

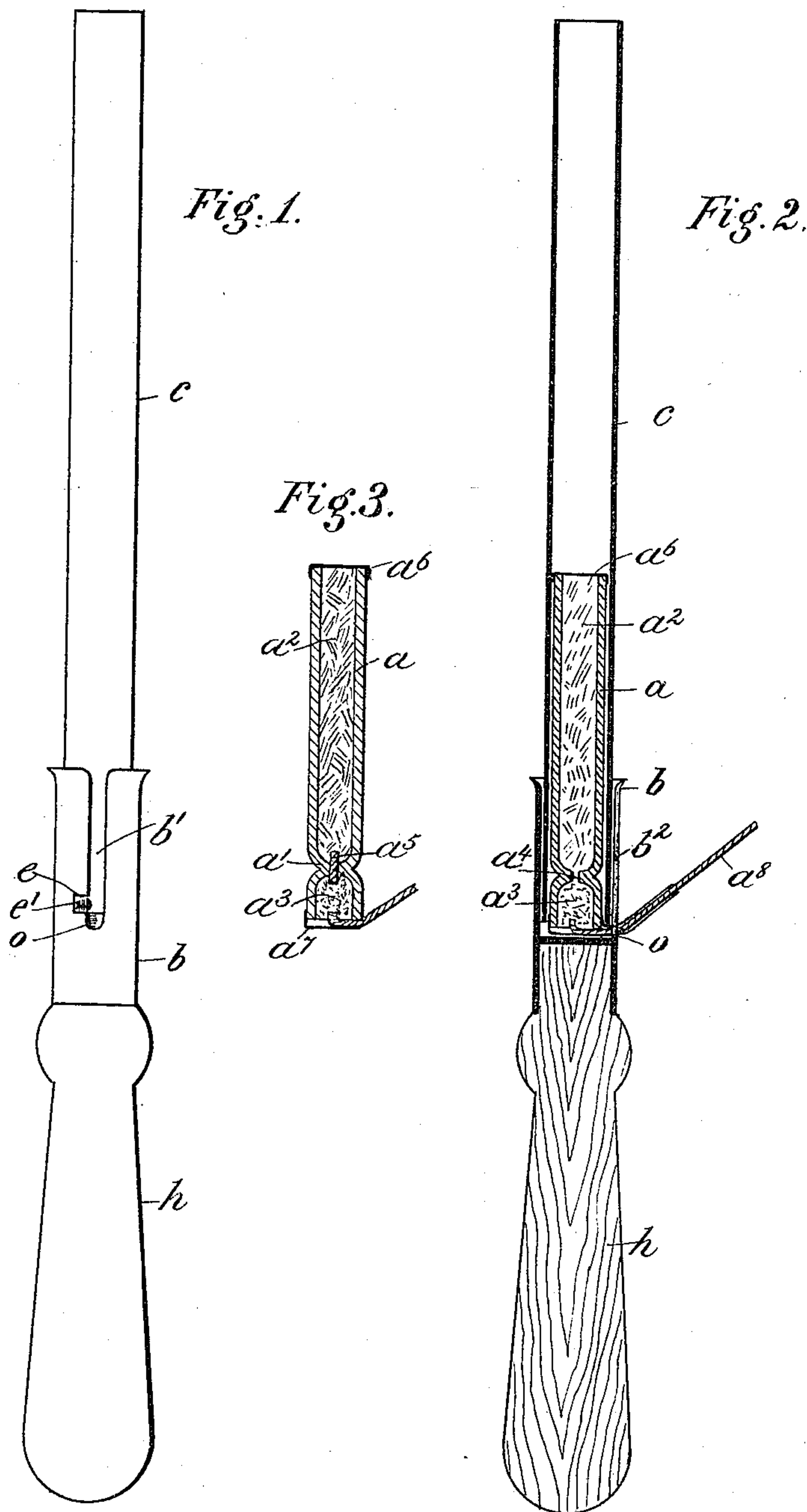
No. 640,339.

Patented Jan. 2, 1900.

H. WEIFFENBACH.  
PYROTECHNIC DEVICE.

(Application filed Dec. 2, 1897.)

(No Model.)



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# UNITED STATES PATENT OFFICE.

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## PYROTECHNIC DEVICE.

SPECIFICATION forming part of Letters Patent No. 640,339, dated January 2, 1900.

Application filed December 2, 1897. Serial No. 660,532. (No model.)

*To all whom it may concern:*

Be it known that I, HERMANN WEIFFENBACH, a citizen of the German Empire, residing at Munich-Schwabing, Germany, have invented certain new and useful Improvements in Pyrotechnic Devices, of which the following is a specification.

This invention relates to pyrotechnic devices; and it consists, substantially, in such features of improvement as will hereinafter be more particularly described.

The principal object of the invention is to provide a device or holder by which pyrotechnic articles, such as rockets and "Roman" candles, can be set off or discharged with safety while the device is held in the hand.

