

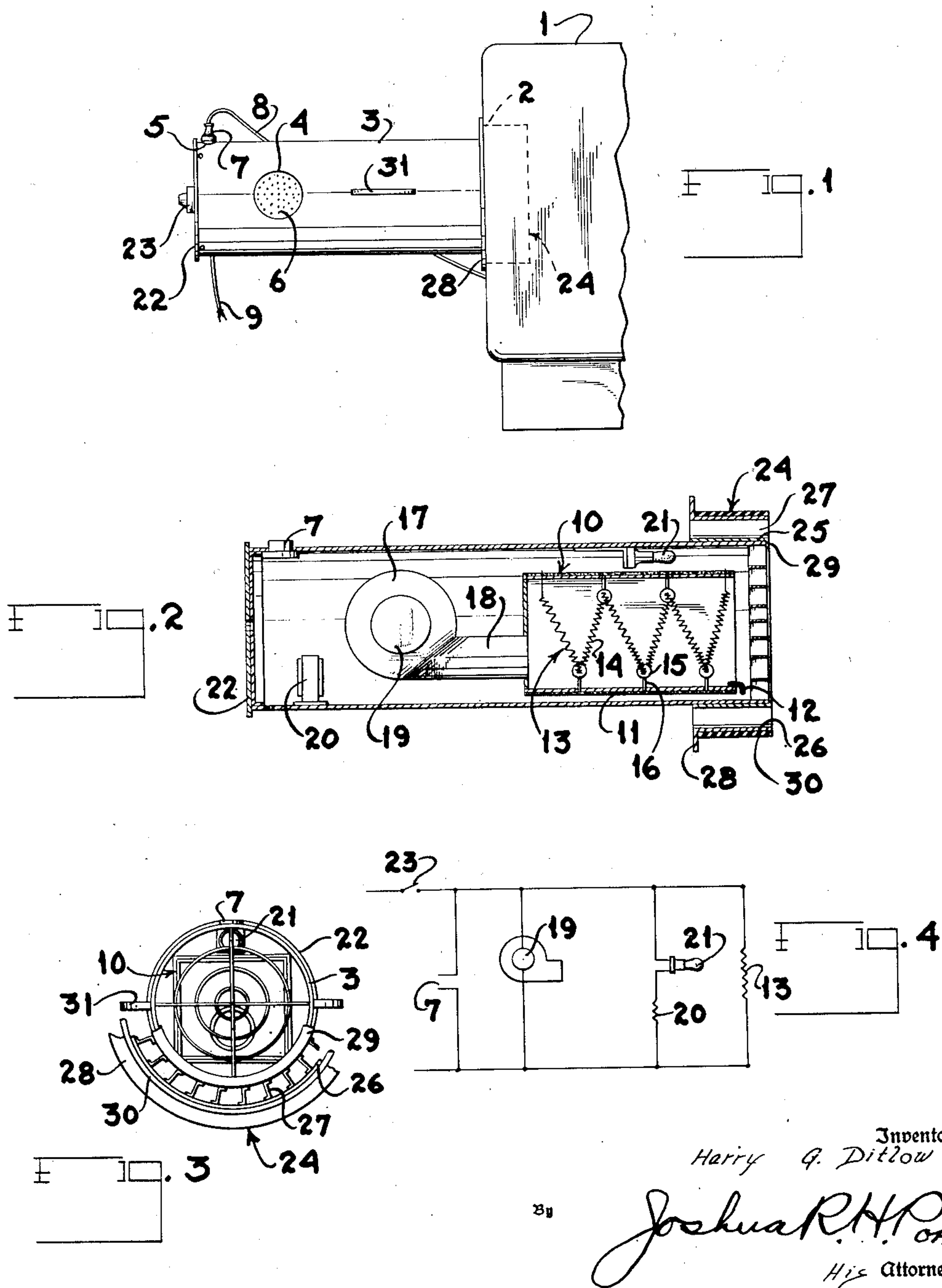
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PORTABLE CLOTHES DRIER

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PORTABLE CLOTHES DRIER

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This invention relates to article driers, and more particularly to a portable article drier, and specifically to a portable clothes drier adapted to be used in conjunction with a clothes washing machine.

An object of the present invention is to provide a portable article drier adapted to be used in conjunction with an article washing machine to dry articles while they are contained in said machine after having been washed.

Another object of the present invention is to provide a shell or fitting embracingly surrounding the article drier, and forming a part thereof, to permit exhaust of the heated air after it has been circulated over the washed articles.

Another object of the present invention is to provide a germicidal lamp positioned within the article drier, and adapted to throw rays of light against articles contained in an article washing machine to thoroughly sterilize the articles.

A further object of the present invention is to provide an article drier which is sturdy and durable in construction, reliable and efficient in operation, and is simple and inexpensive to manufacture.

