

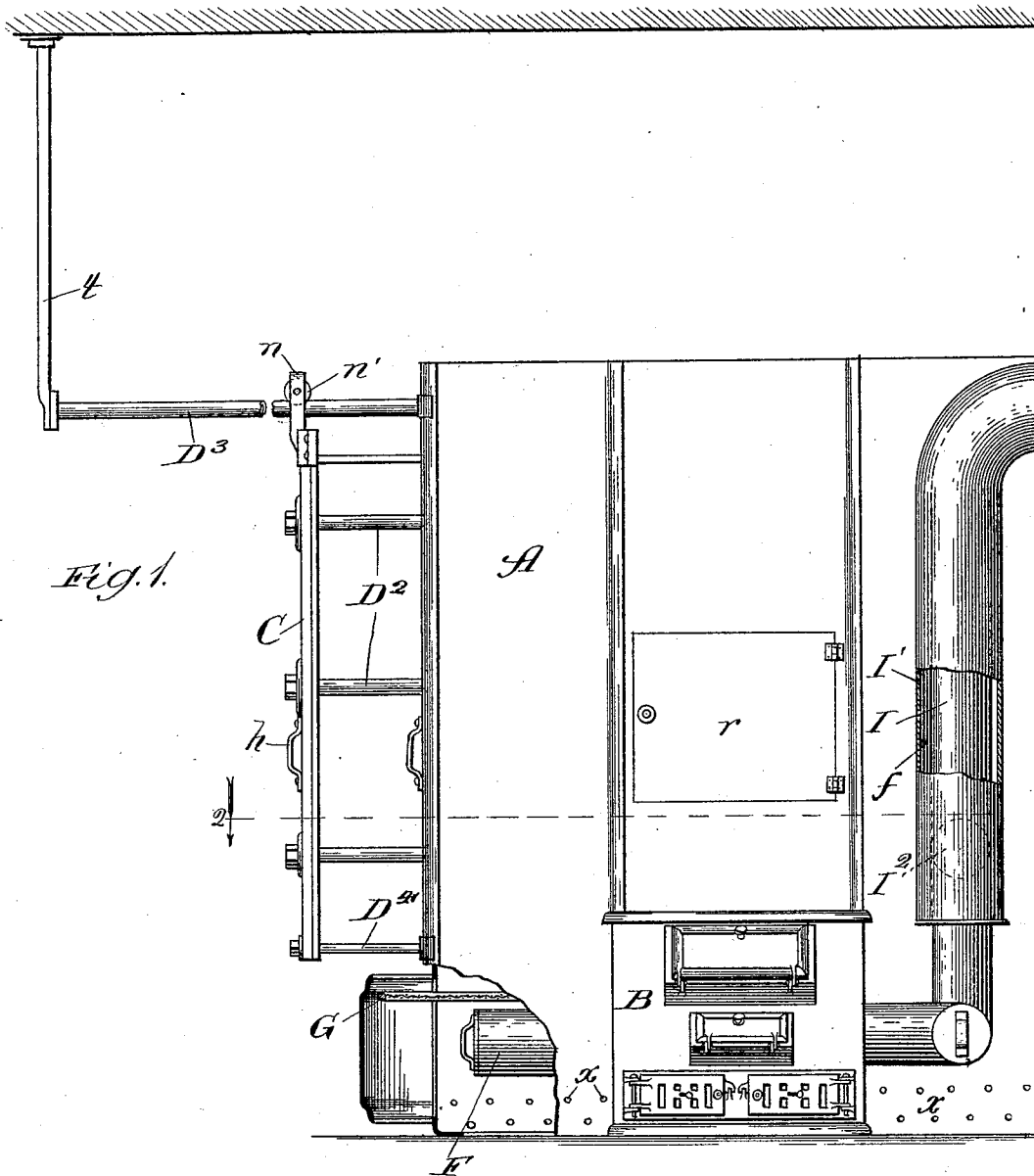
(No Model.)

3 Sheets—Sheet 1.

O. M. SHANNON.
CLOTHES DRIER.

No. 513,285.

Patented Jan. 23, 1894.



Witnesses:
 Jas. E. Gaylord,
 O. R. Shipley

Inventor:
Oscar M. Shannon.
By Dyrenforth & Dyrenforth,
Attys—

(No Model.)

