

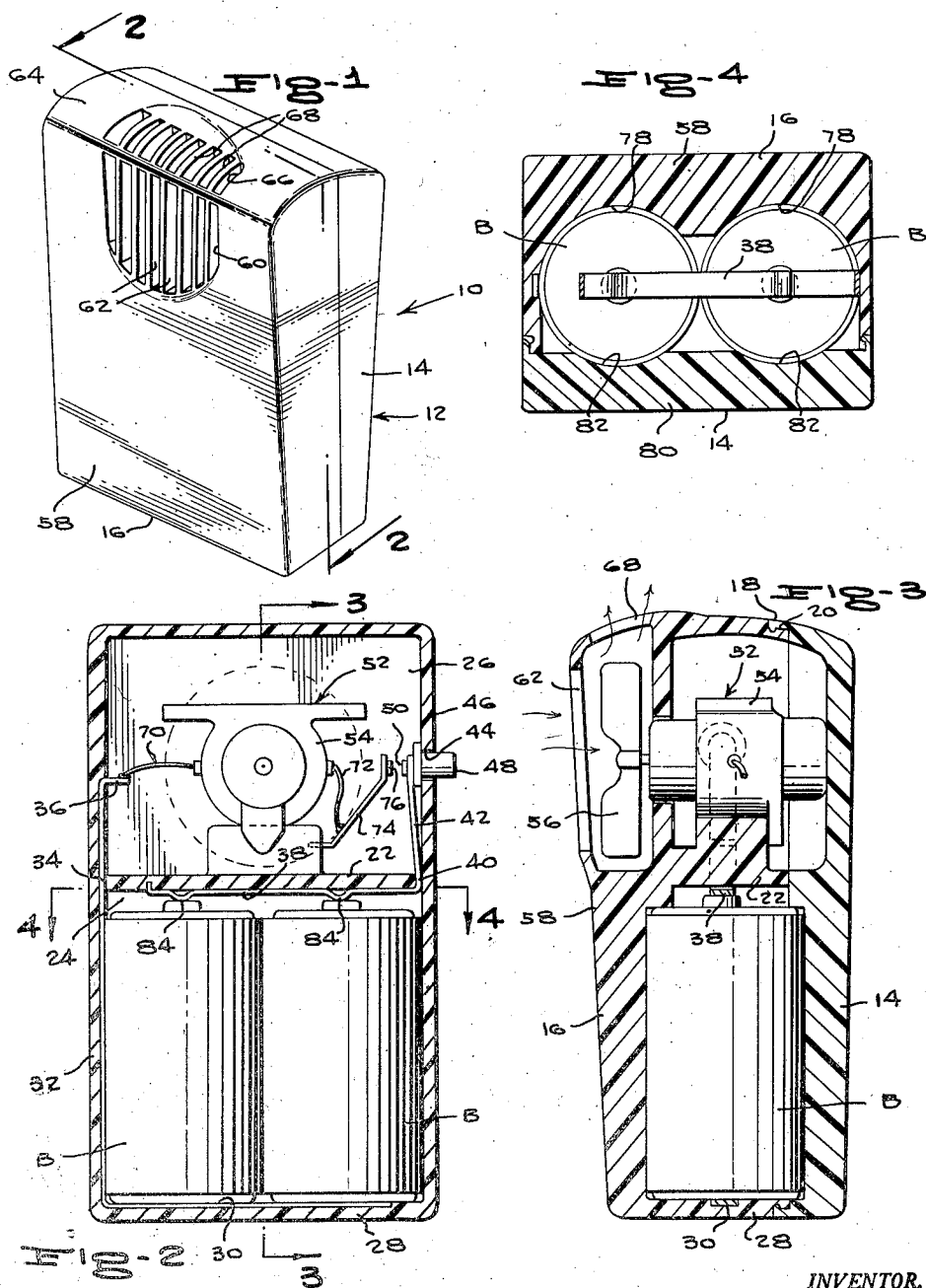
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R. O. LUNDAHL

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PORTABLE ELECTRIC FAN UNIT

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INVENTOR.

ROBERT O. LUNDAHL

BY

McMorrow, Porman & Davidson

ATTORNEYS

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PORTABLE ELECTRIC FAN UNIT

Robert O. Lundahl, Rockford, Ill.

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2 Claims. (Cl. 230—259)

This invention relates to electric fans and is more particularly concerned with a novel portable electric fan which is battery operated.

A primary object of invention is to provide a readily available portable fan adapted to be carried in one's pocket and available for use without utilizing an external source of electrical power such as a wall plug or the like.

A further object of invention in conformance with that set forth is to provide a novel portable electric fan which is battery operated, said fan being readily and economically manufactured, easily used, durable and efficient and acceptable for the purpose intended.

These together with other objects and advantages which will subsequently become apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawing forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is a perspective view of the novel electric fan assembly;

Figure 2 is a vertical sectional view taken substantially on line 2—2 of Figure 1;

Figure 3 is a sectional view taken substantially on line 3—3 of Figure 2, showing by means of direction arrows the path of air movement through the fan; and

Figure 4 is a sectional view taken substantially on line 4—4 of Figure 2.

Referring to the drawing in detail, the novel portable electric fan is indicated generally at 10, said fan comprising a casing member 12 constructed from a suitable electrical insulating material, plastic, hard rubber or the like, and including a pair of mating separable shell members 14 and 16, the shell member 16 being of a greater depth than the shell member 14, the shell member 14 comprising a lid for the shell member 16. The shell members 14 and 16 will be retained together by means of a peripheral flange 18 about the edge of the shell member 14 and an undercut shoulder portion 20 extending about the peripheral edge of the shell member 16. The shell member 16 has an integral partition element 22 extending transversely thereacross defining a lower battery compartment 24 and an upper motor and fan compartment 26.

