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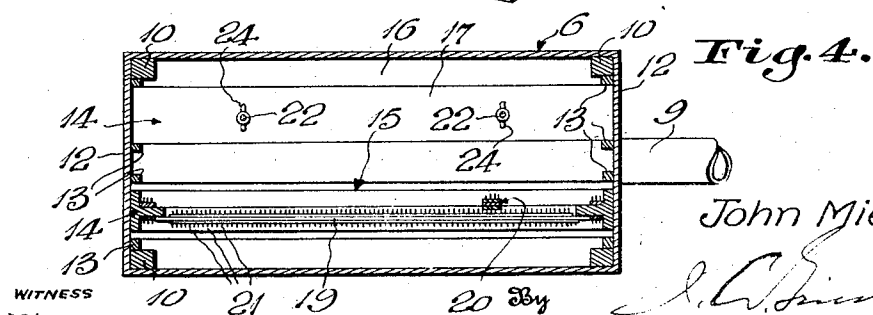
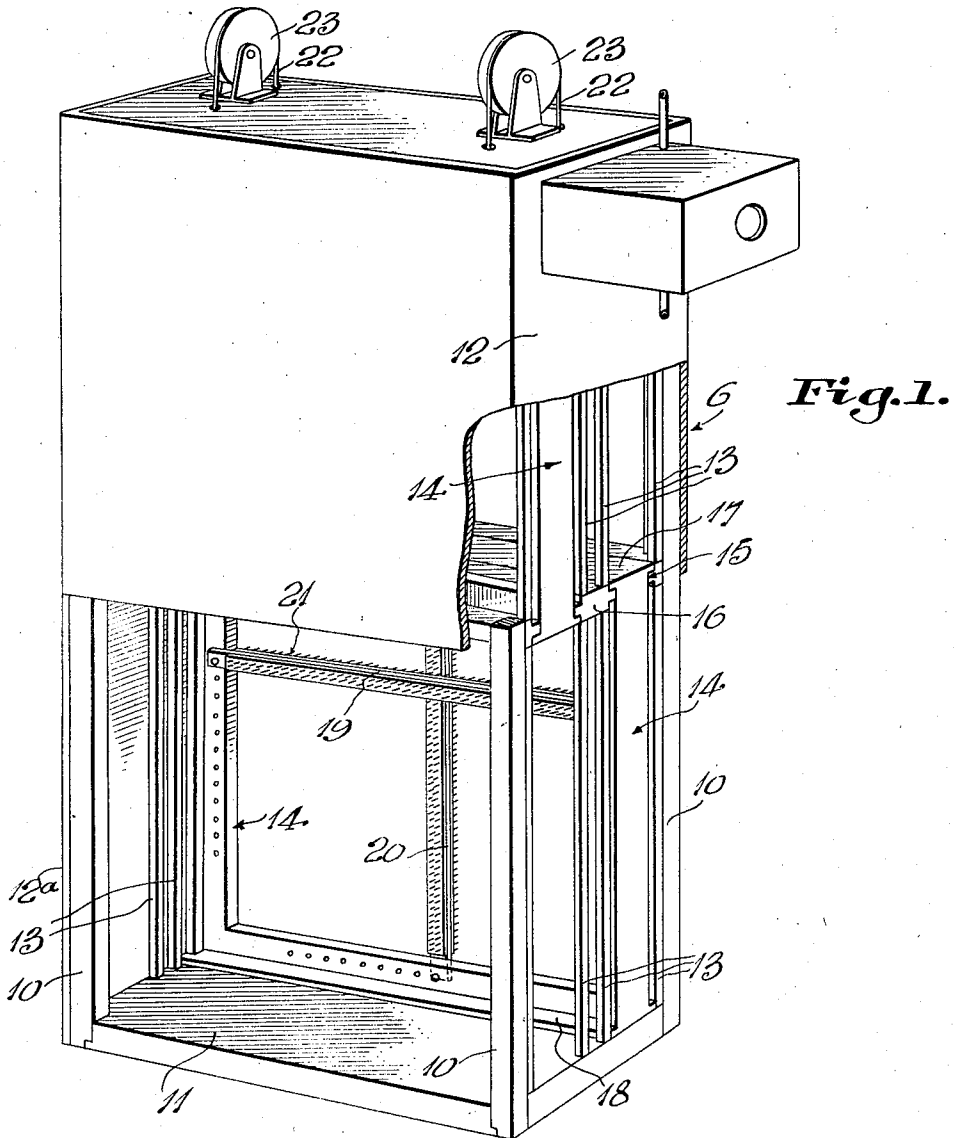
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2,183,200

