D'ARCY B. PLUNKETT.

DRIER.

APPLICATION FILED FEB. 18, 1909.

924,272.

Patented June 8, 1909.

2 SHEETS—SHEET 1.

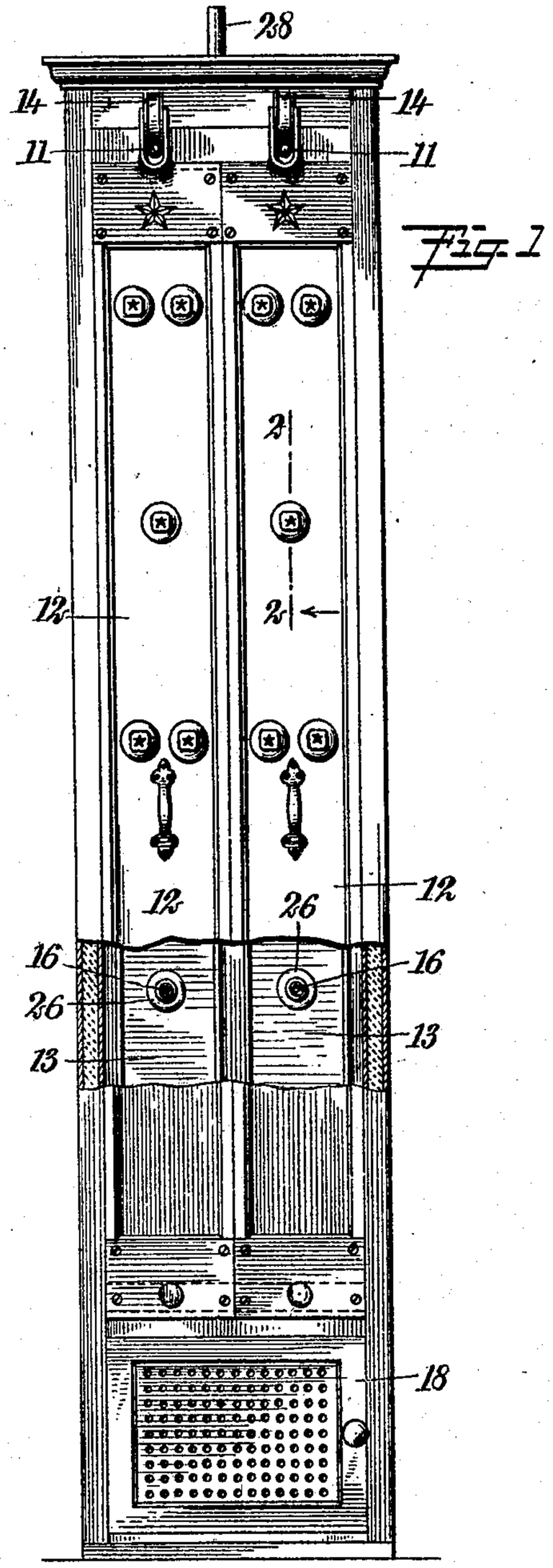

Fig. 1

