Oct. 19, 1926. 1,604,079

W. M. SCHWARTZ

DRIER

Filed Dec. 5, 1923 2 Sheets-Sheet 1

Fig. 1.

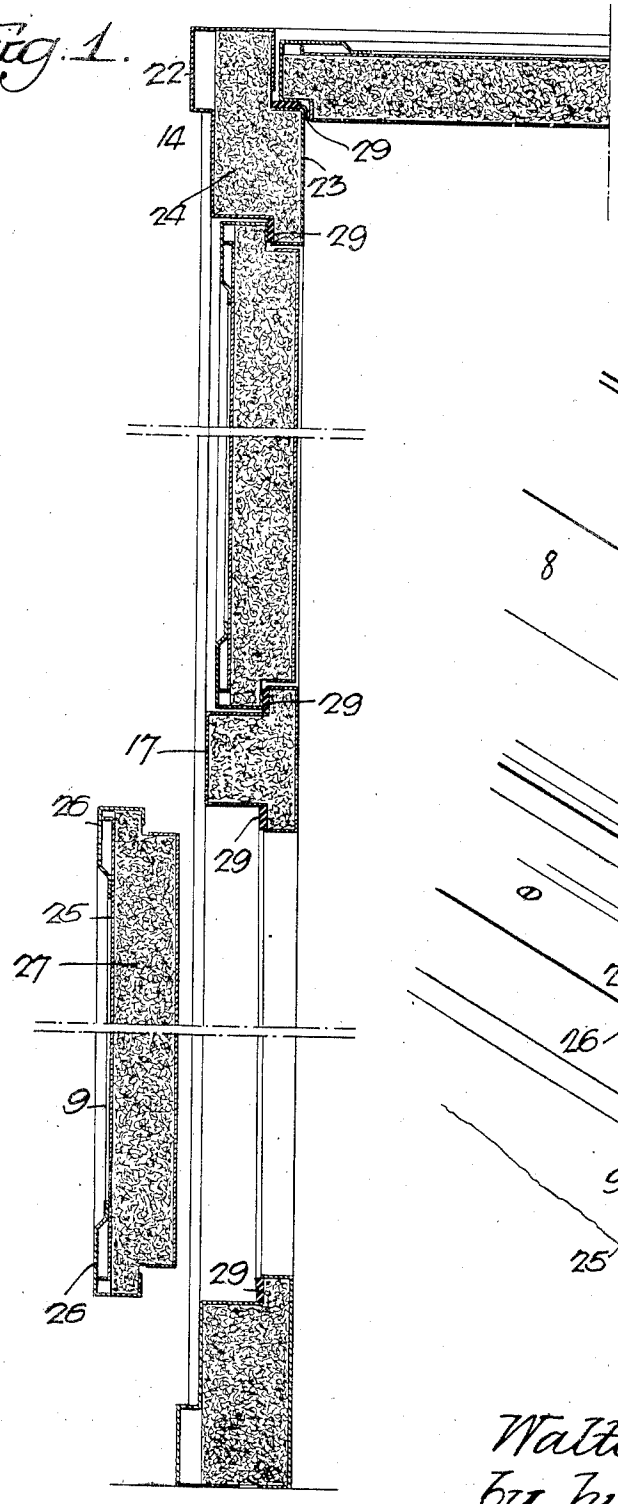
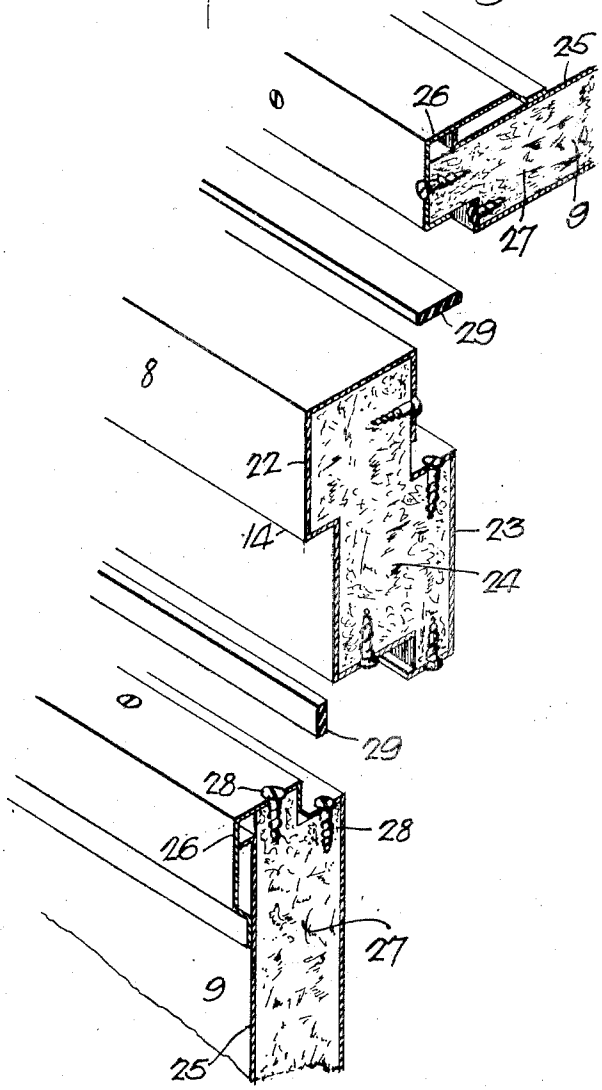


