

F. KUKKUCK.
 DRYING RACK.
 APPLICATION FILED MAY 8, 1911.

1,011,971.

Patented Dec. 19, 1911.
 2 SHEETS—SHEET 1.

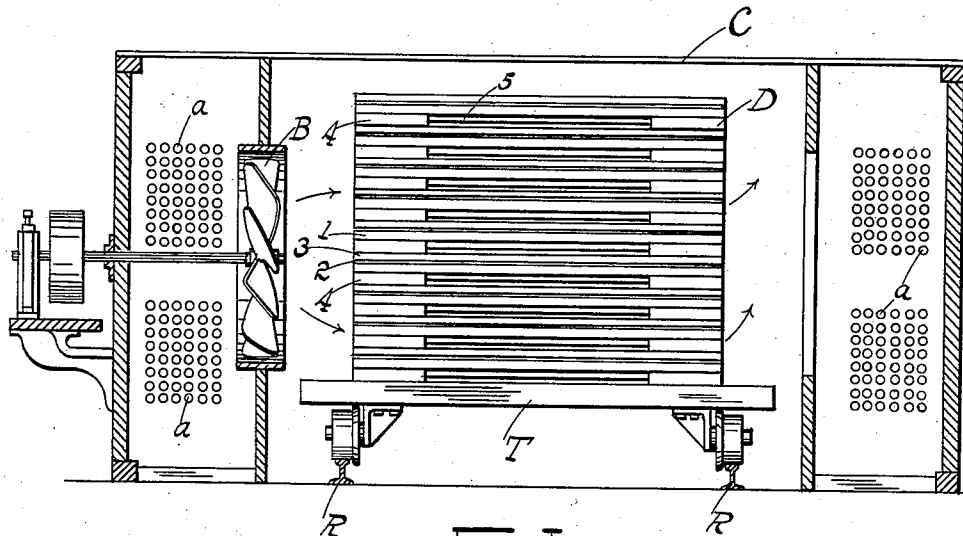


FIG. I.

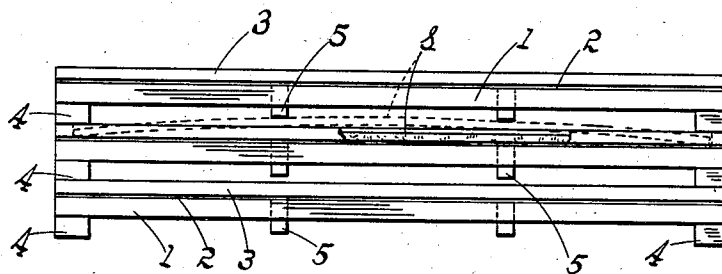


FIG. 2.