Other objects and advantages will be apparent from the following description taken in conjunction with the accompanying drawing.

The invention, therefore, is a portable article drier comprising an open ended casing, a housing having one end open positioned within the casing, a heating unit positioned within the housing, a blower positioned within the casing adjacent to the housing, means for driving the blower, and a shell embracingly surrounding one end of the casing, said shell and the adjacent portion of the casing being adapted to be inserted in an opening in an article washing machine, said shell serving as an exhaust port to permit the egress of outgoing air after it has circulated over the articles contained in said washing machine.

Heretofore, in the art of drying clothes, it has been customary for the person washing clothes to hang them out on the clothesline to dry. This method was slow and cumbersome, and involved the step by step operation of first washing the clothes, and then hanging them out on the line to dry, thus, a separate machine was needed and a clothesline had to be constructed in a suitable place. In recent years, however, the art has developed somewhat until at the present time a combined washing machine and drier made as one integral construction is old in the art. My invention relates to a portable clothes drier which can be attached to any standard washing machine. Thus, the present invention eliminates

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the necessity of a clothesline, and makes the task of washing and drying clothes simple and easy.

For a full and complete understanding of the invention, reference is made to the following description and accompanying drawing wherein:

Figure 1 is an elevational view of the clothes drier of the present invention showing the same inserted in a clothes washing machine, said machine being broken away.

Figure 2 is a longitudinal sectional view of the clothes drier shown in Figure 1 detached from the washing machine and taken approximately through the center of the clothes drier.

Figure 3 is an end view of the clothes drier looking from the right in Figure 2, but with the shell or fitting, forming the exhaust port, broken away.

Figure 4 is a diagrammatical view showing the electric circuit arrangement in the clothes drier of the present invention.

Referring specifically to the drawing, wherein the same reference characters are used throughout the several views to designate the same or similar parts the numeral 1 designates a washing machine having an opening 2 therein. The opening 2 here is shown in the side of the washing machine, but it is to be understood that the opening may be in the top as it is in many standard washing machines. The clothes drier of the present invention is adapted to be inserted in the openings 2 of the washing machine 1, which opening is in communication with the clothes contained in the washing machine 1.

The portable clothes drier comprises an open ended casing 3 having an opening 4 in one side thereof, and an aperture 5 adjacent one end thereof. A perforated plate 6 is adapted to be placed over the opening 4 to form an intake port for the clothes drier of the present invention. An electrical receptacle 7 is adapted to be placed in the aperture 5 of the casing 3 and secured thereto. Extending from the washing machine 1 is a conventional electric cord 8 which is adapted to be plugged into the receptacle 7, said cord eliminating the necessity of providing two separate wall sockets, one for the washing machine and one for the clothes drier. Hence, the cord 8 is plugged into the receptacle 7, and the latter is electrically connected to a second electric cord 9, which latter cord is adapted to be plugged into a wall socket. Thus, the cord 9 serves as the electrical energy transfer means for both the clothes drier and the washing machine.

A housing 10 having one end open is positioned longitudinally within and spaced from the bound-

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ing walls of the casing 3, the open end of the housing 10 being positioned adjacent to and spaced from one of the open ends of said casing. The housing 10 has a heat insulating liner 11 circumposed thereabout and secured thereto. Further, the housing 10 is held in place in the casing 3 by a bracket 12 which is secured to the interior surface of the casing 3. A heating unit 13 is positioned within the housing 10, and secured to said housing. Specifically, the heating unit 13 comprises a plurality of coils 14 which are held in place by a plurality of circular insulators 15, which insulators are secured to the housing 10 by means of a wire 16 which clamps around each of the insulators 15, each of said wires projecting from the housing 10. A blower 17 is positioned within the casing 3 adjacent to and spaced from the other open end thereof, said blower having a conduit 18 in communication with the housing 10. The blower 17 is adapted to draw incoming air through the opening 4 in the casing 3. A motor or means 19 is positioned within the casing 3 adjacent said other end thereof, and is operatively connected to the blower 17 for driving the latter.

A ballast coil or resistor 20 is positioned interiorly of the casing 3 adjacent said other end thereof, and is secured to the inner walls of said casing. Positioned between the casing 3 and the housing 10 is a germicidal lamp 21 which is electrically connected to the resistor 20, and which is secured to the interior surface of said casing, the rays of light projecting through the open end of the casing into the clothes in the washing machine to sterilize the same. A closure cap 22 is positioned over said other open end of the casing 3 and is secured thereto to close the casing so that the intake air will come through the perforated plate 6. The various electrical connections are shown in Figure 4 in which the blower motor 19, the lamp 21 and the heating unit 13 are connected in parallel. The lamp 21 and the resistor coil 20 being connected in series. This electric circuit is connected to the cord 9 which is adapted to be plugged in a wall socket. A timing switch 23 is positioned in the closure cap 22, and is secured thereto, the timing switch being electrically connected to the electrical circuit as shown in Figure 4. The timing switch is of a standard type, and by use of the same the drier and washing machine may be set to run for a definite period of time. Upon reaching the end of this period the timing switch will automatically break the electric circuit, and the washing machine and the clothes drier will stop running.