Extending across the inner surface of the bottom 28 of shell 16 is a first electrical conducting strip 30 which extends along the inner surface of the side 32 of said shell 16 through an aperture portion 34 in the partition 22 terminating in a laterally extending angular bend portion 36 within the upper compartment 26. Suitably secured on the under surface of the partition 22 is a second electrical conducting strip 38 which extends through a suitable aperture portion 40 at the other side of the partition 22, see Figure 2, terminating in a resilient end portion 42 extending upwardly within the upper compartment 26. Extending transversely through a suitable aperture portion 44 in the side wall 46 of the shell member 16

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is a manually actuatable push button 48 integrally secured to the upper end of the resilient strip 42 forming an electrical contact 50 for closing an electrical circuit to a motor and fan assembly indicated generally at 52.

The motor and fan assembly 52 comprises a suitable electrical motor 54 suitably secured in transversely extending relationship on the upper surface of the partition 22 and including a fan 56 facing the side 58 of the casing member 16. The side 58 has extending therethrough an air ingress aperture portion 60 in alignment with the fan 56 wherein air may be drawn into the upper compartment 26 in the manner indicated by the direction arrows in Figure 3. The aperture portion 60 incorporates a plurality of transverse strip elements 62 defining a louvre construction overlying the fan 56 for preventing accidental contact with the fan 56 when the same is operating. Overlying the outer periphery of the fan 56 and extending through the end 64 of the shell member 16 is an aperture portion 66 constituting an egress for air sucked into the upper compartment 26 by the fan. The aperture portion 66 incorporates a plurality of transverse strip elements 68 defining a louvre construction preventing accidental contact with the tip of the fan 56.

Extending from opposite sides of the electrical motor 54 in electrical contact with the armature thereof (not shown) are electrical leads 70 and 72, the lead 70 being electrically connected to the angular portion 36 of the first electrical conducting strip 30. Supported on the base of the motor 54 in any suitable manner is an upwardly extending strip element 74 which is electrically connected to the lead 72 previously mentioned, said strip element 74 terminating in an electrical contact 76 disposed in spaced relationship from the previously mentioned contact 50 and engageable therewith when the push button 48 is moved in the direction indicated by the dotted direction arrow in Figure 2.

The battery compartment 24 may include one or more dry cell batteries therein as indicated at B and will include on the inner surface thereof of side 58 of the shell member 16 arcuate groove portions 78 for properly positioning the batteries B therein. The shell member 14 may include on its side wall portion 80 a pair of arcuate groove portions 82 for engagement with the other side of the batteries B. The batteries B are ordinary dry cell batteries which may be readily replaced when the electrical energy therein is exhausted. The batteries B extend between the electrical strip elements 30 and 38 thus providing a source of electrical energy for the motor assembly 52. The electrical conducting strip 38 may include downwardly projecting abutment portions 84 for engagement with the upper ends of the batteries for insuring positive contact therewith.

Operation of the novel portable electric fan is readily apparent, engagement of the contacts 50 and 76 closing the circuit to the electric motor assembly 52 driving the fan and accordingly drawing air in through the aperture portion 60 and urging air out of the aperture portion 66, release of pressure on the push button 48 resulting in the separation of the previously mentioned contacts.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the appended claims.

What is claimed is:

1. A portable electric fan unit comprising a carrying case of an electrical insulating material, said case comprising a pair of separable mating shell members, one

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shell member including a transverse partition therein defining a lower battery compartment and upper motor and fan assembly compartment, a first electrical conducting strip element extending across the bottom and one side of the battery compartment and extending into the upper compartment, a second electrical conducting strip extending across the lower surface of the partition and including a resilient end portion extending into the upper compartment adjacent one side portion thereof, a push button extending through the side portion of the upper compartment in engagement with said resilient end portion, a motor assembly secured transversely of the upper surface of the partition and including a rotatable fan facing one side of said upper compartment, an air ingress aperture extending through the one side of the upper compartment in alignment with the fan, an air egress aperture extending through the upper end of the upper compartment in alignment with the outer periphery of said fan, said motor assembly including a pair of electrical leads extending therefrom, one of said leads being connected to the first electrical conducting strip, the other lead being disposed in spaced relationship from the resilient end portion of the second electrical conducting strip for engagement therewith to close a circuit to the motor assembly, and a battery assembly interposed between the electrical conducting strips for providing electrical energy to the motor assembly.

2. A portable electric fan unit comprising a carrying case of an electrical insulating material, said casing comprising a pair of separable mating shell members, one shell member including a transverse partition therein defining a lower battery compartment and upper motor and fan assembly compartment, a first electrical conducting strip element extending across the bottom and one side of the battery compartment and extending into the upper compartment, a second electrical conducting strip extending

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across the lower surface of the partition and including a resilient end portion extending into the upper compartment adjacent one side portion thereof, a push button extending through the side portion of the upper compartment in engagement with said resilient end portion, a motor assembly secured transversely of the upper surface of the partition and including a rotatable fan facing one side of said upper compartment, an air ingress aperture extending through the one side of the upper compartment in alignment with the fan, an air egress aperture extending through the upper end of the upper compartment in alignment with the outer periphery of said fan, said motor assembly including a pair of electrical leads extending therefrom, one of said leads being connected to the first electrical conducting strip, the other lead being disposed in spaced relationship from the resilient end portion of the second electrical conducting strip for engagement therewith to close a circuit to the motor assembly, and a battery assembly interposed between the electrical conducting strips for providing electrical energy to the motor assembly, said air ingress and egress aperture portions including louvre portions overlying the same for preventing accidental contact with the fan when the same is rotated by the motor.

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