Fig. 2.



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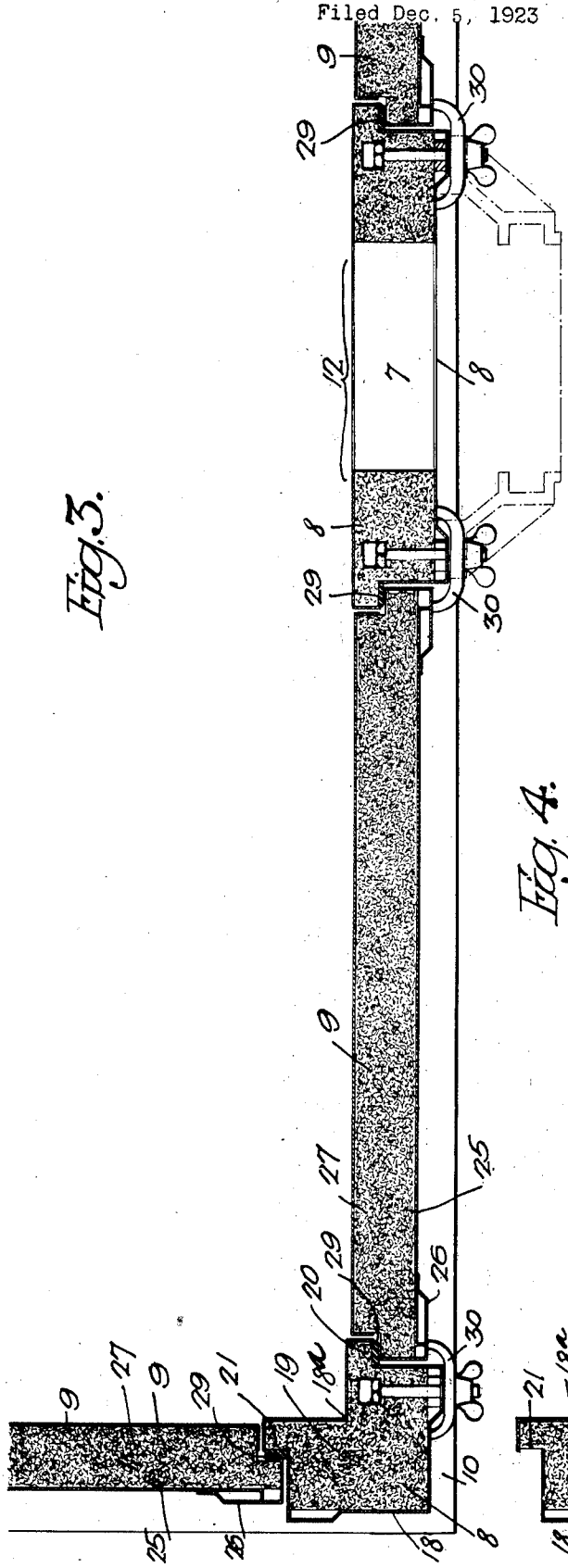


Fig. 3.

