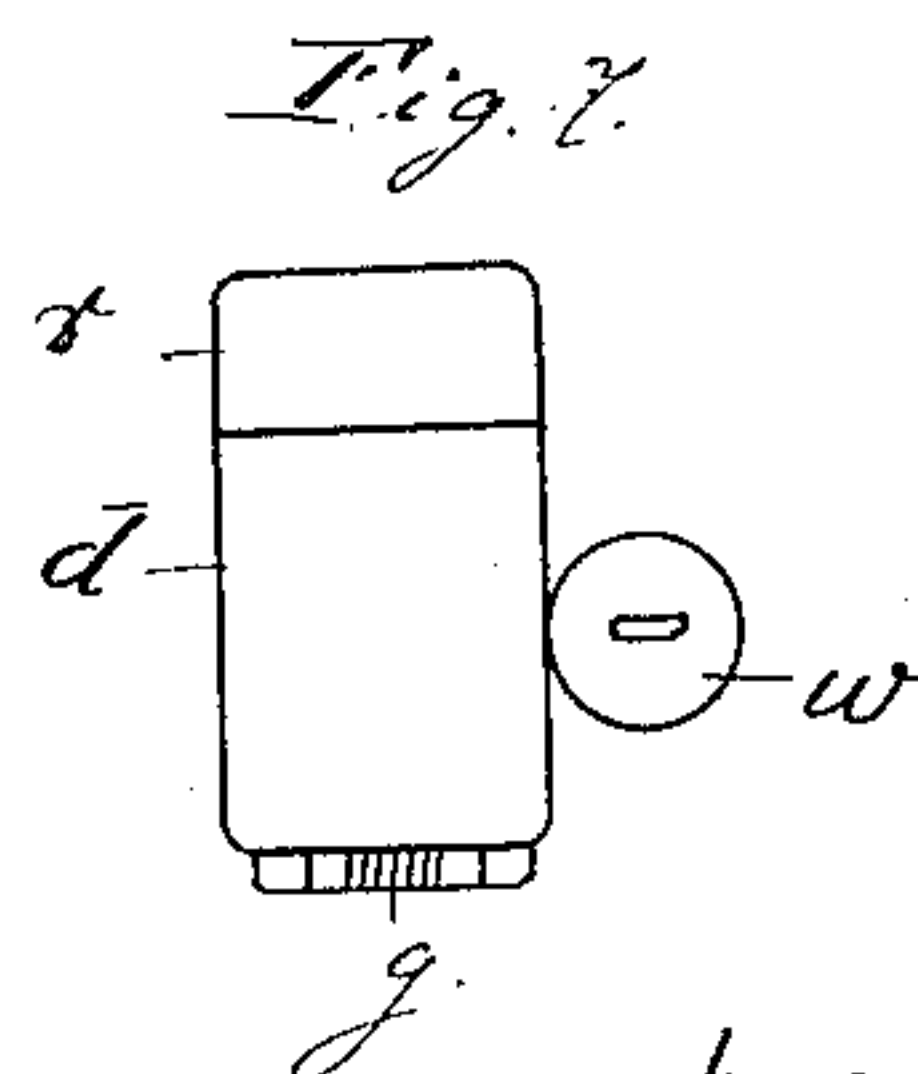
