March 2, 1965 R. G. BOZEMAN 3,171,428

HAIR DRYING DEVICE

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FIG. 1

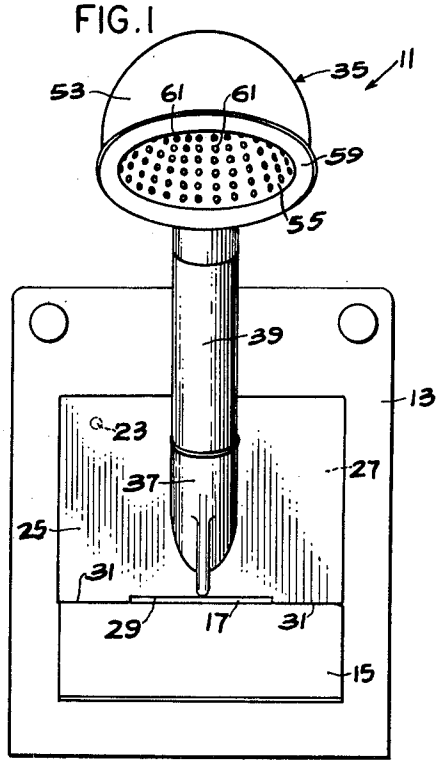


FIG. 2

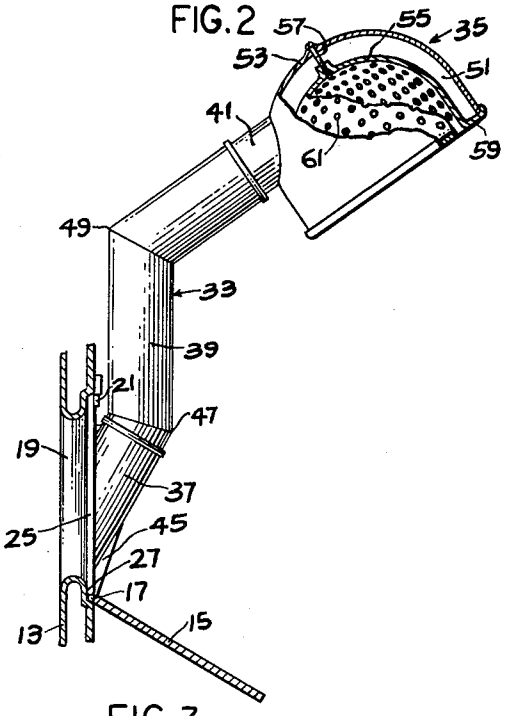


FIG. 3

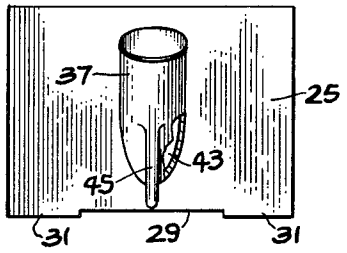


FIG. 4

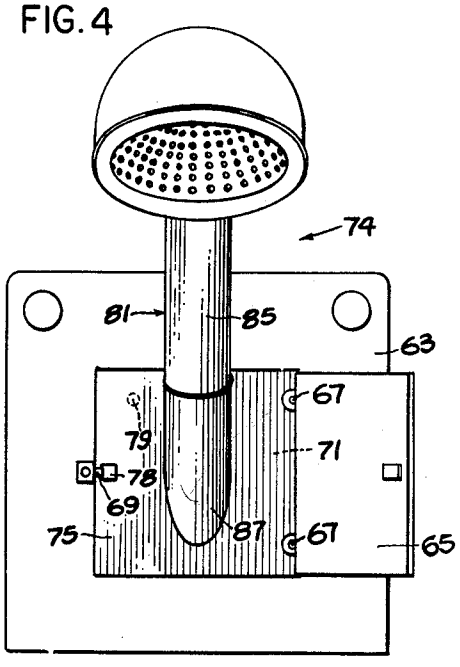
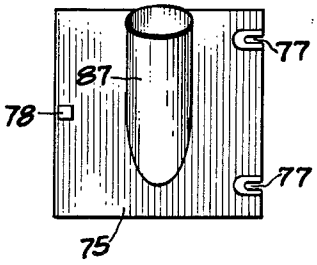


