June 17, 1930. D. C. MOSIER 1,764,462

HAIR DRIER

Filed July 1, 1929

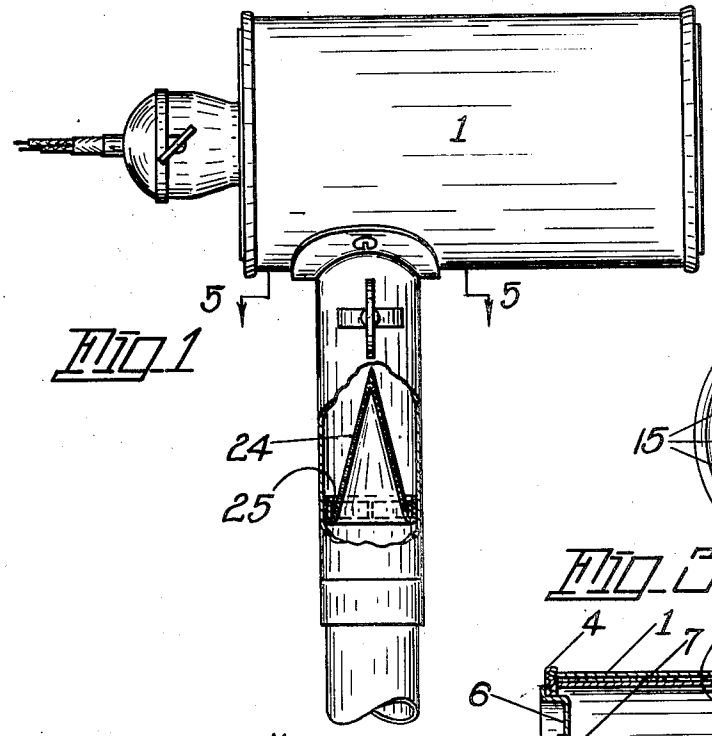


FIG. 1

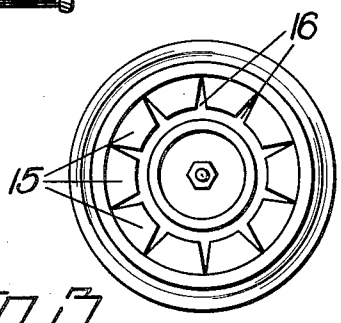


FIG. 3

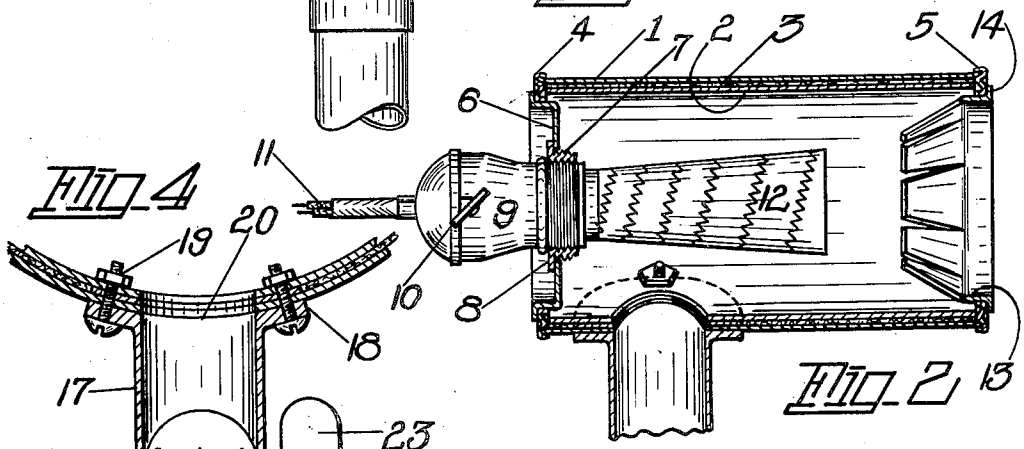
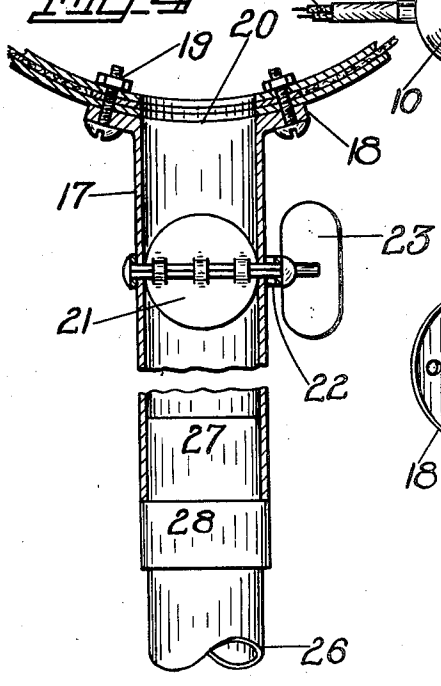


FIG. 2

FIG. 4



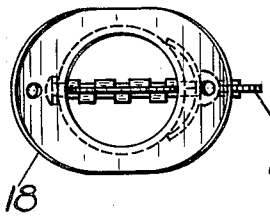


FIG. 5

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UNITED STATES PATENT OFFICE

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HAIR DRIER

Application filed July 1, 1929. Serial No. 375,035.

My present invention relates to improvements in hair driers of the electrically operated type and adapted for use with usual domestic electrically operated vacuum cleaners, the latter being operated in this instance to supply an air blast that is blown through the hair drier when the drier is connected therewith. The primary object of my invention is the provision of a device of this character which is simple in construction and operation, inexpensive in cost of manufacture, which may readily be adapted for use with the vacuum cleaning device, and which is highly proficient in the performance of its functions.