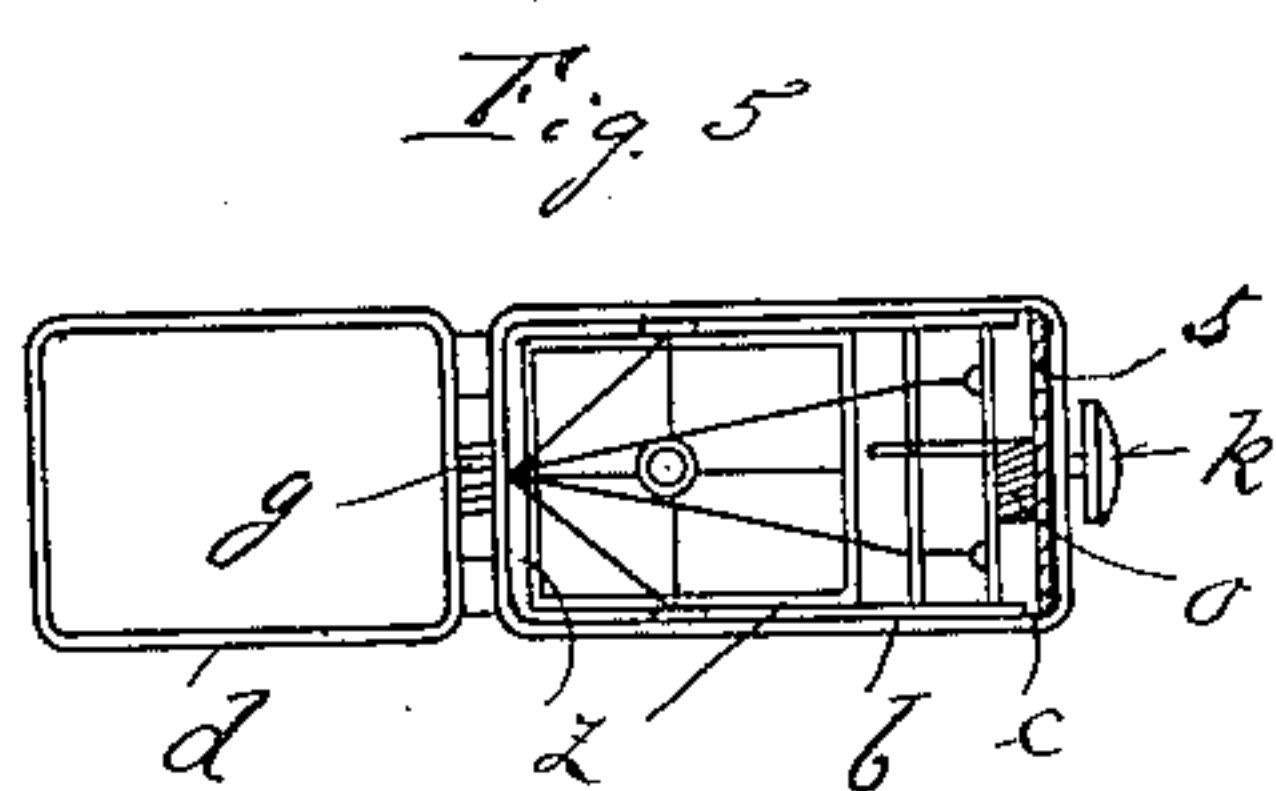
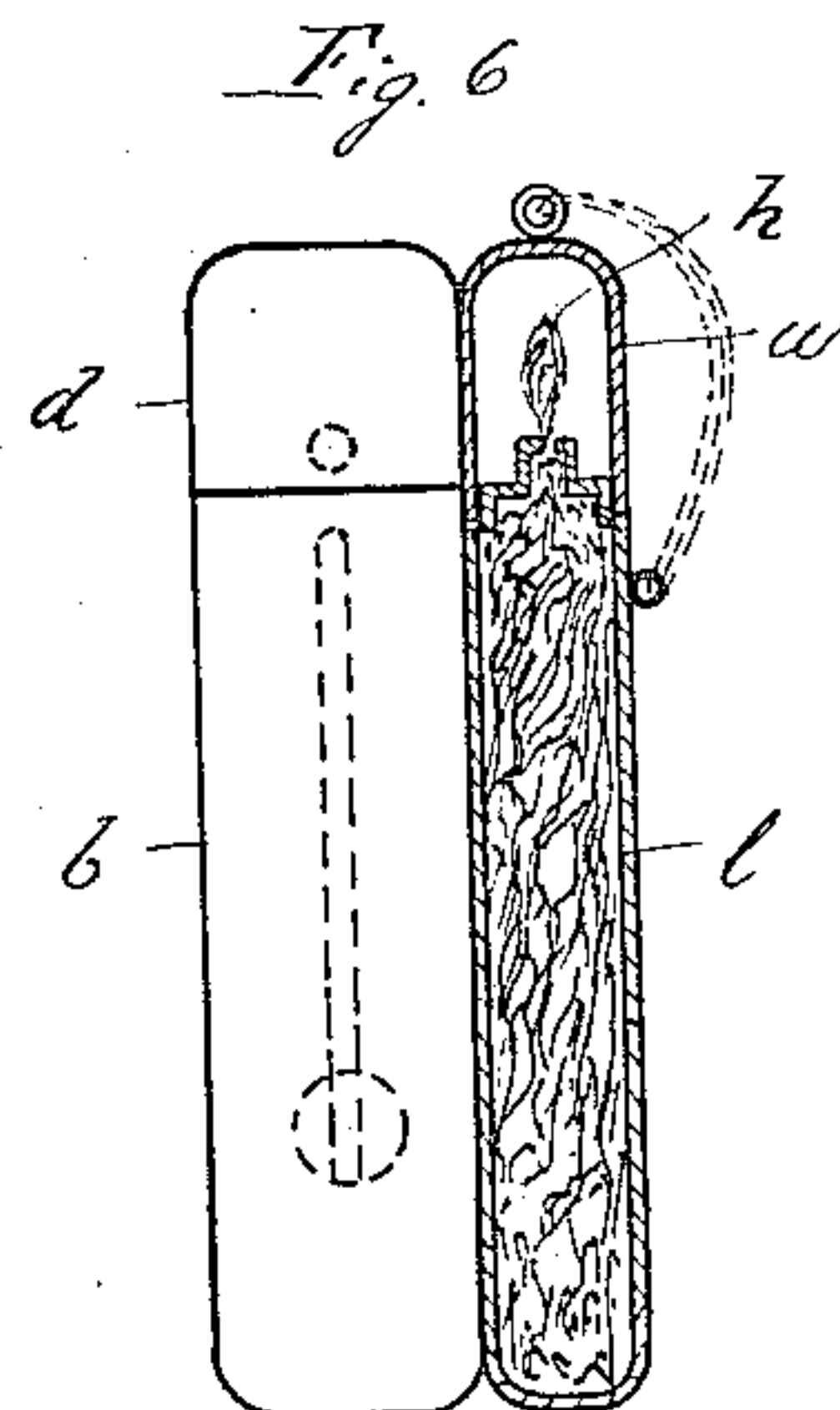