FIG. 5



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FIG. 6

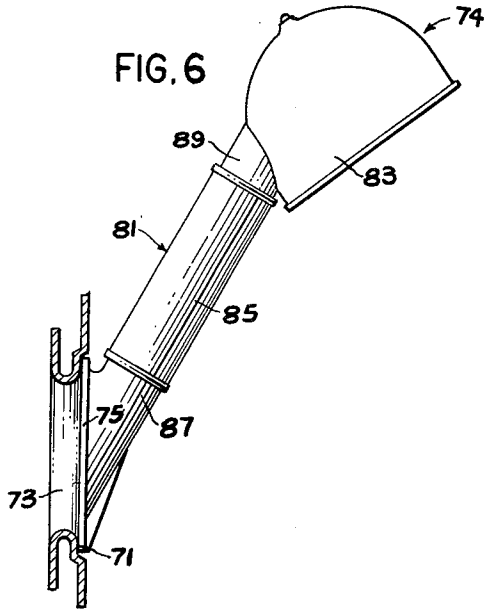


FIG. 7

FIG. 8

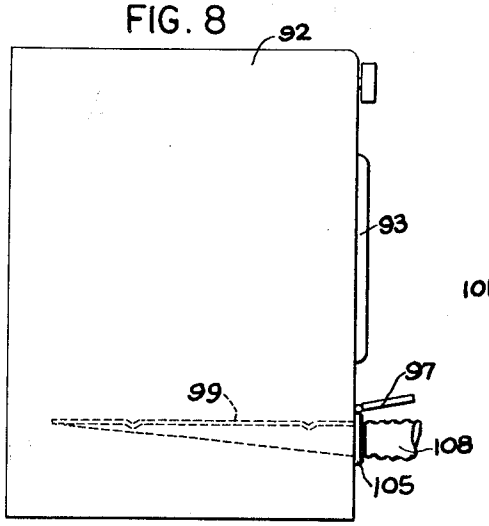


FIG. 9

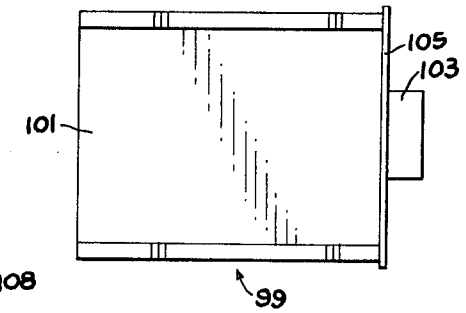
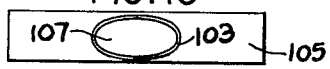


