

Title: A PORTABLE AIR COOLER

BACKGROUND OF THE INVENTION

Field of the Invention

The present invention relates to a portable air
5 cooler, which is a carried on personal and can choose
various power sources, supply cooling air anywhere and
in emergency supply flitted fresh air.

Description of the Related Art

In recent years, the air conditioner becomes one
10 of the essential equipment in the daily life, but most
air conditioners are heavy, except car air conditioner,
and almost of them are fixed style, just a few kind of
air conditioner are called movable, but in fact
restricted application in room and must be connected a
15 flexible conduit to the out room, therefor, intrinsic
quality, they are not-movable.

However, the above mentioned conventional air
conditioner are used in a special environment mostly, a
sealed space, they cool the isolated environment, in
20 fact, the users often pass in and out the cooled
isolated space, it may cause the user's body is
indisposed to the difference in temperature even
occurring ill; in the case, for the user the
conventional air conditioners are not a perfected air
25 condition equipment.

In recent years, semiconductor refrigerator has been applied, so the cold flow is guided to the radiator fin, then blown by air, the cooled air can be gotten, blowing the cooling air to the body of the user, so
5 although the cooling air is not strong or big quantity, but it can decrease the temperature of surrounding the user directly and supply a comfortable surrounding in anywhere; in addition, if the air is flitted by water, a water filter team, the fresher air may be obtained by
10 the user.

The present invention is based on the above mentioned background and necessary to design, the object is to provide a portable air cooler, which saves power and is convenient for carrying on personal, and it is
15 not restricted application range; the further object is to provide an emergency fresh air supplier for first aid.

SUMMARY OF THE INVENTION

For reaching the above mentioned objects, the present invention adopts specific method to provide a portable air cooler, which includes a case, a ball float, a filter team, a semiconductor refrigerator, an electric unit, a motor assembly, and an emergency battery set, etc., in which, separating the case with partitions into sealed water tank, sealed cooling box and motor box, the water tank is stored up exact water, it is connected with the filter team by a floating ball made of close mesh of net connecting a flexible pipe, the filter team containing various filter elements is connected with cooling box, there are semiconductor refrigerator and its radiator fins set up in the cooling box, the upper side of the cooling connects with the discharge fan above the motor box next to the shutter, the another end of the motor, the same axle, is fixed a turbo blast fan for guiding in air, and the air passes a flexible pipe through a ball check valve to the water tank; as a result of the motor's blasting and discharging, the air pass through water flitting, cooling, then flitted by the filter team, cooled in cooling box, discharged to the user ; when in emergency, the emergency battery can be used for supplying the user to breath fresh air.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is an outline view of the present invention.

Fig. 2 is a cross-section view of the present invention.

Fig. 3 is a cross-section view taken along line 1-1 of
5 Fig. 2.

Fig. 4 is a cross-section view taken along line 2-2 of
Fig. 2

Fig. 5 is a cross-section view taken along line 3-3 of
Fig. 2.

10 Fig. 6 is a cross-section view showing a state of the
present invention. (In supplying air)

Fig. 7 is a cross-section view showing a state of the
present invention. (In making cooling)

Fig. 8 is a top side view showing an operation of the
15 present invention (In supplying fresh air)

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to Fig. 1 through Fig. 5, the present invention includes a case 1, a ball float 2, a filter team 3, a semiconductor refrigerator 4, a motor assembly 5, an emergency battery set 6, and attaching an electric unit 7 and a nose cover 8, in which;

case 1 separated into a water tank 11, a cooling box 12, an electric case 13 and a motor box 1, and an emergency battery set 6 at the bottom, and at the top 10 having a cover 15 bolted by bolts 152 to seal with a washer 151, and setting up a water inlet 153 on the cover 15; the top side part of the water tank 11 contiguous to the cooling box 12, and set up a water outlet 112 at the bottom of it, the water tank 11 having 15 an inlet connection 113 having a check valve ball 114, the out end of the inlet connection 113 connected to the outside; the top part of the cooling box 12 bordering on the cooling box 11 and the motor box 14 individually, mounting a filter team 3 between the water tank 11 and 20 the cooling box 12, and the electric case 13 placed at the forth between of the cooling box 12 and the motor box 14; the top forth side of the motor box 14 fixed a shutter 141, the bottom of it having an air inlet guard net 142; and on the cover 15 above the motor box 14 set 25 up an emergency air inlet 143;