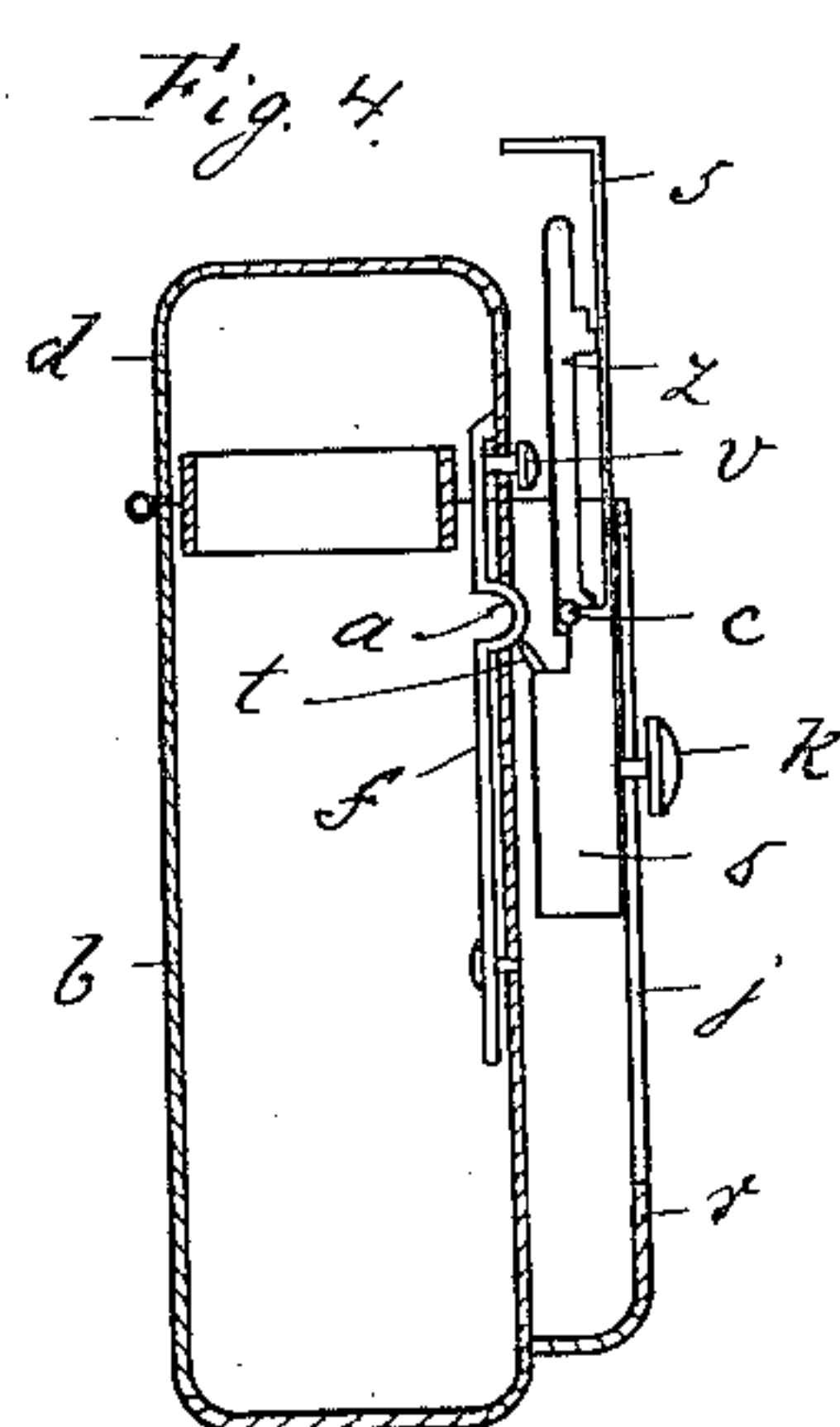