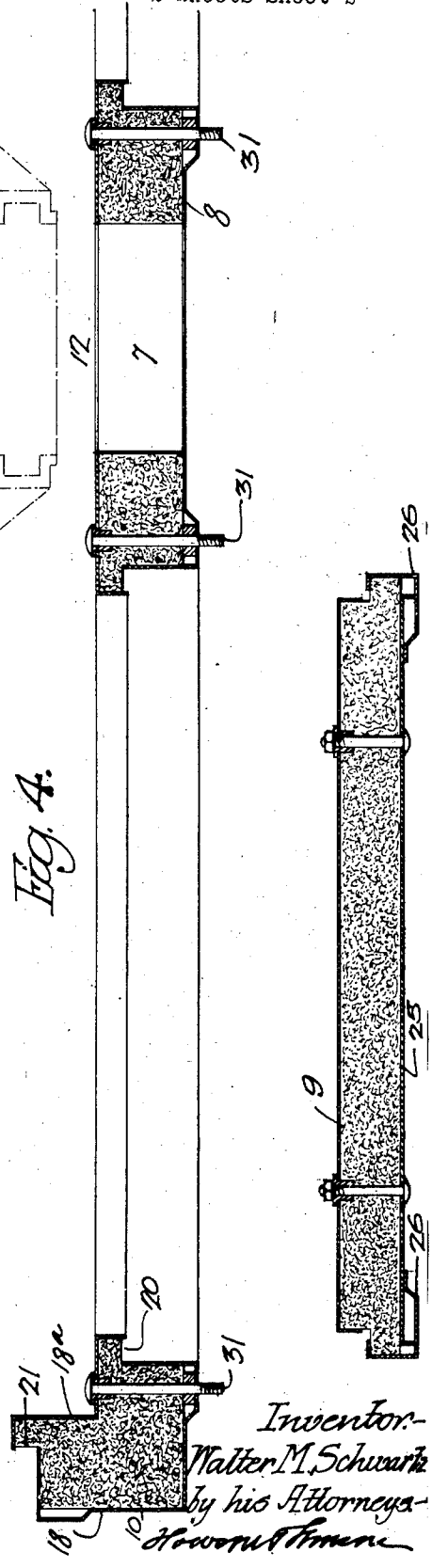


Fig. 4.

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UNITED STATES PATENT OFFICE.

WALTER M. SCHWARTZ, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO PROCTOR & SCHWARTZ, INCORPORATED, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

DRIER.

Application filed December 5, 1923. Serial No. 678,628.

My invention relates to that type of drier, in which the material to be dried is located within a drying chamber in a casing in which heated air is circulated.

The object of the invention is to prevent the heat of the air in circulation being conducted to the outer side of the casing. Casings of driers are now made of sheet metal supported by shaped iron framework. As heretofore constructed, the room in which the drier was located would become warm from the radiation of the metal casing. This is objectionable, as heat is wasted unnecessarily.

By my improvement, the inner and outer metallic sheets, forming the casing, are not connected. They are separated by a non-conducting section, as fully described hereinafter.

In the accompanying drawings:

Fig. 1 is a vertical sectional view of a portion of a drier showing one of the panels removed;

Fig. 2 is a sectional plan view of a portion of the drier, illustrating the clamp for holding the panels to the frame;

Fig. 3 is a detached, sectional, perspective view, showing a portion of the frame, a side panel, and a top panel; and

Fig. 4 is a view illustrating a modification of the invention.

The invention is particularly adapted for use in connection with a drier having a drying chamber and a heating chamber, separated by a partition, in which are openings to allow for the circulation of air within the casing. In one of the openings there is a circulating fan, which is mounted on a driven shaft which extends through an opening 7 in the casing. 8 designates the frame of the casing and 9 designates the detachable panels.

While the above description relates to one form of drier, it will be understood that the invention can be applied to any form of drier in which air is caused to circulate within a drying chamber.

