

H. A. WHITFIELD.  
FLASH LIGHT.  
APPLICATION FILED FEB. 6, 1909.

952,394.

Patented Mar. 15, 1910.

Fig. 1,

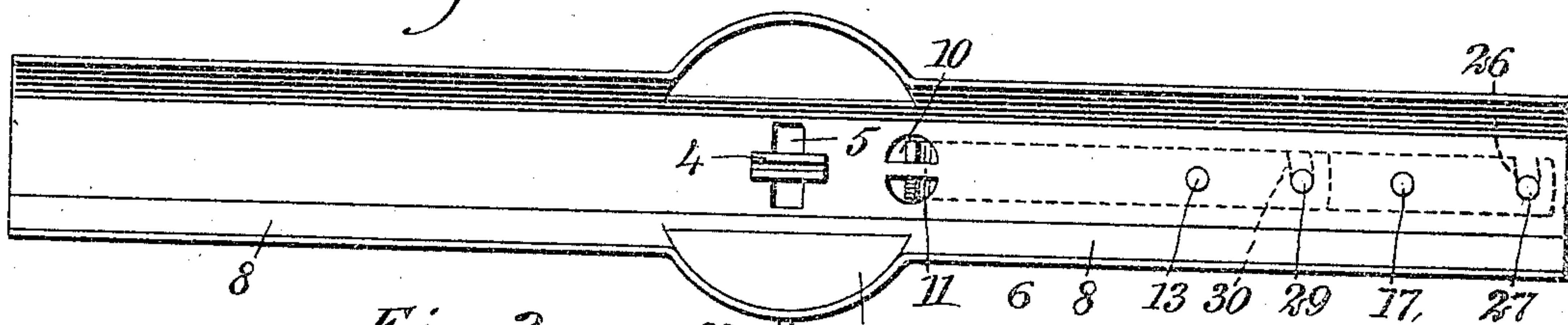


Fig. 2,