3 Sheets—Sheet 2.

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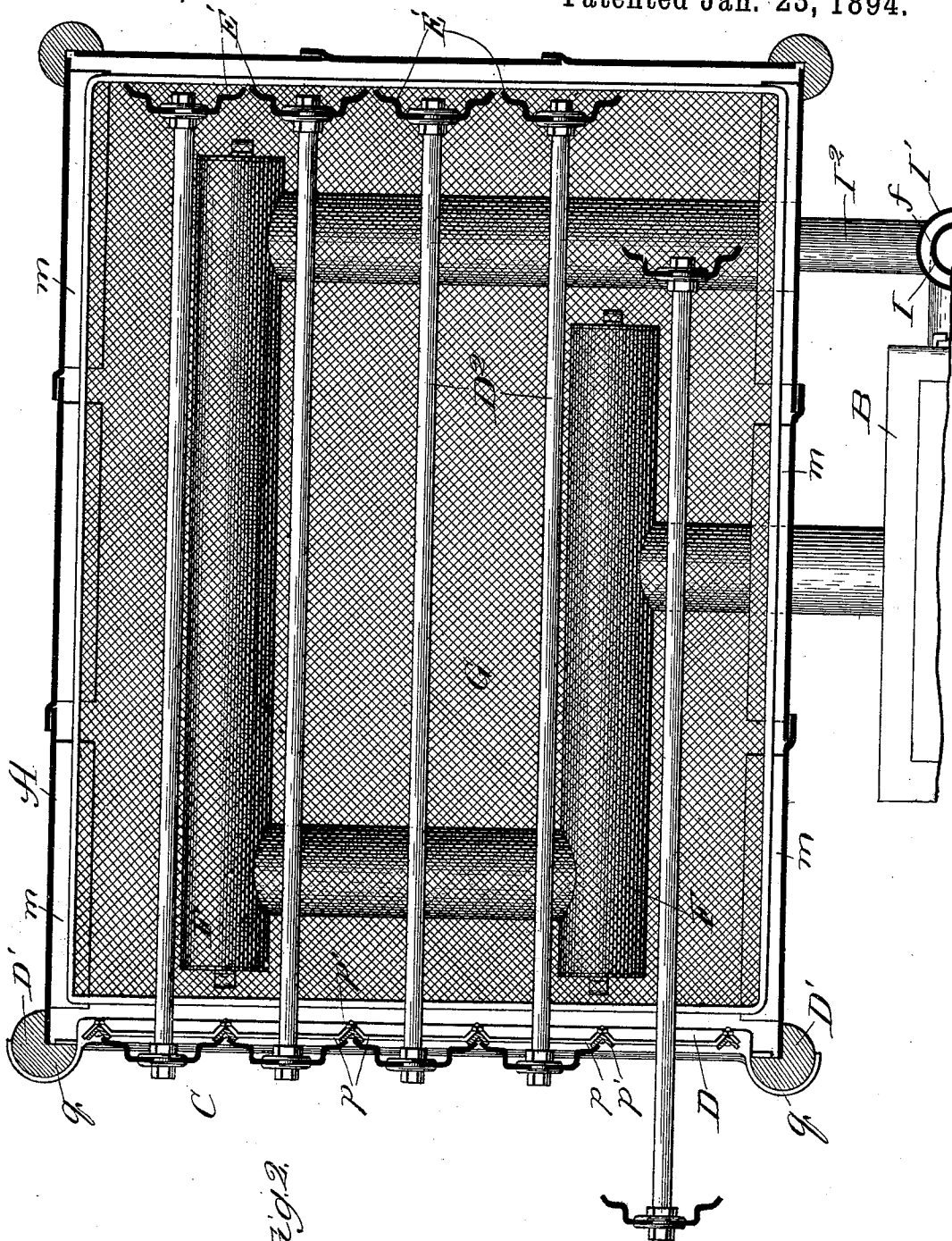


Fig. 2.