DRIER

Filed April 6, 1938

2 Sheets-Sheet 1



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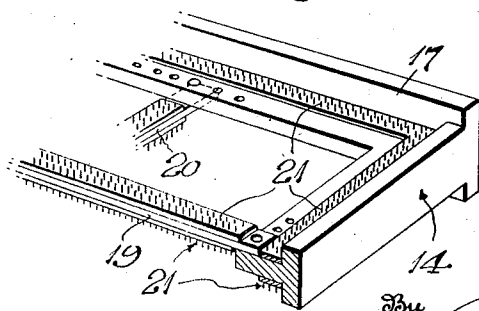
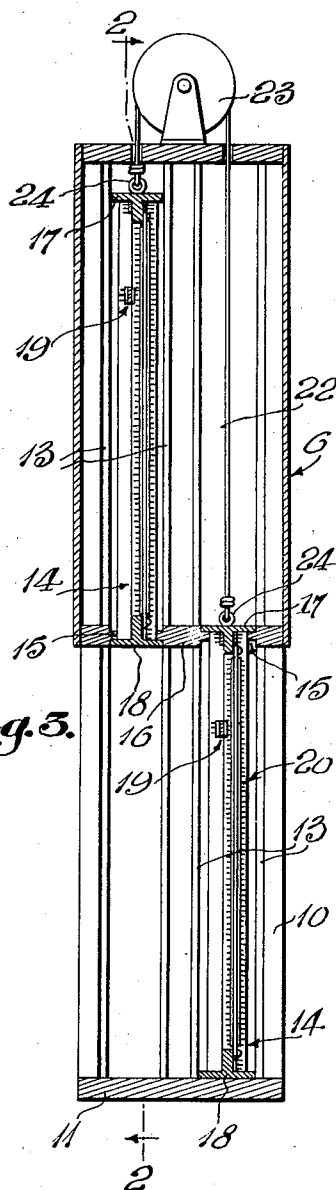
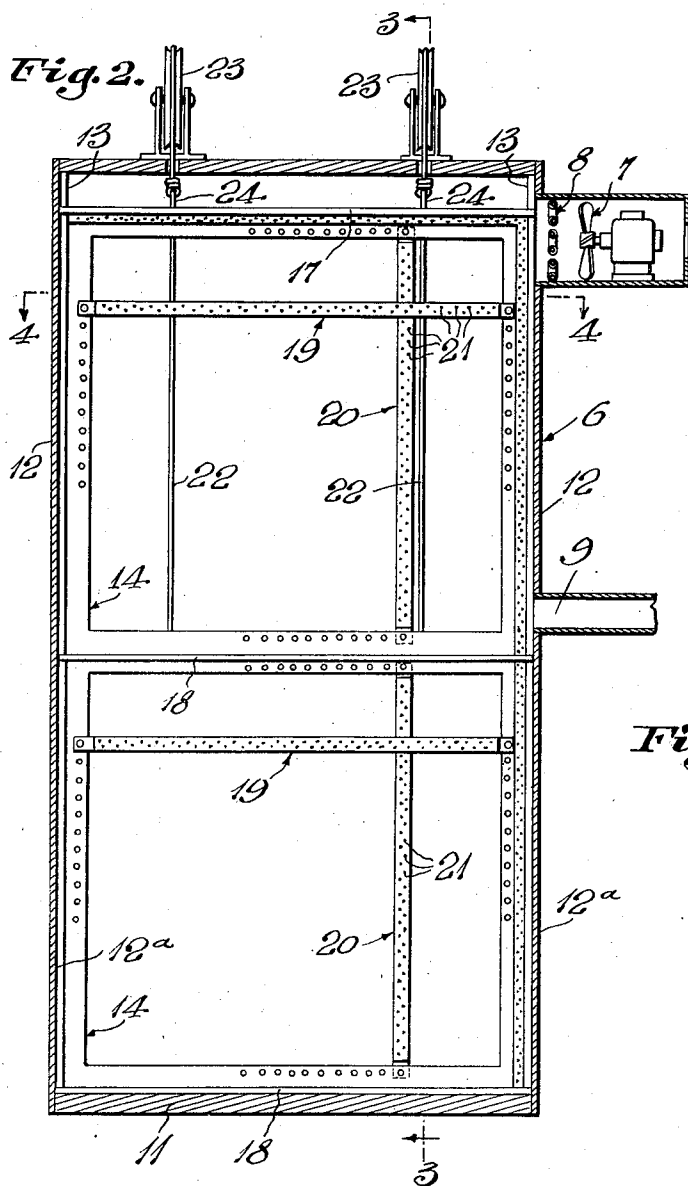
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2,183,200