FIG. 10



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FIG. 11

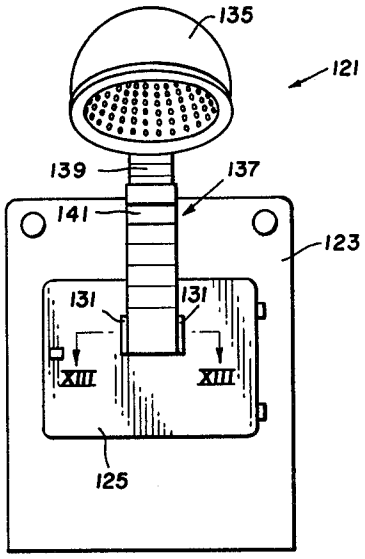


FIG. 12

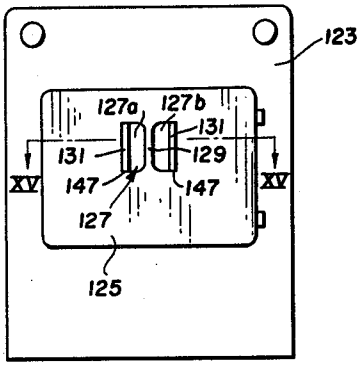


FIG. 13

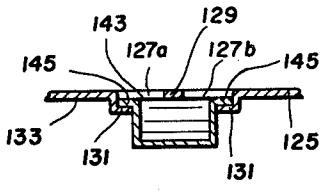


FIG. 14

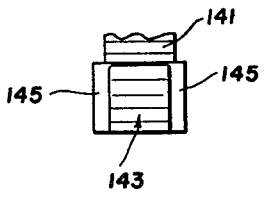
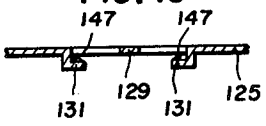


FIG. 15



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FIG. 16

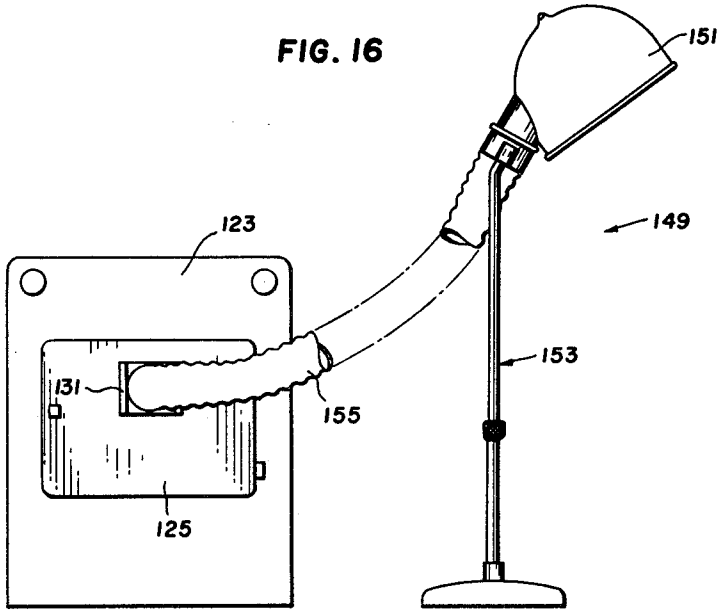


FIG. 17

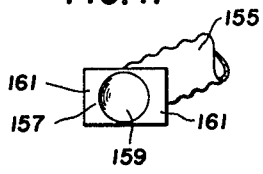


FIG. 18

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United States Patent Office 3,171,428 Patented Mar. 2, 1965

3,171,428

HAIR DRYING DEVICE

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Filed Mar. 20, 1962, Ser. No. 180,981
3 Claims. (Cl. 34—90)

This invention relates to a device which is adapted to be used in combination with a clothes dryer to provide means for drying hair. This is a continuation-in-part of my co-pending application, Serial No. 14,447, now abandoned, filed March 11, 1960.

The device of the present invention is adapted to be used with the conventional type of clothes dryer wherein hot air is used to dry the clothes. Heretofore, this type of dryer has been useful for one purpose only and that is for drying clothes. With the use of the present invention, the clothes dryer can now be converted into a hair dryer so that it is adapted to perform a dual purpose, thereby saving the housewife the expense of buying a complete and separate hair drying unit.

Thus, one of the objects of the present invention is to provide a device for quickly and easily converting a clothes dryer into a hair dryer.

A further object is to provide such a device which is simple in construction and economical to manufacture so that the cost of the device is far less than the cost of a complete hair dryer unit of comparable efficiency, whereby making it highly desirable for persons who already own a clothes dryer to buy the attachment device of the present invention.

A further object is to provide such a device including a hood, a conduit leading to said hood, and unique attachment means for attaching the conduit to a clothes dryer so that the forced hot air from the dryer is adapted to travel through the conduit and the hood to the person's head.

A further object is to provide one form of such a device wherein the hood is mounted upon a stand and the conduit is flexible whereby the stand may be moved to a convenient place upon the supporting surface.

