

(No Model.)

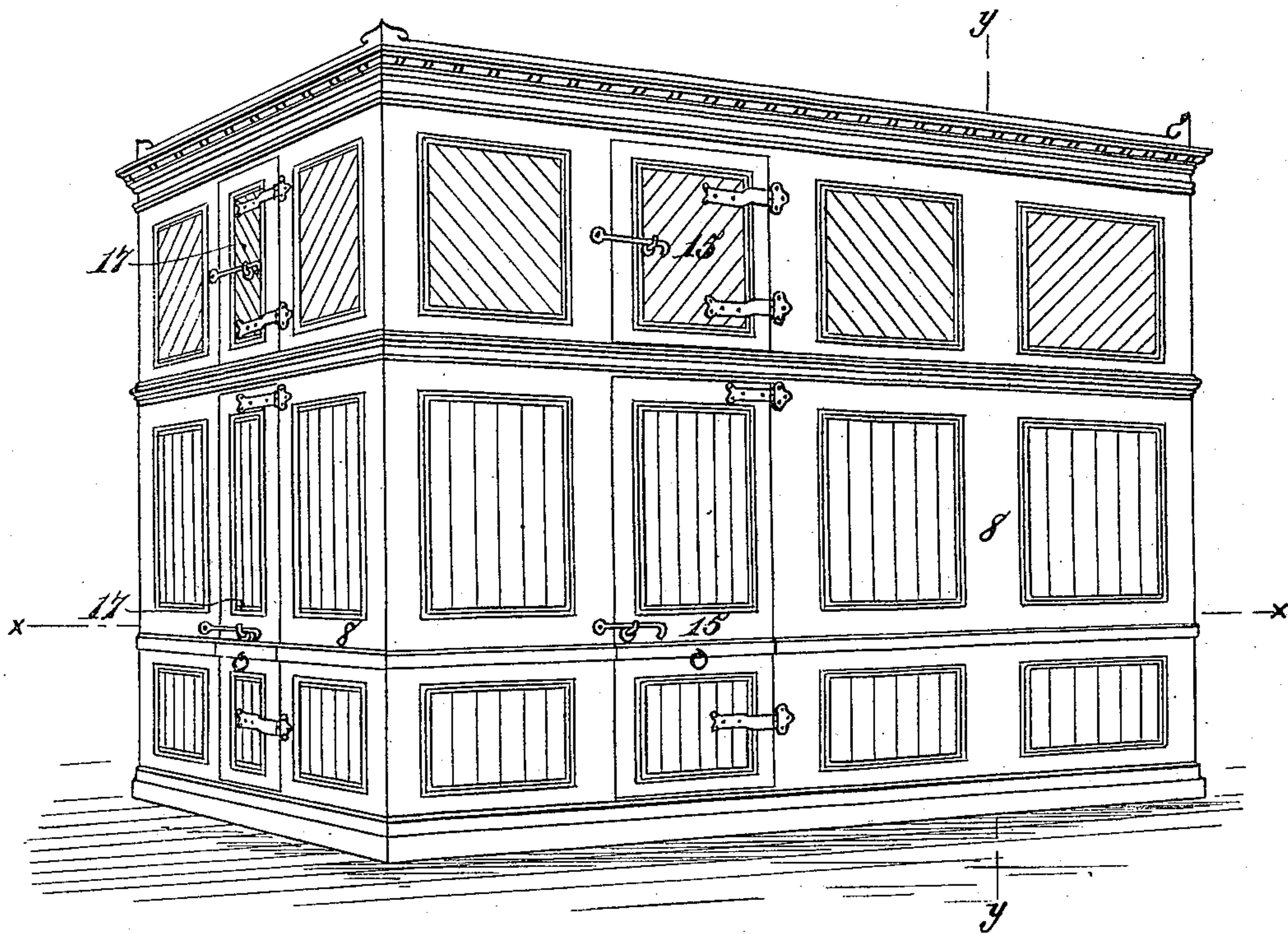
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O. H. BURNHAM & J. J. MEYERS.
REFRIGERATOR.

No. 471,944.

Patented Mar. 29, 1892.

Fig. 1.