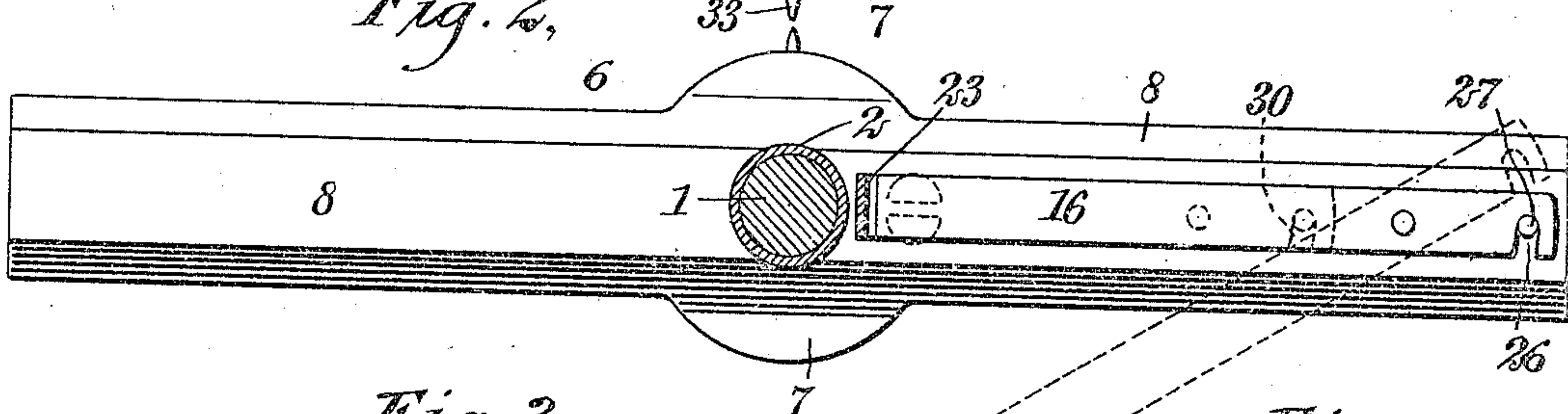


Fig. 3,

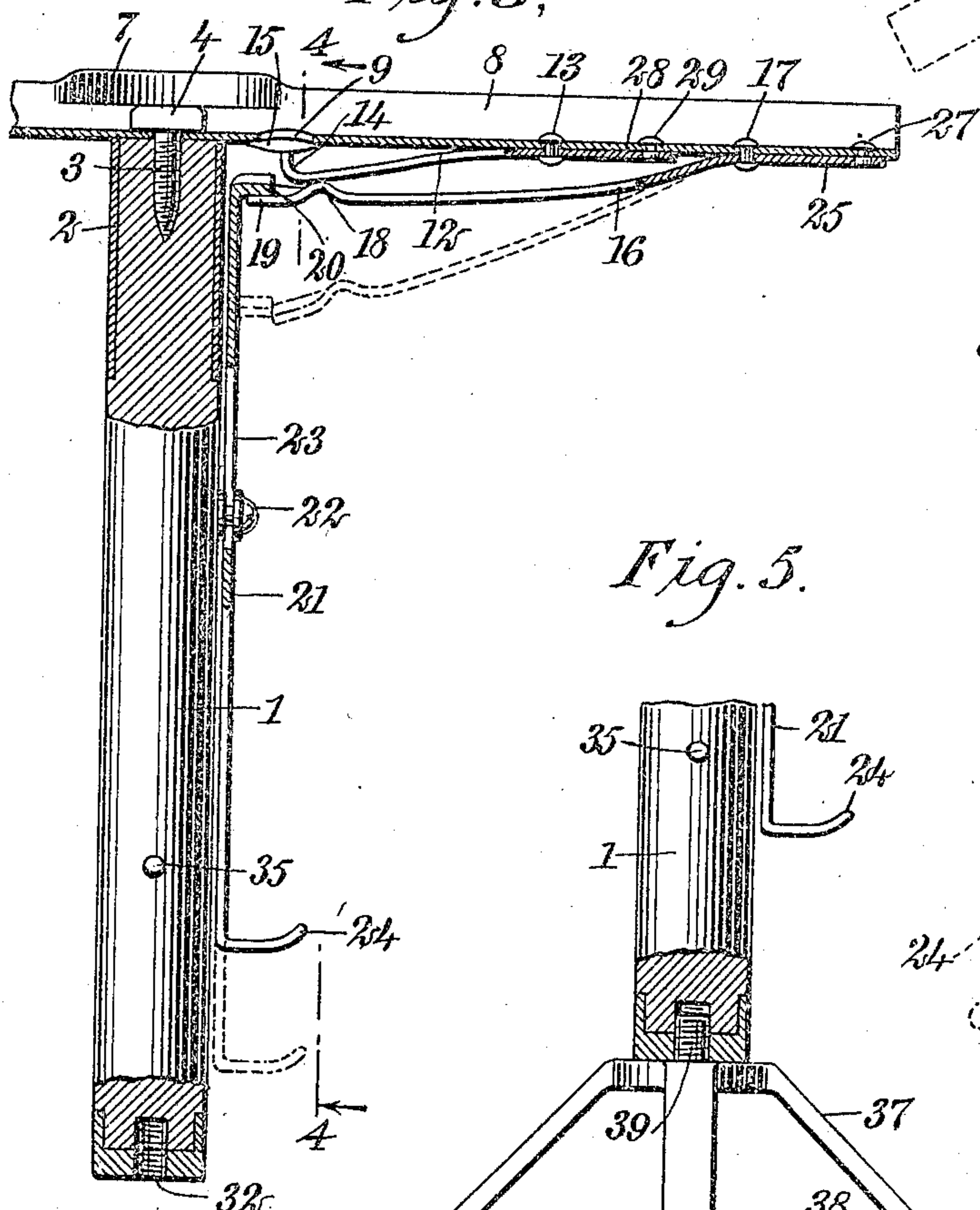


Fig. 4,