A further object is to provide another form of such a device wherein the hood is adjustably supported from the clothes dryer itself whereby no separate stand is needed.

A further object is generally to improve the design and construction of equipment for drying hair.

The means by which the foregoing and other objects of the present invention are accomplished and the manner of their accomplishment will be readily understood from the following specification upon reference to the accompanying drawings, in which:

FIG. 1 is a front elevational view of the preferred form of the hair dryer attachment of the present invention shown in combination with a clothes dryer having a door that swings on a substantially horizontal hinge.

FIG. 2 is a side elevational view of the same, with portions of the hood being broken away for purposes of illustration and with only a fragmentary sectional portion of the dryer being shown.

FIG. 3 is a front elevational view of the portion of the device of FIG. 1 that functions to connect the dryer and the conduit of the device, with a part thereof being broken away for purposes of illustration.

FIG. 4 is a view similar to FIG. 1 of a modified form of the device shown in combination with a clothes dryer having a door that swings to the side.

FIG. 5 is a view similar to FIG. 3 of a portion of the modified form shown in FIG. 4.

FIG. 6 is a view similar to FIG. 2 of the modified form shown in FIG. 4.

FIG. 7 is a side elevational view of an alternate form of the present invention, which employs an adaptor for insertion in the lint tray receptacle of the clothes dryer to receive the forced air from the dryer.

FIG. 8 is a side elevational view of a clothes dryer illustrating the device of FIG. 7 in combination therewith, but with only a fragmentary part of the device being shown.

FIG. 9 is a top view of the adaptor of the device of FIG. 7.

FIG. 10 is a front elevational view of the same.

FIG. 11 is a view similar to FIG. 1 of a modified form of the device shown in combination with a clothes dryer having a door with provisions for receiving the hair drying device.

FIG. 12 is a view similar to FIG. 11 but showing the hair drying device removed from the clothes dryer.

FIG. 13 is an enlarged fragmentary sectional view taken as on the line XIII—XIII of FIG. 11.

FIG. 14 is an enlarged fragmentary view of the lower end of the conduit means of the device shown in FIG. 11, but viewed from the backside thereof.

FIG. 15 is an enlarged fragmentary sectional view taken as on the line XV—XV of FIG. 12.

FIG. 16 is an elevational view of an alternate form of the present invention.

FIG. 17 is a fragmentary view of the attaching member portion of the alternate form of FIG. 16.

FIG. 18 is a view similar to FIG. 16 of still another alternate form of the present invention, with a portion thereof being broken away for purposes of illustration.

Referring now to the drawings in which the various parts are indicated by numerals, a preferred form of the hair dryer device **11** of the present invention is best shown in FIGS. 1, 2 and 3, which device is adapted to be used in combination with a clothes dryer **13** of the type having a door **15** swingably mounted about a horizontally disposed hinge **17**. Door **15** covers the usual opening **19** in the clothes dryer through which the clothes are adapted to be inserted and removed from the dryer. Clothes dryer **13** is provided with the usual latch **21** which is adapted to engage and hold the door **15** in a closed position over opening **19**. In addition, clothes dryer **13** is provided with the usual button **23**, that is pressed inwardly by door **15** when the door is in a closed position to permit the dryer to operate and prevents the dryer from operating when the button is released by opening the door. Additionally, dryer **13** is provided with the usual means, not shown, for forcing hot air under pressure over the clothes for the drying thereof.

Hair dryer device **11** includes a rectangular adaptor plate **25** of substantially the same size as door **15** and with the door in an open position is adapted to fit into the recess **27** in dryer **13** that is normally occupied by the door when in a closed position. A notch **29** is provided in the lower edge of plate **25** to receive hinge **17** when the plate is placed in position on the dryer as shown in FIGS. 1 and 2 so that the lower edge portions **31** of plate **25** which are on the opposite sides of notch **29** fit in behind the edge of the door **15** to hold the lower part of the plate in place. The upper edge of the plate **25** fits behind the latch **21**, as best shown in FIG. 2, to hold the upper part of the plate in place. It will be understood that with adaptor plate **25** in place, as shown in FIGS. 1 and 2, the button **23** will be depressed which will permit dryer **13** to be operated although the door **15** is open.