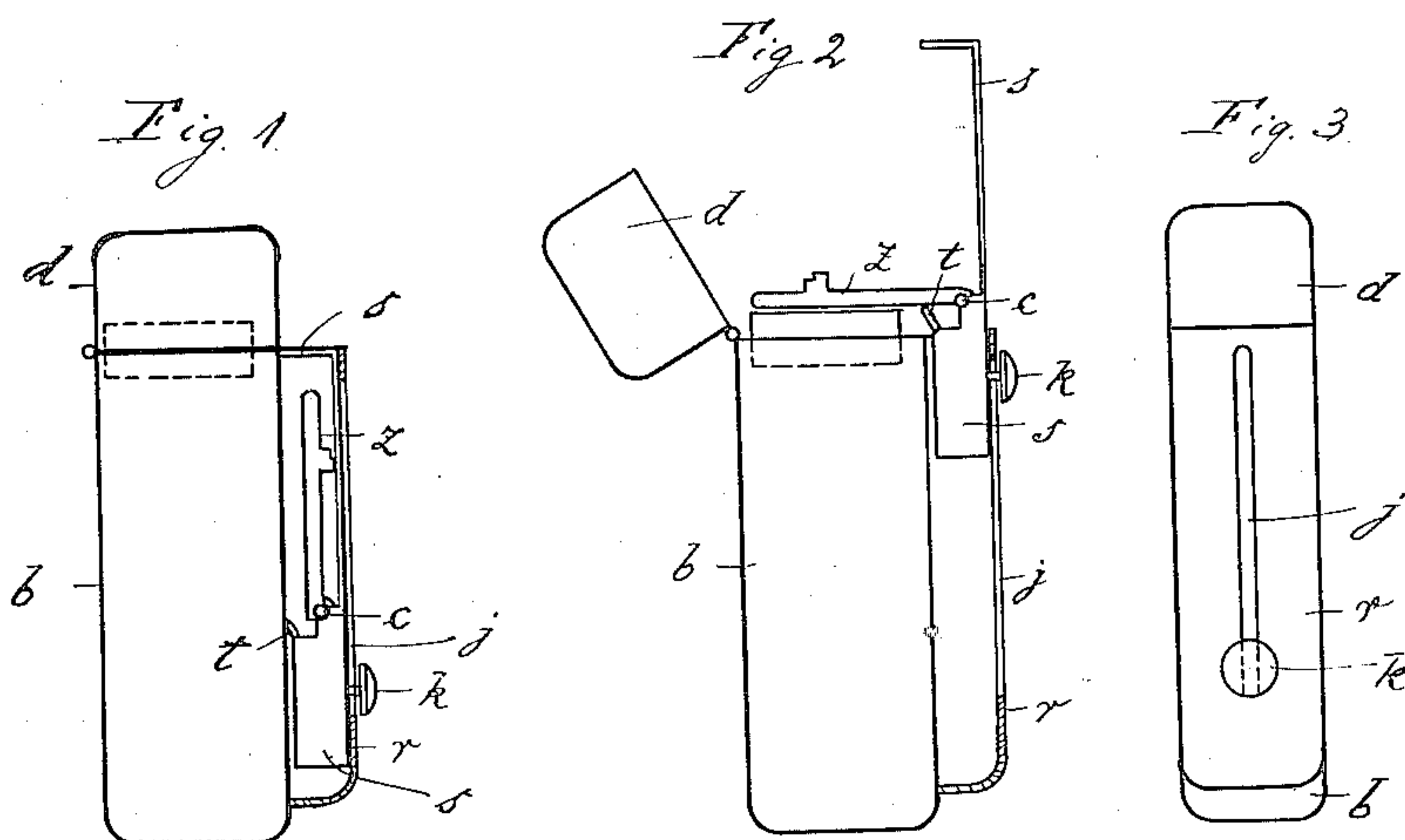