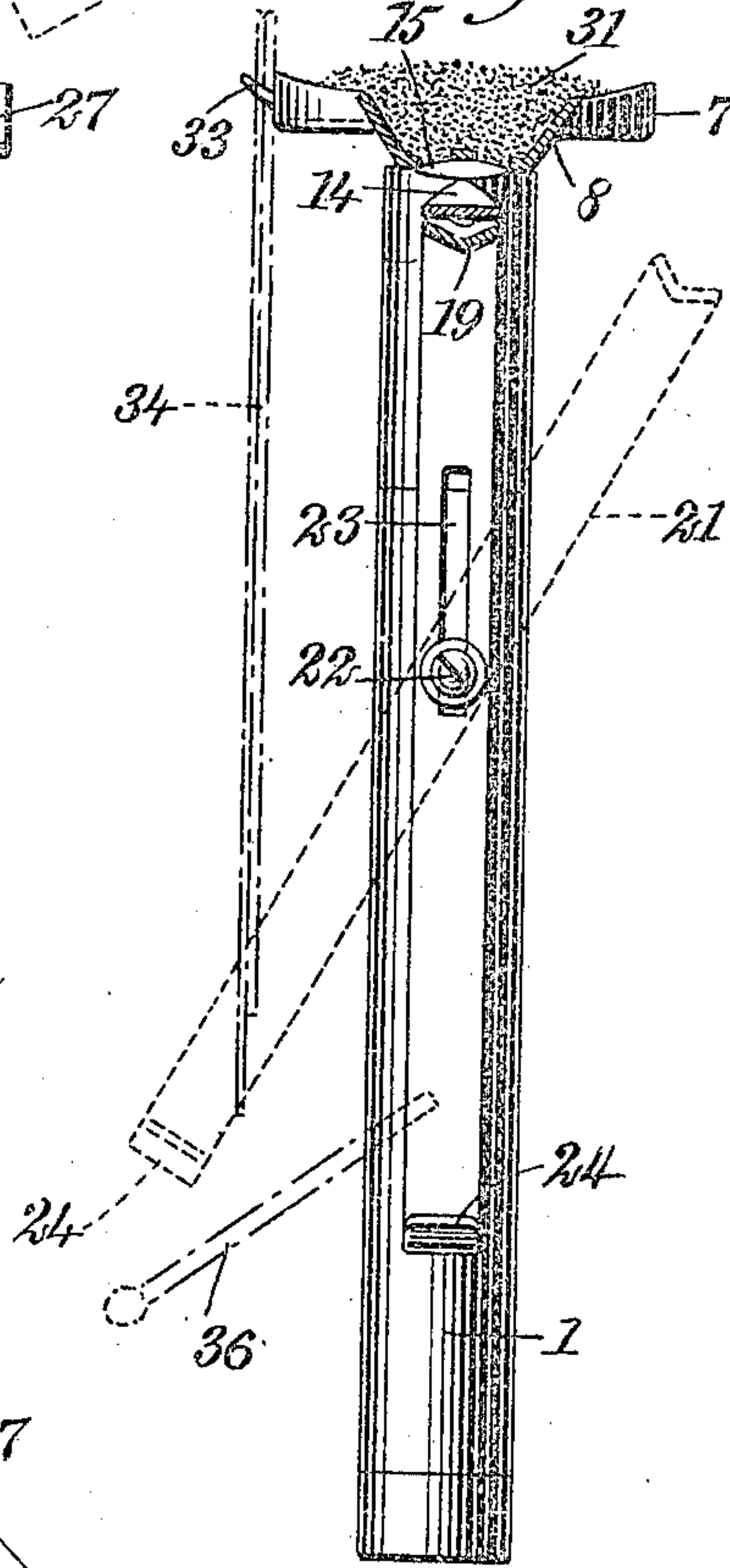
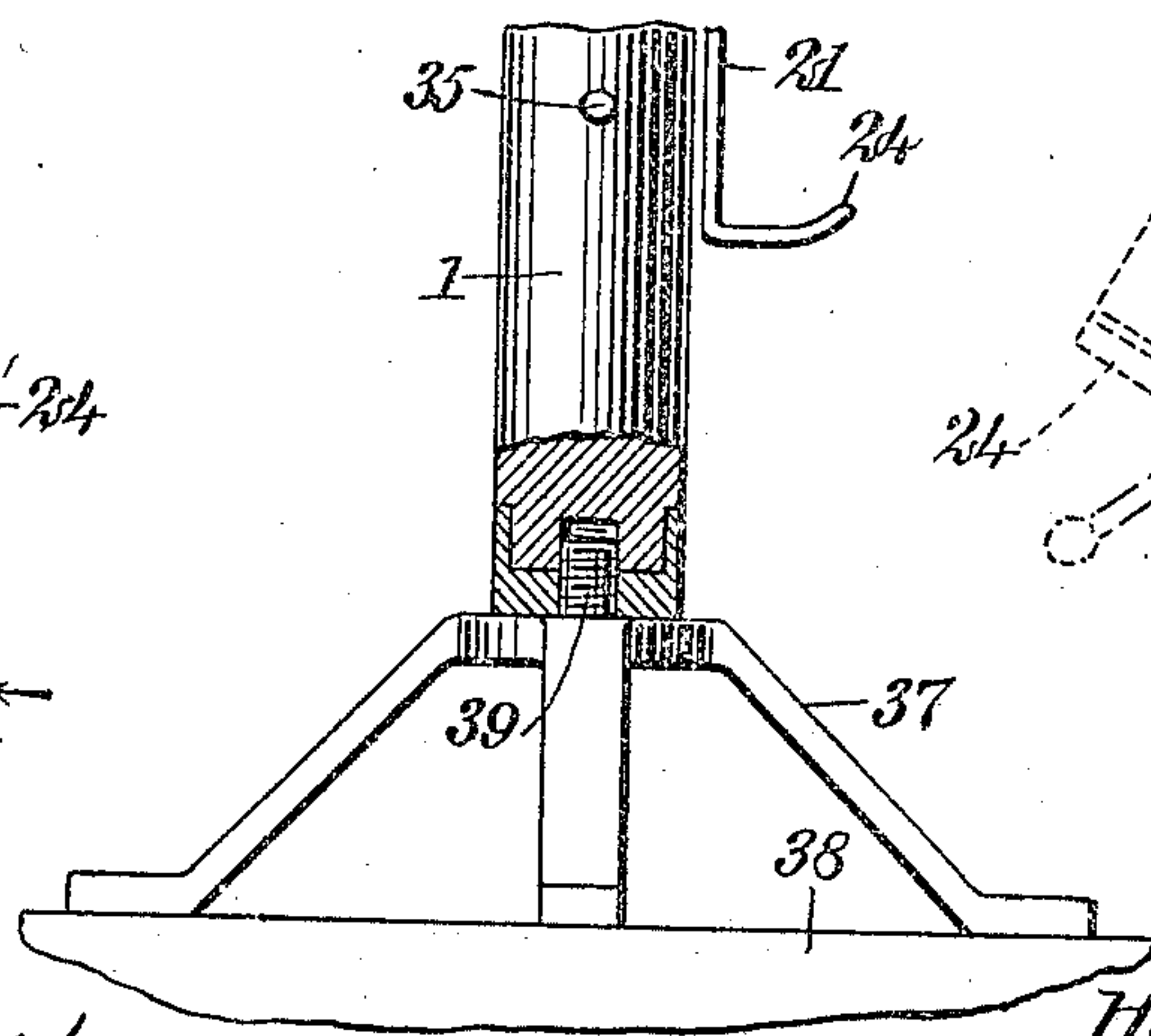


