.

15 is a trigger pivoted upon a pin 16, projecting upwardly from the base and controlled by spring 17. One end of the trigger is adapted to engage a notch in hammer 11 when the hammer is drawn away from its firing position, (see Fig. 1,) the other end of the trigger projecting through the side of the case. When the hammer is drawn back into firing position, a shoulder or lug on the inner extremity of the trigger falls into the notch in the hammer. The trigger is retained in this position by its spring 17 until released by pressure on the outer end of the trigger. In Fig. 1 the solid lines show the hammer and trigger in engagement, ready for operation, and the dotted lines show the trigger and hammer after the projecting arm of the trigger has been pressed inwardly, thereby releasing the hammer.

18 is a disk formed of or coated with some incombustible material, preferably asbestos. This disk is secured to a spring 19, which is secured to the lid. When the lid is closed, the disk 18 coincides with, rests, and presses upon the open box of flash-light powder held between the clamps 7 8, preventing the spilling and scattering of the powder, while the spring 19 yields to the pressure of the disk upon the box.

At the side of the space between the clamps 7 8, designed for the box of flash-light powder, a pin 20 projects upwardly from the base in the path of the hammer 11, where it must be struck by the match carried by the hammer. Secured to the interior of the lid and projecting at a right angle from the plane thereof is a plate 21, which, when the lid is closed, falls in the path of the hammer, between the hammer and the pin 20. The plate 21 is also protected with some incombustible substance, preferably asbestos. It will be seen that when the lid is closed and the hammer with its match set for the igniting-blow the powder is covered and compressed and held in place by the disk 18, while the shield or guard 21 is interposed between the match and the firing-pin 20, preventing the ignition of the powder in case of accidental tripping of the trigger 15.

Upon the base of the case is secured a plate 22, provided with a series of holes 23.

24 is a detachable strip of metal carrying at one end a stud 25, adapted to engage either of the holes 23, and at its other end a downwardly-bent clamp or spring 26, adapted to engage the bottom or side of the camera, it being understood that the case of my apparatus rests upon the top of the camera. A button 24^A, pivoted upon the base, may be caused to engage the strip 24 when in place, thus preventing its accidental displacement. Upon the side of the base opposite from the projecting piece 25 26 is one or more fingers 27, pivoted, as at 28, to the side of the base, so that the fingers may be turned downwardly to embrace one side of the camera, or upwardly alongside of the base out of the way. The fingers 27 being turned downwardly and the case being placed upon the top of the camera with the fingers drawn closely against one side thereof, the stud 25 of extensible strip 24 is engaged with one of the holes 23 of the strip 22, so that the spring or clamp 26 will engage or closely press against the opposite side or the bottom of the camera.

From the above description the operation of my device will now be obvious. The attachment being secured in place as just described, the box of flash-light substance being secured by the clamps 7 and 8, the hammer being provided with its match and being set for operation, and the lid being closed and secured by fastening 3 4, the apparatus

is ready for use. The camera being presented toward the object to be photographed, a touch upon thumb-piece 5 releases the lid, which is thrown into vertical position with the spring 6. The lid in this position serves as a reflector for the flash-light and as a screen for the face of the operator. A slight pressure upon the projecting end of the trigger 15 releases the hammer 11, which by the force of spring 12 is thrown forward with force, so that its match strikes the pin 20.

A small opening must be made in the side of the powder-box at the firing-pin 20 and a bit of gun-cotton placed therein for a fuse. The contact of the match with the pin causes a spark which ignites the flash-light substance, and the operation is complete.

Having described my invention and its operation, what I claim, and desire to secure by Letters Patent, is—

1. In a flash-light attachment for cameras, a base, a lid pivoted thereto, means on the base for holding the flash-light substance in place, and a spring-controlled cover or shield secured to said lid, adapted by the closing of said lid to cover and retain in place the flash-light substance.

2. In a flash-light attachment for cameras, a base, lid pivoted thereto, a holder for the flash-light substance, means for producing a spark in proximity to said flash-light substance, and a guard or shield secured to the interior of the lid and adapted by the closing of the lid, to interpose between the flash-light substance and the means for producing the spark.

3. A flash-light attachment for cameras comprising a base, a lid pivoted thereto, an adjustable holder adapted to secure the attachment to the camera, a powder-box holder, a powder-box with gun-cotton fuse, for said holder, a cover secured to the lid and adapted to cover a powder-box in place in said holder, a spring-actuated hammer adapted to carry a match, a trigger adapted to control said hammer, a pin in the path of the hammer adapted to ignite the match and a guard or shield upon the lid adapted to be interposed between said hammer and pin, all substantially as and for the purpose specified.

ISAAC F. PHEILS.

In presence of—

CHRISTOPHER C. LAYMAN,
LENA MILLER.