(19) Octrooicentrum Nederland

(11) **2010708**

(12)C **OCTROOI**

(21) Aanvraagnummer: **2010708**

(22) Aanvraag ingediend: **25.04.2013**

(51) Int.Cl.:
F21L 4/04 (2006.01) ***F21V 5/00*** (2006.01)

(43) Aanvraag gepubliceerd:
-

(47) Octrooi verleend:
29.10.2014

(45) Octrooischrift uitgegeven:
05.11.2014

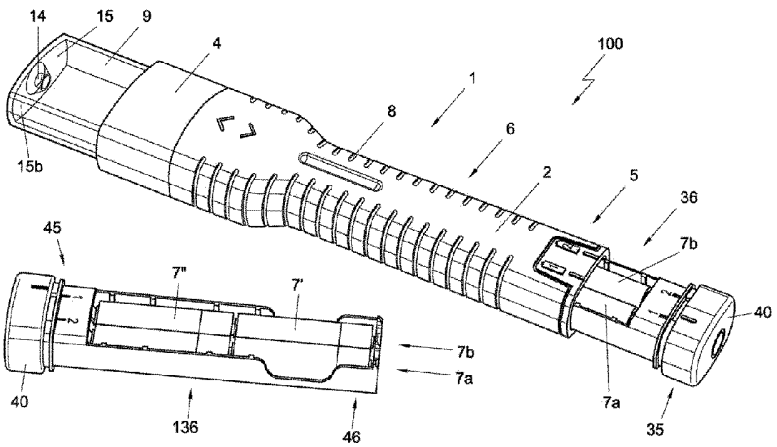
(73) Octrooihouder(s):
Life Safety Products B.V. te Zoetermeer.

(72) Uitvinder(s):
Dalibor Borjanin te Zoetermeer.

(74) Gemachtigde:
ir. C.M. Jansen c.s. te Den Haag.

(54) **Safety torch and set comprising a torch and a cartridge.**

(57) The invention relates to a safety torch. The torch comprises a housing; a light source arranged in a head of the housing, wherein an end of the housing opposite the head forms a handle in which at least one battery system is arranged; and an at least partly translucent light source cover for at least partly covering the light source. The cover is adjustable between a retracted position in which said cover is at least partly retracted in the head of the housing, to emit in use a beam of light, and a protruding position in which the cover is protruding from the housing, at least protruding further from said housing than in said retracted position. The cover is adjustable between said positions by means of an adjusting mechanism comprising two substantially parallel guides arranged in the longitudinal direction of the housing, for adjusting the cover along the guides.



NL C 2010708

Title: Safety torch and set comprising a torch and a cartridge

The invention relates to a torch.

Several torches and so-called flashlights are known. A torch can for instance be used as a portable light source and/or as a back up light source, for example during emergency situations.

Often torches are stored in a car, such that an emergency light is available when an emergency situation occurs. However, batteries of such torches can run low, for instance due to leakage and/or due to usage of said torch for any illumination or lighting purposes. As a consequence, such known torch may not work at moments when its services are needed.

Another problem associated with known torches is that conventional torches are not well suited for signalling and/or for illuminating a space, such as an enclosed space, for example an interior of a vehicle. This can for instance be the case because such conventional torches bundle emitted light into a beam shining substantially in one main direction. Hence, when one is stranded, such as for instance stranded with a broken vehicle, it may be difficult, dangerous and/or even almost impossible to use such known torch for signalling and/or to illuminate the broken vehicle.

Special signalling torches are known. However, such torches are often not suitable for providing bundled light for illuminating specific areas, such as can be desirable, for instance when checking a broken engine of a vehicle.

Besides, torches suitable for signalling and/or torches suitable for providing bundled light are usually not well suitable for illuminating a space, e.g. an interior of a car, relatively uniformly.

Furthermore, a known torch, especially a signalling torch, is often relatively big, which may be highly undesirable, for example because such torch may therefore not fit into a glove compartment and/or may be difficult to handle with a single hand.

An object of the present disclosure is to provide a torch that eliminates at least one of the disadvantages mentioned above or other disadvantage associated with known torches or so-called flashlights. In particular, the invention aims at providing a torch, wherein at least one of the disadvantageous above is counteracted or advantages there above are obtained. In embodiments, the invention aims at providing a torch that is relatively small, relatively reliable and/or relatively versatile. In embodiments, the present invention aims at providing a torch, which is suitable for emitting bundled light and also for signalling and/or relatively uniformly illuminating a space, which torch is preferably also relatively reliable in view of known torches.

In a first aspect, a torch of the present disclosure provides for a safety torch, comprising: a housing; a light source arranged in a head of the housing, wherein an end of the housing opposite the head forms a handle in which at least one battery system is arranged; and an at least partly translucent and/or transparent light source cover for at least partly covering the light source, wherein the light source cover is adjustable between a retracted position in which said cover is at least partly retracted in the head of the housing, to emit in use a beam of light, and a protruding position in which the cover is protruding from the housing, at least protruding further from said housing than in said retracted position, wherein the light source cover is adjustable between said positions by means of an adjusting mechanism, wherein the adjusting mechanism comprises two substantially parallel guides arranged in the longitudinal direction of the housing, for adjusting the light source cover along the guides.

By making the light source cover adjustable between the retracted position and a protruding position, the torch can be relatively versatile. In the retracted position the torch is namely relatively small and may be relatively well to handle with, preferably, a single hand. Moreover, in the retracted position, the torch can be used relatively well for illuminating a

certain area, for instance because it may be arranged for bundling light into a bundle or beam when in said retracted position, whereas the torch in its protruding position can be used for signalling and/or for relatively uniformly illuminating a certain space or room. In said protruding position, light may namely emit from the cover at multiple sides, e.g. through a distal end surface and also through one or more sidewalls or side surfaces. It is noted that the torch may be arranged to be employed at least as a hand-held spotlight, especially when in its retracted position, whereas the torch may also be arranged to be employed at least as a hand lantern or other portable lighting device suitable for illuminating relatively broad areas and/or for signalling, especially when in its protruding position.

By providing the two substantially parallel guides arranged in the longitudinal direction of the housing, the cover can be guided relatively well. For instance, due to said two substantially parallel guides, it can be counteracted that the cover skews. Hence, a relatively reliable torch can be provided for.

In a further aspect of the present invention, the safety torch comprises a housing, a light source arranged in a head of the housing, and an at least partly translucent light source cover for at least partly covering the light source, wherein an end of the housing opposite the head forms a handle arranged for housing a primary battery system and a secondary battery system; and wherein the safety torch further comprises a circuit switch arranged to be brought from a first position, in which the primary battery system can feed the light source and the secondary battery system is interrupted from feeding the light source, into a second position, in which the secondary battery system can feed the light source and the primary light source is interrupted from feeding the light source, wherein the safety torch further comprises a battery system cartridge arranged for accommodating the primary battery system and the secondary battery system, said cartridge being removably insertable into the handle.

By providing the torch with both said primary and secondary battery system and with said circuit switch, battery energy will be available during use. This, because even when the user is taken by surprise by the first battery system running low, said user may switch to the other battery system, which is preferably charged. Such switching may be relatively easily, especially when compared to removing and replacing batteries in a known torch, which can be relatively cumbersome and may often requires unscrewing and screwing back a battery cap. Hence, by providing both battery systems, the user can postpone replacing or recharging the battery or batteries of the first battery system until a more suitable moment.

By providing the battery system cartridge, batteries can be replaced relatively easily. For example, it may be handy that multiple battery systems and/or multiple batteries can be replaced in one go.

The battery system may be considered as a separate invention.

The invention also relates to a set comprising a safety torch including a first battery system cartridge and also an additional cartridge.

Advantageous embodiments according to the invention are described in the appended claims.

By way of non-limiting example only, embodiments of the present invention will now be described with reference to the accompanying figures in which:

Figure 1 shows a schematic perspective view of a set according to an aspect of the invention, the set comprising a safety torch according to an aspect of the invention and an additional battery system cartridge;

Figure 2a shows a schematic perspective top view of a safety torch according to an aspect of the invention in a first position;

Figure 2b shows a schematic perspective bottom view of the safety torch of Fig. 2a;

Figure 2c shows a schematic front view of the safety torch of Figs. 2a-2b;

Figure 2d shows a schematic top view of the safety torch of Figs. 2a-2c;

Figure 2e shows a schematic rear view of the safety torch of Figs. 2a-2d;

Figure 2f shows a schematic side view of the safety torch of Figs. 2a-2e;

Figure 2g shows a cross-sectional view of the safety torch of Figs. 2f along line 2g;

Figure 3a shows a schematic perspective top view of the safety torch of Figs. 2a-2g in a second position;

Figure 3b shows a schematic perspective bottom view of the safety torch of Fig. 3a;

Figure 3c shows a schematic front view of the safety torch of Figs. 3a-3b;

Figure 3d shows a schematic top view of the safety torch of Figs. 3a-3c;

Figure 3e shows a schematic rear view of the safety torch of Figs. 3a-3d;

Figure 3f shows a schematic side view of the safety torch of Figs. 3a-3e;

Figure 3g shows a cross-sectional view of the safety torch of Figs. 3f along line 3g; and

Figure 4 shows a schematic perspective exploded view of the safety torch of Figs. 2a-2g and 3a-3g.

The embodiments disclosed herein are shown as examples only and should by no means be understood as limiting the scope of the claimed invention in any way. In this description, the same or similar elements have the same or similar reference signs.

Figure 1 shows a schematic perspective view of a set 100 according to an aspect of the invention. The set 100 comprises a safety torch

1 according to an aspect of the invention. Besides the set comprises an additional battery system cartridge 136.

It is noted that a safety torch 1 according to the invention does not need to, but may nevertheless, be part of such set 100. In embodiments, the torch 1 may thus be provided separately.

Figures 2a-2g show multiple views of a safety torch 1 according to an aspect of the invention in a first position. Figure 2a shows a schematic perspective top view of the torch, Figure 2b shows a schematic perspective bottom view, Figure 2c shows a schematic front view, Figure 2d shows a schematic top view, Figure 2e shows a schematic rear view, Figure 2f shows a schematic side view, and Figure 2g shows a cross-sectional view. It is noted that the safety torch 1 is a portable lighting device 1 or so-called hand-held lighting device 1 and can be a so-called flashlight 1, hand lantern, portable lamp or hand-held portable light source. The safety torch can be arranged to be handled with one or two hands and/or to be carried by hand. The torch 1 may for instance comprise one or more handles, which may be formed by a part of a housing of the torch and/or may be formed differently, for instance as a separate handle. Additionally or alternatively, the torch 1 can comprise one or multiple grip areas for facilitating gripping, handling and/or carrying said torch. In embodiments, operating means of the safety torch, such as switches, buttons and/or setting means, can preferably be designed such that they can be operated manually.