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CATALYTIC IGNITING APPARATUS.  
APPLICATION FILED SEPT. 24, 1907.

924,835.

Patented June 15, 1909.



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## CATALYTIC IGNITING APPARATUS.

No. 924,835.

Specification of Letters Patent.

Patented June 15, 1909.

Application filed September 24, 1907. Serial No. 394,408.

*To all whom it may concern:*

Be it known that I, GEORG SALOMONSOHN, a subject of the King of Prussia, residing at Nos. 9/10 Ritterstrasse, Berlin, in the Kingdom of Prussia, German Empire, have invented new and useful Improvements in Catalytic Igniting Apparatus, of which the following is a specification.

My invention relates to an improved catalytic igniting apparatus of the kind, in which a small piece of ethiops or black of platinum, of iridium or a similar metal, preferably combined with thin wires of platinum, is moved from its sheltered position within a box or casing on to the top of another chamber of the said box or casing containing a wick or some other fibrous or porous material impregnated with a volatile inflammable fluid, such as methylic alcohol, the vapors of which, owing to the catalytic action of the black of platinum, cause the same to be heated to red-heat in the well-known manner.

Igniting apparatus of the kind referred to, in general, are known. The catalytic igniter proper, viz. the piece of black of platinum, iridium or other suitable metal, heretofore, has been combined either with a sliding lid or with a spring-lid of the box or casing, and with the apparatus of the latter kind, the piece of black of platinum moved into contact with the vapors of alcohol, was retained in position and in contact with such vapors during the whole time of use of the apparatus, the red-heat of the black of platinum being employed to ignite a cigar or other inflammable matter by direct contact of the glowing piece with the material to be ignited.

