April 12, 1932. H. NEUWIRTH 1,853,172

FLASH GUN

Filed Oct. 21, 1930

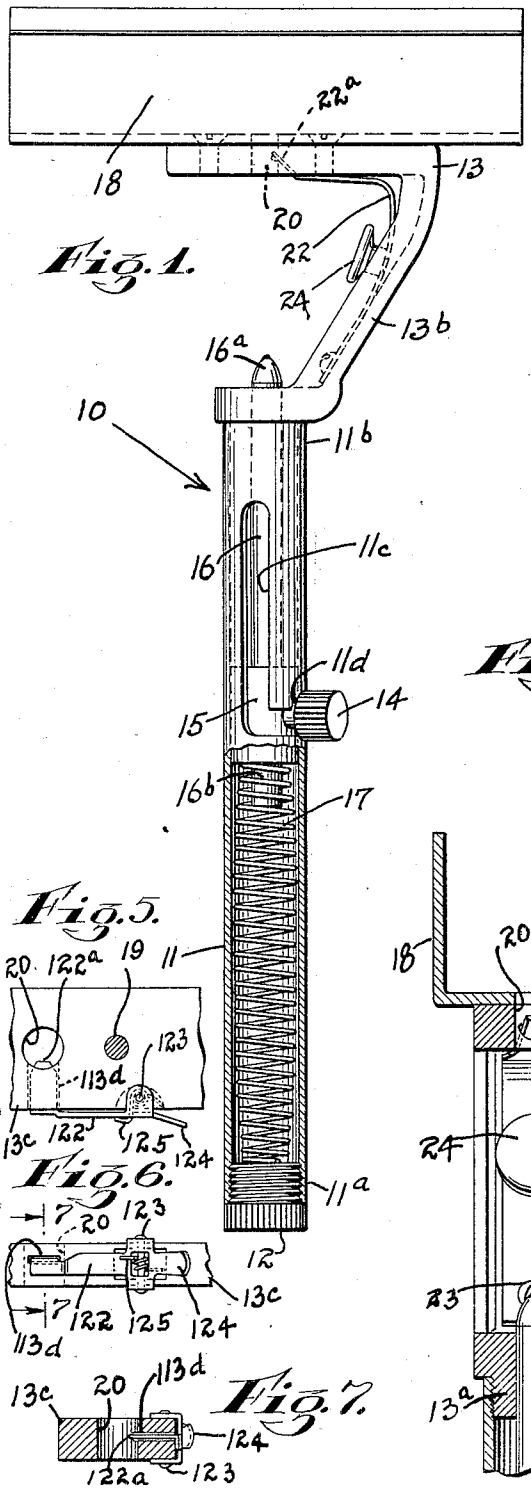


Fig. 1.

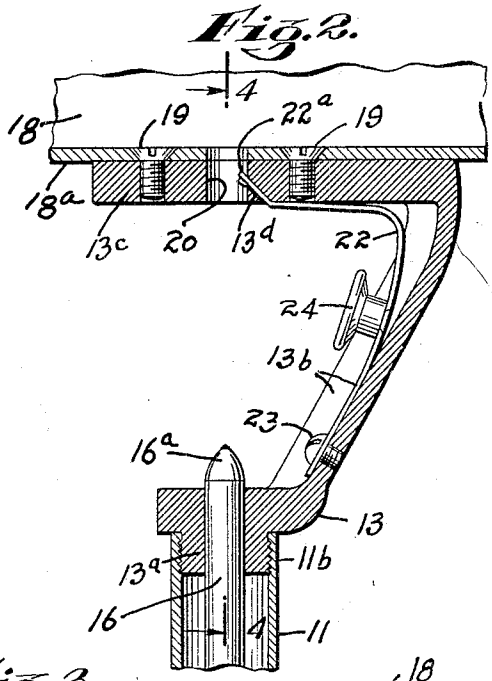


Fig. 2.

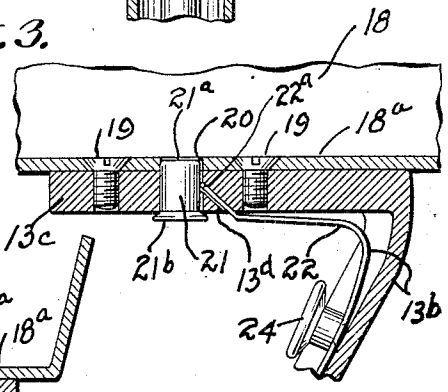


Fig. 3.

