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I. F. FAUSEK ET AL

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LIGHTING DEVICE

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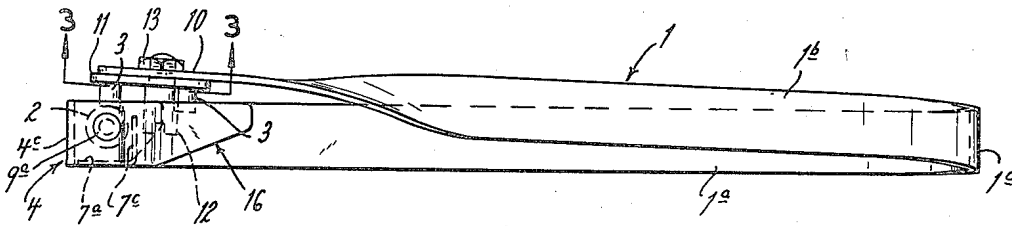


FIG. 1.

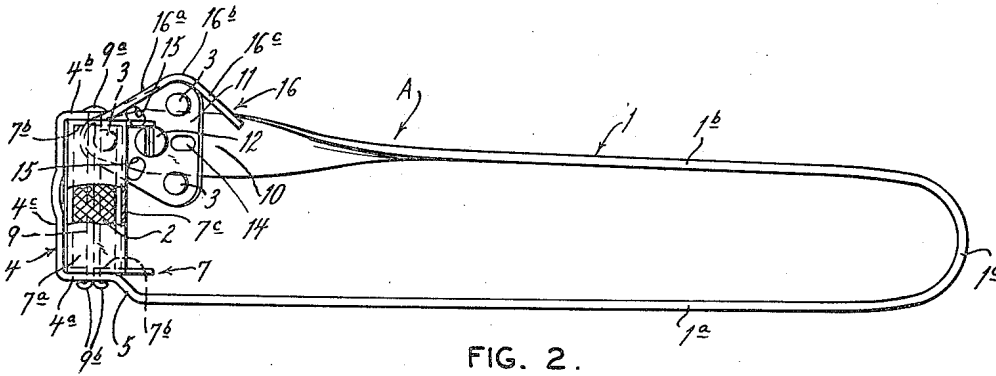


FIG. 2.

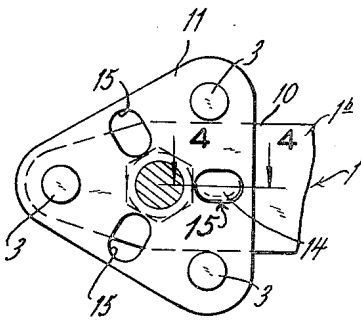


FIG. 3.

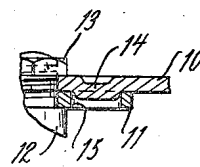


FIG. 4.

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## LIGHTING DEVICE

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4 Claims. (Cl. 67-6.1)

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This invention relates generally to lighting devices of the sparking type heretofore employed for igniting gas and other combustibles, and more specifically to the type of lighting device disclosed by United States Letters Patent No. 1,853,205, granted on April 12, 1932, the predominant object of the invention being to provide a lighting device of this type which, because of its improved construction and arrangement will not be accidentally actuated so as to create sparks in the event it is dropped, or falls to the floor, or is otherwise subjected to impact.

The lighting device disclosed by the United States Letters Patent referred to above performs its intended function in a highly efficient manner, but one deficiency is present in connection with the use of such lighting device which, under certain circumstances, might reduce, somewhat, complete safety of use of the lighting device. The deficiency referred to results from the fact that the flint which is in the effective position with respect to the abrasive member of the lighting device is free at all times to move relative to said abrasive member in contact therewith, and, therefore, if the lighting device should be accidentally dropped and should strike the floor, or other article, in a manner to cause the effectively positioned flint to move along the abrasive member, sparks would be produced which might ignite gas present at the location at which the lighting device was dropped.

The main purpose of the present invention is to improve the construction and arrangement of the lighting device of the United States Letters Patent referred to above in such manner that the effectively positioned flint is prevented from moving along the abrasive member in the event the lighting device is dropped, or otherwise receives an impact, whereby the danger incident to production of unintended sparks is entirely eliminated.

Fig. 1 is a side elevation of the improved lighting device of this invention.

Fig. 2 is an inverted plan view of the lighting device illustrated by Fig. 1 with a part thereof broken away.

Fig. 3 is an enlarged section taken on line 3-3 of Fig. 2.

Fig. 4 is a section taken on line 4-4 of Fig. 3.