In this embodiment, the safety torch 1 comprises a housing 2 and a light source 3 arranged in a head 4 of the housing 2. Here, a LED forms the light source 3. However, in alternative embodiments, the light source 3 can be formed by a light bulb, a halogen lamb or by any suitable other means. It is noted that the torch 1 can also comprise more than one light source 3, for example the torch 1 can comprise multiple light sources each arranged for emitting a different colour of light. Here, an end 5 of the housing 2 opposite the head 4 forms a handle 6 in which at least one battery

system 7 is arranged. It is noted that the handle 6 can comprise multiple battery systems 7a, 7b, for example at least a primary battery system 7a and a secondary battery system 7b. Additionally or alternatively, the battery system 7 can comprise one or multiple batteries 7', 7", preferably multiple batteries 7', 7" in series. Here, each battery system comprises two batteries. However, a battery system can comprise another number of batteries, for instance one, three or four batteries. Moreover, in embodiments, the torch may comprise battery systems, which have different number of batteries with respect to each other.

Although in the embodiment shown here, the handle 6 is provided with a grip area having gripping means, the handle does not necessarily need to comprise such area. If a grip area is present, it may for example be provided with protrusions and/or indentations 8, such as grooves 8. Alternatively or additionally, the grip area may comprise a relatively rough material, such as a rubber material. Typically the handle 6 is intended to be held by a single hand of a user.

The safety torch 1 of the present embodiment comprises an at least partly translucent light source cover 9 for at least partly covering the light source 3. It is noted that in this description translucent has to be understood as at least including but not necessarily limited to being substantially transparent. Besides, translucent may include being of scattering nature. Alternatively or additionally, a translucent element can be coloured, for instance it can comprise a colour filter and be translucent nevertheless. In the current embodiment, the light source cover 9 is adjustable, for instance slidable, between a retracted position, shown in Figs. 2a-2g, in which position said cover 9 is at least partly retracted in the head 4 of the housing 2, to emit in use a beam of light, and a protruding position, shown in Figs. 1 and 3a-3g, in which position the cover 9 is protruding from the housing 2, at least protruding further from said housing 2 than in said retracted position. The light source cover 9 is adjustable

between said positions by means of an adjusting mechanism 10, wherein the adjusting mechanism comprises two substantially parallel guides 11 arranged in the longitudinal direction 12 of the housing 2, for adjusting the light source cover along the guides 11. Here, guiding rods 11, which are preferably extending at least partly through the head 4 of the housing 2, form the guides 11. However, in alternative embodiments, the guides 11 may be formed differently, for instance by means of rails or tooth racks provided at an inner surface of said head 4.

Here, the light source cover 9 is of substantially tubular design 13 and comprises a lens 14 at a distal end face 15 of the tubular shape 13 and further comprises an at least partly translucent and/or transparent sidewall 16. Here, the tubular shape has a substantially rectangular cross-section. However, in embodiments, the tubular shape may have another cross-section, such as for instance a substantially round, elliptical or triangular cross-section. Advantageously, the lens 14 may be an optical lens 14, which may be arranged for transforming light emitted by the light source 3, especially transforming it by at least partly bundling or focussing said light.

In embodiments, the light source cover 9 is adjustable along the guides 11 against a biasing force of a resilient element 17 that biases the cover 9 towards one of the positions, especially towards the extended position, shown in Figs. 1 and 3a-3g. However, in alternative embodiments, the resilient element 17 may be arranged for biasing the cover 9 towards the retracted position, shown in Figs. 2a-2g.

The light source cover 9 can be connected to a cover base 18 for supporting the light source cover 9. Said cover base 18 can be arranged for cooperation with the guides 11 for moving said base 18 along the guides 11 between the retracted and extended position.

Preferably, the cover base 18 is removably connected to the cover 9, for example by means of click fingers 19. However, alternatively, the base

and the cover may be connected unreleasably or may be removably connected by other means, e.g. by means of screws or the like.

The resilient element 17 can comprise a spring 17a arranged around one of the guides 11a. Additionally, the torch 1 may comprise a second resilient element 17b comprising a second spring 17b arranged around the other guide 11b. Like in the embodiment shown, the spring 17 can be a compression spring 17, preferably for biasing the cover 9 towards the extended position. However, the spring 17 may alternatively be a tension spring and/or the torch 1 may be arranged such that the spring is for biasing the cover 9 towards the retracted position. The spring 17 may be a metal spring or may be a plastic spring, may be a zig-zag spring, or may be a spring extending around a guide. Various embodiments of the resilient element may be possible.

Advantageously, a first end of the spring 17 may rest against and/or may be attached to the cover 9 or the cover base 18. The other end of the spring 17 may rest against and/or may be attached to the housing 2, for instance against a part thereof such as a reinforcement rib 20 and/or a retaining means 21 for retaining the guide 11 in its place.

The light source cover 9, preferably its cover base 18, can comprise two cooperating elements 22, such as openings 22 or recesses, to cooperate with the two guides 11a, 11b for moving the base 18 along the guides 11 between the retracted and extended position. Here, the cooperating elements 22 are formed by openings 22 shaped as relatively elongated channels, which may slide relatively well along the guides 11 and/or may counteract skewing of the cover 9 during its movement.

In embodiments, the torch 1 can comprise at least one restriction element 23 to slow down the movement of the cover 9 along the guides 11. Consequently, the movement of the cover 9 from one position to the other position, preferably form one position to the position to which the spring or springs 17 biases the cover 9, can be slowed down to some degree. For

example, the restriction element 23 may be for slowing down moment from the retracted position towards the protruding position. The restriction element 23 may be placed at least partly around the respective guide 11. For instance, the restriction element 23 can be formed by a washer or a rubber ring 23. Such washer or rubber ring 23 may be provided at the cover 9, preferably at the cover base 18, and may be at least partly in frictional contact with one of the guides 11 and/or an inner surface 24 of the housing 2, preferably an inner surface 24 of the head 4 of said housing 2, in order to slow down the movement of the cover 9. Additional or alternatively, the washer or rubber ring 23 or other restriction element 23 may be arranged such that it pushes or pulls another element 24, e.g. an at least partly compressible sleeve 24, which may thereto for instance be provided with one or more splits. Additionally or alternatively, the restriction element 23 may be integrated to the cover base 18.

Further, a bridge part 25 can be provided between the two guides 11. Here, the bridge part 25 is provided at or near distal ends 11' of said guides. The bridge part 25 may for instance provide some stability to the guides. In this context, it is noted that the guides 11 may be mounted to the housing 2, preferably mounted substantially immovably in at least their longitudinal direction. Thereto, the respective guide 11 may be mounted with its proximal end 11" to the housing, preferably to an inside of the head 4. Here, the guide 11 comprises coupling means 26 formed as grooves 26 for cooperation with retaining means 21 provided inside the housing 2. However, the guide may comprise other coupling means 26 and/or may be mounted to the house 2 by other means, such as for instance by means of gluing or welding.

In embodiments, the light source 3 can be provided at the bridge part 25. Preferably, the light source 3 can be in electrically conductive connection with both guides 11a, 11b, such that said light source 3 can be brought in electric connection with a respective battery system 7a, 7b via

said two guides 11. It is noted that the light source 3 can thus be positioned substantially stationary in the housing. This is, the light source 3 does then not move together with the light source cover 9 during movement of the latter relative to the housing 2. Advantageously, the guide 11, or at least a part thereof, such as a conduction strip, is arranged for conducting electrical energy. The guide or the part thereof may for instance be made of a conductive material, preferably a metal or metal alloy such as being or comprising brass, copper, aluminium and/or stainless steel.

Advantageously, the guides 11 are electrically connected to the respective at least one battery system 7. Thereto, the proximal ends 11" of the guides 11 may for instance extend into a space inside the handle 6 in order to contact a battery system 7 directly or indirectly, e.g. via electrically conductive connection elements.

As best can be seen in Figs. 3a-3g, which show multiple views of the safety torch of Figs. 2a-2g in a second position, and in Fig. 4, which shows a schematic perspective exploded view of the safety torch of Figs. 2a-2g and 3a-3g, the adjusting mechanism 10 can comprise or can be formed by a push-push mechanism 10 for adjusting the cover 9. For example, the push-push mechanism 10 can comprise a pin 27 that is movable in a groove 28 provided at an inner side of the housing 2. In an advantageous embodiment, the groove 28 provides for a first path 29 along which the pin 27 is movable when adjusting the cover 9 from the retracted position to the extended position and a second path 30 along which the pin 27 is movable when adjusting the cover 9 from the extended position to the retracted position. Here, as best can be seen in Figs. 3a-3g, the groove 28 has a distal end 31, which forms a stop 31 for the pin 27. When the springs 17 move the cover 9 towards the protruding position, the groove 28 guides the pin 27 until it runs into the stop 31. Then, said stop 31 counteract that the cover can move further outwards of the head 4 of the housing of the safety torch 1. By means of the outwardly pushing springs 17, the cover 9 is hold in said

protruding position. When a user of the torch 1 pushes on the cover 9, preferably on its distal end face 15, the force of the springs can be overcome and the cover 9 can be moved inwards the head 4. The pin 31 is then guided by the groove 28 and will run into a control surface 32, which steers the pin 31 that is hingedly connected to the cover 9 aside into the second path 30. When the cover 9 is pushed far enough into the head 4, the user can release the cover 9, which then is pushed back in the outward direction by the springs. However, since the groove 28 is provided with a receiving surface 33 near the proximal end of the groove 28, the pin 31 can be caught by said receiving surface 33, thereby preventing the cover 9 from moving further outwards and therefore keeping the cover 9 in the retracted position. In order to subsequently move the cover 9 into the protruding position, the user can again push on the cover 9. The cover 9 is then moved inwardly to such extent that the pin 31 moves out of the receiving surface 33 and moves into a second control surface 34, which steers the pin 31 sideways, such that said pin 31 will not be caught by the receiving surface 33 when the user stops pushing the cover 9 and the springs 17 move the cover outward. Instead of being caught by said receiving surface 33, the pin 27 now moves along the first path 29 and the cover 9 moves outward until it arrives in the retracted position.

It is noted that the light source cover 9 itself may thus form a push button for changing the position of said cover 9. In embodiments, the cover 9, preferably its distal end face 15, may be provided with a use cue 34, for instance a use cue in the form of visible and/or tactile information 34, such as the word “push” 34 or the like.

It is noted that the cover 9 can be provided with an integrated lens 14, preferably at a distal end face 15 of said cover. Such integrated or other lens may be arranged for transforming light emitted by the light source 3, especially at least partly bundling or focussing said light. Hence,

the safety torch 1 can be used for specifically illuminating certain areas. The distal end face 15 can be at least partly transparent.

