

Aug. 5, 1924.

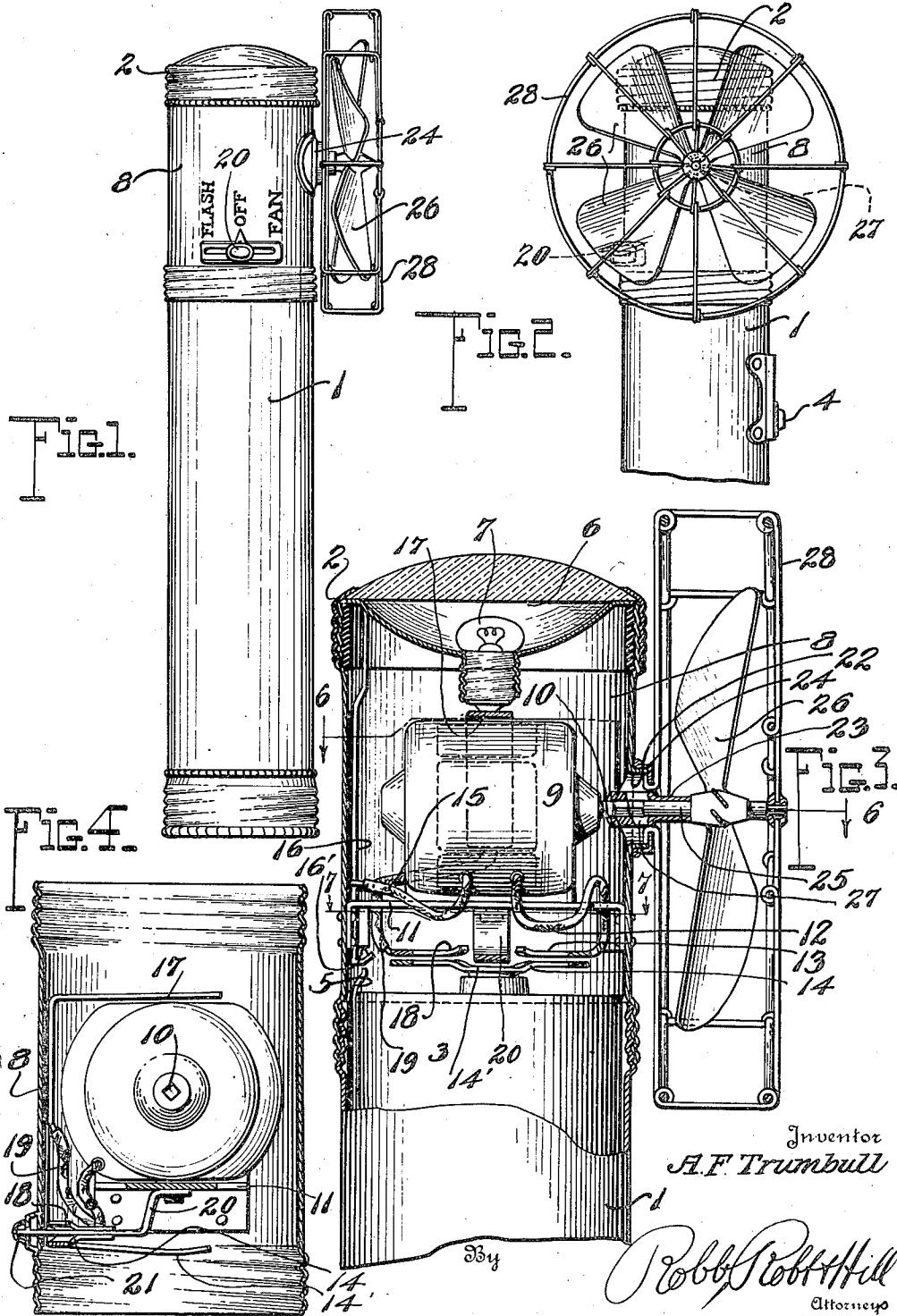
1,504,003

A. F. TRUMBULL

FAN ATTACHMENT FOR FLASHLIGHTS

Filed May 23, 1923

2 Sheets-Sheet 1



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A. F. TRUMBULL

FAN ATTACHMENT FOR FLASHLIGHTS

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2 Sheets-Sheet 2

Fig. 5.