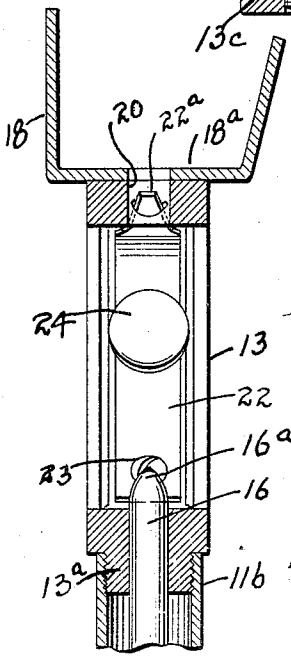


Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

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UNITED STATES PATENT OFFICE

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FLASH GUN

Application filed October 21, 1930. Serial No. 490,109.

This invention relates to photographic accessories and more particularly is directed to improvements in a flash gun construction for igniting flash-light powder to produce artificial light for photographic purposes.

Among the objects of the invention is to generally improve the construction of flash guns of the character described and to provide novel means for retaining a priming cartridge in firing position, said means being comprised of few and simple parts which shall be readily assembled to form a rugged structure, and which shall be cheap to manufacture, and practical and efficient to a high degree in use.

Other objects of the invention will in part be obvious and in part hereinafter pointed out.

The invention accordingly consists in the features of construction, combinations of elements and arrangement of parts, which will be exemplified in the construction hereinafter described and of which the scope of application will be indicated in the following claims.

In the accompanying drawings, in which is shown one of the various possible illustrative embodiments of this invention,

Fig. 1 is a front elevational view of a flash gun constructed to embody the invention with the gun hammer shown in retracted position ready to have the priming cartridge inserted in the retaining means or holder, a portion of the handle being broken away to show the hammer actuating spring.

Fig. 2 is a fragmentary cross-sectional view, corresponding to Fig. 1, showing the construction of the improved means for retaining the priming cartridge.

Fig. 3 is a fragmentary cross-sectional view similar to Fig. 2, but showing the priming cartridge in firing position.

Fig. 4 is a cross-sectional view taken on lines 4—4 in Fig. 2.

Figs. 5 and 6 are top and side elevational views, respectively, on a modified construction of the improved priming cartridge retaining means, and

Fig. 7 is a cross-sectional view of a cut taken on line 7—7 in Fig. 6.

Referring in detail to the drawings, 10 denotes a flash gun for igniting flash light powders for producing artificial light for photographic purposes constructed to embody the invention. Said flash gun 10 is seen to comprise a hollow handle 11, which as here shown, consists of a tube having a suitable closure plug 12 screwed into one end 11*a* thereof. The other end 11*b* of said tube is internally threaded for receiving a projected screw plug end portion 13*a* of a C-shaped anvil member 13 mounted to terminate the other end 11*b* of the handle, as is clearly shown in Fig. 2. An L-shaped slot 11*c* is provided in the handle 11 inwardly from the end 11*b* and above the middle of said handle through which extends a finger piece or trigger 14.

The trigger 14 extends out inwardly from a plunger 15 which is mounted for limited reciprocating and revolving movement within the tube 11. Said plunger 15 carries a hammer rod 16 having a pointed head end 16*a* which extends up through the screw plug portion 13*a* of the member 13. The other end 16*b* of said rod may be extended through and beyond the plunger 15 to provide a seat for the upper end of a coil compression spring 17 housed within the handle between the plunger 15 and the closure plug 12 as is clearly shown in Fig. 1. The horizontally extending portion of the slot 11*c* may include a notch 11*d* for releasably locking the trigger 14 for retaining the plunger 15 and the hammer 16 in retracted position against the action of the spring 17.

The C-shaped member 13 includes besides the plug end portion 13*a*, a channel mid-portion 13*b* and a relatively flat upper portion 13*c*. On the latter there is mounted a suitably shaped pan 18 for holding the flash light powder (not shown). Said pan 18 may have its bottom side 18*a* secured to the upper portion 13*c* in any suitable manner, as by means of spaced screws 19. In registered alignment with the axis of the hammer rod 16, a passage 20 is provided to extend through the upper portion 13*c* of the member 13 and the bottom side 18*a* of the pan 18. Said passage forms a receptacle holder for

seating a conventional type of priming cartridge 21 in firing position. Preferably the passage 20 is made larger in size than the body cartridge 21 so that the latter loosely fits therein.

Mounted within channel side flanges of the mid-portion 13*b* of the anvil member 13, an L-shaped spring 22 is secured in any suitable manner by one of its ends, as for example, by means of a screw 23. The other end portion of said spring 22 passes up along the anvil member portion 13*c* and through a slot 13*d* provided in the latter, said slot 13*d* extending through said portion 13*c* into the passage 20. The end of the spring 22 which extends through the slot 13*d*, normally projects into the passage 20 and terminates to form a detent 22*a* for frictionally engaging the body of the priming cartridge 21 when the latter is inserted into the firing position in the passage 20, as is clearly shown in Fig. 3.