Alternatively or additionally, the cover 9 can comprise one or more side surfaces or sidewalls 16 which are at least partly translucent, for example transparent. Advantageously, said side surface 16 or side surfaces is/are arranged for scattering light emitted by the light source 3. Hence, the torch 1 may for instance be used for diffuse illumination, for example for overall and/or relatively uniformly illuminating of an interior of a car. Additionally, also parts of the end face 15, especially parts 15b located aside of and/or around the lens 14, may be arranged for scattering light emitted by the light source 3.

In embodiments, such as for instance the embodiments shown in Figs. 1-4, a safety torch 1 according to the present disclosure comprises a housing 2, a light source 3 arranged in a head 4 of the housing 2, and an at least partly translucent light source cover 9 for at least partly covering the light source 3. In said embodiment, an end 5 of the housing 2 opposite the head 4 forms a handle 6 arranged for housing a primary battery system 7a and a secondary battery system 7b. It is noted that the torch 1 may nevertheless comprise more than two battery systems. Further, said safety torch 1 comprises a circuit switch 35 arranged to be brought from a first position, in which the primary battery system 7a can feed the light source 3 and the secondary battery system7b is interrupted from feeding the light source 3, into a second position, in which the secondary battery system 7b can feed the light source 3 and the primary light source 7a is interrupted from feeding the light source 3. Besides, the safety torch 1 further comprises a battery system cartridge 36 arranged for accommodating the primary battery system 7a and the secondary battery system 7b. Said cartridge 36 is removably insertable into the handle 6. The primary and secondary battery system 7a, 7b may also be incorporated in safety torches 1 with a different housing 2 and/or light source 3 and/or head 4 and/or handle 2.

Advantageously, the circuit switch 35 can be a manual switch. Here, the circuit switch 35 is comprised in a operating knob 40 that can be turned in order to switch between the first position in which the primary battery system 7a can feed the light source 3 and the secondary battery system7b is interrupted from feeding the light source 3, and the second position, in which the secondary battery system 7b can feed the light source 3 and the primary light source 7a is interrupted from feeding the light source 3. For example, the torch 1 can be provided with one or more use cues 37 for indicating which of the battery systems 7a, 7b is able of feeding the light source 3 at that moment. In Figs. 2a-2g, a first use cue 39 is positioned near a second use cue 38 that corresponds to the first battery system 7a in order to indicate that the first battery system 7a is connected to the light source 3 at that moment. In Figs. 3a-3g, the knob 40 is turned with respect to its position in Fig. 2, such that the second battery system 7b is then connected to the light source 3. In Figs. 3a-3g, a third use cue 43 is then located close to a fourth use cue 41 that corresponds to the second battery system 7b, thereby said use cues are indicating that the second battery system 7b is then connected to the light source 3. Moreover, a further use cue 42 is then located close to the second use cue 38 that corresponds to the first battery system 7a in order to indicate that said first battery system 7a is at that moment interrupted from feeding the light source 3.

It is noted that the housing 2 of the torch 1, especially its handle 6 can be arranged for receiving the cartridge 36 in a holding position in which said cartridge 36, especially its first or second battery system 7a, 7b, is in electrical connection with electrically conductive parts of the torch provided inside the housing 2 of said torch 1. It is noted that such electrically conductive parts may for instance be formed by proximal ends 11" of the guides 11.

Further, it is noted that each battery system 7a, 7b can comprise one or multiple batteries. When a battery system comprises multiple

batteries, said batteries 7', 7" are preferably in series. Alternatively or additionally, the batteries can be rechargeable batteries.

Advantageously, the battery or batteries 7', 7" of the battery systems 7a, 7b may be removable from the cartridge 36. However, in alternative embodiments, the battery or batteries of the battery systems may not be removable. The cartridge 36 may for instance be arranged such that the batteries can be recharged while being inside said cartridge 36.

In embodiments, the safety torch 1 can further comprise a control switch 44 arranged to switch between different lighting modes of the safety torch 1, especially different lighting modes of the light source. For example, the lighting modes may include an on-mode and an off-mode. Other examples of lighting modes may include a flashing mode and/or a turbo mode, in which the light source can flash faster than in the flashing mode, and/or modes in which is switched from a first light source 3 to a further light source 3, such as a further light source for emitting light coloured differently than light of the first light source. Although in the embodiment shown here, only one control switch 44 is provided, multiple control switches, e.g. one control switch for switching between on and off and another control switch for switching between different coloured light sources, can be provided. Alternatively or additionally, the torch 1 may further comprise a control unit arranged for controlling the at least one light source 3, wherein at least one control switch 44 can be connected to the control unit such that said control switch 44 can be used for providing input to the control unit regarding a desired lighting mode. For instance, the control unit can be arranged for providing the light source 3 with a pulsed power supply in order to allow the light source 3 to flash.

It is noted that the switching between the different lighting modes is preferably irrespectively of the respective position of the circuit switch 35. This is, the lighting mode may for instance be switched from on to off or from off to on by means of the control switch 44, irrespective of the

position of the circuit switch 35, i.e. irrespective from whether the first or the second battery system is connected to the light source 3.

In the embodiments of Figs. 1-4, the handle 6 is provided with at least one operating knob 40 at an end 5 opposite the head 4 of the housing 2 and/or the cartridge 36 is provided with at least one operating knob 40, preferably at a distal end 45 of the cartridge 36. Advantageously, the operating knob can comprise the circuit switch 35 and/or the control switch 44. The safety torch 1 can be arranged such that a portion 46 of the battery system cartridge 36 protrudes from the housing 2, when said cartridge 36 is in an inserted position, wherein the at least one operating knob 40 can provided at said protruding portion 46.

As stated before, the operating knob 40 can comprise or form the control switch 44. Said operating knob 40 and/or the control switch 44 may for instance comprise a push knob and/or a push-push mechanism for switching between an on-mode and an off-mode of the light source 3.

In embodiments, an inner side of the handle 6 is tapered for tight fitting receiving the cartridge 36, preferably tapered near the head 4 of the housing 2, and/or wherein an outer side of the cartridge 36 is tapered for tight fitting reception in the handle 6. Advantageously, said outer side can be tapered near a proximal end 46 of the cartridge 36. However, alternative or additional means may be provided for connecting the cartridge 36 to the housing 2 and/or for retaining the cartridge 36 in said housing 2. Such means may for instance comprise screw thread and/or a click mechanism, such as a mechanism comprising click fingers.

Alternatively or additionally, an end of the handle 6 can be provided with an opening 47 for removing the cartridge 36. Consequently, the safety torch 1 can allow for a relatively easy removal and replacement of the cartridge 36, for instance removal and replacement that lacks the need to perform cumbersome actions such as demounting and mounting back

different parts of the housing, which may include unscrewing and screwing back multiple screws.

Moreover, the safety torch 1 can comprise a battery indicator for providing information about a state of charge of at least one of the battery systems 7a, 7b, preferably the first battery system 7a. Advantageously, the indicator can provide information about the state of the battery system which is currently in contact with the light source 3, i.e. the battery system that is then feeding the light source or which can then be made feeding the light source 3 by switching the control switch 44 to its on-mode. In embodiments, the battery indicator can for instance comprise a LED. The indicator can for example be provided at the cartridge 36 or at the housing, preferably at its handle 6.

Further, the invention relates to a set 100. Said set 100 comprises a safety torch 1 such as for instance according to one of the embodiments described above and an additional battery system cartridge 136 arranged for accommodating a primary battery system 37a and a secondary battery system 37b, said cartridge 136 being removably insertable into the handle 6 of the torch 1. Advantageously, the set 100 may comprise batteries and/or additionally batteries and/or a holder suitable for mounting inside a vehicle and for holding said safety torch 1 therein.

Further, the knob 40 may be replaced by and/or may be coupled to additional tool elements, such as a loading port for loading the batteries, or a loading port for loading an electrical device such as a mobile phone, etc. Many variants for the knob 40 are possible. Also, the handle and/or the knob may be provided with e.g. a clip to connect the torch to trousers or to a car interior. Further, the handle and/or the knob may be provided with a connecting element for connecting to a holder system. In the embodiments shown here in Figs. 1 – 4, the connecting element is provided as a recess on the handle in the longitudinal direction of the handle.

The invention is not restricted to the embodiments described above. It will be understood that many variants are possible.

For example, the safety torch 1 can comprise connecting means, which may preferably be provided at the housing 2, and which connecting means are for cooperation with corresponding connecting means of a holder, e.g. a holder for holding multiple tools in a vehicle, such as a car, caravan, bus, train wagon or boat.

Alternatively or additionally, the safety torch 1 can be provided with attachment means for attachment of external elements to the torch 1. For example, a suspension hook can be such an external element that may be, for instance releasably, attachable to the torch 1.

As another example, the safety torch 1 can comprise a power outlet, such as a plug or socket, for feeding an external device, such as a mobile phone. Hence, the cartridge 36 can be used as a back-up power source, for instance for use in emergency situations.

Alternatively or additionally, the safety torch 1, especially the battery system cartridge 36 thereof, can comprise a power inlet, such as a plug or socket, for recharging at least one of the battery systems of said torch 1. Said power inlet can for instance be provided at the protruding portion of the cartridge 36.

Alternatively or additionally, the safety torch 1 can be provided with other elements, such as for example an integrated safety hammer and/or an integrated belt cutter.

These and other embodiments will be apparent to the person skilled in the art and are considered to lie within the scope of the invention as formulated by the following claims.

CONCLUSIES

1. Veiligheidszaklantaarn, omvattende:

een behuizing;

een lichtbron die is geplaatst in een kop van de behuizing, waarbij een uiteinde van de behuizing tegenover de kop een handvat vormt waarin ten minste één batterijsysteem is geplaatst; en

een ten minste gedeeltelijk lichtdoorlatende en/of transparante lichtbronkap voor ten minste gedeeltelijke bescherming van de lichtbron,

waarbij de lichtbronkap instelbaar is tussen een teruggetrokken positie waarin genoemde kap ten minste gedeeltelijk in de kop van de behuizing is teruggetrokken, om tijdens gebruik een bundel licht uit te stralen, en een uitstekende positie waarin de kap uit de behuizing steekt, althans verder uit genoemde behuizing steekt dan in genoemde teruggetrokken positie, waarbij de lichtbronkap tussen genoemde posities instelbaar is door middel van een instelmechanisme, waarbij het instelmechanisme twee in hoofdzaak parallelle geleiders omvat die in de lengterichting van de behuizing zijn geplaatst, voor het langs de geleiders instellen van de lichtbronkap.

2. Veiligheidszaklantaarn volgens conclusies 1, waarbij de kap is voorzien van een geïntegreerde lens aan een distaal uiteinde van genoemde kap.

