Jan. 15, 1952 G. C. TULK 2,582,572

ELECTRIC FAN

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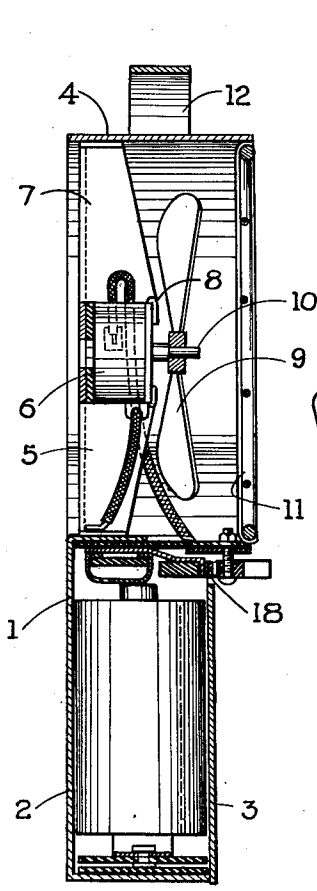


Fig. 2.

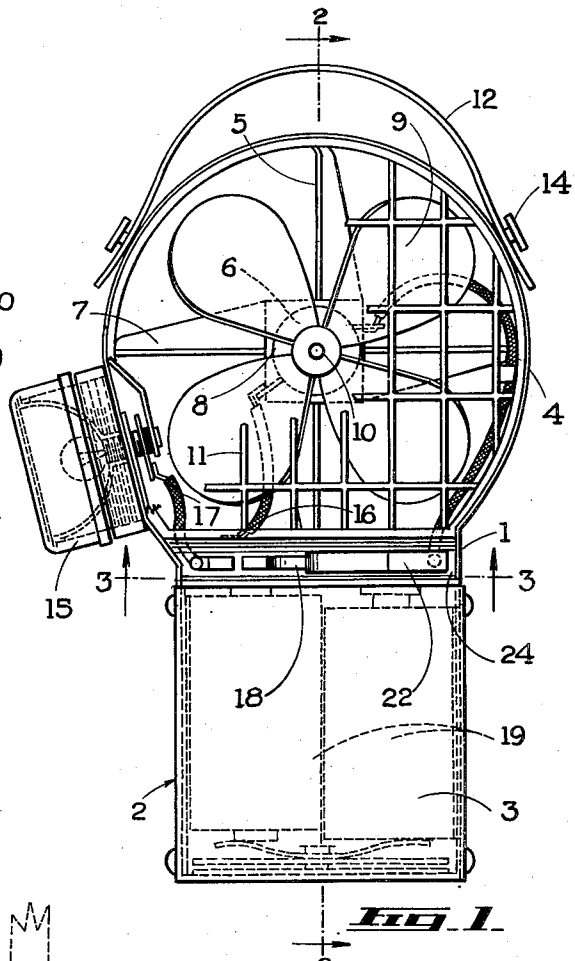


Fig. 1.

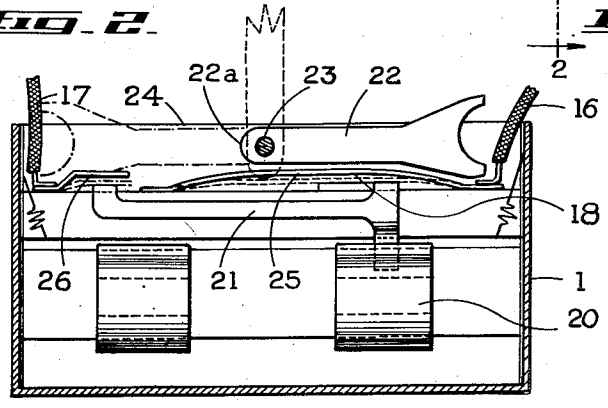


Fig. 3.

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ELECTRIC FAN

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3 Claims. (Cl. 230—249.5)

1

This invention relates to improvements in an electric fan and appertains particularly to one that is portable, being battery operated.

An object of the invention is to provide a handy portable fan, usable by an individual where no outlet from an electric source is conveniently available.

A further object of the invention is to provide a portable battery-operated fan with a novel circuit closer that is conveniently located and designed to swing compactly into the unit when in circuit-breaking position.

A further object of the invention is to provide a portable, battery-operated fan unit incorporating a flashlight in functional relation to the carrying handle.

A still further object of the invention is the provision of a portable, battery-operated combined fan and flashlight of the nature and for the purpose set forth that is characterized by structural simplicity, durability and efficiency, will operate at low cost and for a considerable period without attention and is capable of being manufactured and sold at a reasonable price whereby the same is rendered commercially desirable.

To the accomplishment of these and related objects as shall become apparent as the description proceeds, the invention resides in the construction, combination and arrangement of parts as shall be hereinafter more fully described, illustrated in the accompanying drawings, and pointed out in the claims hereunto appended.

The invention will be best understood and can be more clearly described when reference is had to the drawings forming a part of this disclosure wherein like characters indicate like parts throughout the several views.

