

F. T. JOHNSON.

DRIER.

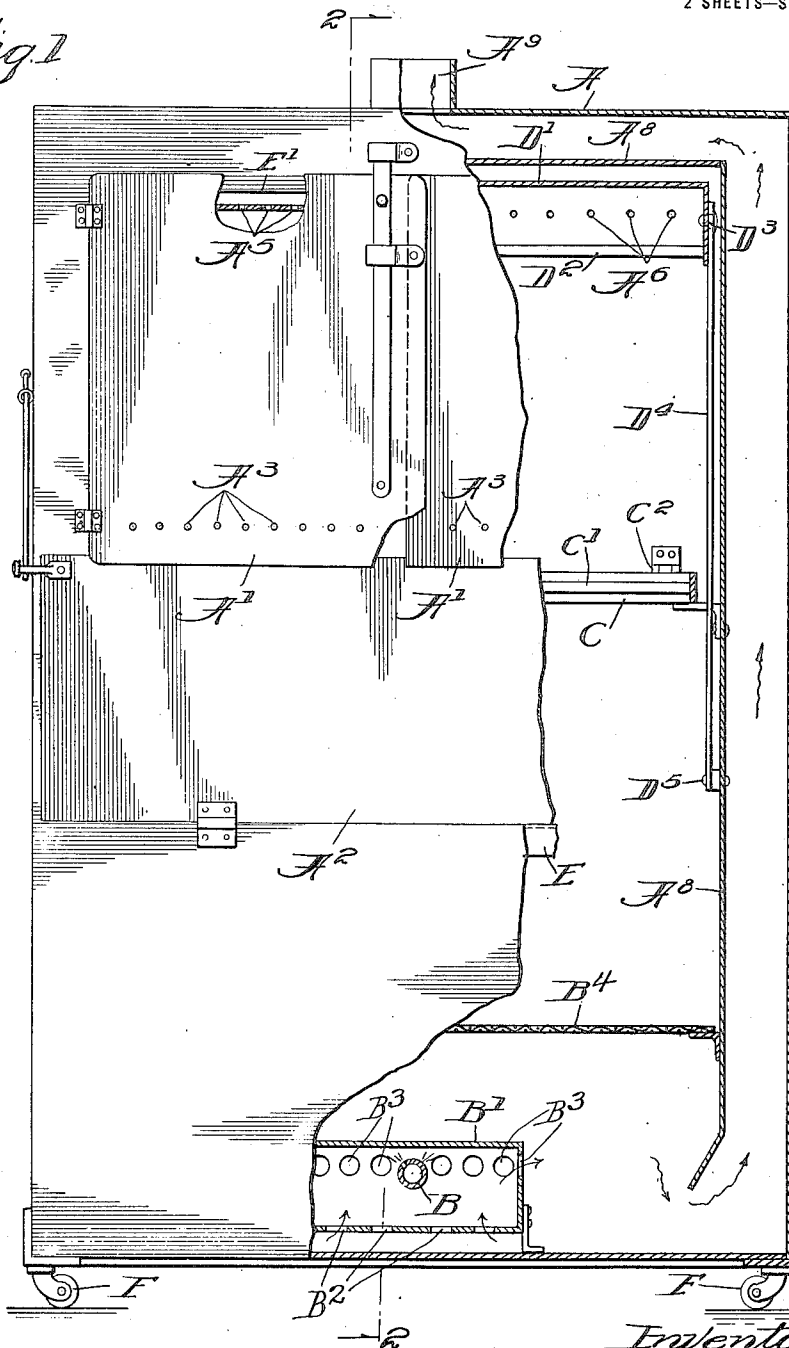
APPLICATION FILED SEPT. 8, 1919.

1,397,100.

Patented Nov. 15, 1921.