3. Veiligheidszaklantaarn volgens conclusies 1 of 2, waarbij de kap ten minste één zijvlak omvat dat ten minste gedeeltelijk lichtdoorlatend en/of transparant is.

4. Veiligheidszaklantaarn volgens één der voorgaande conclusies, waarbij de lichtbronkap langs de geleiders instelbaar is tegen een voorspankracht van een veerkrachtig element in welke de kap voorspant richting één van genoemde posities, in het bijzonder de uitstekende positie.

5. Veiligheidszaklantaarn volgens conclusie 4, waarbij het veerkrachtige element een veer omvat die rond één van de geleiders is geplaatst.

6. Veiligheidszaklantaarn volgens één der voorgaande conclusies, waarbij de lichtbronkap verbonden is met een kapdrager voor het dragen van de lichtbronkap, waarbij genoemde kapdrager is ingericht voor samenwerking met de geleiders om de drager langs de geleiders te bewegen tussen de teruggetrokken en de uitstekende positie.

7. Veiligheidszaklantaarn volgens conclusie 6, waarbij de kapdrager wegneembaar verbonden is met de kap, bijvoorbeeld door middel van klikvingers.

8. Veiligheidszaklantaarn volgens één der voorgaande conclusies, waarbij de lichtbronkap, bij voorkeur zijn kapdrager, twee samenwerkende elementen omvat, zoals openingen of uitsparingen, om samen te werken met twee geleiders voor het langs de geleiders bewegen van de drager tussen de teruggetrokken en de uitstekende positie.

9. Veiligheidszaklantaarn volgens één der voorgaande conclusies, verder omvattende ten minste één begrenzingselement, zoals een rubberen ring, om de beweging van de kap langs de geleiders af te remmen.

10. Veiligheidszaklantaarn volgens conclusie 9, waarbij het begrenzingselement is voorzien aan de kapdrager en/of ten minste gedeeltelijk rond de respectievelijke geleider.

11. Veiligheidszaklantaarn volgens één der voorgaande conclusies, waarbij een brugdeel is voorzien tussen de twee geleiders, bij voorkeur aan of nabij distale uiteinden van genoemde geleiders.

12. Veiligheidszaklantaarn volgens conclusie 11, waarbij de lichtbron voorzien is aan het brugdeel.

13. Veiligheidszaklantaarn volgens conclusie 12, waarbij de lichtbron in elektrisch geleidende verbinding is met beide geleiders, zodanig dat

genoemde lichtbron in elektrische verbinding kan worden gebracht met het respectievelijke batterijsysteem via genoemde twee geleiders.

14. Veiligheidszaklantaarn volgens één der voorgaande conclusies, waarbij het instelmechanisme een push-pushmechanisme voor het instellen van de kap omvat of daardoor wordt gevormd.

15. Veiligheidszaklantaarn volgens conclusie 14, waarbij het push-pushmechanisme een pen omvat die beweegbaar is in een aan een binnenzijde van de behuizing voorziene groef.

16. Veiligheidszaklantaarn volgens conclusie 15, waarbij de groef een eerste pad verschaft waarlangs de pen beweegbaar is wanneer de kap ingesteld wordt vanaf de ingetrokken naar de uitstekende positie en een tweede pad verschaft waarlangs de pen beweegbaar is wanneer de kap ingesteld wordt vanaf de uitstekende naar de ingetrokken positie.

17. Veiligheidszaklantaarn volgens één der voorgaande conclusies, waarbij de geleiders elektrisch zijn verbonden met het respectievelijke ten minste ene batterijsysteem.

18. Veiligheidszaklantaarn, bij voorkeur volgens één der voorgaande conclusies, omvattende een behuizing, een lichtbron geplaatst in een kop van de behuizing, en een ten minste gedeeltelijk lichtdoorlatende lichtbronkap voor ten minste gedeeltelijke bescherming van de lichtbron, waarbij een uiteinde van de behuizing tegenover de kop een handvat vormt dat is ingericht voor het huisvesten van een primair batterijsysteem en een secondair batterijsysteem; en waarbij de veiligheidszaklantaarn verder een circuitschakelaar omvat die is ingericht om van een eerste positie, waarin het primaire batterijsysteem de lichtbron kan voeden en het secondaire batterijsysteem onderbroken is van het voeden van de lichtbron, gebracht te worden naar een tweede positie, waarin het secondaire batterijsysteem de lichtbron kan voeden en het primaire batterijsysteem onderbroken is van het voeden van de lichtbron, waarbij de veiligheidszaklantaarn verder een batterijsysteemcassette omvat die is ingericht voor het huisvesten van het

primaire batterijsysteem en het secondaire batterijsysteem, waarbij genoemde cassette wegneembaar in het handvat plaatsbaar is.

19. Veiligheidszaklantaarn volgens één der voorgaande conclusies, verder omvattende een regelschakelaar die is ingericht om te schakelen tussen verschillende belichtingsstanden van de veiligheidszaklantaarn, in het bijzonder verschillende belichtingsstanden van de lichtbron, waarbij het schakelen tussen de verschillende belichtingsstanden bij voorkeur onafhankelijk is van de respectievelijke positie van de circuitschakelaar.

20. Veiligheidszaklantaarn volgens één der voorgaande conclusies, waarbij het handvat voorzien is van een bedienknop aan een uiteinde tegenover de kop van de behuizing en/of waarbij de cassette voorzien is van een bedienknop, bij voorkeur aan een distaal uiteinde van de cassette.

21. Veiligheidszaklantaarn volgens conclusie 20, waarbij de bedienknop de regelschakelaar is of vormt.

22. Veiligheidszaklantaarn volgens conclusie 20 of 21, waarbij de bedienknop een drukknop is voor het schakelen tussen een aan-stand en een uit-stand van de lichtbron.

23. Veiligheidszaklantaarn volgens één der conclusies 18-22, waarbij een binnenzijde van het handvat taps-toelopend is voor het nauwsluitend ontvangen van de cassette, bij voorkeur taps-toelopend nabij de kop van de behuizing, en/of waarbij een buitenzijde van de cassette taps-toelopend is voor nauwsluitende ontvangst in het handvat, bij voorkeur taps-toelopend nabij een proximaal uiteinde van de cassette.

24. Veiligheidszaklantaarn volgens één der conclusies 18-22, waarbij een proximaal uiteinde van het handvat, tegenover de kop, voorzien is van een opening voor het wegnemen van de cassetten van genoemd handvat.

25. Veiligheidszaklantaarn volgens één der voorgaande conclusies, verder omvattende een batterijindicator voor het verschaffen van informatie omtrent een ladingstoestand van ten minste één van de batterijsystemen, bij voorkeur omtrent de toestand van het batterijsysteem dat de lichtbron

aan het voeden is of dat in een positie waarin het de lichtbron voedt kan worden gebracht door de regelschakelaar te schakelen.

26. Set, omvattende een veiligheidszaklantaarn volgens één der conclusies 18-25 en een additionele cassette die is ingericht voor het huisvesten van een primair batterijsysteem en een secondair batterijsysteem, waarbij genoemde cassette wegneembaar plaatsbaar is in het handvat van de lantaarn.