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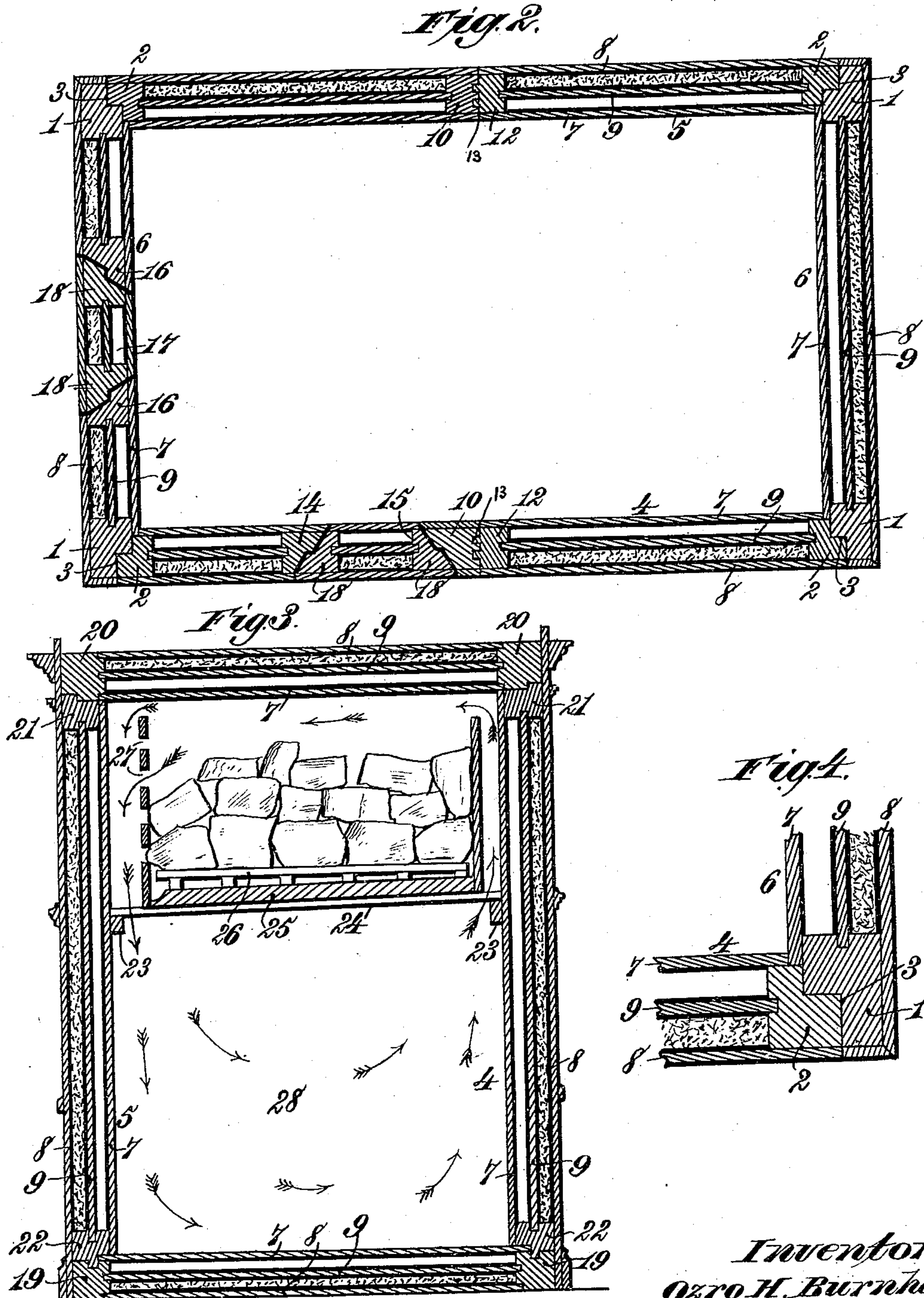
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UNITED STATES PATENT OFFICE.

OZRO H. BURNHAM, OF OAKLAND, AND JOHN J. MEYERS, OF SAN FRANCISCO, CALIFORNIA.

REFRIGERATOR.