Witnesses:

Ed. C. Chylad.
E. R. Shipley

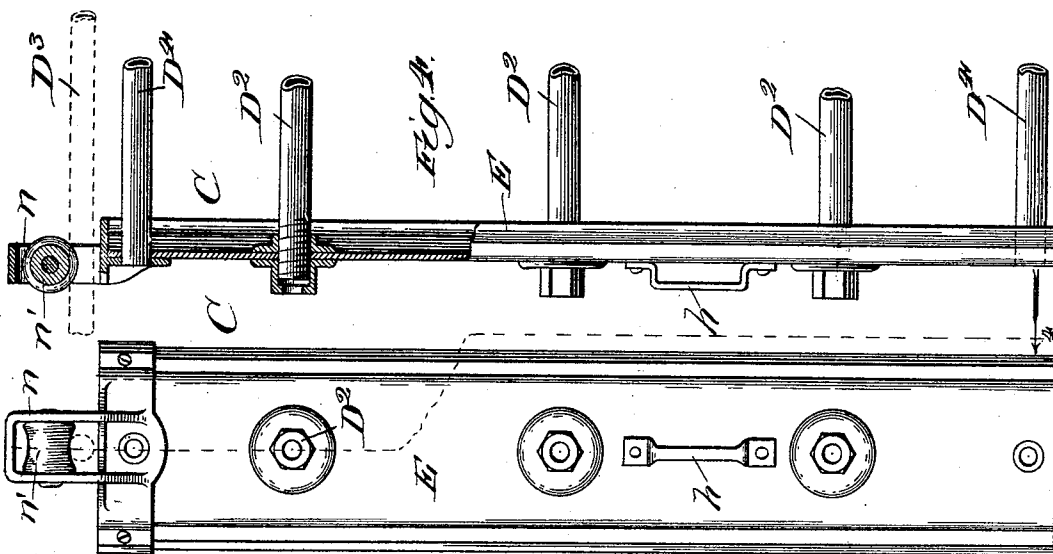
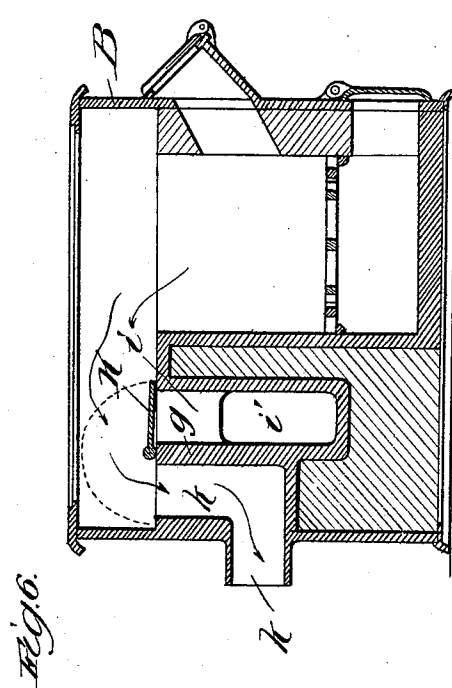
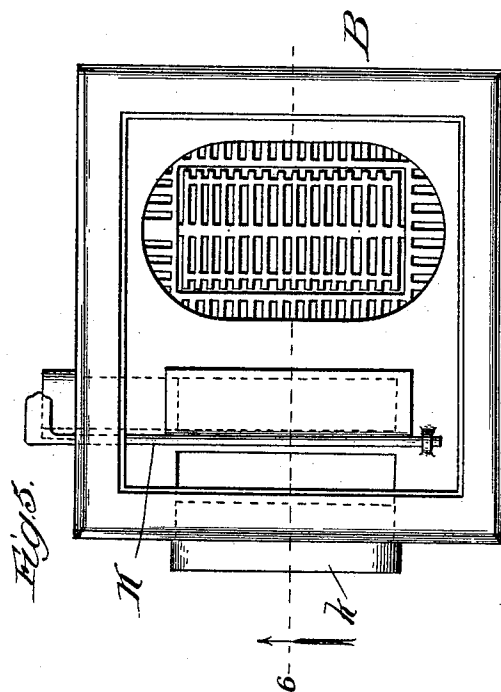
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Fig. 3.

Inventor:
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UNITED STATES PATENT OFFICE.

OSCAR M. SHANNON, OF CHICAGO, ILLINOIS.

CLOTHES-DRIER.

SPECIFICATION forming part of Letters Patent No. 513,285, dated January 23, 1894.