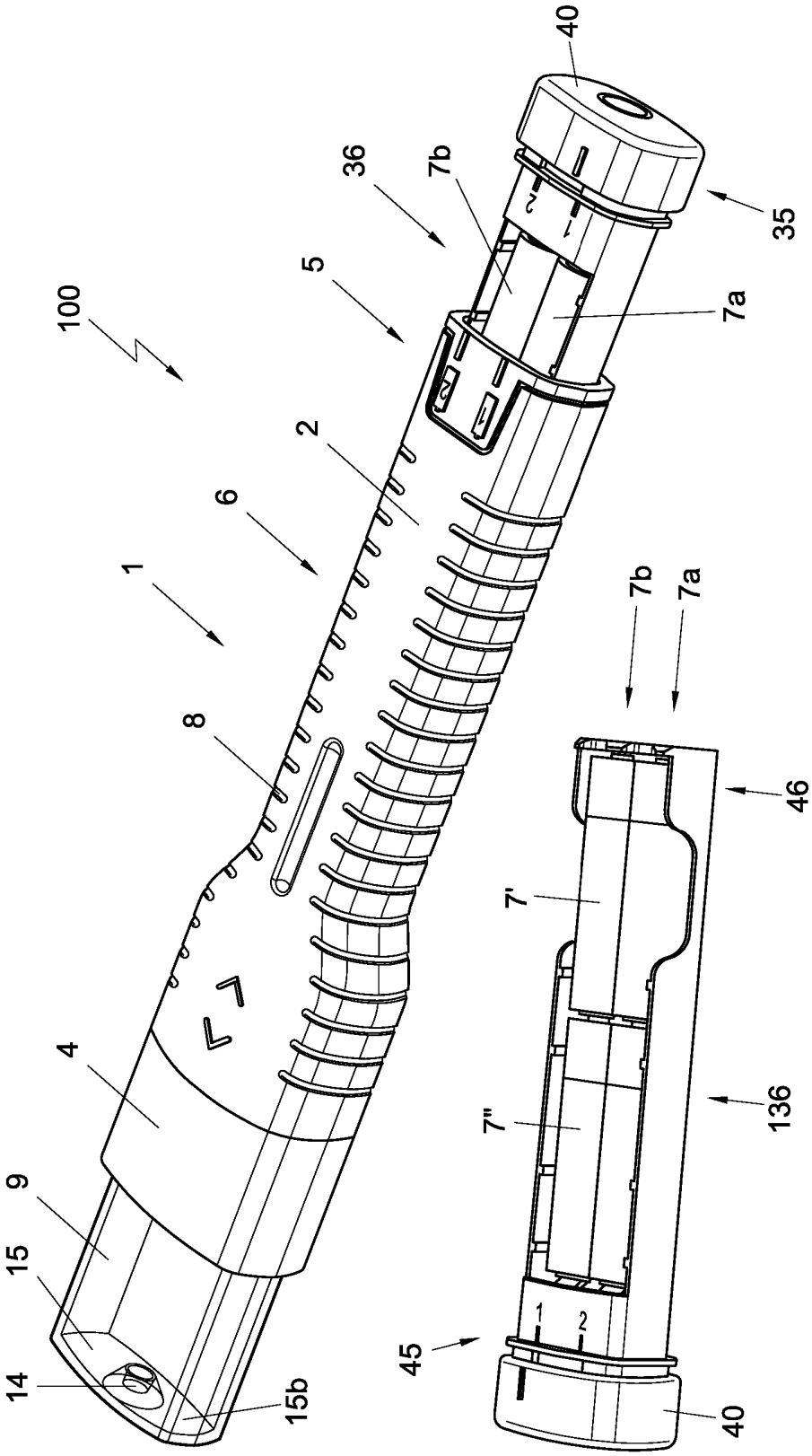


Fig. 1

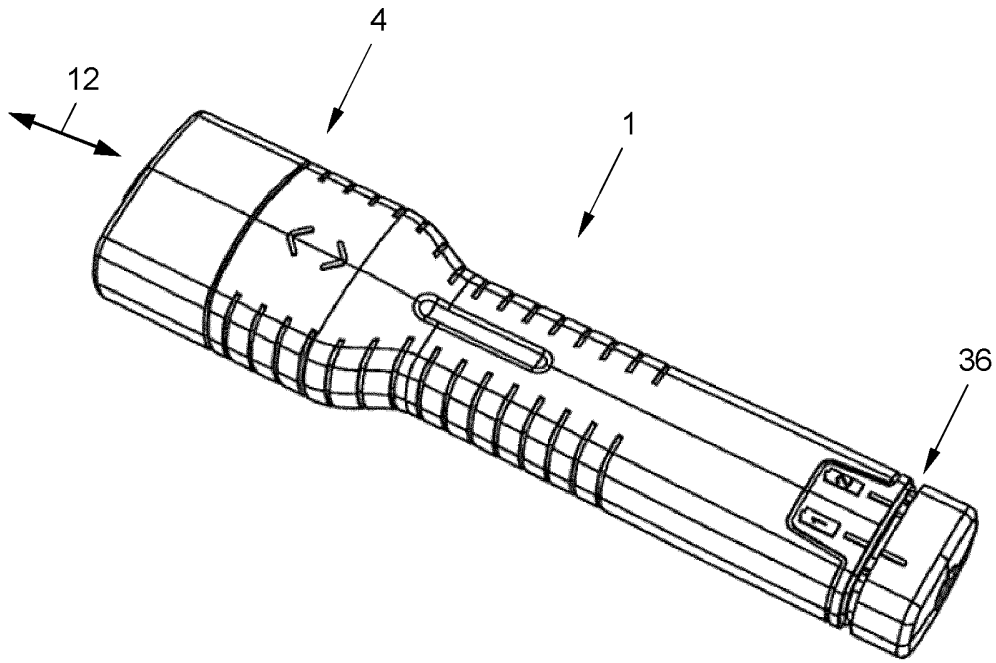


Fig. 2a

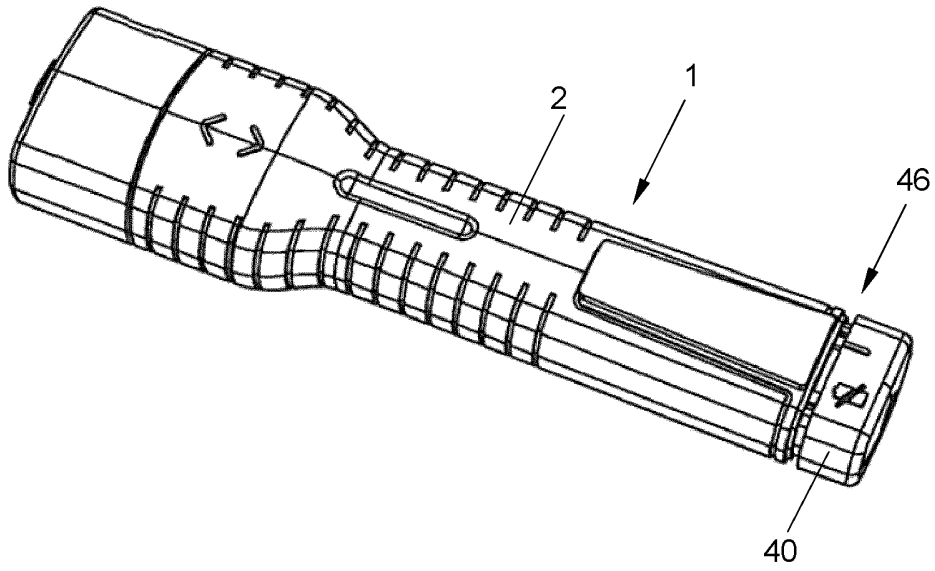


Fig. 2b

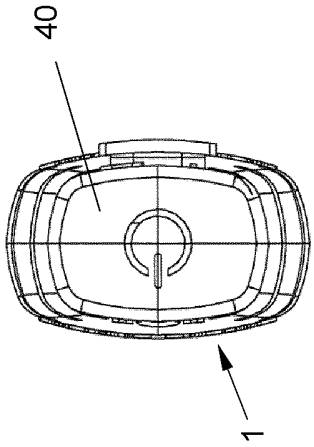


Fig. 2e

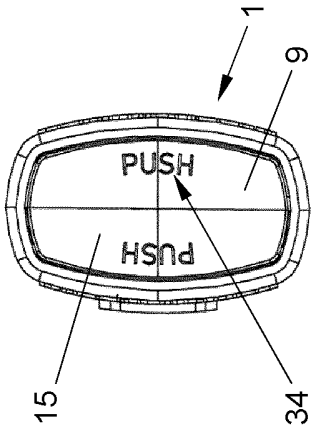


Fig. 2c

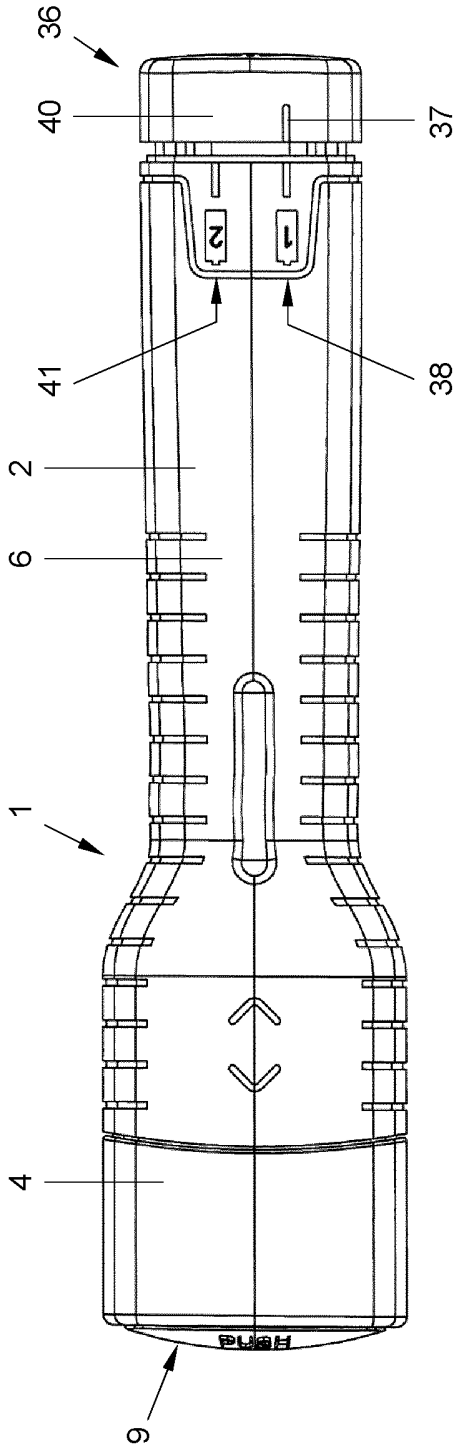


Fig. 2d

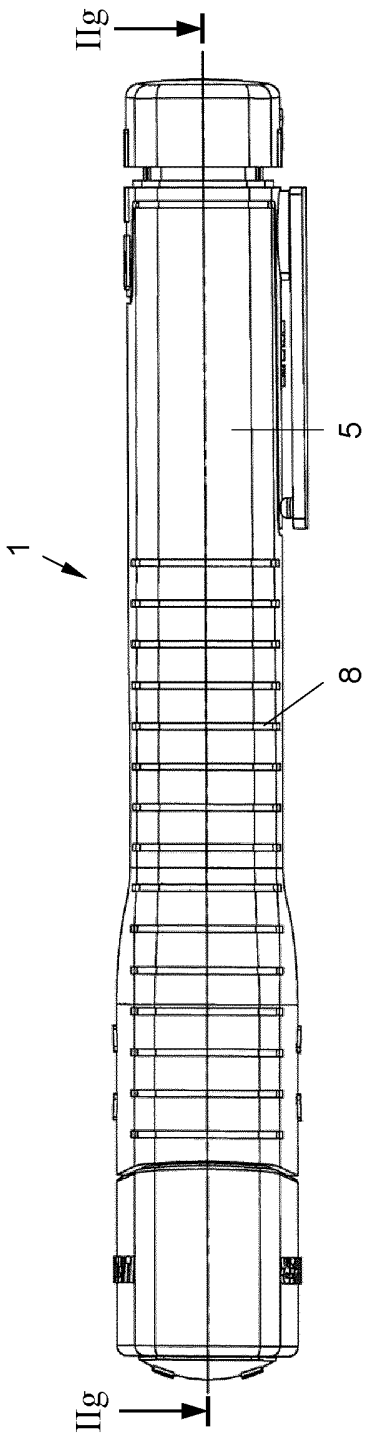

IIg
1
5
8
IIg

Fig. 2f

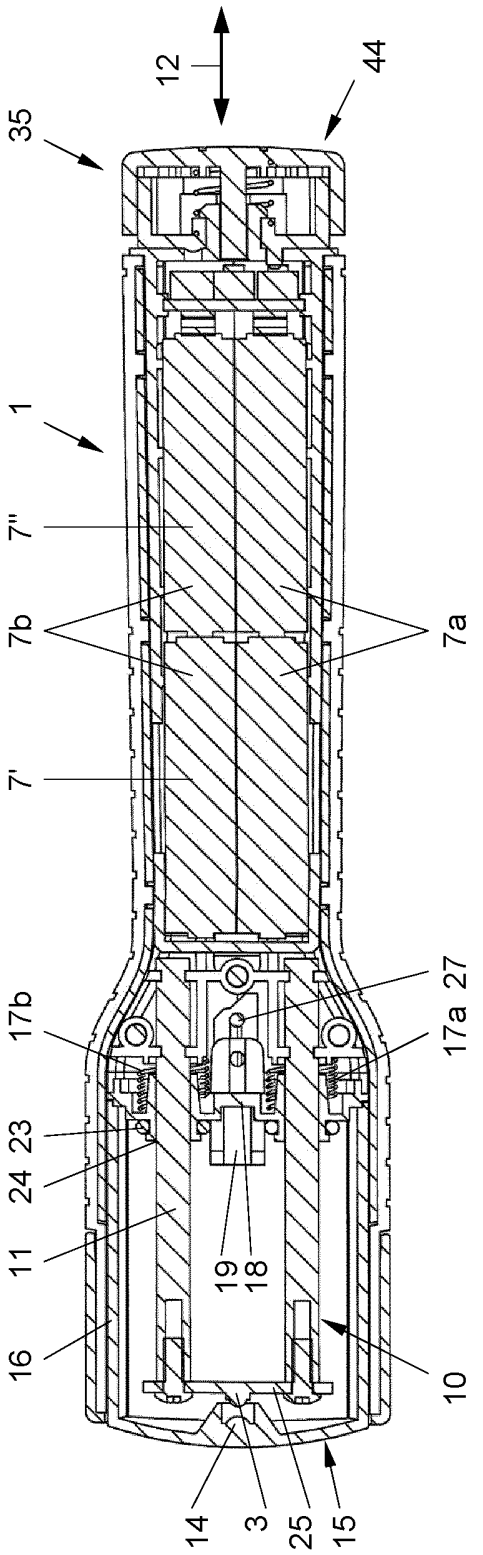

12
44
35
1
7"
7b
7a
7'
17b
27
17a
23
24
11
19
18
16
10
14
3
25
15

Fig. 2g

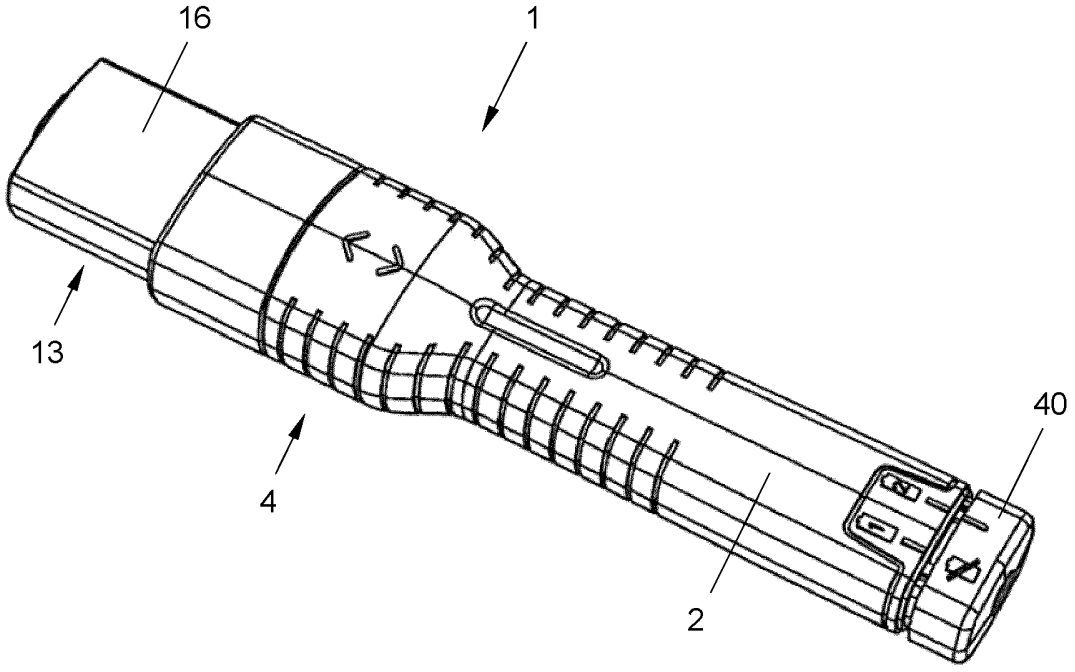


Fig. 3a

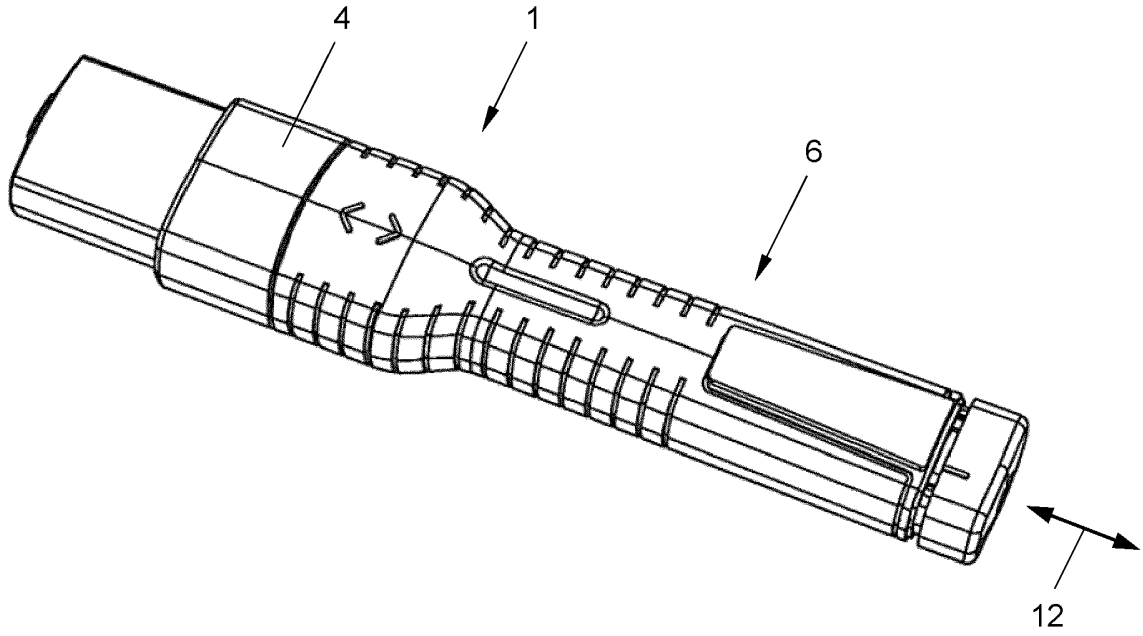


Fig. 3b

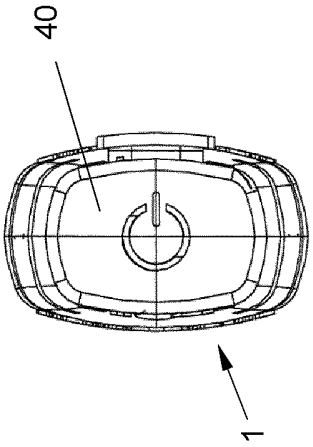


Fig. 3e

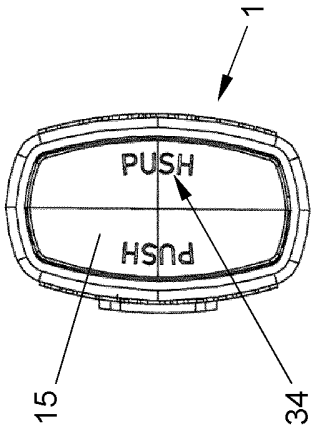


Fig. 3c

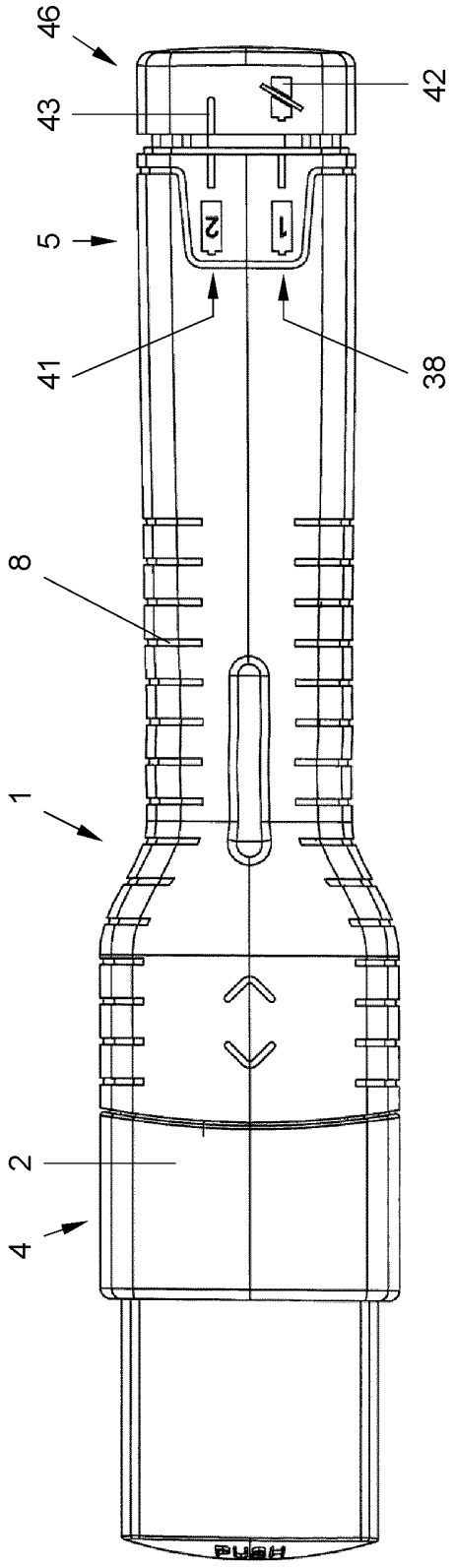


Fig. 3d

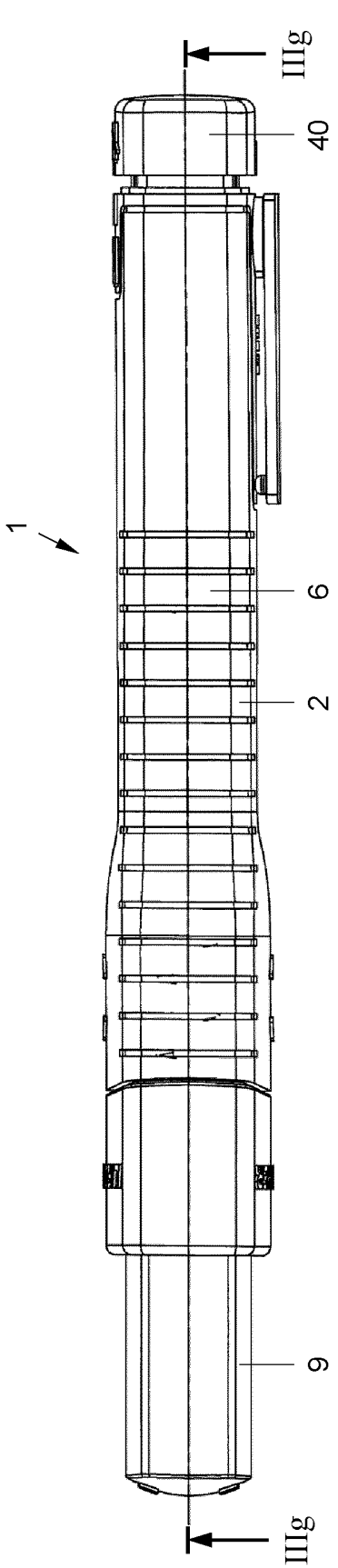

1
IIIg
40
6
2
9
IIIg

Fig. 3f

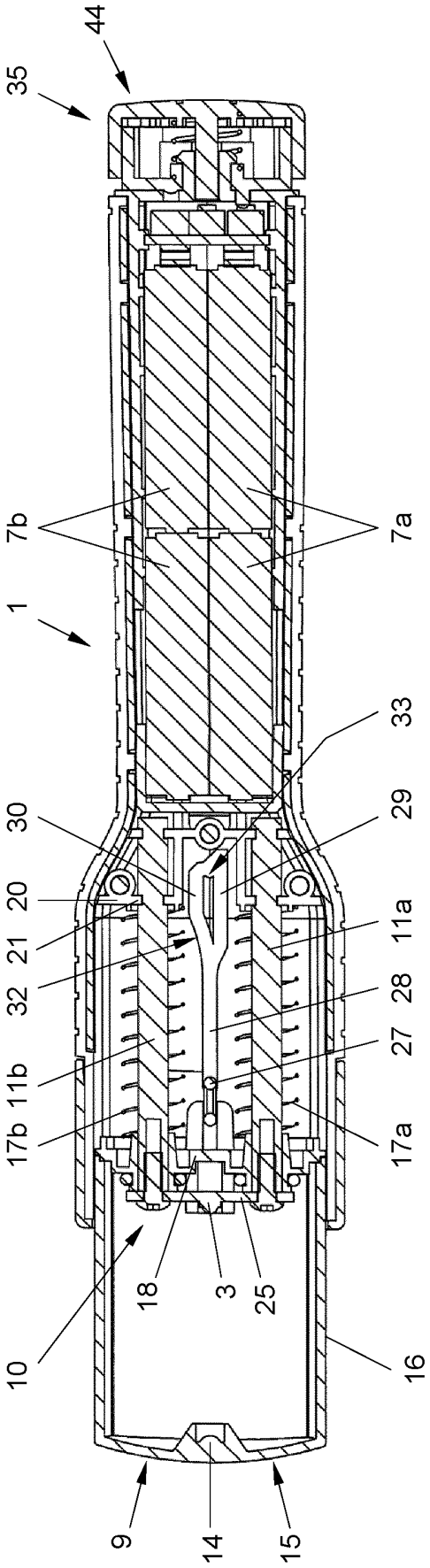

44
35
7b
7a
1
33
30
29
20
11a
21
32
28
27
11b
17b
17a
18
3
25
10
16
9
14
15

Fig. 3g

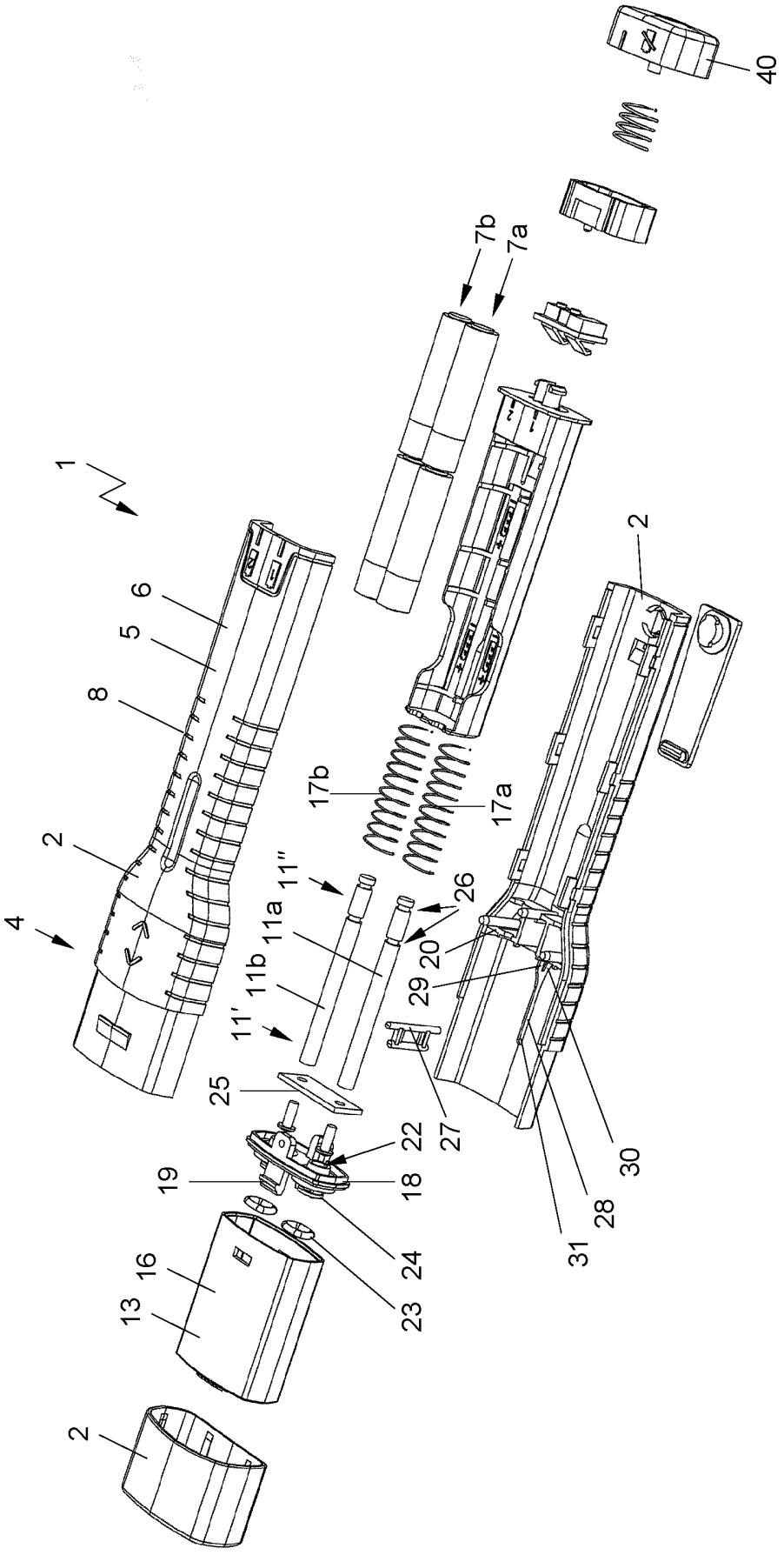

1
2
4
5
6
8
7b
7a
40
17b
17a
11"
11a
11b
11'
26
20
29
25
22
27
30
19
18
28
24
31
16
13
23
2

Fig. 4

SAMENWERKINGSVERDRAG (PCT)

RAPPORT BETREFFENDE NIEUWHEIDSONDERZOEK VAN INTERNATIONAAL TYPE

IDENTIFICATIE VAN DE NATIONALE AANVRAGE	KENMERK VAN DE AANVRAGER OF VAN DE GEMACHTIGDE