A rigid conduit **33** is connected to adaptor-plate **25** and extends upwardly and outwardly therefrom. At the upper end of conduit **33** is fixedly attached a hood **35** adapted to fit over a person's head. Conduit **33** communicates with opening **19** adjacent the lower end of the conduit and communicates with the interior of hood **35** adjacent the upper end of the conduit so that hot air from the clothes dryer **13** is adapted to be conducted

through the conduit to the hood and to the head of the user. Conduit 33 is preferably divided into three sections, lower section 37, intermediate section 39, and upper section 41. Lower section 37 is fixedly attached to adaptor-plate 25 with the lower end of the section 37 surrounding a hole 43 through the plate. A rib 45 is preferably attached to plate 25 and lower section 37 to aid in the support of the device. The lower end of intermediate section 39 is adjustably and telescopically received in the upper end of lower section 37 and is preferably angular in shape with one angle as at 47 from which the intermediate section extends upwardly and then a second angle 49 from which the upper end of the intermediate section extends outwardly and upwardly at an angle. The lower end of upper section 41 is preferably telescopically and adjustably received in the upper end of intermediate section 39. The upper end of upper section 41 is fixedly attached to hood 35 and communicates with the interior of the hood in the space 51 between an outer shell 53 of the hood and an inner shell 55 of the hood. Shells 53, 55 are held in spaced relationship adjacent the upper parts thereof as by a bolt 57 and are held adjacent the lower parts thereof by a ring 59 which blocks off the end of space 51. Inner shell 55 is provided with a plurality of apertures 61 through which the hot air is adapted to flow to the head of the user.

In FIGS. 4, 5 and 6 is shown a modified form of the hair dryer adapted to be used with that type of clothes dryer 63 having a door 65 adapted to swing about a vertical axis as by means of a pair of spaced hinges 67. Dryer 63 is substantially like dryer 13 except that the door is swung differently as above mentioned. Thus, dryer 63 is provided with a latch 69, a recess 71 in which door 65 fits when closed, an opening 73 through which the clothes are put into the dryer and taken out, and the usual means, not shown, for providing forced hot air.

The modified hair dryer device 74 shown in FIGS. 4, 5 and 6, adapted to be used with clothes dryer 63, includes a modified adaptor-plate 75 which is substantially rectangular in shape and is of a size adapted to fit into recess 71. A pair of spaced horizontally extending notches 77 are provided in the side edge of plate 75 so that with the plate in place in recess 71, notches 77 are adapted to receive hinges 67, whereby the side edge of the plate will fit in behind the edge of door 65 to hold the plate in place. The opposite side edge of plate 75 is adapted to be held in place by the latch 69, which fits over a striker plate 78 fixedly attached to adaptor-plate 75. With adaptor-plate 75 in place, as above described, it will be understood that the interlock, not shown, of dryer 63 will be operated by adaptor-plate 75 depressing button 79 so that the dryer can be operated.

Hair dryer device 74 additionally includes a modified conduit 81, which performs the same function as the conduit 33 of the preferred embodiment, and has fixedly attached at its upper end a hood 83 substantially like hood 35. The principal difference between conduit 81 and conduit 33 is in the shape thereof with the intermediate section 85 of conduit 81 being substantially straight and with the lower section 87 and upper section 89 respectively being telescopically and adjustably fitted into the opposite ends of the intermediate section.

