

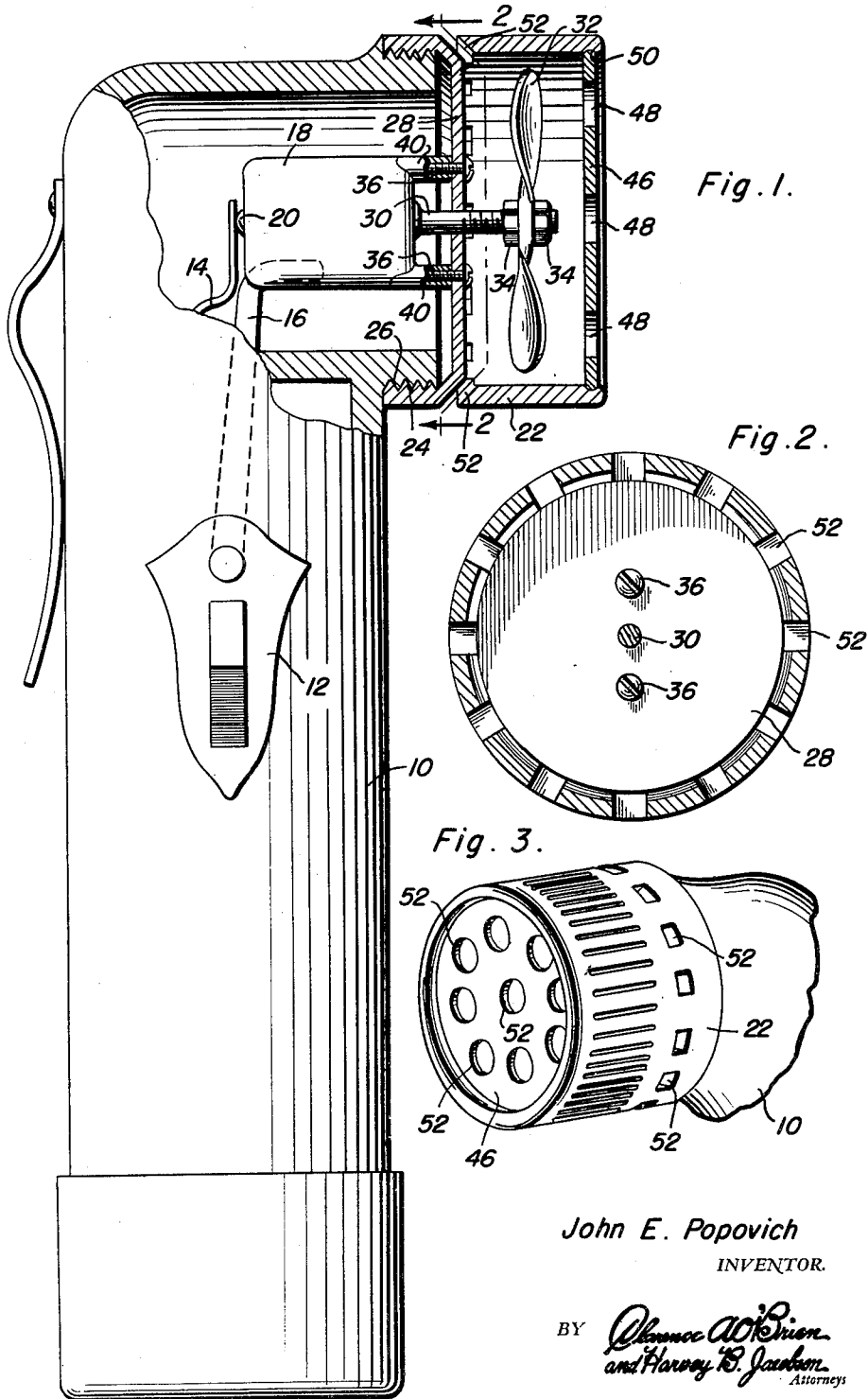
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FLASHLIGHT FAN

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FLASHLIGHT FAN

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4 Claims. (Cl. 230-259)

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This invention relates to novel and useful improvements in attachments for use with conventional flashlight casings, batteries, switch contacts, and elements.

An object of this invention is to supply a purely conventional flashlight casing, switch, switch contacts, flashlight batteries, etc. with an attachment whereby it may be converted into a pocket-type fan.

Another object of this invention is to replace the reflector and lens assembly along with the collar normally associated therewith at an end of a conventional flashlight with an attachment, substituting a motor, air impeller and threaded collar, whereby quick and ready conversion from a flashlight to a fan may be effected.