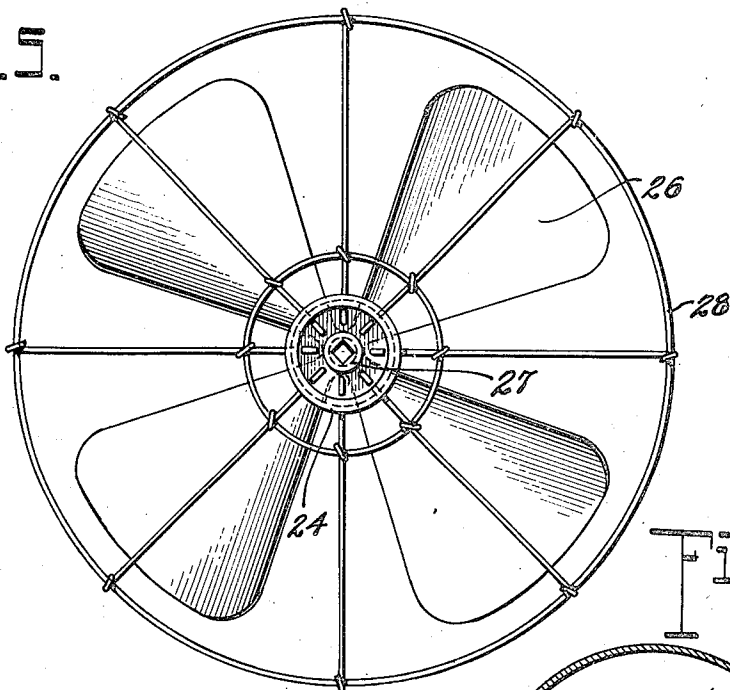


Fig. 7.

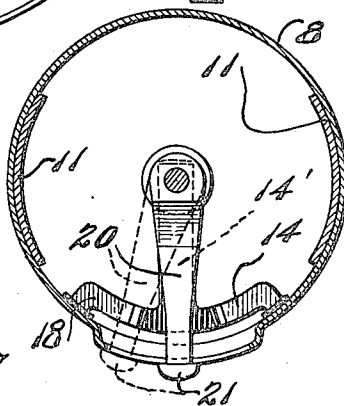


Fig. 6.

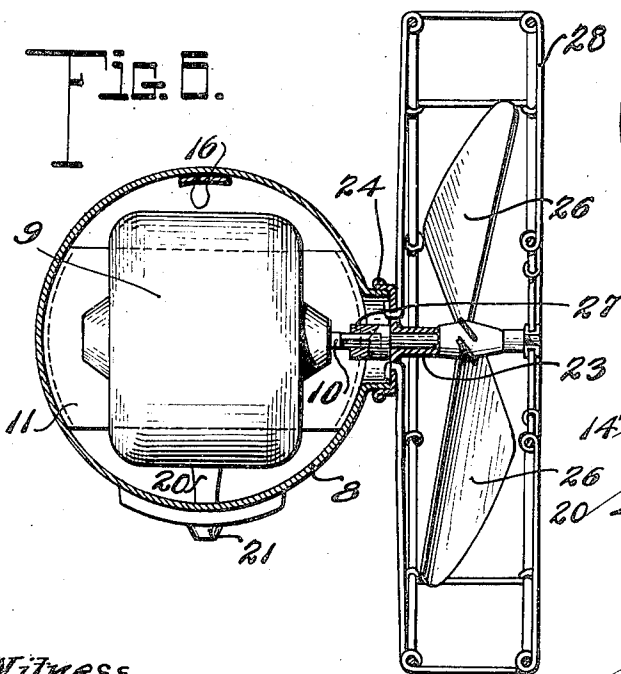
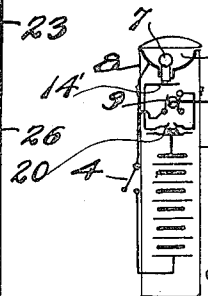


Fig. 8.