In FIG. 7 is best shown a second modification of the hair dryer device, which is indicated in general as at 91, and which is adapted to be used with that type of clothes dryer 92 that is equipped with a lint catching device of usual construction generally located below the door 93 of the clothes dryer and is provided with an access door 97. As in the usual clothes dryer of this type, a lint screen, not shown, is adapted to be inserted into the dryer through access door 97 to catch the lint in the exhaust air from the clothes dryer. In place of this lint screen, the adaptor 99 is inserted, as shown in FIG. 8. Adaptor 99 includes a flat horizontal plate 101 adapted to block off the flow of air through the lint device and adapted to divert the air outwardly through an oval-shaped tube 103 which is attached to vertical end plate 105 that, in turn, is fixedly mounted on the end of plate 101. Tube 103 surrounds an aperture 107 through end plate 105 so that the air under pressure blocked off by plate 101 enters through the aperture into tube 103 where it is carried by means of a flexible tube 108, that is fitted on the end of tube 103, to a hood 109 similar to hood 35. The connection between hood 109 and tube 108 is preferably by means of an upper conduit section 111 similar to upper section 41, which section 111 telescopically and adjustably fits into a rings 113 provided at the upper end of tube 108. Hood 109 is supported in position for use by means of a stand 115, the upper end of which removably fits into a socket 117 in a cylinder 119 fixedly attached to ring 113.

In FIGS. 11, 13 and 14 is best shown another modification of the hair drying device, which is indicated in general as at 121, and which is adapted to be used with a clothes dryer 123 of usual construction that has the door 125 thereof modified in the following mannner: Door 125 is provided with an exit 127 therethrough with the exit being preferably divided into two parts 127*a*, 127*b* by the portion 129 of the door extending vertically therebetween. Door 125 is provided with a pair of vertical lips 131 adjacent the opposite side edges of exit 127. Lips 131 extend outwardly away from the front surface 133 of door 125 and thence extend inwardly towards one another in spaced relationship, which provide means for attaching the hair dryer 121, as will be understood better in the description to follow.

Hair dryer 121 comprises a hood 135 similar to hood 35 and a rigid conduit 137 which is fixedly connected to hood 135 and extends angularly downward therefrom. Conduit 137 communicates with the interior of the hood in the manner previously described for the embodiment shown in FIG. 1. Conduit 137 is preferably square in cross-section and preferably divided into two sections, an upper section 139, which is the part that is actually attached to hood 135, and a lower section 141, which adjustably and telescopically receives the lower end of upper section 139. At the lower end of lower section 141 an entrance 143 is provided. A pair of vertical flanges 145 are attached to lower section 141 adjacent entrance 143 and extend outwardly therefrom.

In preparing to use the hair dryer 121, a cover plate, not shown, which normally fits behind lips 131 to block exit 127, is removed. Then, hair drying device 121 is attached to door 125 by sliding vertical flanges 145 behind lips 131 downwardly from adjacent the tops thereof until the lower end of the conduit 137 is in a housed position. This housed position will occur when the lower edges of flanges 145 are limited in downward movement by suitable stops, as stops 147 formed integrally with lips 131 and door 125 adjacent the lower ends of the lips. It will be understood that in the above described movement the lower end of section 141 will ride against vertical portion 129 to prevent the lower section from extending into exit 127. Also, it will be understood that in said housed position, entrance 143 will be in alignment with exit 127 so that the hot air is adapted to flow from exit 127, through entrance 143, through conduit 137, through hood 135 to the head of the user.

In FIGS. 16 and 17 are best shown still another modification of the hair drying device, which is indicated in general as at 149, and which is adapted to be used with that type of clothes dryer 123 shown in FIG. 12 and heretofore described. The air dryer 149 is similar to hair dryer 91 shown in FIG. 7 and includes a hood 151, a stand 153, and a flexible tube 155, similar to those shown in FIG. 7. However, instead of having an adaptor 99, the lower end of tube 155 is provided with a substantially rectangular attaching member 157 provided with a hole 159 therein. In other words, the lower end of flexible

tube 155 is fixedly attached by suitable means to attaching member 157 in surrounding relationship to hole 159. Then, it will be understood that the attaching member 157 can be attached to door 125 in much the same manner as rigid conduit 137 is attached thereto, as heretofore described. In other words, the side edge portions 161 of attaching member 157 are respectively removably received behind lips 131 with hole 159 being positioned adjacent exit 127 so that the hot air is adapted to flow from the clothes dryer 123, through exit 127, through hole 159, through flexible tube 155, through hood 151 and to the head of the user.