According to my invention, the piece of black of platinum, on being heated by the catalytic action, does not serve to ignite other objects brought into direct contact with such glowing piece, but it ignites the vapors of the wick, or fibrous or porous matter containing methylic alcohol or the like, and the said vapors continue to burn when the igniting piece of platinum has been withdrawn, thereby allowing the burning vapors to be utilized for igniting other objects, such as cigars, gas-flames, and any other inflammable matter. A considerable advantage of the kind of igniting apparatus last described consists in that the black of platinum, being greatly liable to wear and tear, may be withdrawn from the lighted flame of alcohol immediately after lighting said flame, and by

this means, the igniting device proper, say the ethiops or black of platinum, or iridium or the like, and the thin wires of platinum attached thereto, are preserved in a good working state for a considerable extent of time.

According to my invention, the box or casing of the improved igniting apparatus, containing wad or any other fibrous or porous material to be impregnated with a suitable, inflammable fluid, such as methylic alcohol, has a spring-lid tightly closing said box, and at one of the sides of said box, separated from the chamber formed by said box, a frame or channel is arranged to receive a slide connected to the igniting device proper, consisting of an open frame carrying the piece of black of platinum and the thin wires of platinum connected therewith, the slide being hinged to said igniting frame. The spring-lid of the box or casing is retained in its closed position by a suitable catch, which will be released by the slide on moving the same into the operative position, and thus, on actuating the said slide, the spring-lid of the box will be thrown open and the igniting frame simultaneously be thrown over the open end of the box, from which the inflammable vapors are rising to be ignited by the black of platinum and thin wires of platinum, which have been heated by the said vapors. As soon as the said vapors have been ignited, the igniting frame connected to the slide may at once be withdrawn and returned into its sheltered position within the side-frame or channel of the box, there to remain up to the next igniting operation.

To make my invention properly understood, I have illustrated the same in the accompanying drawings, in which:

Figure 1 is a longitudinal section of the apparatus, with its lid or cover closed and all parts in the state of inaction. Fig. 2 is a longitudinal section of the apparatus, showing the lid or cover open and the parts in position to light the flame. Fig. 3 is a side-view of the apparatus against the channel or guide-frame of the slide. Fig. 4 is a longitudinal section of the apparatus showing the slide in course of its upward movement and ready to throw the spring-lid of the box into its open position. Fig. 5 is a top-view of the apparatus, the lid of the box being removed and the slide being shown in horizontal section. Figs. 6, and 7, serve to illustrate the



combination of the catalytic igniter with a pocket lamp formed or secured to the box of the igniter.

Referring to Figs. 1, to 5, *b*, is a box, preferably made of sheet-metal and provided with a tightly fitting lid or cover *d*, in which a suitable packing may be contained. A spring *g*, may be provided to surround the hinge-pin of the lid, for automatically throwing the lid open when its retaining catch is released. The said box *b*, is filled or partly filled with wad or any other fibrous or porous material adapted to absorb the methylic alcohol, the vapors of which will rise from the box as soon as the lid *d*, has been thrown open and the atmosphere enters into contact with the wad and liquid therein contained. Formed or secured to the side of box *b*, is a frame or chamber *r*, separate from the chamber inclosed by the box *b*, and the said chamber *r*, serves as a guide for a slide *s*, and for a frame *z*, carrying the black of platinum and thin wires of platinum which constitute the igniter, the said frame *z*, being hinged to the slide *s*, as at *c*, with a spring *o*, to act upon said frame *z*, which spring *o*, however, may be omitted.

The frame or chamber *r*, has a slot *j*, through which a pin or knob *k*, projects to the outside, said pin or knob being secured to the slide *s*, for shifting the same up and down within the frame or channel *r*.

A spring *f*, is arranged inside the box *b*, to engage with a proper catch *v*, carried by the cover or lid *d*, and a pin *a*, is so located within the partition between the box *b*, and chamber *r*, as to be operated upon by a lug or shoulder *t*, of the slide *s*, in its way up the said chamber or channel *r*. When the said slide *s*, is pushed up the channel *r*, the said pin *a*, will be pushed against the spring *f*, and the said spring, on being bent back, will come out of engagement with the catch *v*, thus allowing the spring *g*, to at once throw the lid *d*, into its open position. It will be seen, that, although the slide *s*, acts to throw open the lid *d*, the said lid has no connection whatever with the igniting frame *z*, the latter being exclusively under control of the slide *s*.

