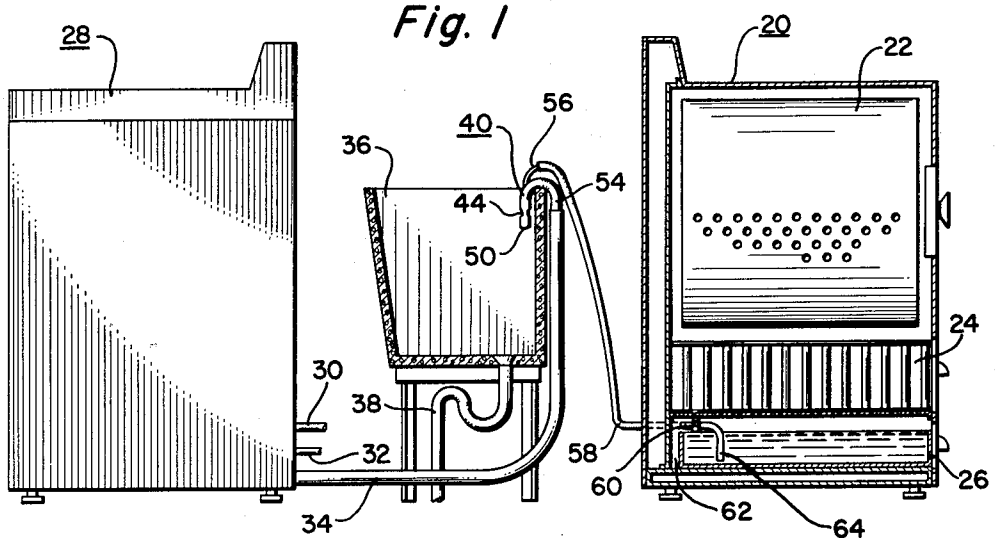
June 19, 1956 R. H. WHYTE 2,750,779

DOMESTIC APPLIANCE

Filed April 13, 1953

Fig. 1



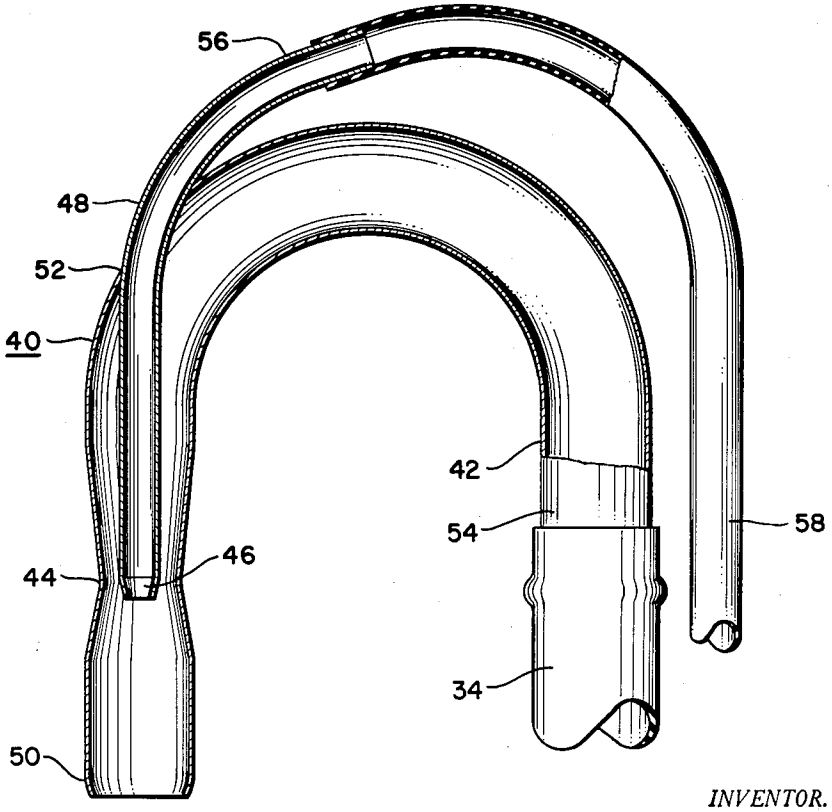


Fig. 2

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United States Patent Office 2,750,779 Patented June 19, 1956

2,750,779

DOMESTIC APPLIANCE

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Application April 13, 1953, Serial No. 348,410

2 Claims. (Cl. 68—19)

This invention relates to a domestic appliance and more particularly to an arrangement by which the water discharged by an automatic washer may be used to remove condensed liquid from a laundry dryer.