WITNESSES:
Harry A. Beimer
James M. Jones

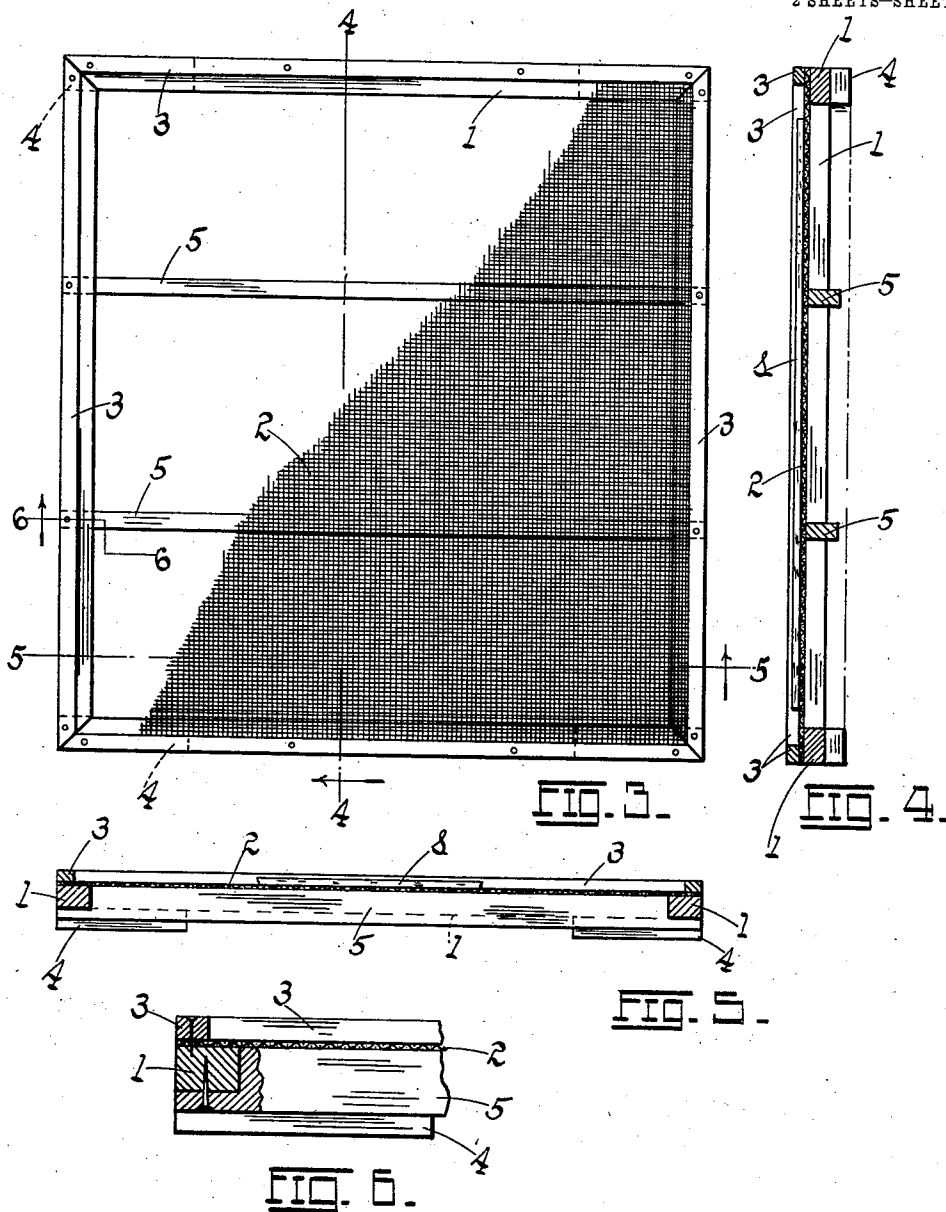
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FREDERICK KUKKUCK, OF ST. LOUIS, MISSOURI.

DRYING-RACK.

1,011,971.

Specification of Letters Patent.

Patented Dec. 19, 1911.

Application filed May 8, 1911. Serial No. 625,677.

To all whom it may concern:

Be it known that I, FREDERICK KUKKUCK, citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Drying-Racks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in drying-racks; and it consists in the novel details of construction more fully set forth in the specification and pointed out in the claims.

In the drawings, Figure 1, is a vertical cross-section of a conventional drying-chamber, showing one of the racks in position in the chamber; Fig. 2 is an enlarged end view of three superposed drying-frames of which the rack is composed; Fig. 3 is a top plan of one of the drying-frames, with the screen partly broken; Fig. 4 is a vertical cross-section on the line 4—4 of Fig. 3; Fig. 5 is a vertical section at right angles to Fig. 4, taken on the line 5—5 of Fig. 3; and Fig. 6 is an enlarged vertical sectional detail on the line 6—6 of Fig. 3.

The object of my invention is to construct a frame for the drying of sheets of artificial leather, straw-board, book-binders' board, and the like, said frame constituting a component part or section of a rack which may be wheeled into a drying-chamber provided with means for circulating hot air therethrough and over and around the sheets to be dried. The frame herein is so constructed as to afford ample facility for the air circulation, and at the same time prevent the sheets from buckling or warping during the drying operation.

A further object is to construct a frame which can be readily handled, one which is light, rigid, and admirably adapted for piling up in a rack-form; and one possessing further and other advantages better apparent from a detailed description of the invention, which is as follows:—

Referring to the drawings, C represents a casing or chamber provided with a track over which may be wheeled a truck T loaded with one of the drying-racks, the chamber being provided with steam coils *a* for heating the air which is caused to be circulated through the chamber by a fan or blower B as well understood in the art and for which I make no claim. The rack

herein is built up of a series of frames (preferably rectangular and four-sided, though I do not wish to be limited to the form of the frame) each frame being composed of a frame portion 1 proper, covered with a web or screen of wire-mesh cloth 2, or equivalent reticulated or perforated material, said web serving to support the sheets of leather (or other material) to be dried. To prevent the air circulating between the several frames when piled up in rack form from striking the edges of the sheets deposited thereon, the upper face of the frame 1 is provided with a border strip 3 of sufficient thickness to form a rim around the sheets deposited on the web 2, the air currents thus passing or skimming over the surface of the sheet to be dried, instead of striking the edge of the sheet. The striking of the sheet against the edge, by the air-currents would not only cause eddying of the currents which would interfere with free circulation, but would result in an uneven drying (and hence undue warping or buckling) of the sheet, owing to imperfect distribution of the hot air over the surface of the sheet being dried. Disposed at the ends of the bottoms of two sides of the frame are spacing blocks or feet 4, the blocks of one frame resting on the rim 3 of the frame beneath, the space between the frames being availed of for the free circulation of the drying currents.