In the drawings, wherein are shown for purposes of illustration, merely, one embodiment of the invention, A designates the illustrated lighting device generally. The lighting device A includes a handle 1, an abrasive member 2 which is supported by a portion of said handle 1, and a

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plurality of sparking elements, or flints 3 supported by another portion of the handle 1 in a manner to permit of one of said sparking elements being moved with respect to and in contact with said abrasive member so as to produce sparks. The handle 1 preferably is formed from a strip of metal, or other suitable material, which is possessed of considerable resiliency, said strip being bent to assume a substantially U-shaped form, as is shown in Fig. 2. For the purpose of convenience in describing the invention we designate one leg portion of the handle 1 by the reference character 1a, the other leg portion of the handle by the reference character 1b, and the bowed connecting portion at the outer end of the handle by the reference character 1c.

The end portion of the leg portion 1a of the handle 1 opposite the end thereof which joins the bowed connecting portion 1c thereof is shaped as is illustrated in Fig. 2; that is to say a yoke 4 is provided which is comprised of oppositely disposed side walls 4a and 4b and an end wall 4c which is formed integral with said side walls 4a and 4b. The yoke 4 is integrally joined to the leg portion 1a of the handle 1 by an inclined connecting portion 5 whereby the handle 1 and the yoke 4 provide a unitary structure.

Supported within the yoke 4 is a box-like structure 7 which houses the abrasive member 2 of the device A, said box-like structure having a bottom wall 7a, opposed side walls 7b, and a rear wall 7c. It is to be noted that the opposed side walls 7b of the box-like structure 7 project rearwardly of the rear wall of said box-like structure considerable distances and these rearwardly projected side wall portions perform a function to be hereinafter set forth. The opposed side walls 7b of the box-like structure 4 contact with the opposed portions 4a and 4b of the yoke 4, while the forward edge of the bottom wall 7a of said box-like structure is in substantial contact with the portion 4c of said yoke, as is shown in Fig. 1.

The abrasive member 2, which may be formed of any suitable material, such as suitable metal, or the material known commercially as "Lava," is provided with an opening which extends longitudinally therethrough from end to end thereof, and the opposed side walls of the box-like structure 7 and the portions 4a and 4b of the yoke are provided with openings that are aligned with said opening of the abrasive member. Extended through the openings of the yoke portions 4a and 4b, and the openings of the opposed walls of the box-like structure, and through the opening of the abrasive member 2 is an element 9 which

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is provided with a head 9a at one end that contacts with the outer face of the yoke portion 4b, said element at its opposite end being provided with extensions 9b which are bent outwardly so as to retain the element in its effective place in the lighter structure where it retains the box-like structure and the abrasive member in place within the yoke 4. The forward end portion 10 of the leg portion 1b of the handle 1 is twisted approximately 90° with respect to the remainder of said leg portion, as is shown to good advantage in Figs. 1 and 2, the forward portion of said portion 10 preferably being tapered.

Associated with the portion 10 of the leg portion 1b is a head 11 of triangular shape which is supported by a bolt 12, said bolt including an enlarged head portion and a screwthreaded shank portion which is of less diameter than said head portion. The screwthreaded shank portion of the bolt 12 extends through aligned openings formed through the head 11 and the portion 10 of the leg 1b of the handle 1 of the lighting device A, and a nut 13 is mounted on said screwthreaded shank portion of the bolt, said nut drawing a shoulder at the inner end of the enlarged head portion of the bolt into tight engagement with a lower face portion of the head 11, and said nut in turn being in tight engagement with an upper face portion of the portion 10 of the leg portion 1b of the handle 1. Thus, when the nut 13 is drawn down tight against the upper face of the portion 10 of the leg 1b of the handle 1 the head 11 is securely held stationary relative to said handle portion 10, and when it is desired to rotate the head about the bolt nut 13 may be backed up to relieve the gripping effect of the bolt and nut relative to said head, whereupon said head may be rotated.

The flints 3, previously referred to herein, are supported by the head 11 and said head is subjected to rotation about the bolt 12, as is explained above, when the flint in the effective position becomes worn and it is desired to shift the head 11 so as to bring another flint into the effective position relative to the abrasive member 2. The portion 10 of the leg 1b of the handle 1 is provided with a depressed lug 14 of elongated shape and said lug enters one of a plurality of similarly shaped openings 15 formed through the head 11, said openings 15 being so located that each flint has a related opening 15 and the related opening 15 of the flint in the effective position relative to the abrasive member 2 receives the lug 14 so as to lock the head 11 and thus prevent unintended rotation of said head about the bolt 12.