2 SHEETS—SHEET 1.

Fig. 1



Inventor;
Francis T. Johnson,

Witness;
C. H. Smith

W. J. Parks & Co.
his Attys.

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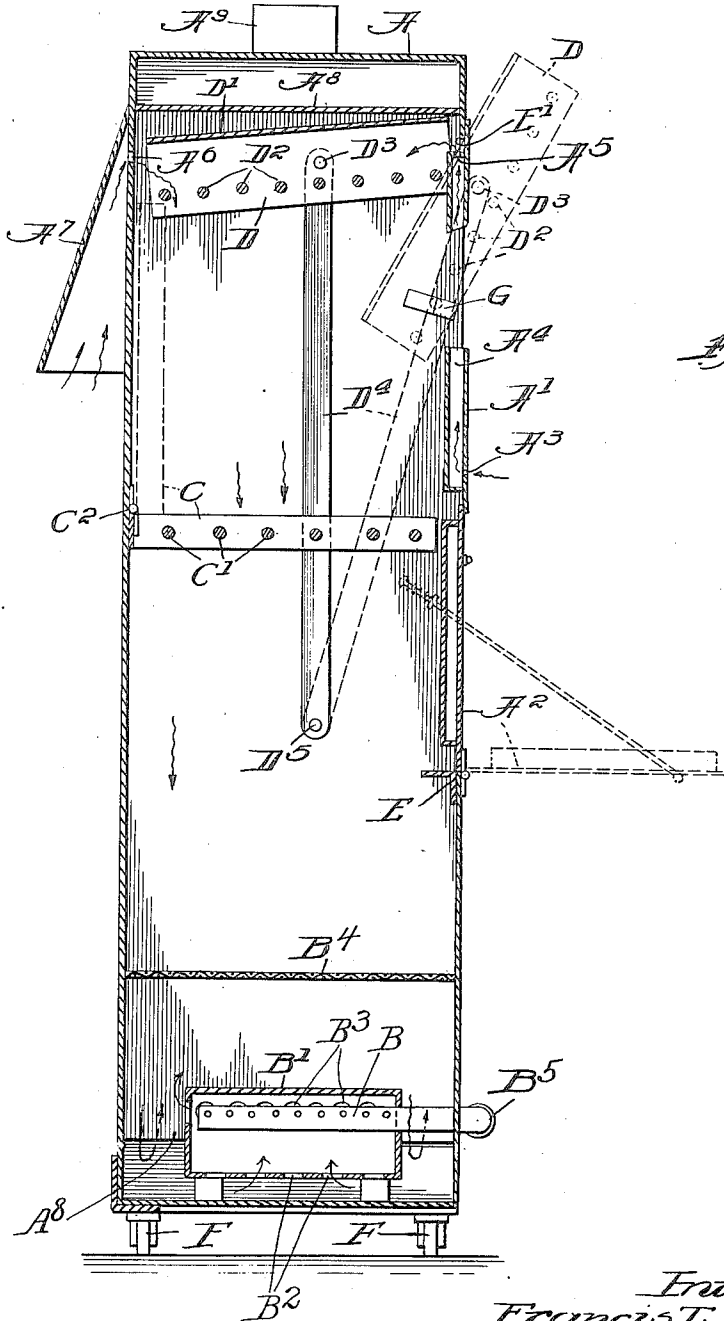


Fig. 2.

Witness;
O. L. Smith

Inventor;
Francis T. Johnson,
Barber & Galt
by Francis T. Johnson
His Atty.

UNITED STATES PATENT OFFICE.

FRANCIS T. JOHNSON, OF CHICAGO, ILLINOIS.

DRIER.

1,397,100.

Specification of Letters Patent.

Patented Nov. 15, 1921.

Application filed September 8, 1919. Serial No. 322,332.

To all whom it may concern:

Be it known that I, FRANCIS T. JOHNSON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Driers, of which the following is a specification.

My invention relates to driers and applies particularly to those used in connection with the washing of clothes or fabric, although, of course, it might be used in any other connection where it is necessary or desirable to dry articles by artificial heat. One object of my invention is to produce a small, standard portable drier adapted for use in the home.

My invention is illustrated more or less diagrammatically in the accompanying drawings, wherein—

Figure 1 is a front elevation with parts broken away;

Fig. 2 is a vertical section on the line 2—2 of Fig. 1.

Like parts are designated by like characters throughout.

A is the main exterior casing of my drier. It is open at the front throughout the greater portion of its height and is provided with the two laterally swinging doors A¹, A¹ and the vertically swinging door A². The doors A¹, A¹ are of double thickness and provided with an interior air passage. A³, A³ are holes on the outside of the doors A¹, A¹ communicating with the interior air passage A⁴. A⁵, A⁵ are holes in the inner wall of the doors and communicating also with the interior air passage A⁴. A⁶, A⁶ are perforations across the rear wall which are covered by the slanting hood A⁷ which extends entirely across the rear of the drier. A⁸, A⁸ are inner walls on the sides and top of my drier: They are open at the bottom and communicate with the interior of the casing and at the top are provided with the vent A⁹.

B is a gas burner covered by the protecting box B¹. B⁴ is a screen extending entirely across the interior of the drier and spaced above the burner hood. B⁵ is an air mixer in the gas line.

C is a rack provided with the rods C¹, C¹ upon which clothes or other articles to be dried may be supported. This rack is hinged at C² and may be raised and held against the back of the drier and out of operating position.

D is another rack having a sheet top D¹, provided with the rods D², D². It is pivoted

at both sides at D³ on the supporting arms D⁴, D⁴, which are also pivoted at D⁵ on the inner walls of the drier.

E is a lip on the inside of the front of the drier at the point of connection of the door A². E¹ is a lip extending below the inner wall A⁸ and adapted to engage the front edge of the rack D when it is in the position shown in full lines in Fig. 2.

F, F are casters or other supports for the drier. G is a stop to limit the movement of D⁴.

It will be evident that while I have shown in my drawings an operative device, still many changes might be made both in size, shape and arrangement of parts without departing materially from the spirit of my invention and I wish, therefore, that my drawings be regarded as in a sense diagrammatic.

The box B¹ is perforated on its bottom as at B², and along its sides, near the top as at B³.