The invention consists in certain novel combinations and arrangements of parts as will hereinafter be more fully set forth and claimed. In the accompanying drawings I have illustrated one complete example of the physical embodiment of my invention wherein the parts are combined and arranged according to the best mode I have thus far devised for the practical application of the principles of my invention. Figure 1 is a view in side elevation of the drier of my invention embodied as a hand-manipulated implement, parts being broken away for convenience of illustration. Figure 2 is a longitudinal sectional view of the drier. Figure 3 is a face view of the drier at its discharge end or nozzle. Figure 4 is an enlarged sectional detail view showing the manner of attaching the air intake pipe or tubular handle to the drier housing, and the air control valve. Figure 5 is a transverse sectional view at line 5—5 of Figure 1.

In the preferred form of my invention the implement is of such size and shape as to be readily manipulated, by the use of one hand so that the heated air currents emerging from the drier may be directed as desired; the electric heating element may be controlled; and the air blast passing through the drier may also be controlled, with facility and convenience. In carrying out my invention I utilize a preferably cylindrical casing which comprises an outer housing 1, an inner metal shell 2, and an intermediate heat insulated lining 3, the latter of asbestos or other similar material. The inner shell forms a covering for the asbestos lining, and the shell is preferably highly polished to provide a surface that will not accumulate dust or other particles, and which may be readily cleaned when desired. The asbestos forms an effective insulation against transmission of heat from the interior of the shell or housing, and the inner shell protects the lining from air currents that would otherwise displace particles of dust from the lining.

The housing is open at both ends, and is provided with attaching rings 4 and 5 crimped over its opposite edges. The rear crimped ring 4, carries an open center head 6, which is retained within the ring by press fit, and about its open center the head is provided with a threaded bushing 7, soldered to the head by use of its annular flange 8. This bushing forms the socket for an electric plug or connector 9, is threaded, and the plug has the usual control button or switch button 10, and the lead wires 11 to the source of electrical energy. A heating element 12 is screwed into the socket end of the plug 9, and as shown this electric heating element is of tapered formation, extends longitudinally in the housing, and terminates some distance beyond the longitudinal center of the housing, with its larger round end toward the nozzle end of the housing.

The nozzle for the housing comprises a ring 13 having an extending flange 14 that is retained by press fit inside the crimped ring 5, and the nozzle has a tapering body that projects into the discharge end of the housing. This tapering body of the nozzle comprises tongues 15 that are formed by slits 16, said slits being of V-shape, and it will be apparent that the presence of the heating element and the presence of the frusto-conical or tapered nozzle are instrumental in causing air currents introduced to the interior of the housing to take tortuous passage around the heating element before the heated air currents emerge from the drier. Thus the air currents are retarded in their passage from the drier sufficiently long to insure an effective heating of the currents from the element 12. The location of the larger

end of the tapered element 12 insures a constriction of the moving air currents toward the center of the nozzle to form a single, central blast of hot air through the nozzle, and the slits provide for auxiliary blasts of hot air from the interior of the housing.

The housing is provided with a tubular handle 17 that also forms the air inlet pipe for the housing, and this handle is attached to the housing by use of a flange 18 and bolts or screws 19. The inlet port 20 between the tubular handle and the housing is located in position to direct the air currents to the end of the heating element 12 remote from the air nozzle to insure contact of the air with the entire area of the element for effectively heating the air currents.

A butterfly valve 21 is located in the tubular handle and controlled by a handle 23 exterior to the handle 17 for controlling the passage of air to the housing, and this valve has a spring 22 that maintains the valve in any set position, the thumb being used to regulate the valve as desired.

To filter the air passing through the handle and prevent dust from entering the housing I utilize a reticulated, cone-shaped screen or filter 24, which is provided with an expansible ring 25, that is slipped into the tubular handle 17 and is retained therein by friction between the ring and the tubular handle. The filter or screen may be removed at intervals for cleaning purposes and is readily replaced or returned to operative position.

The air blast may be secured from any suitable source, but the drier is preferably equipped for use with the air hose 26 from a vacuum cleaner in which the fan is used as a blower. The hose is provided with a nipple 27 and head 28, the former being slipped into the open end of the tubular handle and there held by friction, while the head provides a secure closure for the end of the tubular handle against escape of air currents.

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

1. The combination with a cylindrical housing, a heating element therein and a tubular handle forming an air inlet pipe, of a nozzle at the discharge end of the housing, said nozzle having a frusto-conical body projecting into the housing, and V-shaped slits in said body for the purpose described.

2. The combination, in an electrically heated drier having an air inlet port at one end and an electric heating element mounted at said end and projecting beyond the port toward the discharge end of the housing, a nozzle-ring secured in the discharge end of the housing, said nozzle-ring having an integral, inprojecting, frusto-conical body, and said body having V-slits therein to form tongues whereby a baffle wall is provided at the discharge end of the housing.

3. The combination with a housing comprising a cylinder, an inner polished shell and an intermediate annular heat insulating lining, of crimped attaching rings at the ends of the housing, a head secured at one end of the housing and a bushing in said head, a heating element within the bushing and supported in said bushing, a discharge nozzle supported in the ring at the discharge end of the housing, and said nozzle having inwardly projecting tongues and slits, as described.

In testimony whereof I affix my signature.

DONALD C. MOSIER.