

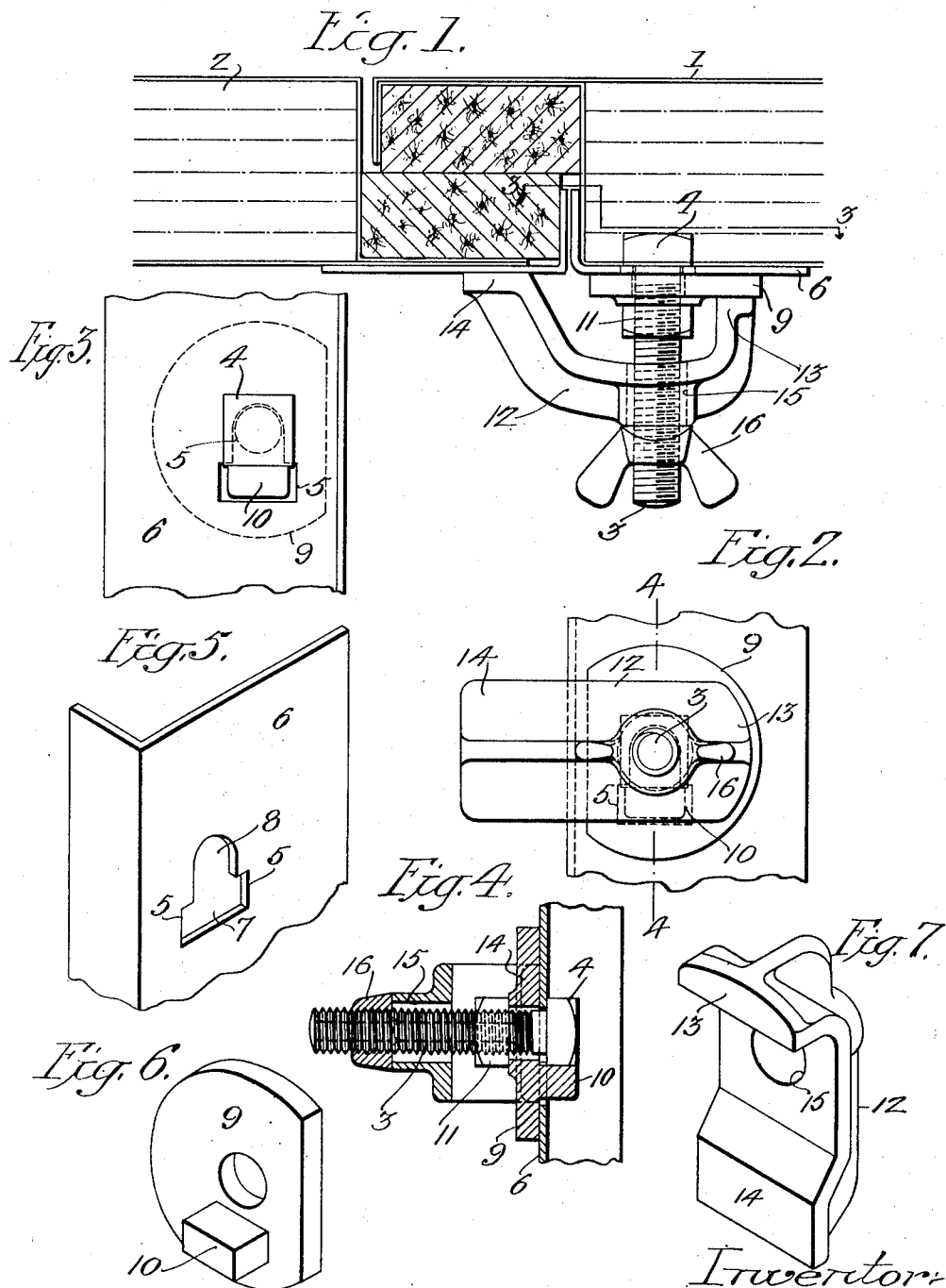
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CLAMP

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CLAMP.