	P100833NL00
Nederlands aanvraag nr. **2010708**	Indieningsdatum **25-04-2013**
	Ingeroepen voorrangsdatum
Aanvrager (Naam) **Life Safety Products B.V.**	
Datum van het verzoek voor een onderzoek van internationaal type **07-09-2013**	Door de Instantie voor Internationaal Onderzoek aan het verzoek voor een onderzoek van internationaal type toegekend nr. **SN 60633**

I. CLASSIFICATIE VAN HET ONDERWERP (bij toepassing van verschillende classificaties, alle classificatiesymbolen opgeven)

Volgens de internationale classificatie (IPC)

F21L4/04 **F21V5/00**

II. ONDERZOCHTE GEBIEDEN VAN DE TECHNIEK

Onderzochte minimumdocumentatie

Classificatiesysteem	Classificatiesymbolen	
IPC	**F21L**	**F21V**

Onderzochte andere documentatie dan de minimum documentatie, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen

III. [ ] **GEEN ONDERZOEK MOGELIJK VOOR BEPAALDE CONCLUSIES** (opmerkingen op aanvullingsblad)

IV. [X] **GEBREK AAN EENHEID VAN UITVINDING** (opmerkingen op aanvullingsblad)

ONDERZOEKSRAPPORT BETREFFENDE HET RESULTAAT VAN HET ONDERZOEK NAAR DE STAND VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE

Nummer van het verzoek om een onderzoek naar de stand van de techniek
NL 2010708