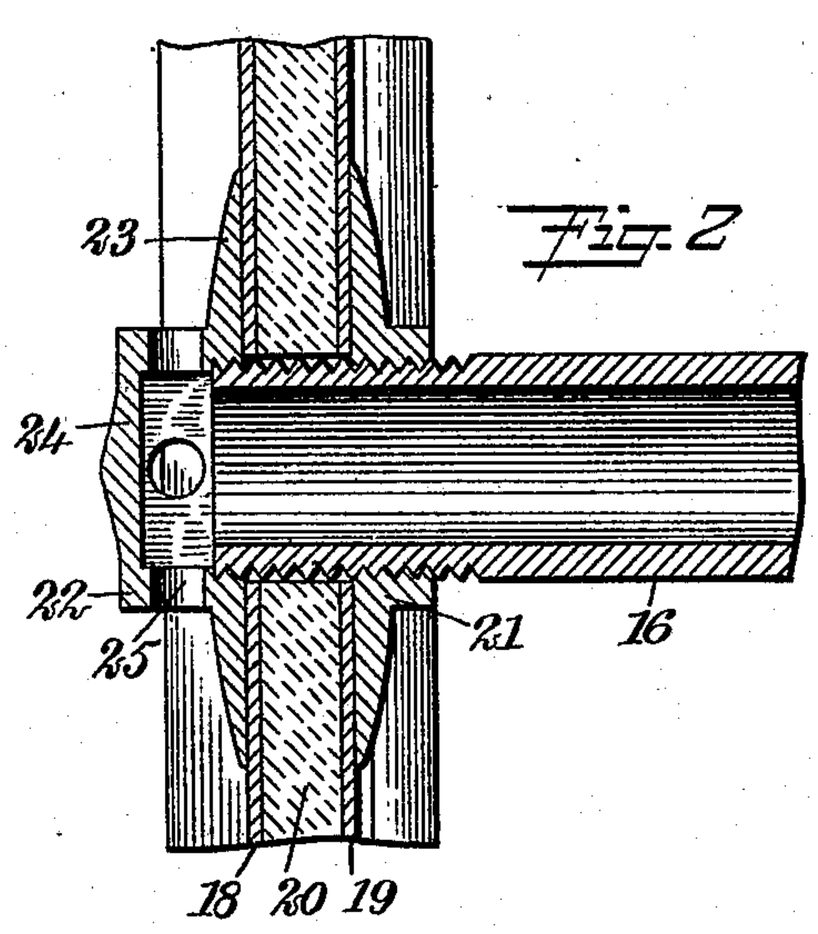

Fig. 2

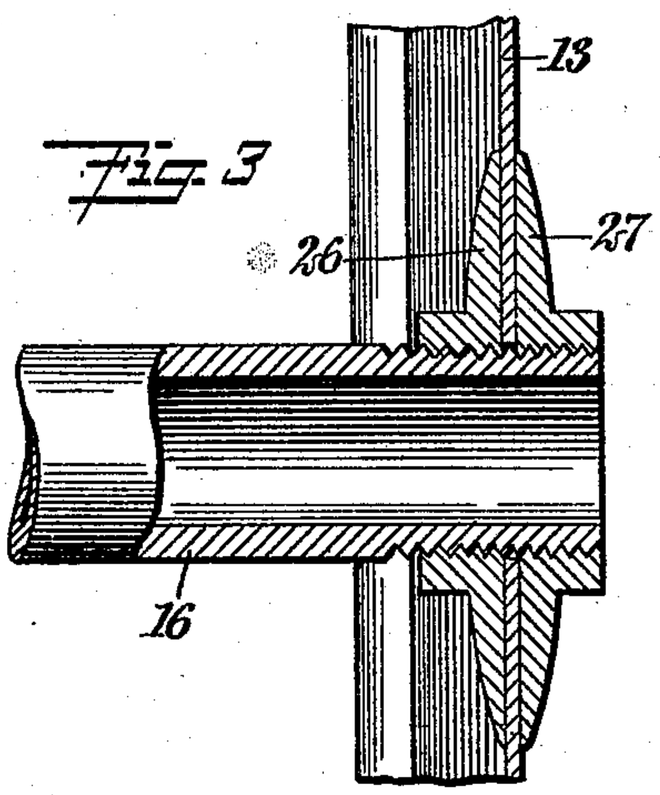

Fig. 3

WITNESSES

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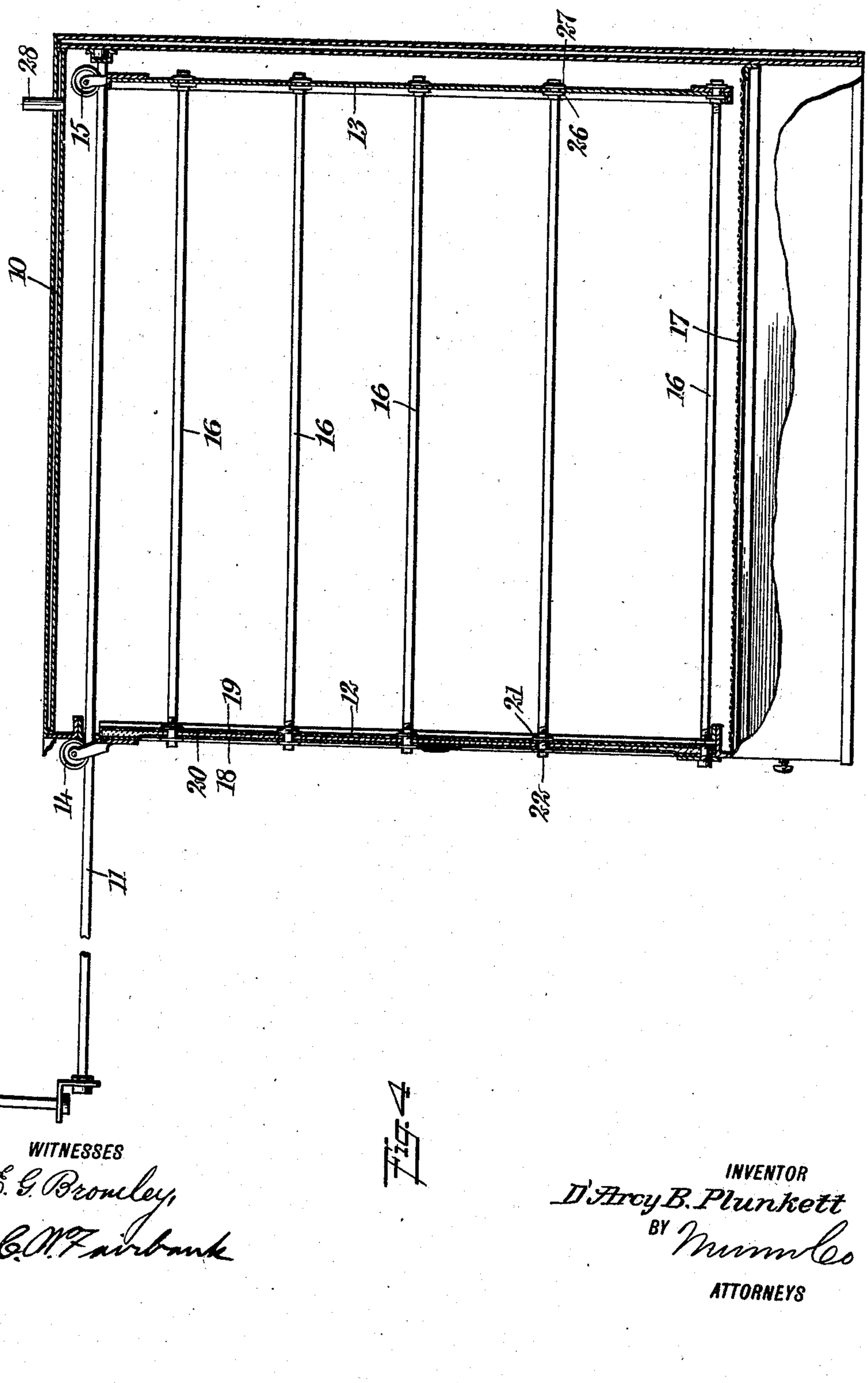