Fig. 5.



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# UNITED STATES PATENT OFFICE.

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FLASH-LIGHT.

952,394.

Specification of Letters Patent. Patented Mar. 15, 1910.

Application filed February 6, 1909. Serial No. 476,363.

*To all whom it may concern:*

Be it known that I, HARRY A. WHITFIELD, a citizen of the United States, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Flash-Light, of which the following is a full, clear, and exact description.

This invention relates to flash lights such as used by photographers in taking flash light pictures.

The object of the invention is to produce a flash light having improved means for holding and exploding a cartridge or flash powder, and further, to provide a construction which will enable the device to be used also for supporting and firing flash papers or flash sheets.

The invention consists in the construction and combination of parts to be more fully described hereinafter and particularly set forth in the claims.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan of the device; Fig. 2 is a bottom plan of the device, showing the shaft thereof and the trigger in cross section; Fig. 3 is a side elevation and partial longitudinal section of the device, further illustrating the details of its construction; Fig. 4 is a vertical section taken on the line 4-4 of Fig. 3, this view illustrating especially the means for supporting and igniting a flash sheet; and Fig. 5 is a fragmentary view showing the device provided with a base enabling it to stand upon the camera or a similar support.

Referring more particularly to the parts, 1 represents the shaft or stick of the device which is a short round bar, to the upper end of which a ferrule 2 is attached. On the upper end of the shaft a bolt 3 is attached, having a tee-head 4, and this tee-head is adapted to pass through a transverse slot 5 formed in the middle of the pan or holder 6. This pan or holder is adapted to be made of sheet steel or similar material, and is elongated, as shown. The middle portion of the pan is enlarged so as to form a substantially circular pocket 7 which is adapted to receive a cartridge or flash powder. In this way the pan 6 is made to present arms 8 which

extend in opposite directions from the pocket 7. On the central axis of the pan, and at the junction of one of the arms 8 with the pocket 7, a cap seat 9 is formed. At the point where this cap seat is formed, an opening 10 is made through the bottom of the pan. This opening is of substantially circular form and is divided by a transverse bar 11 which extends longitudinally with respect to the pan, as shown. This bar 11 is depressed or offset upwardly with respect to the bottom of the pan for a purpose which will appear more fully hereinafter.

In the under side of the pan, adjacent to the cap seat, there is provided a keeper or cap holder 12 which is in the form of a leaf spring, attached by a pivot pin 13 to the under side of the pan. The outer end of this leaf spring is formed into an upwardly projecting finger 14 which engages the cap seat. This keeper 12 tends by its resiliency to hold the upper end of the finger 14 against the seat and the keeper may readily be drawn downwardly so as to enable a cap 15 to be placed on the under side of the seat, as indicated in Fig. 3. The finger 14 will then engage the cap and retain it in position. As shown in Fig. 4, the finger 14 tapers upwardly to the point which engages the cap.

On the same arm of the pan, beyond the point of attachment of the keeper 12, a hammer 16 is attached by a pivot pin 17. This hammer is also of resilient material and normally extends longitudinally of the pan, its extremity lying near the position of the cap. Near its extremity it is offset upwardly so as to form a rudimentary head 18 which normally rests against the under side of the keeper 12 near the finger 14; beyond this point the hammer is formed into a projecting lip 19. This lip is adapted to be engaged by a projecting finger 20 which is formed on the upper end of a trigger 21. This trigger is attached by means of a screw or bolt 22 to the side of the stick 1, the said bolt passing through a slot 23 formed longitudinally in the trigger, as shown. The lower end of this trigger is bent laterally so as to form a handle 24 which is adapted to be seized so as to pull the trigger downwardly. As indicated in Fig. 4, the lip 19 is bent so as to form a shallow V-shaped gutter, and the finger 20 is similarly bent so as to fit this gutter. This arrangement



tends to prevent the trigger from becoming dislodged from the lip of the hammer when engaged therewith, as indicated in Fig. 3.

The hammer 16 is provided with an integral tail 25 and this tail is provided near its extremity with a slot 26. This slot receives a pin 27 on the under side of the pan and limits the movement of the hammer when it is rotated about the pivot pin 17. It will bring the hammer to rest in a central or alining position under the keeper. A similar tail 28 is formed on the keeper 12 which coöperates with a similar stop pin 29, said tail 28 having a slot 30 similar to the slot 26. This arrangement for mounting the keeper and the hammer is adopted in order to facilitate the placing of the cap on the seat. In order to do this, it is simply necessary to rotate the hammer and the keeper to one side on their respective pivot pins 17 and 13. The cap is then placed on its seat and the keeper 12 replaced so as to hold it in position. The hammer 16 is then moved back to its normal position with the head 18 thereof engaging the under side of the keeper.

When a cartridge is placed in the pocket 7 its fuse will project over the position of the cap so that when the cap, which may be an ordinary percussion cap, is exploded the cartridge will be ignited. If, instead of using a cartridge, a flash powder 31 is used, this powder is distributed in the gutter of the pan. When the light is to be flashed the trigger 21 is pulled downward by means of the handle 24. In moving downwardly its finger 20 draws back the hammer 16, as indicated by the dotted lines in Fig. 3, and the hammer will then be released so as to strike the keeper 12; in this way the hammer drives the point of the keeper up against the bottom of the cap and the cap will be exploded.