A. CLASSIFICATIE VAN HET ONDERWERP
INV. F21L4/04 F21V5/00
ADD.

Volgens de Internationale Classificatie van octrooien (IPC) of zowel volgens de nationale classificatie als volgens de IPC.

B. ONDERZOCHTE GEBIEDEN VAN DE TECHNIEK

Onderzochte miminum documentatie (classificatie gevolgd door classificatiesymbolen)
F21L F21V

Onderzochte andere documentatie dan de mimimum documentatie, voor dergelijke documenten, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen

Tijdens het onderzoek geraadpleegde elektronische gegevensbestanden (naam van de gegevensbestanden en, waar uitvoerbaar, gebruikte trefwoorden)
EPO-Internal, WPI Data

C. VAN BELANG GEACHTE DOCUMENTEN

Categorie °	Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages	Van belang voor conclusie nr.
	EENHEID VAN UITVINDING ONTBREEKT zie aanvullingsblad B -----	
X	GB 1 101 389 A (STANDARD TELEPHONES CABLES LTD) 31 januari 1968 (1968-01-31) * het gehele document * -----	1-3,8,9, 11
X	US 5 012 394 A (WOODWARD JOHN G [US]) 30 april 1991 (1991-04-30) * figuren 1,3 * -----	1
X	US 2009/251078 A1 (OH YOUNG-JIK [KR] ET AL) 8 oktober 2009 (2009-10-08) * alinea [0015] - alinea [0024] * * figuren 1-3 * -----	1-4
	-/--	

[X] Verdere documenten worden vermeld in het vervolg van vak C.