The side portion 4b of the yoke 4 is provided with an extension 16 which is shaped as is shown in Fig. 2. In other words, the extension 16 of the side portion 4b of the yoke 4 includes a portion 16a which inclines outwardly and rearwardly from said side portion 4b of the yoke and terminates in an arcuate portion 16b which in turn terminates in an inwardly and rearwardly inclined portion 16c. It is important to note that the outward projection of the extension 16 is of such extent that said extension is located outwardly of the adjacent edge of the head 11. As a result of this situation movement of the effectively located flint 3 relative to and in contact with the abrasive member 2 is prevented in the event the lighting device is dropped or falls to the floor, because the impact will be taken by the extension 16 of the portion 4b of the yoke 4 and no jar will be imparted to the portion 10 of

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leg 1b of the handle 1 of the device which would tend to move the effectively located flint relative to and in contact with the abrasive member 2 so as to produce sparks.

When it is desired to produce sparks in the use of the lighting device of this invention the handle 1 is grasped by a hand of the user, and the leg portions 1a and 1b of said handle are quickly moved toward each other to cause the effectively located flint 3 to move longitudinally of the abrasive member 2 in contact therewith. In this connection it is to be noted that the head portion of the bolt 12 is located between the rearwardly extended portions of the side walls 7b of the box-like structure 7, and these rearwardly extended portions serve as abutments with which said head portion of the bolt 12 contacts so as to limit movement of the effectively located flint 3 in opposite directions.

We claim:

1. A lighting device comprising a resilient supporting element having leg portions capable of relative movement, a yoke portion forming a part of one of said leg portions of said resilient supporting element, an abrasive member supported by said yoke portion, a head supported by another leg of said resilient supporting element and having a plurality of sparking elements mounted thereon, said head having a portion which extends outwardly of the leg of the resilient supporting element by which it is supported, said supporting element being yieldable to permit movement of one of said sparking elements relative to said abrasive member in contact therewith, and means for preventing unintended movement of said sparking element relative to said abrasive member in contact therewith, said means comprising an impact-receiving extension projected from said yoke portion and shaped in substantial accordance with the outwardly extended portion of said head and disposed in protective relation with respect to said head.

2. A lighting device comprising a resilient supporting element having leg portions capable of relative movement, a yoke portion forming a part of one of said leg portions of said resilient supporting element, an abrasive member supported by said yoke portion, a head supported by another leg of said resilient supporting element and having a plurality of sparking elements mounted thereon, said head having a portion which extends outwardly of the leg of the resilient supporting element by which it is supported, said supporting element being yieldable to permit movement of one of said sparking elements relative to said abrasive member in contact therewith, and means for preventing unintended movement of said sparking element relative to said abrasive member in contact therewith, said means comprising an impact-receiving extension of substantially V-shaped formation projected from said yoke portion and disposed in protective relation with respect to the outwardly extended portion of said head.

3. A lighting device comprising a resilient supporting element having leg portions capable of relative movement, a yoke portion forming a part of one of said leg portions of said resilient supporting element, an abrasive member supported by said yoke portion, a head supported for rotation by another leg of said resilient supporting element and having a plurality of sparking elements mounted thereon, said head having a portion which extends outwardly of the leg of the resilient supporting element by which it is sup-

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ported, said supporting element being yieldable to permit movement of one of said sparking elements relative to said abrasive member in contact therewith, means for preventing unintended movement of said sparking element relative to said abrasive member in contact therewith, said means comprising an impact-receiving extension projected from said yoke portion and shaped in accordance with the outwardly extended portion of said head, said head being provided with a plurality of noncircular openings formed therein, and a projected part on the head-supporting leg portion of said supporting element which extends into one of said elongated openings of said head.

4. A lighting device comprising a resilient supporting element having leg portions capable of relative movement, a yoke portion forming a part of one of said leg portions of said resilient supporting element, an abrasive member supported by said yoke portion, a head supported for rotation by another leg of said resilient supporting element and having a plurality of sparking elements mounted thereon, said head having a portion which extends outwardly of the leg of the resilient supporting element by which it is supported, said supporting element being yieldable to permit movement of one of said sparking elements relative to said abrasive member in con-

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tact therewith, means for preventing unintended movement of said sparking element relative to said abrasive member in contact therewith, said means comprising an impact-receiving extension projected from said yoke portion and shaped in accordance with the outwardly extended portion of said head, said head being provided with a plurality of elongated openings formed therein, and a projected part on the head-supporting leg portion of said supporting element which extends into one of said elongated openings of said head.

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