SPECIFICATION forming part of Letters Patent No. 471,944, dated March 29, 1892.

Application filed June 19, 1891. Serial No. 396,798. (No model.)

To all whom it may concern:

Be it known that we, OZRO H. BURNHAM, a citizen of the United States, residing at Oakland, in the county of Alameda and State of California, and JOHN J. MEYERS, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Refrigerators, of which the following is a specification.

This invention relates to refrigerators in general, and more particularly to those of large capacity designed for markets, hotels, dairies, beer-vaults, and other places.

The object of our invention is to provide a novel, efficient, durable, and economical refrigerator structure which will be perfectly insulated, practically air-tight, and susceptible of being readily knocked down or taken apart, packed in a comparatively small space, transported, and reassembled into an organized structure.

The invention also has for its object to provide a novel knockdown refrigerator wherein each wall-section is complete in itself and the strength of the structure is materially increased by duplex corner-posts and studding of peculiar construction particularly useful and applicable to large refrigerator structures.

To accomplish these objects our invention involves the features of construction and combination or arrangement of parts hereinafter described and claimed, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of a refrigerator structure constructed in accordance with our invention. Fig. 2 is a horizontal sectional view taken on the line xx , Fig. 1. Fig. 3 is a vertical sectional view taken on the line yy , Fig. 1; and Fig. 4 is a detail sectional view, on a larger scale, to more clearly exhibit the construction of the corner-posts.

In order to enable those skilled in the art to make and use our invention, we will now describe the same in detail, referring to the accompanying drawings, wherein—

The numerals 1 and 2 indicate the two upright sections of a corner-post, which are superimposed and fitted together by a broken or irregular joint 3, similar to a rabbeted joint,

for the purpose of preventing the passage of air at the meeting edges or sides of the corner-post sections. In a rectangular or square refrigerator structure there will be four of these corner-posts of similar construction, and the arrangement of the corner-post sections is such that the sections 2 support and sustain the extremities of the front and rear side walls 4 and 5, while the corner-post sections 1 support and sustain the extremities of the end walls 6. The side and end walls are each composed of inner and outer frames or frame-works 7 and 8, between which is centrally arranged an intervening frame or frame-work 9, all of such frames or frame-works being preferably constructed of boards tongued and grooved together at their contiguous edges. The inner surfaces of the frames or frame-works 7 and 8 are preferably lined with tarred paper or other odorless paper, and between the frames or frame-works 8 and 9 is interposed a filling of mineral wool or other non-conducting material, while the space between the frames or frame-works 7 and 9 is left free and unobstructed to provide a dead-air space, by which construction we provide perfect insulation of the refrigerator structure, make the latter practically air-tight, and yet render the parts susceptible of disconnection for transportation.

As described and shown, the side and end walls of the refrigerator structure have permanent corner-post sections, each section, when fitted together by the broken or irregular joints 3, constituting the complete corner-post, and inasmuch as sections of the corner-posts are rigidly secured to the extremities of the side and end walls it will be obvious that each wall has a set of corner-post sections, and therefore each wall is complete in itself and can be detached for the purpose of packing all the parts together in small compass for convenient transportation.

In refrigerator structures where the walls are comparatively short the corner-posts alone are required; but in larger structures it is desirable to make the walls in sections, and therefore we employ studding or center posts, each composed of upright sections 10 and 12, which are tongued and grooved together at

their contiguous faces, as at 13. These studding or corner-post sections 10 and 12 are respectively attached to the wall-sections, as represented in Fig. 2, where we have exhibited each side wall as comprising two sections secured, respectively, to the studding or corner-post sections 10 and 12.