ball float 2 comprising two metal net half-balls and floating material, as light plastic moulded directly; the corner of the ball 2 fixed a flexible pipe 21, the another end of the flexible pipe 21 fixed on the
5 filter team 3;

filter 3 comprising a tube-shaped shell 31 connected a plastic or rubber extended pipe 32 and filter net 35 in, and containing like active carbon filter element 33, next fixing a sieve 34; the forth end
10 of the extended pipe 32 connected with the end of the said flexible pipe 32;

conductor refrigerator 4 comprising a cooling conductive bar 41 fixed in the cooling radiator fins 42, and connected with a heat radiator fin 43 at outside;

15 motor assembly 5 comprising a motor and two ends of its axle fixed with a discharge fan 51 and blast fan 52 separately, in which the discharge fan 51 corresponding with a shutter 141, but the blast fan 52 being a turbo fan corresponding with a guard net 142,
20 and the one side of the blast fan 52 being opposite an end of an air conduction tube 53, the another end of the conduction tube 53 connected with the inlet connection
113 of the said water tank 11 sealedly;

emergency battery set 6 being a set of batteries,

placed on bottom of the case 1, and covered a movable battery cover 61 for changing the batteries; next it being an nose cover 8;

concerning with the said electric unit 7
5 comprising an indicator lamp 71, a guard switch 72, an emergency switch 73, a power switch 74, and a AC socket 75, a DC socket 76, certainly, these being choice accessory, and connected a board of wiring diagram, and in which, the guard switch 72 being a mercury switch for
10 cutting off the power source once the case 1 toppling over, the emergency switch 73 controlling the emergency battery set 6 servicing.

Referring to Fig. 6 to Fig. 7, illustrating a state of supplying cooling air, the motor assembly 5
15 deals with blasting and discharging air, the air passed through the conduction tube 53, inlet connection 113 into the water tank 11 flitted by water, retaining dust of air, then undergoes the ball float into the flexible pipe 21 at the corner of it, the air is guided to the
20 filter team 3 into the cooling box 12, cooled by the cooling radiator fin 42, discharged by discharge fan 51, a cooling air is blown to the body of the user.

In other case, when in emergency, as conflagration or leading harmful gas, referring to Fig. 8, switching

on the emergency battery set 6 to run the motor assembly
5 for blasting and discharging air, meanwhile shutting
off the shutter 141 and connecting the nose cover 8 with
the emergency air inlet 143, so the clear fresh air can
5 be breathed with the nose cover 8; there is a film on
the emergency air inlet 143, it would be charged after
using.

Durging changing water for the present invention,
first opening the outlet 112 for discharging, then
10 opening the inlet 111 to rinse out the water tank 11,
then turning off the outlet 112 at all.

I claim;

1. A portable air cooler, comprises a case, a ball float, a filter team, a semiconductor refrigerator, a switch team, a motor assembly, and an emergency battebry set, in which, separating the case with partitions into sealed water tank, sealed cooling box and motor box, the water tank stored up exact water, it connected with the filter team by a floating ball made of close mesh of net connecting a flexible pipe, the filter team containing various filter elements connected with cooling box that set up a conductor refrigerator and its radiator fin in, the upper side of the cooling box connecting the discharge fan above the motor box next to the shutter, the another end of the motor fixed a turbo blast fan for guiding in air, and the air leaded to the water tank by a flexible pipe having a ball check valve; as a result of the motor's blasting and discharging, the air passing through water flitting, cooling, then flitted by the filter team, cooled in cooling box, discharged to the user.

2. A portable air cooler of claim 1, in which, setting up an emergency air outlet above the motor box on the cover.



3. A portable air cooler of claim 1, in which, in the hole of the emergency having a film.

4. A portable air cooler of claim 1, in which, the opening end of the flexible pipe in the ball float being
5 at the corner.

5. A portable air cooler of claim 1, in which, the filter team comprising a tube-shaped shell, an extended pipe, filter element, a sieve, a filter net, the shell sealed on upper between the said water tank and the said
10 cooling box, the shell connecting with one end of the extended pipe, and the another end connecting with the said flexible pipe of the ball float, in the shell containing fillter net and filter elements, then covered a cover.