In FIG. 18 is shown a modified form of the hair drying device, which is indicated in general as at 163, and which is similar to that shown in FIG. 16 except that it is adapted to be used with the type of clothes dryer 63 previously described relative to the embodiment shown in FIG. 4. Hair dryer 163 comprises a plate 165 similar to plate 75 which fits into clothes dryer 63 in the same manner as heretofore described for the hair dryer 74. Plate 165 is provided with a hole 167 and the lower end of the flexible tube 169 of hair dryer 163 is attached to plate 165 in surrounding relation to hole 167. In addition, hair dryer 163 includes a hood 171 to which the upper end of tube 169 is attached, a stand 173, and in addition includes the related parts similar to the stand, hood and tube arrangement shown in FIG. 7. Thus, it will be understood that in the dryer 163 the hot air passes through hole 167 into tube 169 and through the tube into hood 171 where it passes to the head of the user. It will be understood that the plate 165 may be formed in a manner similar to plate 25 so that it can be used with a clothes dryer 13 of the type best seen in FIG. 1, without departing from the spirit and scope of the present invention.

From the foregoing description, it will be understood that a very unique and handy device is provided for quickly and easily converting a clothes dryer into a hair dryer. Additionally, it will be understood that such a device is provided which is simple in construction, economical to manufacture, and efficient in operation.

Although the invention has been described in some detail by way of illustration and example for purposes of clarity and understanding, it is to be understood that certain changes and modifications may be made therein which are within the full intended scope of this invention as hereinafter claimed.

I claim:

1. In combination, a clothes dryer including a source of forced hot air and a door for opening and closing an opening through which the clothes are normally inserted in the dryer and through which the hot air from said source is adapted to pass when said door is open, said door being provided with an exit therethrough through which the hot air from said source is adapted to pass when said door is closed, a pair of lips attached to said door adjacent said exit; and a hair drying device comprising a hood, substantially rigid conduit means attached to said hood and depending therefrom, said rigid conduit means including an entrance adjacent the lower end thereof, and including a pair of flanges adjacent said entrance, said entrance being positioned adjacent said exit and said flanges being removably received behind said lips to support said hood from said clothes dryer in position for use and for passing hot air to the head of the user.

2. In combination, a clothes dryer including a source of forced hot air and a door for opening and closing an opening through which the clothes are normally inserted in the dryer and through which the hot air from said source is adapted to pass when said door is open, said door being provided with an exit therethrough through which the hot air from said source is adapted to pass when said door is closed; and a hair drying device comprising a hood, substantially rigid conduit means attached to said hood and depending therefrom, said rigid conduit means including an entrance adjacent the lower end thereof, means interacting between said rigid conduit means and said door to support said conduit means with said entrance being positioned adjacent said exit and to support said hood from said clothes dryer in position for use and for passing hot air to the head of the user.

3. In combination, a clothes dryer including a source of forced hot air and a door for opening and closing an opening through which the clothes are normally inserted in the dryer and through which the hot air from said source is adapted to pass when said door is open, said door being provided with an exit therethrough through which the hot air from said source is adapted to pass when said door is closed, a pair of lips attached to said door adjacent said exit; and a hair drying device comprising a hood, a rigid upper conduit section fixedly attached adjacent the upper end thereof to said hood and depending therefrom, a rigid lower conduit section telescopically joined adjacent the lower end thereof with said upper conduit section, said lower conduit section including an entrance adjacent the lower end thereof and including a pair of flanges adjacent said entrance, said entrance being positioned adjacent said exit and said flanges being removably received behind said lips to support said hood from said clothes dryer in position for use and for passing hot air to the head of the user.

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