The use and operation of my invention are as follows:—

My drier is designed particularly for use in small establishments such as homes. It is portable and is preferably mounted upon casters so that it may be moved about. When it is desired to use it, the gas burner is connected with any gas line and the articles to be dried are hung from or placed upon the racks. As there are no openings except those indicated the air can enter only through them. As combustion takes place, the air will be drawn into the drier and will come down to the burner where it will be heated. After it has become heated, it will pass upward through the double walls and establish satisfactory and complete circulation of air bringing the air through the openings near the top down over the articles within the drier and out through the double walls. Thus sufficient air for combustion is furnished and the heated air containing the moisture passes off.

I have shown a particular form of rack for use in connection with the drier. This is the upper rack as shown in Fig. 2. In order to place clothes upon it the doors of the drier are opened and the front edge of the rack is depressed and then pulled forward. As soon as its pivot point has cleared the wall of the drier it is in a state of unbalance and the rear end will tend to fall down, raising the upper end. Thus there is no danger of the rack falling upon or striking

ing the user and the rods are brought closer to the front so that the clothes may be hung upon them more readily. A further advantage is that the rack, having a solid top
5 above the rods, forms a deflector and in a great measure prevents the escape of heat from the drier even during the time that the main doors are open.

In the particular form illustrated the portions are such as to produce approximately 160° F. of temperature. By varying the proportions I can vary the temperature practically indefinitely. If, for example, I increase the length of the hood
15 in the rear of the drier, I increase the temperature. Another way to increase the temperature is to add another burner. This, however, is not so economical and I find that with this burner and proper proportioning
20 of the elements of the drier, I can secure sufficient heat for baking. Such a heat is, of course, not desirable for use in drying clothes, but I mention it as an indication of the possibilities of my invention and al-
25 though I have shown my invention applied to a drier, I do not wish to be limited to that application.

A. In using the drier, articles to be dried, will usually be hung from the upper rack.
30 When it is in the position shown in dotted lines, articles will first be hung on the lower rod, and will be last removed from it; thus the moment an article is hung, it serves to close the door, and to keep the
35 heat from the operator's face and to retain it in the drier.

The arrangement of the heater, with the box, is of course to regulate the supply of air to the burner and to protect it from
40 any sudden draft, which might put it out. The gas burner might, of course, be replaced by one or more electric heating elements.

I claim:—

1. A drier comprising a drying chamber
45 with a doorway and a drying rack within said chamber, comprising a plurality of bars and a covering plate above them, said rack adapted to be held in position in the drying chamber and to be moved thence into
50 position in the doorway.

2. A drier comprising a drying chamber with a doorway and a drying rack pivotally mounted within such chamber, adapted to be held therein in substantially horizontal
55 position by contact with the ceiling of said chamber, and to be moved thence into position in the doorway.

3. A drier comprising a drying chamber with a doorway and a drying rack adapted
60 to be held in position within such chamber, and to be moved thence into position in said doorway to partially close it.

4. A drier comprising a drying chamber with a door and a drying rack adapted to
65 be held in position within such chamber and

to be moved thence into position in and partly through said doorway to partially close it.

5. A drier comprising a drying chamber with a doorway, and a rack adapted to be
70 held in position in such chamber and to be moved thence into position in and partly through said doorway, and another rack rotatably mounted within said chamber.

6. A drier comprising a drying chamber
75 with a doorway, and a drying rack adapted to be held in position in such chamber and to be moved thence into position in and partly through said doorway, and another rack rotatably mounted within said cham-
80 ber and below said first mentioned rack.

7. A drier comprising a drying chamber with a doorway and a door therein, adapted, when open to form a shelf on the exterior of
85 said chamber, a drying rack adapted to be held in position in such chamber and to be moved thence into position in said doorway to partially close it and to make said rack more accessible.

8. A portable heat drier comprising a
90 drying chamber having a doorway and means for maintaining a circulation of air through said chamber including double walls and door closures, said means adapted
95 to cause the air to enter said chamber at the top and to leave it at the bottom.

9. A portable heat drier comprising a drying chamber having a doorway, and means for maintaining a circulation of air
100 through said chamber, including double walls and door closures, said means adapted to cause the air to enter said chamber at the top and to leave it at the bottom, and a rack comprising a plurality of bars and
105 a cover plate across and above them, said rack adapted to be held in position in said drying chamber and to be moved thence into position in the doorway.

10. A portable heat drier comprising a drying chamber having a doorway, and
110 means for maintaining a circulation of air through said chamber, including double walls and door closures, said means adapted to cause the air to enter the chamber at the top and to leave it at the bottom and a rack
115 comprising a plurality of bars with a cover plate across and above them, said rack adapted to be held in position in said drying chamber and to be moved thence into position in the doorway, and another rack
120 pivotally mounted within said chamber, and below said first mentioned rack.

In testimony whereof, I affix my signature in the presence of two witnesses this 30th day of August, 1919.

FRANCIS T. JOHNSON.

Witnesses:

IRENE P. SCHWARTZ,
EDNA B. PETERSON.