DRIER

Filed April 6, 1938

2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,183,200

DRIER

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Application April 6, 1938, Serial No. 200,467

2 Claims. (Cl. 34-40)

The invention relates to driers and more particularly to those intended primarily for use in laundries for drying curtains, blankets and the like. Even though driers for such purposes find their principal use during the spring and fall, the customary permanently installed driers necessarily occupy a great deal of valuable floor space throughout the year. One object of my invention, however, is to provide a relatively small, compact, simple and inexpensive drier which occupies little space at any time, this being particularly advantageous during the seasons of the year during which it finds little use.

A further object is to provide a novel drier having two drying frames movable into and from a casing in which the drying operation is performed, said frames being so connected with each other that one frame is always automatically within the casing when the other frame is at the exterior of said casing, and vice versa. Thus, while engaging the curtains, blankets or the like with the empty frame at the exterior of the casing, the previously filled frame is within said casing and drying of its load is being effected, and when the freshly loaded frame is moved into said casing, the frame with the dried load automatically moves from said casing. The drier may thus be operated continuously to perform a great deal of work in a relatively short time. The heat and/or air circulation within the drying casing is/are so controlled that the time required to dry the load on the casing-contained frame will equal the time required to unload the other frame and reload the same (usually about three minutes). The attendants therefore, lose no time but on the contrary continuously perform the acts of unloading one frame, reloading this frame, moving the newly loaded frame into the casing, unloading the frame which then moves from the casing, reloading this frame, moving it into the casing, and so on.

The frames are preferably mounted for vertical movement, upwardly into the drying casing and downwardly from said casing, and a further object is to provide the frame-connecting means in such form that the two frames substantially counter-balance each other for easy operation, preventing excessive tiring of the attendants, even though they are continuously and rapidly loading, unloading and shifting the frames.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, description being accomplished by reference to the accompanying drawings.

Fig. 1 is a perspective view partly broken away and in section showing one form of drier constructed in accordance with the invention.

Figs. 2 and 3 are vertical sectional views at right angles to each other, Fig. 2 being cut on the line 2-2 of Fig. 3, and Fig. 3 on line 3-3 of Fig. 2.

Fig. 4 is a horizontal sectional view on line 4-4 of Fig. 2.

Fig. 5 is a fragmentary sectional perspective view of one of the frames.

While the form of construction selected for illustration, will be rather specifically described, it is to be understood that within the scope of the invention as claimed, numerous variations may be made.

A suitable casing 6 is provided, in which the drying operation is performed, and I prefer to provide a motor-driven fan 7 and a water-heated radiator 8 for supplying warm air to said casing, a suitable vent 9 being provided for this air after it has performed its duty.

Any preferred means may be employed for supporting the casing 6 sufficiently above the floor as to permit an attendant to conveniently walk under the same. In the present disclosure, the casing may be considered as formed from sheet metal secured to a suitable frame which includes corner posts 10, the lower portions of said posts extending below the casing and being suitably secured to an appropriate base 11. The edge walls 12 of the casing may well project downwardly below the latter as shown at 12^a, and I have shown vertical guide strips 13 on the inner sides of said walls for vertically guiding the drying frames 14. These drying frames pass slidably through slots 15 in the casing bottom 16, and the upper and lower side bars 17 and 18 of said frames are preferably constructed to close said slots, the bar 17 of one frame and the bar 18 of the other frame, or vice versa, performing the slot-closing function regardless of which frame may be raised and which lowered.