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UNITED STATES PATENT OFFICE.

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FAN ATTACHMENT FOR FLASHLIGHTS.

Application filed May 28, 1923. Serial No. 642,080.

To all whom it may concern:

Be it known that I, AUSTIN F. TRUMBULL, a citizen of the United States, residing at Portland, in the county of Multnomah and State of Oregon, have invented certain new and useful Improvements in Fan Attachments for Flashlights, of which the following is a specification.

The present invention appertains to improvements in portable or pocket fans designed to be electrically operated and it has for its primary object to provide such a device of this character in the form of a combination flashlight and fan which may easily be carried about and will serve the dual function of either a flashlight or a fan, operating from a common source of current or power.

A further object of my invention is to provide a fan attachment in the nature of a separable unit capable of application to a standard flashlight, the unit being complete in its arrangement to enable proper cooperation with the battery of the flashlight so that either the light or the fan may be utilized at will by the simple manipulation of a controller switch of the unit.

A still further object resides in the provision of a removable fan for the attachment such that this instrumentality may be displaced when it is desired to carry the device in one's pocket or for packing for shipping or other purposes.

With the above and other objects in view, the invention consists in certain combinations and arrangements of the parts as will more fully appear as the description proceeds, the novel features thereof being pointed out in the appended claims.

In the drawings:

Figure 1 is a side elevation of a flashlight having my fan attachment attached thereto.

Figure 2 is a front elevation of the upper portion of the device.

Figure 3 is a vertical sectional view through the fan attachment portion of the invention.

Figure 4 is a sectional view taken at substantially right angles to that of Figure 3, and of the fan attachment alone.

Figure 5 is a front elevation of the removable fan unit of the attachment.

Figure 6 is a horizontal sectional view on the line 6—6 of Figure 3.

Figure 7 is a horizontal sectional view on the line 7—7 of Figure 3.

Figure 8 is a diagrammatic view of the circuits.

Corresponding and like parts are referred to in the following description and indicated in all of the views of the drawings, by like reference characters.

As hereinbefore premised, this invention embodies a fan attachment for the conventional type of flashlight and this attachment is designed to be interposed between the battery section 1 of an ordinary flashlight and the cap section 2 carrying the reflector and lens. In these conventional devices this cap 2 is readily removable by virtue of the threaded connection of the body with the case 1 in which is disposed the battery 3. The body 1 is provided in the usual construction with a switch 4 which comprises a slidable element 5 within the case movable longitudinally thereof in order to coact with the reflector 6 for closing the circuit to the flashlight or bulb 7.

The attachment forming the special feature of this invention consists of a tubular case 8 threaded at its ends so as to be connected with the battery case 1 and to receive the cap 2 at its opposite end. Within this sleeve-like case is mounted a small motor 9 including a motor shaft 10. A cross bar 11 forms the support for the motor and one of the conductors 12 from the motor is connected to a terminal 13 mounted upon the inside of the sleeve in spaced relation to a substantially T-shaped terminal member 14 likewise secured to the side of the sleeve as most clearly shown in Figure 7. The member 14 is provided with an extension 14' which is designed to engage with the terminal of the battery 3 so as to be in contact with said terminal whenever the battery is in operative position within the flashlight. The opposite conductor 15 for the motor is connected to a metallic conductor 16 attached to the side of the sleeve 8 and insulated therefrom, this member extending longitudinally of the sleeve so as to contact at its upper end with the reflector 6 as shown in Figure 3, while the lower end 16' thereof terminates adjacent to the battery 3 or the sliding element 5 for the battery switch 4. Also mounted in the sleeve is a terminal member 17 which in the assembly of the device is designed to coact with the bulb terminal as shown in Figure 3, this terminal member 17 being connected to a terminal element 18 attached to the side

of the sleeve by the conductor wire 19. The terminal 18, like the terminal 13, lies closely adjacent the member 14, or more strictly a branch of this member, as clearly shown in the said Figure 3.