Fig. 4.

WITNESSES

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UNITED STATES PATENT OFFICE.

D'ARCY B. PLUNKETT, OF NEW YORK, N. Y.

DRIER.

No. 924,272. Specification of Letters Patent. Patented June 8, 1909.

Application filed February 18, 1909. Serial No. 478,540.

To all whom it may concern:

Be it known that I, D'ARCY B. PLUNKETT, a subject of the King of Great Britain, and a resident of the city of New York, borough of Manhattan, in the county and State of New York, have invented a new and Improved Drier, of which the following is a full, clear, and exact description.

This invention relates to certain improvements in clothes driers, and more particularly to that type in which the rack serves to support the articles to be dried and is movable into or out of a closed, heated chamber. In driers of this type it is common practice to support the articles upon metal tubes or rods extending lengthwise of the rack, and the metal of these tubes often becomes heated to such a temperature as to injure the articles.

The object of my invention is to so construct the drier that the tubes may be kept cool and serve for ventilating the interior of the chamber, but at the same time the front ends of the tubes will be covered so that they cannot be seen, and dust and foreign bodies cannot readily clog therein.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is a view of the front of a drier constructed in accordance with my invention, a portion thereof being broken away; Figs. 2 and 3 are sections on the line 2—2 of Fig. 1, and taken at the front and back ends, respectively, of the tube; and Fig. 4 is a vertical section through the drier taken in a plane at right angles to the plane of Fig. 1.

In the specific form of drier illustrated, I provide a closed chamber having any suitable form of insulated walls 10, and having an open front. A plurality of tracks 11 are supported adjacent the top of the chamber and extend outwardly through the open front to a distance substantially equal to the depth of the chamber. A plurality of racks are employed, each rack being supported upon a corresponding track and movable into or out of the chamber. The several racks have their fronts so constructed that when all of the racks are moved inwardly to the limiting position, the open front of the chamber will be effectively closed. Each rack has a vertical front wall 12 and a rear wall 13, and the two walls are suspended from corresponding rollers movable along the corresponding track 11. The roller 14 comes adjacent the front side of the drier casing when the rack is in closed position, while a roller 15 remains within the casing at all times and comes adjacent the inner surface of the front when the racks are pulled out. The front and rear walls 12 and 13 are connected together and held rigid in respect to each other by a plurality of substantially parallel horizontally-disposed tubes 16, which are utilized to support the clothing or other articles being dried.

Within the drier and preferably below the several racks is any suitable form of heating means, not shown, and this heating means may be steam, hot air, gas, electricity, or the like. Preferably, a horizontally-disposed screen 17 is provided to separate the space receiving the heating means and the upper space receiving the racks, and the front of the drier below the screen is provided with a suitable closure 18 whereby access may be gained to the heating means.

All of the parts above referred to may be constructed in any suitable manner or according to any established design, as the general arrangement forms no portion of my invention except in so far as hereinafter pointed out.