In using the pan it should be held with its side edge disposed toward the point where the light is to be thrown. In this way a broad sheet or area of flame is produced with a relatively small quantity of powder, and very good effects are produced. The lower end of the stick 1 is provided with a threaded socket 32 which will be of standard size and pitch so as to enable the device to be attached to the head of a tripod.

In order to enable the device to be used to hold and ignite flash sheets, one side of the pan at the pocket 7, is provided with an outwardly projecting pin or spur 33, and the flash sheet 34 which is to be ignited, is impaled upon this spur, as shown, so that it hangs in a vertical position near the shaft 1. On the adjacent side of the shaft 1, a small opening or bore 35 is provided, which inclines upwardly toward the center of the shaft. This bore is adapted to receive a match 36 and it will hold in an inclined

position, as indicated in Fig. 4. This arrangement enables the person operating the flash light to get out of the way of the light, or to move over into the field of the lens of the camera so as to be included in the picture. In this connection attention is called to the fact that the match projects considerably beyond the lower edge of the flash sheet, so that a short period of time will elapse before the flame reaches the sheet. If a longer time is desired than will be afforded by a match, then a longer splinter of wood may be substituted for the match, to be lighted in a similar manner as the match.

Attention is called to the upward offset or depression formed from the under side at the cap seat 9. This form is given to the seat so as to insure that the edges of the cap 15 will be pressed firmly against the edges of the opening 10. In this way a tight closure results, which prevents any leakage of the powder through the opening.

On account of the tee-headed screw 3, the pan can evidently be readily removed from the shaft, which facilitates the packing of the device into a small case in which it may be carried.

The slot 23 is formed in the trigger above the middle point thereof, so that the trigger tends to hang normally with the handle 24 disposed downwardly. As illustrated in Fig. 5, the shaft 1 may be provided with a removable base 37, having a threaded stud 39 received in the socket 32, and the base enables the device to stand upon the camera 38 which takes the flash-light picture; or the device may be stood upon a table or shelf.

Having thus described my invention, I claim as new and desire to secure by Letters Patent,—

1. A flash light, comprising an elongated holder adapted to receive an inflammable substance having an opening in the wall thereof and a seat for a percussion cap formed at said opening, means for holding a percussion cap at said opening on the exterior of said holder with the edge of said cap disposed on the exterior of the edge of said opening, said cap affording means for closing the opening from the outer side, and means for exploding said cap.

2. A flash light having an elongated pan adapted to hold an inflammable powder, said pan having an opening through the bottom thereof with a transverse bar struck upwardly from said bottom and forming a seat for a percussion cap on the exterior of said pan, a keeper on the under side of said pan adapted to hold a percussion cap on said seat with the edge of said cap disposed on the exterior of the edge of said opening, and means for exploding said percussion cap.



3. A flash light comprising a pan having an enlarged middle portion forming a pocket to receive a flash cartridge and arms of reduced width projecting from said pocket, 5 said pan having a seat for a percussion cap adjacent to said pocket, means for holding percussion cap on said seat, and means for exploding said cap.

10 4. A flash light comprising a shaft, a pan attached to said shaft and extending laterally therefrom, said pan having a seat for a percussion cap struck up from the under side thereof, a laterally movable keeper adapted to engage the cap and retain the same on 15 said seat, and a hammer adapted to strike said keeper to explode said cap.

5. A flash light having a pan adapted to hold an inflammable powder, said pan having an opening therethrough with an up-

wardly offset transverse bar forming a seat 20 for a percussion cap, and means carried by said pan for holding a percussion cap against said bar and against the under side of said bottom, closing said opening.

6. A flash light having a shaft, a pan 25 supported on said shaft and adapted to hold an inflammable substance, said pan having means at the edge thereof for supporting a flash sheet, said shaft having means for supporting an inflammable stick in a position 30 to ignite the lower edge of the sheet.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HARRY A. WHITFIELD.

Witnesses:

F. D. AMMEN,  
JOHN P. DAVIS.