A shell 24 embracingly surrounds the portion of the casing 3 adjacent to and contiguous with said one open end thereof. The shell 24 and the adjacent portion of the casing 3 being adapted to be inserted in the opening 2 in the washing machine 1. The shell 24 serves as an exhaust port to permit the egress of outgoing air after it has been circulated over the clothes contained in the washing machine 1. The shell 24 comprises a first band 25 which is tightly positioned over said one open end of the casing 3. A second band 26 is positioned in surrounding spaced relation with respect to the first band 25. A plurality of fins 27 are arranged in spaced relation with respect to each other, and are arranged in radially spaced relation about the exterior surface of the first band 25, said fins extending between the first band 25 and the second band 26 for securing said bands together. The outgoing air

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escapes through the spaces formed by the fins 27. A first flange 28 extends about the end of the second band 26 remote from said one open end of the casing 3. A second flange 29 extends about the end of the first band 25 contiguous with said one open end of the casing 3. A resilient band or gasket 30 embracingly surrounds the second band 26 and is secured to the latter, the resilient gasket 30 serving as a means to insure a close fit between the portable drier and the bounding walls of the opening 2 in the washing machine 1. The first flange 28 is adapted to abut against the opening 2 in the washing machine 1 to prevent entrance of the casing 3 into the washing machine 1 a greater distance than is desired.

Operation

Operation of the clothes drier of the present invention is as follows. The portable clothes drier is inserted into the opening 2 of the washing machine 1 by means of a pair of handles 31 which are secured to opposite sides of the casing 3 on the exterior surface thereof, and the electrical cord 8 is plugged into the receptacle 7 in the casing 3; then the cord 9 is plugged into a suitable wall socket. The motor 19 is then started by moving the timing switch which starts the blower 17 into operation. The blower 17 draws intake air through the perforated plate 6, and through the conduit 18 into the housing 10. The intake air is then passed over the heating unit 13 where it is heated. The heated air then passes through the open end of the casing 3 into the washing machine 1 where it is circulated over the clothes to dry the same. After the used air has been thoroughly circulated over the clothes it is exhausted through the shell 24 which serves as an exhaust port.

The above description hereinbefore set forth is merely the best mode of practicing the present invention, as there are many modifications and slight deviations still within the spirit and scope of the present invention which are too numerous to mention. It is the applicant's intention to include every modification and deviation of the present invention that is within the length, breadth and scope of the appended claims.

What is claimed is:

1. In an article drier adapted to be inserted in an opening in an article washing machine which opening is in communication with the articles contained in said machine, an open ended casing, a heating unit positioned within said casing adjacent to and spaced from one of the open ends of said casing, a blower positioned within said casing adjacent to and spaced from the other open end thereof, said blower being adapted to draw incoming air from an opening in the side of said casing and force it over the heating unit in said casing and into said opening in said machine, and means positioned within said casing adjacent said other open end thereof and operatively connected to said blower for driving the latter.

2. In an article drier adapted to be inserted in an opening in an article washing machine which opening is in communication with the articles contained in said machine, an open ended casing, a housing having one end open positioned longitudinally within said casing with said one open end positioned adjacent to and spaced from one of the open ends of said casing, a heating unit positioned within said housing, a blower positioned within said casing adjacent to and spaced from the other open end thereof and in

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communication with said housing, said blower being adapted to draw incoming air through an opening in the side of said casing and force it over the heating unit in said housing and into said opening in said machine, and means positioned within said casing adjacent said other open end thereof and operatively connected to said blower for driving the latter.

3. In an article drier adapted to be inserted in an opening in an article washing machine which opening is in communication with the articles contained in said machine, an open ended casing, a heating unit positioned within said casing adjacent to and spaced from one of the open ends of said casing, a blower positioned within said casing adjacent to and spaced from the other open end thereof, said blower being adapted to draw incoming air from an opening in the side of said casing and force it over the heating unit in said casing and into said opening in said machine, means positioned within said casing adjacent said other open end thereof and operatively connected to said blower for driving the latter, and a shell embracingly surrounding the portion of said casing adjacent to and contiguous with said one open end thereof, said shell and the adjacent portion of said casing being adapted to be inserted in said opening in said machine, said shell serving as an exhaust port to permit the egress of outgoing air after it has circulated over the articles contained in said machine.