In my improved drier I form the front wall 12 of two separate layers of sheet metal 18 and 19 spaced apart to receive a central insulating layer 20 of asbestos or the like. The inner sheet of metal 19 is preferably formed substantially flat while the outer sheet 18 is preferably countersunk at the center to form a depressed panel. The front is of greater thickness around its peripheral portion than at its central portion. The rear wall 13 of the rack is preferably formed of a single layer of sheet metal, as it serves merely as a support and does not necessarily have any insulating properties. The tubes 16 in my improved construction, I extend at their front ends through the front sheet metal wall 18 and terminate them closely adjacent to but slightly beyond the outer surface of the wall. Each tube is threaded adjacent its end and a nut 21 having a large annular flange is secured to the tube, so as to engage with the inner sheet metal wall 19 and limit the distance to which the tube can extend through the wall. At the outer end of the

tube I provide a nut 22 having a large annular flange 23 for engagement with the surface of the outer wall 18. This nut in combination with the tube and wall, constitutes an important feature of my invention, as it serves not only to hold the tube in place but also to permit the entrance of air to the tube and to effectively conceal the tube from view. The nut 22 includes an outer plate 24 substantially parallel to the annular flange 23 and closing the outer end of the aperture in the nut. The body of the nut is preferably octagonal in form and through a plurality of the sides of the nut are passages 25 leading to the interior of the nut. The tube 16 is of such length that it terminates closely adjacent the inner ends of these apertures but does not cover them or prevent the entrance of air through the passages to the interior of the nut and thence to the interior of the tube. The total cross sectional area of the apertures is substantially equal to the cross sectional area of the tube, so that air may enter the tube substantially as freely as though the nut were omitted, yet at the same time the tube cannot be seen and is locked in place. The nut 22 in addition to serving its mechanical functions also serves as an ornament to the front panel. The nuts for all of the tubes are within the countersunk portion or panel of the front and their total height is only slightly greater than the depth of the countersunk portion, so that they do not protrude to any material extent beyond the plane of the marginal portions of the panel. It is not necessary to prevent the admission of foreign particles to the rear end of the tube, nor is it desirable to conceal the same from view. I therefore secure the rear end of each tube in place by two nuts 26 and 27, both substantially identical with the nut 21 at the front end of the tube. These two nuts engage with threaded portions of the tube 16 and clamp the rear plate 13 of the rack between them, as indicated particularly in Fig. 3.

In my improved drier the air may freely enter the openings 25 and pass through the several tubes 16 to the rear ends thereof and into the drying chamber. The current of air is induced by the difference in temperature upon the interior and exterior of the chamber and the incoming air serves not only to keep the tubes comparatively cool, but also to ventilate the chamber. The rear wall 13 of each rack is somewhat narrower than the front wall, as is indicated in the broken-away portion of Fig. 1. The air which enters through the tubes and escapes into the drier at the rear of the walls 13, may thus pass forwardly between the rear walls 13 and circulate through the entire inner portion of the casing. The heated air in the upper portion of the chamber, which is super-charged with moisture, may escape from the casing through any suitable outlet, as, for instance, a conduit 28.

In Fig. 1 of the drawing, I have shown a drier having only two racks, but it is to be understood that in practice a far greater number would ordinarily be employed.

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

1. A drier having a drying chamber, a movable rack having a front wall constituting a closure for said chamber, a tube for supporting articles to be dried and having one end communicating with the interior of the chamber and having the opposite end extending through said front wall, and a nut secured to the last-mentioned end of the tube for locking the latter to said front wall, said nut having a closed end and perforated sides, whereby air may enter through the perforations to the interior of the tube and thence to the interior of the chamber.

2. A drier having a heated chamber, a rack having a front constituting a closure for said chamber, said front being formed of an inner sheet metal wall, an outer sheet metal wall, an intermediate layer of insulating material, said outer wall being countersunk at its central portion to form a panel, a tube extending through said wall within the limits of said panel, and a nut secured to the front end of said tube for locking the latter to said front and having a plurality of perforations establishing communication between the interior of the tube and the outside atmosphere.

3. A drier having a heating chamber, a plurality of racks having front walls constituting a closure for the chamber and having rear walls spaced apart and of less width than the corresponding front walls, and clothes-supporting tubes connecting said front walls and rear walls and extending through both and having their ends open, whereby air may enter through said tubes to the rear surface of said rear walls and thence forwardly between said rear walls to the interior of the body of the casing.

4. A drier having a front wall, a clothes-supporting tube extending through said wall, a nut threaded to said tube and in engagement with the rear side of said wall, and a second nut threaded to said tube and in engagement with the front side of said wall, said last-mentioned nut having a closed outer end and a plurality of apertures in the sides of the nut beyond the end of said tube.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

D'ARCY B. PLUNKETT.

Witnesses:
CLAIR W. FAIRBANK,
JOHN P. DAVIS.