The drier has vertical corner members 10 and intermediate uprights 11 and 12 that extend from the base 13 to the roof members 14. At the front of the drier are doors 15. In the back upright 12 is the opening 7 for the fan shaft 6, which is carried by suitable bearings. The side members 14 of the roof are connected to transverse members 16. At the front and back are transverse members 17.

The panels are designed to fit the openings between the members of the frame 8, forming a complete enclosure. The corner members 10 are made of two strips of sheet metal 18 and 18a, shaped in cross section as shown in Fig. 6. Between the two metal strips is a molded section 19 of any suitable non-conducting material. The corner member is offset to form shoulders 20 and 21 and the metal strips stop short of the shoulders so that there is no connection between the inner and outer sections. These sections can be secured to the non-conducting material in any manner desired, depending upon the character of the non-conducting material. Screws may be used, as shown in Fig. 3.

The roof member 14 is made in the same manner as the corner members, having disconnected strips of sheet metal 22 and 23 and a molded non-conducting section 24. The ends of the two metal strips are spaced apart at the shoulders. The vertical and horizontal sections of the frame are made in the same manner as the corner sections, only the shoulders are at the edges of the sections. The panels are made of sheets of metal pressed in shape. The outer plates 25 have outturned flanges at the edges, and a frame 26, having inturned flanges, is secured thereto by welding. The inturned flanges enclose the offset edges of the non-conducting material 27. The inner plates are flanged at the edges, as shown, but the flanges of the frame are spaced from those of the inner plate. The plates are secured to the non-conducting material by screws 28.

A strip 29 of non-conducting material, such as cork, is placed on the shoulders of the frame and is secured thereto by any suitable adhesive. The panels are then placed in position, the shoulders of the panels resting on the non-conducting strips 29. Suitable clamps, such as shown at 30, may be used to secure the panels detachably to the frame. The heads of the bolts of the clamps may be embedded in the non-conducting material, as shown in Fig. 2.

In some instances, through bolts 31 may be used, as in Fig. 4, to connect the inner and outer plates. A non-conducting sleeve may be mounted between the bolts and one.

or both plates. In this instance, the bolts of the clamps extend through both plates and the non-conducting material. It has been found that, when the inner and outer plates are connected at the edges, the heat of the inner plates passes to the outer plates. By spacing the plates at the edges, even with the use of through bolts, the outer plates are kept comparatively cool.

I claim:

1. The combination in a drier, of a casing made of a series of sections, each section having inner and outer metallic plates spaced apart and having non-conductive material in the spaces, the edges of the sections being offset so that one section overlaps an adjoining section, the edges of the inner and outer plates of each section being disconnected at the offsets; and non-conducting strips placed between the sections at the offsets, preventing the heat of the inner plates being transmitted to the outer plates.

2. The combination in a drier, of a frame made of inner and outer pressed sheet metal strips and non-conducting material, the sections having offset edges so that one section overlaps an adjoining section, the inner and outer strips of each section being disconnected at the offset edges, exposing non-conducting material, with strips of non-conducting material at the joints where one section overlaps an adjoining section; and means for holding the sections in position.

3. The combination in a drying apparatus, of a casing enclosing a drying chamber, said casing being made of fixed and movable sections, each fixed section consisting of inner and outer plates and intermediate non-conducting material, said fixed sections having projecting flanges at the inner sides of the sections, the inner and outer plates of the fixed sections being spaced apart at the flanges; removable panels made of inner and outer plates and intermediate non-conducting material, the panels having outer flanges arranged to overlap those of the fixed sections, the inner and outer plates of the panels being spaced apart at this point; and non-conducting material located between the two flanges of the fixed and movable sections.

4. The combination in a drier, of a frame consisting of inner and outer metallic plates and intermediate non-conducting material, said frame having openings; detachable panels located in the openings, each panel consisting of inner and outer plates and intermediate non-conducting material, the abutting edges of the frame and panels being offset to form shoulders, the inner and outer plates of the frame and panels being spaced apart at the shoulders so that the heat of the inner plates will not be transmitted to the outer plates; and means for holding the panels to the frame.

WALTER M. SCHWARTZ.