Another object of this invention is to provide an extremely simplified device of the character to be described which is commercially feasible, practical and inexpensive.

Ancillary objects and features of novelty will become apparent to those skilled in the art, in following the description of the preferred form of the invention, illustrated in the accompanying drawings, wherein:

Figure 1 is an elevational side view of the preferred form of the invention, portions being broken away in section to illustrate details of construction;

Figure 2 is a sectional view taken substantially on the line 2—2 of Figure 1 and in the direction of the arrows; and

Figure 3 is a fragmentary perspective view showing the attachment associated with a conventional flashlight casing fragment.

Ready attachment and detachment is one of the prime features of the present invention. Further, the adaptability of the device characterizing the invention to conventional flashlight casings and mechanisms is of great importance. Any flashlight of conventional description presently owned by individuals may be converted to a flashlight type fan by removal of the collar maintaining the lens, lamp and reflector from the flashlight casing and the substitution of the collar, motor and air impeller forming the major portion of the assembly of the instant attachment.

Referring to the drawings, it is seen that a conventional flashlight casing 10 is provided with a conventional switch 12, as well as a pair of conventional switch contacts 14 and 16, one being stationary while the other is slidable with the switch 12.

Normally, these contents would engage the

reflector and lamp of a conventional flashlight. However, in Figure 1, it is readily appreciated that they are in engagement with a motor casing and a contact 20 in order to supply energy from the battery (unshown) in the casing 10.

A collar 22 is supplied with internal threads at 24 which are complementary to the threads 26, normally found adjacent flashlight end openings. The threads 26 are used for the purpose of retaining the unshown conventional lens and reflector retaining collars in place in the usual flashlight structure.

In order to maintain the motor 18 in the proper position, a partition 28 is formed integral or rigidly secured to the collar 22 and has a central opening (unnumbered) therein. This central opening accommodates the shaft 30 of the said motor 18, which shaft has a conventional small-size air impeller or blade 32 attached thereto by any suitable means such as the nuts 34.

The said partition 28 is also utilized for the purpose of supporting the bolts 36 which are, in turn, secured to suitable bosses 40 attached to the motor 18. This, of course, mounts the motor on the partition.

A closure 46 having a number of openings 48 therein is attached to the forward end of the collar 22 by means of a ring-type recess 50 formed in the said collar 22. The closure 46 is simply slipped into place, relying on the resiliency of the material to maintain it in the proper location. Of course, this closure 46 may be obviated if it is found desirable or may be attached in any suitable manner. Further, it is within the purview of the invention to utilize a screen or other foraminous member in lieu of the closure 46.

On the upstream side of the blade or impeller 32 and formed in the collar 22 is a number of air inlet openings or passages 52 which are inclined with relation to the shaft 32. These openings are used as air inlets, the partition blocking airflow from within the casing. The angle of inclination of the openings 52 is proper, since the axis of each opening, if projected forwardly, would strike the blade or air impeller 32 at substantially seventy-five per cent chord, which is the most efficient part of the fan blade. By this medium, air is pulled directly through the opening 52 in a direction whereby it will contact without substantial circulation within the collar 32, the most efficient portion of the blade 32. Maximum traction of air is thus produced.

While there has been described and shown but one form of the invention, it is apparent that

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variations may be made without departing from the spirit thereof. Accordingly, limitation is sought only in accordance with the scope of the following claims.

Having described the invention, what is claimed as new is:

1. In combination with a flashlight housing having a threaded opening and switch contacts, a fan attachment comprising a collar having threads adapted to be detachably secured to the threaded housing opening, a motor, means separating said collar into a motor chamber and a fan blade chamber and attached to said collar supporting said motor in the motor chamber for operative connection with the switch contacts, a fan blade located in the blade chamber and disposed within said collar and drivingly connected with said motor, and said collar having air inlet openings upstream of said air impeller, intermediate the front and back ends of said collar and in the blade chamber.

2. The combination of claim 1 and said motor supporting means comprising a partition in said collar with fastening elements carried by said partition.

3. The combination of claim 2 and an apertured protective cover mounted in said collar.

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4. In a casing having a switch and an opening therein, a collar detachably secured in communication with said opening, a partition in said collar, a motor supported by said partition and having a shaft, a fan blade secured to said shaft and disposed within said collar, air inlet passages in said collar angularly inclined with respect to the axis of the shaft, and the projected axis of the passages intersecting the blade intermediate the hub and the tips thereof.

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