In the drawings, Figure 1 is a side view of my improved pyrotechnic device as it appears prior to the insertion therein of the pyrotechnic or similar article to be discharged. Fig. 2 is a longitudinal sectional view of the holder and the pyrotechnic article therein, the device being shown as combined and arranged for use or firing. Fig. 3 is a separate longitudinal sectional view of a pyrotechnic article adapted to be fired or discharged from my improved holder or device.

Referring to the pyrotechnic article shown in Fig. 3,  $a$  is a casing made of pasteboard or other suitable material, separated by a partition  $a'$  into two chambers  $a^2$  and  $a^3$ , the former being the forward end of the device and arranged to contain any suitable pyrotechnic charge, such as that of a sky-rocket or the like. The partition  $a'$  is provided with an opening  $a^4$ , which, if desired, may contain a fuse or quick-match  $a^5$ , as shown in Fig. 3, or may be left open, as shown in Fig. 2. The rear chamber  $a^3$  is arranged to contain the firing charge—that is to say, the charge which serves to project the pyrotechnic article into the air. This firing charge serves also as the ignition charge, since it sets fire to the rocket charge either through the opening  $a^4$  or by lighting the quick-match  $a^5$  where the latter is employed. The ends of the casing are closed by paper covers  $a^6$   $a^7$ , the one  $a^7$  at the rear end inclosing one end of a quick-match  $a^8$ , by which the firing charge may be ignited.

The holder for firing the pyrotechnic article just described, as well as other similar ar-

ticles, consists of a handle  $h$ , to which is secured at the upper end a sleeve or ferrule  $b$ , having a longitudinal slot  $b'$  ending approximately at the end of the handle, which is preferably covered by a metallic or other fire-proof plate  $b^2$ , as shown in Fig. 2. A lateral slot  $e$  is formed in the sleeve  $b$ , leading off from the longitudinal slot  $b'$  at a point intermediate the top of the handle  $h$  and the upper end of the sleeve, this lateral slot, together with the longitudinal slot, forming part of a bayonet-joint connection, to be referred to hereinafter. The upper end of the sleeve  $b$  is flared outward to permit the ready insertion of the lower end of a tube or barrel  $c$ , which has a pin  $e'$  arranged at the end thereof to enter the longitudinal slot  $b'$  and to be moved into the lateral slot  $e$  by partly rotating the said barrel, whereby the latter is locked to the sleeve and to the handle. It will be observed that the longitudinal slot  $b'$  is extended past the lateral slot  $e$ , so that when the tube or barrel  $c$  is turned to carry the pin  $e'$  into said lateral slot an opening  $o$  is left, through which the fuse  $a^8$  protrudes when the parts are combined or arranged in the manner about to be described.

The use of the device or holder is as follows: The pyrotechnic article is inserted into the sleeve, the quick-match or fuse  $a^8$  passing down the slot  $b'$  and having its end projecting outside the sleeve, the tube or barrel  $c$  being first removed. The barrel is then placed over the end of the pyrotechnic article and slid down into the sleeve, the parts being so proportioned relative to the pyrotechnic article that this can be done. The bayonet-joint is locked by giving the tube  $c$  a partial rotation, whereupon the device is ready for firing. At this time the fuse  $a^8$  will extend through opening  $o$ , as shown in Fig. 2. The handle is then grasped and a light applied to the end of the quick-match  $a^8$ , which ignites the firing charge and shoots the pyrotechnic article, at the same time igniting the rocket charge in the forward chamber  $a^2$ , so that when the said pyrotechnic article is thrown into the air the explosion of the rocket charge will take place.

It is obvious that by means of the holder the pyrotechnic article can be quickly and safely discharged.



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

1. In a pyrotechnic device, the combination  
5 with a handle, of a sleeve secured thereto, the same being provided with a slot for the insertion and passage of a fuse from a pyrotechnic article, and also provided with an opening for the protrusion of the fuse, a tube insertible  
10 within the sleeve, and means for detachably connecting the tube with the sleeve, substantially as described.

2. In a pyrotechnic device, the combination  
15 with a handle, of a sleeve secured thereto, the same being provided with a longitudinal slot having a lateral branch, forming part of a bayonet-joint, and also formed with an opening for the protrusion of a fuse from a pyrotechnic article, and a tube insertible within

the sleeve and provided with a pin arranged  
20 to enter the slots, substantially as and for the purpose described.

3. In a pyrotechnic device, the combination  
with a handle, of a sleeve secured thereto, the same having a longitudinal slot, and a lateral  
25 slot leading therefrom at a point above the inner end, whereby an opening is formed for the protrusion of a fuse from a pyrotechnic article, and a tube insertible within the sleeve  
30 and having a pin for entering the slots, in the manner and for the purpose described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

HERMANN WEIFFENBACH.

Witnesses:

JOHANN STURM,  
EMIL HENZEL.