[X] Leden van dezelfde octrooifamilie zijn vermeld in een bijlage

° Speciale categorieën van aangehaalde documenten

"A" niet tot de categorie X of Y behorende literatuur die de stand van de techniek beschrijft

"D" in de octrooiaanvrage vermeld

"E" eerdere octrooi(aanvrage), gepubliceerd op of na de indieningsdatum, waarin dezelfde uitvinding wordt beschreven

"L" om andere redenen vermelde literatuur

"O" niet-schriftelijke stand van de techniek

"P" tussen de voorrangsdatum en de indieningsdatum gepubliceerde literatuur

"T" na de indieningsdatum of de voorrangsdatum gepubliceerde literatuur die niet bezwarend is voor de octrooiaanvrage, maar wordt vermeld ter verheldering van de theorie of het principe dat ten grondslag ligt aan de uitvinding

"X" de conclusie wordt als niet nieuw of niet inventief beschouwd ten opzichte van deze literatuur

"Y" de conclusie wordt als niet inventief beschouwd ten opzichte van de combinatie van deze literatuur met andere geciteerde literatuur van dezelfde categorie, waarbij de combinatie voor de vakman voor de hand liggend wordt geacht

"&" lid van dezelfde octrooifamilie of overeenkomstige octrooipublicatie

Datum waarop het onderzoek naar de stand van de techniek van internationaal type werd voltooid	Verzenddatum van het rapport van het onderzoek naar de stand van de techniek van internationaal type
5 november 2013	

Naam en adres van de instantie	De bevoegde ambtenaar
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Demirel, Mehmet

1

ONDERZOEKSRAPPORT BETREFFENDE HET RESULTAAT VAN HET ONDERZOEK NAAR DE STAND VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE

Nummer van het verzoek om een onderzoek naar de stand van de techniek
NL 2010708

C.(Vervolg). VAN BELANG GEACHTE DOCUMENTEN

Categorie °	Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages	Van belang voor conclusie nr.
X	US 2010/053944 A1 (YAO-LIN CHO [TW]) 4 maart 2010 (2010-03-04) * alinea [0016] - alinea [0019] * * figuur 1 * -----	1,2
A	US 5 735 594 A (OWN JAMES [TW]) 7 april 1998 (1998-04-07) * kolom 2, regel 10 - kolom 4, regel 15 * * figuren 2,5,6 * -----	1-3
A	US 2009/009991 A1 (LIU YUN-ZHAO [CN]) 8 januari 2009 (2009-01-08) * alinea [0018] * * figuur 1 * -----	1

GEBREK AAN EENHEID VAN UITVINDING

Octrooiaanvrage Nr.:
SN 60633
NL 2010708

AANVULLINGSBLAD B

De Instantie belast met het uitvoeren van het onderzoek naar de stand van de techniek heeft vastgesteld dat deze aanvrage meerdere uitvindingen bevat, te weten:

1. conclusies: 1-17

   Torch with adjustable head of the housing in order to change the light emission characteristics.

   ---

2. conclusies: 18-26

   Torch with second battery system in order to increase resiliency of power supply.

Het vooronderzoek werd tot het eerste onderwerp beperkt.

D6 (US2009/0009991A1) is considered as the relevant prior art for the present non unity analysis.

It discloses, see figure 1 and paragraphs [18] the following subject matter of claims 1 and 18:
A torch (fig. 1) provided with a housing (1), a battery system (2) and a light source (not shown on figure) arranged in a head of the housing which is partly translucent (light exiting surface).

The "special technical feature" of claim 1 with respect to D6 is considered to be the adjustable head of the housing between a rectracted position and a protruding position.
The problem to be solved is how to change the emission characteristics of the torch.

The "special technical feature" of claim 18 with respect to D6 is considered to be the second battery system.
The problem to be solved is to increase the resilience of the power supply of the torch.

The above groups of claims are therefore not linked by a common or corresponding special technical feature. Nor are the above groups of claims linked by a single general inventive concept. The application thus contains different inventions and does not meet the requirements of unity of invention.

ONDERZOEKSRAPPORT BETREFFENDE HET RESULTAAT VAN HET ONDERZOEK NAAR DE STAND VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE

Informatie over leden van dezelfde octrooifamilie

Nummer van het verzoek om een onderzoek naar de stand van de techniek
NL 2010708

In het rapport genoemd octrooigeschrift	Datum van publicatie	Overeenkomend(e) geschrift(en)	Datum van publicatie
GB 1101389	A 31-01-1968	GEEN	
US 5012394	A 30-04-1991	GEEN	
US 2009251078	A1 08-10-2009	JP 4485535 B2	23-06-2010
		JP 2007520045 A	19-07-2007
		US 2009251078 A1	08-10-2009
		WO 2005073616 A1	11-08-2005
US 2010053944	A1 04-03-2010	GEEN	
US 5735594	A 07-04-1998	DE 29700755 U1	06-03-1997
		GB 2325513 A	25-11-1998
		US 5735594 A	07-04-1998
US 2009009991	A1 08-01-2009	GEEN	

OCTROOICENTRUM NEDERLAND

WRITTEN OPINION

File No.	Filing date *(day/month/year)*	Priority date *(day/month/year)*	Application No.
SN60633	25.04.2013		NL2010708

International Patent Classification (IPC)
INV. F21L4/04 F21V5/00

Applicant
Life Safety Products B.V.

This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☒ Box No. VII Certain defects in the application
- ☐ Box No. VIII Certain observations on the application

	Examiner
	Demirel, Mehmet

Application number

WRITTEN OPINION

NL2010708

Box No. I Basis of this opinion

1. This opinion has been established on the basis of the latest set of claims filed before the start of the search.

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the application and necessary to the claimed invention, this opinion has been established on the basis of:

   a. type of material:

   ☐ a sequence listing

   ☐ table(s) related to the sequence listing

   b. format of material:

   ☐ on paper

   ☐ in electronic form

   c. time of filing/furnishing:

   ☐ contained in the application as filed.

   ☐ filed together with the application in electronic form.

   ☐ furnished subsequently for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

WRITTEN OPINION

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step, or to be industrially applicable have not been examined in respect of

☐ the entire application

☒ claims Nos. 18-26

because:

☒ the said application, or the said claims Nos. 18-26 relate to the following subject matter which does not require a search *(specify)*:

see separate sheet

☐ the description, claims or drawings *(indicate particular elements below)* or said claims Nos. are so unclear that no meaningful opinion could be formed *(specify)*:

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed *(specify)*:

☒ no search report has been established for the whole application or for said claims Nos. 18-26

☐ a meaningful opinion could not be formed as the sequence listing was either not available, or was not furnished in the international format (WIPO ST25).

☐ a meaningful opinion could not be formed without the tables related to the sequence listings; or such tables were not available in electronic form.

☒ See Supplemental Box for further details.

Box No. IV Lack of unity of invention

1. The requirement of unity of invention is not complied with for the following reasons:

   see separate sheet

2. This report has been established in respect of the following parts of the application:

   ☐ all parts.

   ☒ the parts relating to claims Nos. (see Search Report)

WRITTEN OPINION

Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty	Yes:	Claims	4-7, 10, 12-17
	No:	Claims	1-3, 8, 9, 11
Inventive step	Yes:	Claims	5-7, 10, 12-17
	No:	Claims	1-4, 8, 9, 11
Industrial applicability	Yes:	Claims	1-17
	No:	Claims	

2. Citations and explanations

see separate sheet

Box No. VII Certain defects in the application

see separate sheet

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

No opinion is established for claims 18-26, see Item IV below.

Re Item IV

Lack of unity of invention

1 It is considered that there are 2 inventions covered by the claims indicated as follows:

Invention 1: Claim 1 (and related dependent claims 2-17)

Torch with adjustable head of the housing in order to change the light emission characteristics.

Invention 2: Claim 18 (and related dependent claims 19-26)

Torch with second battery system in order to increase resiliency of power supply.

2 The reasons for which the inventions are not so linked as to form a single general inventive concept, are as follows:

Reference is made to the following documents:

D1	GB 1 101 389 A (STANDARD TELEPHONES CABLES LTD) 31 januari 1968 (1968-01-31)
D2	US 5 012 394 A (WOODWARD JOHN G [US]) 30 april 1991 (1991-04-30)
D3	US 2009/251078 A1 (OH YOUNG-JIK [KR] ET AL) 8 oktober 2009 (2009-10-08)

D4 US 2010/053944 A1 (YAO-LIN CHO [TW]) 4 maart 2010 (2010-03-04)

D5 US 5 735 594 A (OWN JAMES [TW]) 7 april 1998 (1998-04-07)

D6 US 2009/009991 A1 (LIU YUN-ZHAO [CN]) 8 januari 2009 (2009-01-08)

2.1 D6 is considered as the relevant prior art for the present non unity analysis. It discloses, see figure 1 and paragraphs [18] the following subject matter of claims 1 and 18:

A torch (fig. 1) provided with a housing (1), a battery system (2) and a light source (not shown on figure) arranged in a head of the housing which is partly translucent (light exiting surface).

2.1.1 The "special technical feature" of claim 1 with respect to D6 is considered to be the adjustable head of the housing between a rectracted position and a protruding position.

The problem to be solved is how to change the emission characteristics of the torch.

2.1.2 The "special technical feature" of claim 18 with respect to D6 is considered to be the second battery system.

The problem to be solved is to increase the resilience of the power supply of the torch.

2.2 The above groups of claims are therefore not linked by a common or corresponding special technical feature. Nor are the above groups of claims linked by a single general inventive concept. The application thus contains different inventions and does not meet the requirements of unity of invention.

Re Item V

1 The present application does not meet the criteria of patentability, because the subject-matter of claim 1 is not new.

1.1 Document D1, see figures 1-3, discloses:

Veiligheidszaklantaarn, omvattende:
een behuizing (1);
een lichtbron (5) die is geplaatst in een kop van de behuizing, waarbij een uiteinde van de behuizing tegenover de kop een handvat vormt waarin ten minste één batterijsysteem is geplaatst; en
een ten minste gedeeltelijk lichtdoorlatende en/of transparante lichtbronkap (7, 21) voor ten minste gedeeltelijke bescherming van de lichtbron (5),
waarbij de lichtbronkap (7, 21) instelbaar is tussen een teruggetrokken positie (figure 2) waarin genoemde kap ten minste gedeeltelijk in de kop van de behuizing (1) is teruggetrokken, om tijdens gebruik een bundel licht uit te stralen, en een uitstekende positie (figure 3) waarin de kap uit de behuizing (1) steekt, althans verder uit genoemde behuizing (1) steekt dan in genoemde teruggetrokken positie, waarbij de lichtbronkap (7, 21) tussen genoemde posities instelbaar is door middel van een instelmechanisme, waarbij het instelmechanisme twee in hoofdzaak parallelle geleiders (flattened sides of torch casing) omvat die in de lengterichting van de behuizing (1) zijn geplaatst, voor het langs de geleiders instellen van de lichtbronkap (7, 21).

Therefore, the subject-matter of claim 1 is not novel.

2 Dependent claims 2-4, 8, 9 and 11 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of novelty and/or inventive step, see documents D1-D5 and the corresponding passages cited in the search report.

2.1 The combination of the features of dependent claims 5-7, 10, 12-17 seems at present to be neither known from, nor rendered obvious by, the available prior art.

Re Item VII

1 The relevant background art disclosed in document D1 is not mentioned in the description, nor is this document identified therein.

2 Independent claim 1 is not in the two-part form, which in the present case would be appropriate, with those features known in combination from the prior art being placed in the preamble and the remaining features being included in the characterising part.

3 The features of claim 1 are not provided with reference signs placed in parentheses.