To provide for the necessary opening and closing doors in the walls of the refrigerator structure, we utilize one of the studding or corner-post sections, as at 10, to form one side of the door casing or jamb, the opposite side of the casing or jamb being formed by an upright 14, such casing or jamb being suitably constructed and provided with packing for the accurate closing of the door 15. If a door (one or more) is desired in the end wall or walls 6, we provide the latter with uprights 16 to constitute the door casing or jamb, properly constructed to receive and seat the door 17. The upright portions constituting the door casings or jambs and the sills 18 of the doors are fitted together by irregular or broken joints, as shown, for the purpose of more effectually preventing the egress of cold and the ingress of heat. The end walls are respectively complete portions, and by means of the sectional corner-posts described and shown the refrigerator structure can be readily knocked down or taken apart, packed in a comparatively small compass, transported to the point desired, and reassembled into an organized structure which is perfectly insulated and practically air-tight. The floor and roof sills 19 and 20 are fitted to the upper and lower wall-sills 21 and 22 (see Fig. 3) by broken or irregular joints, similar to rabbeted joints, in such manner that the floor and roof are complete portions capable of convenient attachment and detachment to facilitate knocking down a refrigerator structure for its convenient transportation in a small compass or space.

The front and rear side walls are provided internally with horizontal timbers or beams 23, supporting transverse timbers 24, upon which rests the ice-pan 25, having a suitable ice-rack 26. The walls of the ice-pan rise vertically and terminate below the roof of the structure to provide an air-circulating space, and one side of the ice-pan is furnished with openings or passages 27 for the descent of the cold air. The course of the air-current is indicated by arrows, Fig. 3, the heated air rising from the preserving-chamber 28, passing upwardly at one side of the ice-pan, and descending at the opposite side thereof, whereby continuous circulation is obtained.

The refrigerator structure is provided with suitable doors for introducing the ice or refrigerating material, and the entrance-doors for the preserving-chamber may, if desired, be provided with window-lights, as usual. The several parts of the structure are perfectly and accurately placed together. The refrigerator is so insulated that the exter-

nal atmosphere cannot enter the ice-chamber or the storage or preserving chamber either through the walls, the floor, or the roof, in consequence of which the contents will be entirely protected from atmospheric influences or foreign matter.

By the novel construction described and shown we obtain perfect insulation and a practically air-tight structure which provides for proper refrigeration with a minimum consumption of ice or other refrigerating material, and, moreover, as the structure is made in sections, as explained, it can be readily transported from place to place, as circumstances may require.

Having thus described our invention, what we claim is—

1. A knockdown refrigerator having sectional or divided corner-posts, each section constituting a terminus or end, to which the walls are attached, substantially as described.

2. A knockdown refrigerator having sectional or divided corner-posts, each section constituting a terminus or end, to which the walls are secured, and such sections being superimposed and connected by broken or irregular joints to prevent the passage of air, substantially as described.

3. In a refrigerator, the sectional or divided corner-posts constituting the ends of the wall-sections, said wall-sections having uprights or studding which form the door casings or jambs, substantially as described.

4. In a refrigerator, the combination of the sectional or divided corner-posts with the side and end walls, each composed of inner and outer frames or frame-works, and an intervening frame or frame-work, the end walls being attached to one corner-post section and the side walls attached to the other corner-post section, substantially as described.

5. In a refrigerator, the combination of the sectional or divided corner-posts, the side and end walls composed of inner and outer frames or frame-works and intervening frames or frame-works, and the uprights or studding inserted in the side walls, substantially as described.

6. In a refrigerator, the combination of the sectional or divided corner-posts, the uprights or studding constituting the door casings or jambs, the opening and closing doors, the floor-sills, and the roof-sills detachably connected with the wall-sills, said walls of the refrigerator consisting of inner and outer frames or frame-works and intervening frames or frame-works secured, respectively, to sections of the corner-posts and uprights or studding, substantially as described.

7. A refrigerator structure consisting of side and end walls, each composed of inner and outer frames or frame-work and an intervening frame or frame-work, the sectional corner-posts, each having its sections superimposed and connected by broken or irregular joints and attached, respectively, to the

5 extremities of the side and end walls, and the removable and replaceable floor and roof portions detachably engaged with the wall-sills, the whole constituting a knockdown refrigerator structure which can be taken apart, packed in a small compass, transported, and reassembled into an organized structure, substantially as described.

In testimony whereof we have hereunto set our hands and affixed our seals in presence of two subscribing witnesses.

OZRO H. BURNHAM. [L. S.]

JOHN J. MEYERS. [L. S.]

Witnesses:

P. D. BROWNE,
E. BIGELOW.