Application filed March 28, 1893. Serial No. 467,969. (No model.)

To all whom it may concern:

Be it known that I, OSCAR M. SHANNON, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Clothes-Driers, of which the following is a specification.

My invention relates to an improvement in the class of clothes-driers for laundry or domestic use, which comprises a drying-closet containing adjustable racks on which to suspend the clothes for drying, and a heater communicating with flues in the base of the closet to heat them by the products of combustion, the flues serving, in turn, to heat air admitted to the closet to effect the drying of the suspended clothes.

My object is to improve clothes-driers of the class referred to in matters of detail. To that end my improvement relates particularly to the construction of the rack; and to means for producing an adequately forcible draft through the drying-closet, thereby to afford a sufficient air-supply and to provide for the withdrawal of the moisture-laden air with desirable rapidity.

Referring to the accompanying drawings—Figure 1 is a partly broken view in side elevation of my improved drier. Fig. 2 is a sectional plan view of the same, the section being taken at the line 2 on Fig. 1 and viewed in the direction of the arrow, and enlarged. Fig. 3 is a view in front elevation of one of the racks, and Fig. 4 is a broken view of the same in side elevation. Fig. 5 is a plan view of the heater, and Fig. 6 is a sectional view of the same, the section being taken at the line 6 on Fig. 5 and viewed in the direction of the arrow.

A is the drying-chamber or closet having, at its front end, a permanent rack-support of peculiar construction; and the side of the closet at which the heater (stove) B is shown to be placed, should be provided with a door *r* to permit ready access to the interior of the closet for purposes of inspection of the clothes, and convenience in correcting any disarrangement thereof.

C C are the sliding racks, which, as hitherto commonly provided in apparatus of this class, have been formed of wood, because metal becomes so greatly heated as to tend

to scorch the clothes hung on the racks. Wood, however, as the material for the racks, is also objectionable, but because it is very combustible and because the heat and moisture to which it is necessarily subjected in the use of the drier tend to warp it. I overcome the objections to the wood and to the metal for the racks by forming them entirely of metal with the bars thereof, on which the clothes are hung, comprising metal tubes, and providing for a constant circulation of cool air through the tubular bars; thus also rendering my drier thoroughly fire-proof throughout.

Following is a description of the construction of the rack in my improved drier: In the front end of the closet A is a stationary rack-frame comprising vertical end-posts *D'* which may be of wood, and metal cross-bars *D*, one connecting the posts at their upper ends across the front of the closet and the other connecting them at their lower ends. Each bar *D* terminates at its opposite ends in sockets *q*, shown as semi-circular, to receive the posts and to which they are rigidly fastened; and at corresponding intervals in the front side of each bar are formed, in the casting, vertical V-shaped recesses *p* in which fit and are fastened metal channel-bars *p'* which connect the upper and lower bars *D* of the frame. Between the recesses *p* are circular openings (not shown) forming bearings for track-bars *D²*, which may be formed of tubular metal extending longitudinally through the closet near its upper end, being fastened at their inner ends to the rear wall of the closet, and extending at their forward ends to the full length of a rack, or further, beyond the front end of the closet where they are supported from above by hanger-bars *t*. Each rack C is formed with a vertical series of the tubular metal hanger-bars *D²*, connecting vertical metal plates *E* and *E'* respectively at their opposite ends and passing through the plates, whereby they are left open at their ends; and near the upper and lower ends of the pair of plates of each rack they may be connected, for bracing purposes, by bars *D⁴*, which also be metal tubes open at their opposite ends to permit air-circulation through them, although by their positions they do not serve as hanger-bars for clothes. The plates *E*,