Disposed across the frame between the sides contiguous to those to which the spacing blocks are secured, and disposed parallel to the latter, are reinforcing or stiffening ribs 5, 5, spaced apart so as to divide the frame into equal compartments or divisions, the rack being so deposited on the truck T that when the latter is wheeled into the drying chamber, the fan B will project the currents across the frames and between the ribs 5, 5, of the several frames. The ends of the ribs 5 are rabbeted to the frame members and nailed thereto, the rabbeted portion causing the bottom edges of the ribs to project below the bottom of the frame, but above the bottom of the spacing blocks 4. The sheets thus deposited on the web 2 has an opportunity to buckle or warp until arrested by the bottoms of the ribs 5, this buckling in practice amounting to a fraction of an inch only. The ribs 5 therefore not only limit the warping of the sheets, but they serve as stiffeners for the wire cloth 2 and prevent the latter from sagging or acci-

dental displacement out of a perfect plane, which it should assume to properly support the sheet to be dried.

The material to be dried ranges in thickness (for artificial leather) from one-sixteenth of an inch to three-quarters of an inch, and the thickness or height of the rim 3 is in practice three-quarters of an inch so as to protect the thickest sheet against impact by the air-currents against the edges of the sheet. The currents as they pass over the upper face of the sheet supported on any given frame, also engage the bottom face of the sheet deposited on the next frame above, the open spaces of the web or screen 2, allowing the hot air to more or less freely pass through the meshes of the web (or its equivalent), and thus dry the bottom of the upper sheet. Every sheet being dried has perfect freedom between the frames, the space between the frames allowing perfect freedom of circulation, and the ribs 5 arresting any tendency to undue warping of the sheets. The frames may be readily piled one on top of another, thus forming a rack D (Fig. 1), the rack being wheeled into the drying chamber as already specified. At the conclusion of the drying operation the truck T is pulled out and the frames unloaded. The superposition of the several frames divides the resulting rack into a series of drying compartments through which the air is circulated in a general direction parallel to, and between the reinforcing ribs 5 (see arrows Fig. 1).

Having described my invention, what I claim is:—

1. A drying-rack member comprising an open frame, a perforated web spanning the opening of the frame, spacing devices on the bottom of the frame for raising the latter above the surface on which it rests, and reinforcing members extending across the space of the frame and engaging the web, the lower edges of the reinforcing members terminating in a plane above the bottoms of the spacing devices and in position to prevent warping of the material treated.

2. A drying-rack member comprising an open frame, a reticulated web spanning the opening of the frame, and supporting the

article to be dried, a rim on the top of the frame for protecting the edges of the article from direct impact of the air currents, spacing blocks at the ends of the bottoms of two opposite sides of the frame, and reinforcing members disposed between the sides of the frame contiguous to the sides carrying the spacing blocks, the lower edges of the reinforcing members terminating in a plane above the bottoms of the spacing blocks and in position to prevent warping of the material treated.

3. A drying-rack comprising a series of superposed and separable sections, each section comprising a polygonal open frame, a wire mesh web spanning the opening of the frame and supporting the sheet article to be dried, a rim disposed about the upper face of the frame to a height substantially equal to the maximum thickness of the sheet resting on the web for protecting the edges of the sheet against direct impact with the hot air currents, spacing blocks at the bottom of the frame, reinforcing members extending across the frame opening and engaging the web, the bottoms of the reinforcing members being disposed in a plane above the plane of disposition of the bottoms of the spacing blocks, whereby undue warping of the sheets to be dried is arrested.

4. A drying-rack composed of a series of superposed members, each comprising an open frame, a perforated web spanning the opening of the frame, and forming a support for the article to be dried, spacing devices on the bottom of the frame for raising the latter above the surface of the member supporting the same, and reinforcing members extending across the space of the frame to prevent undue sagging of the web, the lower edges of the reinforcing members terminating in a plane above the bottoms of the spacing devices, and in position to prevent warping of the material resting on the web of the member below.

In testimony whereof I affix my signature, in presence of two witnesses.

FREDERICK KUKKUCK.

Witnesses:

EMIL STAREK,
JOS. A. MICHEL.