4. In an article drier adapted to be inserted in an opening in an article washing machine which opening is in communication with the articles contained in said machine, an open ended casing, a heating unit positioned within said casing adjacent to and spaced from one of the open ends of said casing, a blower positioned within said casing adjacent to and spaced from the other open end thereof, said blower being adapted to draw incoming air from an opening in the side of said casing and force it over the heating unit in said casing and into said opening in said machine, means positioned within said casing adjacent said other open end thereof and operatively connected to said blower for driving the latter, and a shell embracingly surrounding the portion of said casing adjacent to and contiguous with said one open end thereof, said shell and the adjacent portion of said casing being adapted to be inserted in said opening in said machine, said shell serving as an exhaust port to permit the egress of outgoing air after it has circulated over the articles contained in said machine, said shell comprising a first band positioned over the portion of said casing adjacent to and contiguous with said one open end thereof, a second band positioned in surrounding spaced relation with respect to said first band, a plurality of fins arranged in spaced relation with respect to each other and extending between and secured to said first and second bands, the outgoing air escaping through the spaces formed by said fins.

5. In an article drier adapted to be inserted in an opening in an article washing machine which opening is in communication with the articles contained in said machine, an open ended casing, a heating unit positioned within said casing adjacent to and spaced from one of the open ends of said casing, a blower positioned within said casing adjacent to and spaced from the other open end thereof, said blower being adapted to draw incoming air from an opening in the side of said casing and force it over the heating

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unit in said casing and into said opening in said machine, means positioned within said casing adjacent said other open end thereof and operatively connected to said blower for driving the latter, a shell embracingly surrounding the portion of said casing adjacent to and contiguous with said one open end thereof, said shell and the adjacent portion of said casing being adapted to be inserted in said opening in said machine, said shell serving as an exhaust port to permit the egress of outgoing air after it has circulated over the articles contained in said machine, said shell comprising a first band positioned over the portion of said casing adjacent to and contiguous with said one open end thereof, a second band positioned in surrounding spaced relation with respect to said first band, a plurality of fins arranged in spaced relation with respect to each other and extending between and secured to said first and second bands, the outgoing air escaping through the spaces formed by said fins, and a first flange extending about the end of said second band remote from said one open end of said casing.

6. In an article drier adapted to be inserted in an opening in an article washing machine which opening is in communication with the articles contained in said machine, an open ended casing, a heating unit positioned within said casing adjacent to and spaced from one of the open ends of said casing, a blower positioned within said casing adjacent to and spaced from the other open end thereof, said blower being adapted to draw incoming air from an opening in the side of said casing and force it over the heating unit in said casing and into said opening in said machine, means positioned within said casing adjacent said other open end thereof and operatively connected to said blower for driving the latter, a shell embracingly surrounding the portion of said casing adjacent to and contiguous with said one open end thereof, said shell and the adjacent portion of said casing being adapted to be inserted in said opening in said machine, said shell serving as an exhaust port to permit the egress of outgoing air after it has circulated over the articles contained in said machine, said shell comprising a first band positioned over the portion of said casing adjacent to and contiguous with said one open end thereof, a second band positioned in surrounding spaced relation with respect to said first band, a plurality of fins arranged in spaced relation with respect to each other and extending between and secured to said first and second bands, the outgoing air escaping through the spaces formed by said fins, a first flange extending about the end of said second band remote from said one open end of said casing, and a second flange extending about the end of said first band contiguous with said one open end of said casing.

7. In a shell adapted to be circumposed about an article drier and insertable into an opening in a washing machine and serving as an exhaust port for the air coming from said drier and circulated over the articles contained in said machine, a first band positioned over the portion of said drier adjacent to and contiguous with one end thereof, a second band positioned in surrounding spaced relation with respect to said first band, and a plurality of fins arranged in spaced relation with respect to each other and extending between and secured to said first and second bands, the outgoing air escaping through the spaces formed by said fins.

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8. In a shell adapted to be circumposed about an article drier and insertable into an opening in a washing machine and serving as an exhaust port for the air coming from said drier and circulated over the articles contained in said machine, a first band positioned over the portion of said drier adjacent to and contiguous with one end thereof, a second band positioned in surrounding spaced relation with respect to said first band, a plurality of fins arranged in spaced relation with respect to each other and extending between and secured to said first and second bands, the outgoing air escaping through the spaces formed by said fins, and a first flange extending about the end of said second band remote from said one end of said drier.

9. In a shell adapted to be circumposed about an article drier and insertable into an opening in a washing machine and serving as an exhaust port for the air coming from said drier and circulated over the articles contained in said machine, a first band positioned over the portion of said drier adjacent to and contiguous with one

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end thereof, a second band positioned in surrounding spaced relation with respect to said first band, a plurality of fins arranged in spaced relation with respect to each other and extending between and secured to said first and second bands, the outgoing air escaping through the spaces formed by said fins, a first flange extending about the end of said second band remote from said one end of said drier, and a second flange extending about the end of said first band contiguous with said one end of said drier.

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