In the drawings:

Figure 1 is a front elevation of a preferred embodiment of the invention, with part of the fan guard broken away for clarity;

Figure 2 is a vertical transverse section thereof, as taken on line 2—2; and

Figure 3 is an enlarged horizontal section, as taken on line 3—3 of Figure 1 looking in the direction indicated by the arrows.

A suitable container or carrying case 1 may be stamped from a single sheet of metal or moulded as desired and will preferably include a pocket-like, battery-accommodating, lower portion 2 with a closure such as the hinged front cover 3, a fan support surmounting the battery pocket here shown as a fan-surrounding arch 4 with an integral web-like structure 5 against

2

which the miniature electric motor 6 is laterally secured, being held from radial displacement by angularly disposed fins 7 on the arms of the web and locked therein by inbent terminal fingers 8 on the respective fins.

The fan proper 9 is fixed on the forward part of the motor shaft 10 and properly shielded as by a reticulated or wire guard that may be integral with or secured to the surmounting arch 4 such as indicated at 11. A carrying handle or strap 12 may have elongated slots 13 near opposite ends to slidingly engage the large headed pins 14 on the fan arch 4 that the handle overlies so as to be collapsible for storage.

On one side of the fan arch 4 and preferably below the centre thereof is an outwardly directed flashlight member 15 that because of its particular location on the arcuate fan housing naturally throws its beam downwardly when the unit is carried by the handle strap 12.

Both the fan motor 6 and flashlight 15 have one terminal grounded to the case 1 and from each lead wires 16 and 17 respectively connect with a circuit breaker 18 in the case above the battery pocket 2 and below the superposed fan arch 4. With this circuit breaker 18, batteries 19 in the pocket 2 are electrically connected by a battery-contacting spring strip 20 and also grounded to the case. A divided "live" terminal 21 extends from the strip 20 being spread transversely of the case 1. A switch lever 22 hingeable horizontally on a vertical pivot pin 23 is movable into three particular positions, namely (*a*) "off" position when swung completely to the right, as seen in Figures 1 and 3 where it is at least partly folded into a receiving compartment 24 in the case, (*b*) "fan" position when the lever is swung through 90° to project straight forwards where the butt 22^a of the lever 22 acts as a cam to press a spring contact 25 from the fan motor lead wire 16 into contact with the live terminal 21 and (*c*) "light" position with the lever swung completely to the left and into partial reception in the compartment or slot 24 at the side opposite from the "off" position, and in which "light" position the lever engages a spring contact 26 from the flashlight lead wire 17 that by pressure on the lever 22 can be caused to bend into contact with the live contact 21. The advantage of this particular switch structure for this combination fan and light unit will be obvious since the lever is folded away out of use in "off" position being convenient for storage or carrying and eliminating danger of the circuit being accidentally closed; in forward

"fan" position the cam action holds the circuit closed as long as desired; in the "light" position though it can be made to stay on, the spring contact 26 is also strong enough to keep the circuit broken unless pressure is applied to the lever or it is otherwise held in circuit closing position.

There are many uses for a portable, battery-operated fan of this nature that will suggest themselves, and commend it to a wide field of purchasers, chief among which may be in a sick room, at cottages, theatres and sporting events, picnics and such outings, and in most of these the provision of the flashlight member for emergency use in the dark will prove of possible service and advantage.

From the foregoing description taken in connection with the accompanying drawings, it will be manifest that an electric fan is provided that will fulfil all the necessary requirements of such a device, but as many changes could be made in the above description and many apparently widely different embodiments of the invention may be constructed within the scope of the appended claims, without departing from the spirit or scope thereof, it is intended that all matters contained in the said accompanying specification and drawings shall be interpreted as illustrative and not in a limitative or restrictive sense.

What I claim as new and desire to secure by Letters Patent is:

1. A portable electric fan unit comprising a carrying case including a battery pocket, an integral fan housing arching above said pocket with a guard for the front thereof and a collapsible handle surmounting the top of the arch, a flashlight member on the outer side of said arched fan housing at least halfway down one side thereof and directed outwardly from the said side, a motor and fan assembly in said housing with the fan facing the inside of the housing guard, a battery in the pocket of the case and means for selectably connecting the same electrically with said flashlight member or said motor and fan assembly.

2. The combination with the structure set forth in claim 1, wherein said collapsible carrying handle surmounting the top of the arching fan housing is a flexible strap-like member with an elongated slot near each end and is secured in limited sliding relation to the arched housing by large headed pins.

3. A portable electric fan unit comprising a carrying case including a battery pocket, a fan housing arching above said pocket with a guard for the front thereof and a collapsible handle surmounting the top of the arch, an integral web-like structure in the back of said arched housing having radial arms with terminally flanged angularly disposed fins, a motor cradled in said web-like structure by said fins and secured by the terminal flanges thereof, a fan mounted on said motor and rotatable thereby, and a battery in the pocket of said case connectible electrically with said motor.

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