which are of general rectangular form and corrugated longitudinally to produce the cross-sectional form in which they are represented in Fig. 2, are each of a width to extend
 5 between adjacent vertical channel-bars p' , into which the edges of a plate enter when a rack is shoved entirely into the closet; so that when all the racks are in position entirely within the closet, the plates E, by the close
 10 joints formed between their edges and the channel-bars p' , form a close front wall for the closet. When the racks are drawn out into the room, (by handles h on the plates E) as for access to them for the purpose of hang-
 15 ing clothes to be dried on the hanger-bars D^2 (after which the racks are slid back into the closet for drying the clothes) each rear plate E' of a rack, owing to its form, fits at the vertical edges of its front side between the oblique
 20 rear or inner sides of adjacent vertical channels, thereby also closely covering the front of the closet when the racks are drawn out. To adapt each rack to be conveniently and easily moved lengthwise into and out of the closet,
 25 it may be supported, as commonly, on a track D^3 at hangers n on the upper ends of its front and rear plates E and E' , each hanger having a roller n' to facilitate the travel of the rack on its track. Thus it will be observed that
 30 the tubular hanger-bars D^2 open (through the plates E) at their forward ends to the air without the closet, and at their inner ends in the closet, whereby there may be not only a constant circulation of air through them, which
 35 prevents them from becoming overheated, but a material portion of the air-supply to the interior of the closet is afforded through them by their opening, at their inner ends, through the plates E' into the closet. The air-supply
 40 to the closet, however, is also through the base-portion thereof, as through the perforations x . (See Fig. 1.)

In the base of the closet A below the lower ends of the racks C, are intercommunicating
 45 metal flues, F, as usual, surmounted by a flat wire screen G to intercept any clothes that may drop from the racks and prevent burning them by contact with the flues. For convenience in recovering the clothes that drop
 50 on the screen, I adapt the latter to be withdrawn by supporting it at its lateral edges on guide-rests m at the sides of the closet and which lead to a door H sufficiently wide to permit the screen to be drawn through it at
 55 the front side near the base of the closet.

The heater B may be a stove of any suitable general construction, communicating at an outlet k for the products of combustion with the flues F, which lead from their discharge-
 60 end to the stove-pipe I, with which the heater also has direct communication from an outlet i for the products of combustion, immediately behind the outlet k , through a duct i' . On the wall g in the heater between the
 65 outlets i' and k is hinged a damper or valve K, turning of which to cover the outlet i will cause the products of combustion to enter the

flues F in the base of the drying closet, imparting heat to them and then passing to the smoke-pipe I; and turning of which to cover
 70 the outlet k (as when the drier is not in use) directs the products of combustion immediately from the heater into the pipe I.

I surround the pipe I with a jacket I' , which
 75 efforts an air chamber f around the pipe, to which leads a duct I^2 from the interior of the closet. By this means, the draft which the heat of the pipe I creates through the air-chamber produces such great suction in the
 80 latter as to rapidly draw the moisture laden air out of the closet, and also to draw rapidly an adequate supply of fresh air from without into the closet through the tubular rack-bars
 85 D^2 and openings x .

What I claim as new, and desire to secure
 85 by Letters Patent, is—

1. In a clothes-drier, the combination with the drying-chamber of a sliding rack having a tubular metal hanger-bar for the clothes
 90 open at one end to the outer air and at its opposite end in the chamber, substantially as and for the purpose set forth.

2. In a clothes-drier, the combination with the drying-chamber, of a sliding rack formed
 95 with vertical end-plates having a series of tubular metal hanger-bars extending between them through the one plate to the outer air and through the other plate into the chamber, substantially as and for the purpose set
 100 forth.

3. In a clothes-drier, the combination with the drying-chamber of a frame at one end
 105 thereof having upper and lower cross-bars provided at intervals with recesses and connected at the recesses by vertical metal channel-bars, suspension-tracks for the racks extending
 110 longitudinally through the chamber and beyond the forward end of the same, and racks suspended to slide on the tracks and each comprising plates at opposite ends of tubular
 115 metal hanger-bars opening at one end to the outer air and at the opposite end in the chamber, the outer plates being adapted to fit toward their edges the channels adjacent
 120 said channel-bars and the inner plates to fit toward their edges against the backs of said
 125 channels, substantially as and for the purpose set forth.

4. In a clothes-drier, the combination of the drying-chamber, having a flue F in its
 120 base, a heater, sliding racks having tubular metal hanger-bars through which air circulates from without the chamber, an outlet-pipe for the products of combustion with which the heater communicates controllably
 125 through said flue, and a jacket surrounding the said pipe and forming about it an air-chamber communicating with the drying-chamber, substantially as and for the purpose set forth.

OSCAR M. SHANNON.

In presence of—

M. J. FROST,

W. N. WILLIAMS.