It should be noted that the spring detent 22*a* extends in an angular relation with respect to the axis of the passage 20 so as not to impede the insertion of the cartridge, but normally forms a gripping contact which bites into the body of the cartridge and retains same in firing position. A key or knob 24 may be provided on a mid-portion of the spring 22 to facilitate moving the spring for retracting the detent 22 from the passage 20 and from its engagement with the body of the cartridge 21.

The application of this invention will now be apparent.

After the parts have been assembled, as shown in Figs. 1 and 2, the cartridge 21 is inserted up into the passage 20 and is retained seated in its firing position by the detent 22*a*. The flash light powder (not shown) is then placed into the pan 18 over the upper end of the passage 20 and in contact with the ignition end 21*a* of the cartridge. The gun 10 may be held in one hand, the trigger 14 turned from its locked position in notch 11*d* shown in Fig. 1, by the thumb of the user, and brought in alignment with the vertically extending portion of the slot 11*c*. On releasing the trigger 14, the plunger 15 together with the hammer rod 16 will then be projected upwardly by the action of the coil spring 17 until the pointed end 16*a* strikes the firing end 21*b* of the cartridge. This will cause the latter to ignite the flash light powder in the pan 18 and thereby produce a flash of light for photographic purposes.

Since the cartridge 21 is loosely fitted into the passage 20 simply pressing the key 24 when the hammer rod is in its retracted position withdraws the detent 22*a* from the passage 20 and disengages the same from the body of the spent cartridge 21. Thereupon the latter is released and will drop out of the passage 20. A new cartridge can then be inserted in firing position for further service.

In Figs. 5, 6 and 7 is shown a modified construction of the improved priming cartridge retaining means embodying the invention. Here as in the construction of the gun 10 described above, the upper portion 13*c* of the anvil member is provided with the passage 20 aligning with the hammer rod, said passage being adapted to receive the priming cartridge (not shown). A lever 122 having one end formed with a finger piece 124 is suitably pivoted inwardly from said finger piece, as by means of a pin 123 riveted to extend through said upper portion 13*c*. Said lever 122 has its end opposite said finger piece terminated in a detent 122*a* which freely extends through a slot 113*d* and into the passage 20, said detent being adapted to engage the priming cartridge inserted in said passage. Suitable spring means, such as a coil spring 125 wound around the pin 123 may be provided to normally force the detent 122*a* into the passage 20 for engaging the priming cartridge and for holding said cartridge in firing position when fitted into the passage 20. By simply pressing the finger piece 124, the cartridge is released and dropped out of said passage 20.

Thus, it is seen that the gun 10 can be manipulated by one hand of the user and the cartridge 21 positively retained in firing position yet being readily removed and replaced on pressing the key 24, or finger piece 124.

It will thus be seen that there is provided a device in which the several objects of this invention are achieved and which is well adapted to meet the conditions of practical use.

As various possible embodiments might be made of the above invention, and as various changes might be made in the embodiment above set forth, it is to be understood that all matter herein set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

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

1. In a flash gun to produce artificial light for photographic purposes comprising a firing mechanism having a receptacle adapted to hold a priming cartridge in firing position, a spring detent extending into the said receptacle to engage said cartridge for retaining the latter against movement from its firing position, and means for retracting said detent to release said cartridge.

2. In a flash gun to produce artificial light for photographic purposes comprising a C-shaped anvil member having a handle carrying a firing hammer at one end thereof, a flash light powder pan mounted on the other end of said member, said latter end having a passage in alignment with said hammer

adapted to receive a priming cartridge, moveable means mounted on said member having a detent portion extending into said passage adapted to engage a cartridge inserted therein, and means for retracting said detent from said passage to disengage said cartridge.

3. A flash gun to produce artificial light for photographic purposes comprising a C-shaped anvil member having a handle carrying a firing hammer at one end thereof, and a flash light powder pan mounted on the other end of said member, said latter end having a passage in alignment with said hammer adapted to receive a priming cartridge, a spring having one end secured on a mid-portion of said member, the other end of said spring being extended into the passage adapted to engage the cartridge inserted therein, and means for retracting said detent from said passage to disengage said cartridge.

4. A flash gun to produce artificial light for photographic purposes comprising an anvil member having an anvil carrying a hammer at one end thereof and a flash light powder pan mounted on the other end of said member, said latter end having a passage adapted to receive a priming cartridge and having a slot communicating with said passage, and a spring detent mounted on said member to extend through said slot and into said passage adapted to engage a cartridge inserted therein, said slot extending in angular relation with respect to the passage as and for the purpose described and specified.

In testimony whereof I affix my signature.

HERMAN NEUWIRTH.