The two frames 14 are so connected that when one thereof occupies a raised position within the casing 6, the other occupies a lowered position under said casing, and vice versa. The lowered frame is thus readily accessible and one or more attendants may readily remove the previously dried curtains or the like therefrom and apply others thereto, whereupon this frame is moved into the casing and the other frame carrying the dried curtains or the like automatically moved from said casing, permitting unhampered unloading and reloading of this latter frame. To hold the curtains or the like on the frames, any desired

provision may be made. In the present disclosure, each frame includes a horizontal vertically adjustable bar 19, and a vertical horizontally adjustable bar 20. These two bars and two of the side bars of the frame are provided, in the present disclosure, with carding cloth to provide spurs 21 by means of which the curtains, blankets or the like may be readily connected with said frames, the bars 20 and 19 being, of course, adjusted according to the size of the article to be dried. Placing the carding cloth on opposite sides of the frames as shown permits each frame to carry a pair of curtains which can be quickly and easily applied and removed without damage or injury to the same. The shiftable bars 19 and 20 may be held in adjusted positions by pins or the like at their ends adapted to enter suitable holes or sockets in the bars of the frames as shown, or by any other means.

The preferred means for connecting the two frames 14 with each other comprises suspending lines 22 connected at their ends with said frames respectively, and sheaves 23 over which said lines are trained, said lines being of such length that when either frame is fully lowered, the other is fully raised, and vice versa. By connecting the frames in this manner, not only do I insure the proper relative movements of said frames, but said frames are caused to substantially counterbalance each other for each of operation. The sheaves or pulleys 23 are preferably located above the top of the drying chamber, the latter being provided with small openings for lines 22; and by making the diameters of the sheaves approximately the distance between the openings, it will require but little effort to move the counterbalanced frames. While catches may be provided for holding the frames in either of their two positions, it has been found in practice that they are unnecessary since the counterbalancing of the frames and the positioning of their top and bottom bars in the rabbets formed along the slots in the bottom 16 as shown in Figs. 1 and 3 cause the frames to remain in either position until moved by an attendant. Obviously, the lines 22 may be ropes, cables, straps, or chains, and they may be connected with the frames in any suitable way, for example, by providing the top bars of said frames with eyes 24 to which the line ends are suitably secured.

From the foregoing, taken in connection with the accompanying drawings, it will be seen that novel and advantageous provision has been made for carrying out the objects of the invention. The entire structure is relatively small and compact and thus occupies little floor space; when one frame is filled and moved into the drying chamber, the other frame automatically moves from said chamber for unloading and reloading; when this reloaded frame is moved into the dry-

ing chamber, the frame previously in said chamber automatically moves therefrom for unloading and reloading. Thus, the attendant or attendants lose no time but may continuously load, unload and shift the frames to advantage. The heat and/or air circulation within the drying chamber may be so controlled that the time required to dry the load on the chamber-contained frame will equal the time required to unload the other frame and reload the same, this time being usually about three minutes, and whenever one frame has been unloaded and reloaded, the attendant knows that this frame should be immediately moved into the drying chamber and knows also that the load on the other frame has by this time been adequately dried. The counterbalancing of the frames insures easy operation thereof and overcomes undue tiring of the attendant or attendants.

Attention is again invited to the possibility of making variations within the scope of the invention as claimed.

I claim:

1. In a slidable-frame drier, a casing in which the drying operation is performed, two slidable frames for the articles to be dried, said frames being disposed in parallel planes, means for guiding one of said frames both into and out of said casing on one single path, means for guiding the other of said frames both into and out of said casing on another single path, means so connecting said frames with each other that said one frame automatically moves out of said casing on said one single path when said other frame is moved into said casing on said other single path and vice versa, and means for limiting the movements of said frames into and out of said casing.

2. In a slidable-frame drier, an elevated casing in which the drying operation is performed, said casing having two parallel slots in its bottom, two frames for the articles to be dried, means for vertically guiding one of said frames both into and out of said casing through one of said slots, means for vertically guiding the other of said frames both into and out of said casing through the other of said slots, a frame-suspending line connected at one of its ends to said one frame and connected at its other end to said other frame, a sheave over which said line is trained, the length of said line being such that one frame automatically moves out of the casing through said one slot when said other frame is moved into said casing through said other slot, and means for limiting the movements of said frames into and out of said casing, said frames being of substantially the same weight to counterbalance each other.

JOHN MIELE. 60