On pushing the knob *k*, up within the slot *j*, the slide *s*, as has been hereinbefore described, will open the spring-lid *d*, of box *b*, and on further being raised within the chamber or channel *r*, the said slide *s*, will, immediately after opening the lid, push the frame *z* out of the chamber *r*, thus making the same fall down upon the open box *b*, by its proper weight, or be thrown down by the aid of spring *o*, wound about the hinge-pin *c*. The frame *z*, being brought upon the open box *b*, as shown in Fig. 2, will readily ignite the vapors developed from the impregnated porous matter in the box *b*, and as soon as the piece of black of platinum carried by the frame *z*, and the thin wires of platinum at-

tached thereto, have performed the ignition of the vapors, the slide *s*, with frame *z*, connected to it, may at once be withdrawn and returned into the chamber *r*, by simply pulling the knob or pin *k*, down within the slot *j*. To push the knob *k* up and to pull it down within the slot *j*, the thumb of the hand which holds the apparatus needs only to act upon said knob *k*, in one or the other direction of the slot, and thus, for using the apparatus, a single hand may readily perform the whole operation. The vapors at the open end of the box *b*, will continue to burn, after the black of platinum has been removed into its sheltered position, and if the flame is no more used, it may be blown out and the lid be closed, or by simply closing the lid *d*, of box *b*, the flame will be extinguished at once.

As will be seen in Figs. 2 and 4, the upper end of slide *s*, is bent to the inside, toward the box *b*, to form a cover for the chamber *r*, when the said slide *s*, has been pulled down and the frame *z*, connected to it, has been lodged within said chamber *r*. Atmospheric air having ready access to said chamber *r*, through the slot *j*, the black of platinum will readily cool down, as soon as the frame *z*, has been returned into said chamber *r*, after use.

The little pocket-lamp *l*, Figs. 6, and 7, placed at the side of box *b*, and consisting of a tube or casing containing a wick or other fibrous matter to be impregnated with petroleum, benzin, ligroin or some similar fluid which readily will catch the flame from the burning alcohol on box *b*, is, by itself, of a known kind. The flame *h*, of said lamp *l*, will burn with a white flame. A cap *w*, serves to extinguish the flame *h*, after use.

I claim as my invention:

1. A lighting device of the class described comprising a casing adapted to contain an inflammable liquid, a separate chamber connected to said casing, a slide in said chamber having vertical movement therein, a frame having one end hinged to said slide, a spring for forcing the free end of said frame toward the casing when the slide is raised, and an igniting substance carried by said frame.

2. In a catalytic igniting apparatus, the combination, with a casing adapted to receive an inflammable liquid, of a spring-lid adapted to close said casing, a slide adapted to be moved toward and from the open end of the casing and guided within a chamber outside of the said casing, a frame hinged to said slide and carrying the igniting substance, and means actuated by the said slide for throwing open the spring-lid of the casing, substantially as and for the purpose set forth.

3. In a catalytic igniting apparatus, the combination, with a casing adapted to receive an inflammable liquid, of a spring-lid adapted to close said casing, a slide adapted



to be moved within a separate chamber outside of the casing, a frame hinged to said slide and carrying an igniting substance, means for retaining the spring-lid of the casing in its closed position, and means for releasing said retaining means during the upward stroke of the slide, substantially as and for the purpose set forth.

4. In a catalytic igniting apparatus, the combination, with a casing adapted to receive an inflammable liquid and having a spring lid, of a separate chamber outside of said casing, a slide adapted to be moved within said outside chamber, a pin projecting from a slit in said outside chamber and

secured to the slide within, a spring-actuated catch within the casing to retain the spring-lid in its closed position, means controlled by the slide for releasing said catch, and a frame carrying an igniting substance and hinged to the slide, substantially as and for the purpose set forth. 20

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

GEORG SALOMONSOHN.

Witnesses:

HENRY HASPER,  
WOLDEMAR HAUPT.