In modern home laundries it is customary to have an automatic dryer as well as an automatic washer. Some automatic dryers are provided with some form of condensing means for the purpose of condensing the moisture driven out from the clothes in the dryer. The purpose of this is to prevent the discharge of hot humid air into the room in which the dryer is located. A receptacle is often provided for catching this condensed liquid. If a floor drain is available it is possible to use a simple hose to drain such a receptacle. However, when it is inconvenient to use such a floor drain it has been necessary to either manually remove the receptacle and discharge its contents or to provide some other means for disposal of the liquid.

It is an object of my invention to use the pressure of the water discharged from the washer to remove the liquid condensed in the dryer.

It is another object of my invention to operate an aspirator means by the water discharged from an automatic washer and to use the suction provided by the aspirator means to draw the liquid condensed from a dryer and discharge it in a common stream with the water discharged by the washer into a stationary tub or other similar means of water disposal.

In the form shown in the drawings, the aspirator means is made in the form of an inverted U-shaped tube capable of hanging on the rim of a stationary tub. The part of the tube within the tub is provided with a throat of reduced diameter to form a venturi throat. Extending into the center of this throat is the mouth of a suction tube which extends along the axis of the vertical portion of the tube and outwardly through a portion of the curved wall surface of the tube. The portion of the U-shaped tube outside the stationary tub forms the pressure inlet of the aspirator means and is connected to the water discharge means of a laundry washing machine by a suitable hose. A smaller hose extends from the outer end of the suction tube into the bottom of the liquid collecting receptacle of the laundry dryer.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanied drawings wherein a preferred form of the invention is clearly shown.

In the drawings:

Figure 1 is a view showing in elevation a laundry washing machine having its discharge outlet connected to the aspirator means hanging over the rim of a stationary tub into which the aspirator means discharges together with a vertical sectional view of a laundry dryer having a tube extending from its liquid collecting means to the suction tube of the aspirator means; and

Figure 2 is a vertical sectional view of the aspirator means shown in Figure 1.

Referring now to the drawings there is shown a laundry dryer **20** having a rotatable drum **22** within a drum chamber. At the bottom of the drum chamber there is provided an air cooled condenser **24** which is cooled sufficiently by air to condense the moisture which is driven out of the clothes in the drum **22**. Beneath this condenser **24** is a liquid collecting receptacle **26**. This liquid collecting receptacle **26** is made removable so that it may be carried and dumped in a suitable drain. Further description of such a laundry dryer may be found in the McCormick applications S. N. 217,618, now abandoned, and S. N. 298,566 which issued on April 24, 1956, as Patent Number 2,742,708. A condensing type of dryer is also shown in the O'Neil Patents 2,334,025 and 2,369,366.

In almost all cases an automatic washer **28** is used to wash the clothes prior to using the dryer **20**. For the purpose of this invention any form of washer having a pressure discharge may be used. The washer **28** includes hot and cold water pressure inlet connections **30** and **32**. It also includes a discharge hose connection **34** connected to the outlet of a discharge pump which forces the water discharged by the washer into the hose **34**. Such a washer is described in the Clark Patent 2,366,236 issued January 2, 1945, and the Wallis et al. Patent 2,544,867 issued March 13, 1951.

In many homes there is no convenient drain at the floor level. However, a great many homes have some other drain above the floor level into which the water may be discharged. In Figure 1 a stationary tub **36** is given as one example of such a means of water disposal. This stationary tub **36** may be supplied with a drain **38** leading to a sewer.