Secured to the motor support 11 is a controller switch 20 which extends through the sleeve and terminates in a button 21. When this switch is swung in one direction it will close the circuit between the terminal 13 and the member 14 thereby throwing into circuit the electric motor 9. When the member 20 is swung in the other direction from the intermediate position it will close the circuit by coaction with the terminal 18 and the member 14 to the bulb 7, as will be more apparent from the description hereinafter.

The sleeve 8 is formed at one side with an opening 22 the material about which projects laterally in order to form a support for the fan unit now to be described.

The fan unit comprises a bearing member 23 terminating in a cap 24 which is of the proper size to frictionally engage over the projecting edge of the sleeve opening 22 and in this bearing member is journaled a fan shaft 25 carrying a fan 26. The shaft 25 at its inner end terminates in a socket 27 which is designed to engage with the square end of the motor shaft 10, forming an interlocking driving connection by means of which the fan is operated from the motor. I preferably employ as a part of this fan unit a wire guard 28 which is supported by the bearing member 23, as clearly shown in Figures 3 and 6.

In the use of this device the first step of the operator is to throw the controller switch 20 to the right or left, depending upon whether he desires to use the flashlight or the fan. If the controller switch is thrown to the right the circuit from the battery 3 is closed through the member 14 and the terminal 13 to the motor 9. The next step to cause the operation of the fan is to shift the switch 4 until the sliding member 5 contacts with the conductor 16 thereby grounding the circuit upon the flashlight case which completes the circuit to the lower end of the battery as usual.

On the other hand, if it is desired to use the flashlight the controller switch 20 is thrown to the left, thereby closing the circuit from the battery 3 through the member 14 to the terminal 18. The switch 4 is then shifted as above described until the member 5 contacts with the conductor 16, whereupon the bulb 7 is illuminated.

It will be obvious from the foregoing description that I propose by the simple construction of the fan attachment to provide a motor driven fan which may be incorpor-

ated in the standard flashlight construction to give either a fan operation or a flashlight operation at will and this incorporation of the attachment does not require any modification of the construction of the flashlight to accomplish the assembly of the parts, which requires merely the removal of the cap 2 and the insertion of the section 8 between the cap and the body 1.

Such a device may readily be carried about one's person and to facilitate this I have made the fan unit detachable so that it is only necessary to slip this from its operative position whenever it is desired to place it in the pocket.

While I have shown a frictional engagement between the fan unit and its support, any other desired connection may be employed within the purview of this invention, the frictional mounting being sufficient, however, because of the tendency of the fan when operating to hold the unit in place rather than to permit its accidental displacement.

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

1. In a fan attachment for flashlights, a battery section provided with circuit contacts, a detachable motor section forming a continuation of the battery section and having circuit contacts disposed at its abutting end to cooperate with those upon the battery section when the sections are assembled, a switch member arranged to engage said contacts, and a fan and guard removably mounted upon one side of the motor section for interlocking connection with the motor shaft.

2. In a fan attachment for flashlights, a tubular casing, a motor casing mounted therein and having a side opening, a battery in said tubular casing, a motor disposed in the motor casing with its shaft located at said opening, a fan unit comprising a bearing support having means for detachable engagement with the motor casing at said opening, and a separable driving shaft for the fan having interlocked connection with the motor shaft at said opening.

3. A fan attachment for flashlights comprising a tubular casing adapted to be detachably interposed between the reflector cap and battery containing body, a motor mounted in said casing, a fan operatively connected to said motor, separate circuits arranged in said casing for coaction with either the flashlight or the motor and the battery, and a unitary controller switch operable to close either circuit at will.

In testimony whereof I affix my signature.

AUSTIN FAIRCHILD TRUMBULL.