According to my invention I provide an aspirator means **40** having the shape of an inverted U so that it can be hung upon the rim of any tub or collecting basin. This aspirating means preferably is in the form of an inverted U-tube **42** provided that a necked-in portion **44** in the part of the straight side hanging within the tub **36**. This necked-in portion **44** forms the throat of a venturi which discharges into the outlet end **50**. Extending into this throat is the mouth **46** of a suction tube **48** which is located along the axis of the throat **44**. The mouth **46** of the suction tube **48** is adjacent the outlet end **50** of the U-tube **42**. This suction tube **48** extends through a sealed opening **52** in the outer periphery of the curved portion and the U-tube portion **42** as shown in Figure 2.

The opposite end **54** of the U-tube forms the pressure inlet of the aspirator means **40**. This opposite end **54** is connected directly to the discharge end of the water discharge conduit **34** extending from the washer **28**. The suction tube **48** has an inlet end **56** connected by a flexible tube **58** to the bottom of the receptacle **26**. Preferably this tube **48** extends into the dryer **20** and is fastened by the bracket **60** to the upper portion of the receptacle chamber **62** within which the receptacle **26** is located. The lower end **64** of the tube extends substantially to the bottom of the receptacle. The location of the lower end **64** of the tube **58** adjacent the rear end of the receptacle **26** permits the receptacle to be withdrawn like a drawer. The flexible nature of the tube **58** permits the complete withdrawal of the receptacle **28** without difficulty.

As a result of this arrangement, while the clothes previously washed are being dried in the dryer **20** and while the moist air created by the drying of the clothes has its moisture condensed by the condenser **24** and collected in the receptacle **26** beneath the condenser **24** the washing of another bundle of clothes in the automatic washer **28** will cause the discharge of water from time to time through the washer pump and water discharge conduit **34** to the aspirator means **40**. The flow of the discharge

water through the tube **42** into the stationary tub **36** will cause a suction within the throat **44** at the mouth **46** of the suction tube **48**. This suction will draw the condenser moisture from the receptacle **26** through the tube **58** and the tube **48** so that it will be discharged from the mouth **46** into the stream of discharge water flowing in the inverted U-tube **42** to the common discharge outlet **50** into the stationary tube **36**.

This discharge water by the use of a stopper in the drain may be collected in the tub **36**. By removing the stopper it may be discharged through the drain **38** to the sewer. Inasmuch as both the washer and the dryer are automatic in their operation it is highly important that the draining of the receptacle **26** be automatic since if neglected it may overflow.

While the form of embodiment of the invention as herein disclosed constitutes a preferred form, it is to be understood that other forms might be adopted as may come within the scope of the claims which follow.

What is claimed is as follows:

1. In combination, a laundry washing machine having water inlet means and water discharge means, a laundry dryer having condensing means and liquid collecting means for condensing and collecting moisture removed from the clothes in the dryer, aspirator means having a pressure inlet and a suction inlet and a common discharge outlet, conduit means connecting said water discharge means and said pressure inlet, and conduit means having its entrance portion extending into contact with the liquid in said liquid collecting means and its exit portion connected to said suction inlet for removing liquid from said liquid collecting means by the water discharged from the washing machine.

2. In combination, a laundry washing machine having water inlet means and water discharge means, a laundry dryer having condensing means and liquid collecting means for conducting and collecting moisture removed from the clothes in the dryer, aspirator means having a pressure inlet and a suction inlet and a common discharge outlet, conduit means connecting said water discharge means and said pressure inlet, and conduit means having its entrance portion extending into contact with the liquid in said liquid collecting means and its exit portion connected to said suction inlet for removing liquid from said liquid collecting means by the water discharge from the washing machine, said aspirator means being in the form of an inverted U shape capable of being hung upon the rim of a drainage receptacle.

References Cited in the file of this patent

UNITED STATES PATENTS

1,930,284	Reedy et al.	Oct. 10, 1933
2,093,589	Geldhof et al.	Sept. 21, 1937
2,587,080	Abresch	Feb. 26, 1952
2,607,209	Constantine	Aug. 19, 1952