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One object of my invention is to design a clamp for securing the removable panels of drying and other apparatus to the fixed panels or frames.

A further object of the invention is to so construct the clamp that the clamp and its securing bolt can be attached to the fixed panel or frame from one side, obviating the necessity of extending the bolt through the panel.

In the accompanying drawing:

Fig. 1 is a plan view of the improved clamp, the panel of the drying apparatus being in section;

Fig. 2 is a front view;

Fig. 3 is a sectional view on the line 3—3 Fig. 1, showing the bolt-head and lug on washer;

Fig. 4 is a sectional view on the line 4—4, Fig. 2; and

Figs. 5, 6 and 7 are views illustrating details of the invention.

In the present instance the clamp is applied to the casing of drying apparatus made of a series of panels 1 and 2. The panels 1 are fixed and form part of the frame-work of the drier, while the panels 2 are removable. Clamps are used to hold the movable panels in position.

It is desirable that the bolt which holds the clamp to the panel should not extend entirely through the panel but should terminate back of the outside metal sheet of the panel in order that as little heat as possible should pass to the outside of the casing.

The bolt 3 has a head 4 which extends through a slot 5 in the outside metal casing 6. The slot is made as in Fig. 5, and has a rectangular portion 7 and an extension 8 of reduced width. The width of the portion 7 is sufficient to allow the head 4 of the bolt 3 to pass through the slot; then the bolt is raised into the narrow portion 8 of the slot which is the same width as the body of the bolt.

A washer 9 has a lug 10 which extends through the slot 6 and holds the bolt in position in the narrow portion of the slot, and also prevents the bolt turning as it fits against one of the flat sides of the bolt. (See Fig. 3.) On the bolt is a nut 11 which clamps the bolt and washer to the metal of the panel or other part of the casing.

The clamping member 12 is shaped as shown in Figs. 1 and 7, and has a short foot

13 which rests on the washer 9, and an extended foot 14 which rests against the face of the removable panel 2, as in Fig. 1. The bolt passes freely through the opening 15 in the clamping member, and on the bolt is a wing-nut 16.

When the parts are in the position shown in Fig. 1, the wing-nut can be turned to cause the clamping member to bear against the movable panel and force it against the flange of the fixed panel, holding the movable panel firmly in position. There may be a number of these clamps for each panel, depending upon the size of the panel.

The panels are made with sheet metal on the inner and outer sides, and between the metal sheets is a heat non-conducting material such as asbestos. The flanges of the two abutting panels have strips of cork or like material to prevent radiation of heat.

In applying the bolt 3 the head 4 is pushed through the wide portion 7 of the slot 5 forming the non-conducting material within the panel-back sufficiently to allow the bolt to pass into the narrow portion of the slot. Then the washer 9 is placed in position with its lug 10 in the wide portion of the slot. The nut 11 is then applied to the bolt, holding the bolt rigidly in the panel. The clamping member and wing nut are located on the bolt as shown.

The clamping member can be moved into position to engage the movable panel, and when released will swing clear of the panel as shown by dotted lines in Fig. 2.

I claim:

1. The combination in a clamp, of a panel or frame having a slot with a wide and a narrow portion; a headed bolt located in the narrow portion of the slot; a washer on the bolt having a lug extending through the wide portion of the slot holding the bolt in the narrow portion of the slot and preventing the bolt turning; a clamping member on the bolt; and a nut on the bolt arranged to force the clamping member to its seat.

2. The combination in a clamp, of a panel or frame having a slot with a wide and a narrow portion; a headed bolt located in the narrow portion, the head of the bolt being of such size that it can be passed through the wide portion of the slot; a washer on the bolt having a lug extending into the wide portion of the slot; a nut on the bolt holding the bolt and washer rigidly in position;

a clamping member having a short and a long foot and arranged to swing on the bolt; and a clamping nut on the bolt for said member.

- 5 3. The combination of a fixed panel and a movable panel, the fixed panel having an inside sheet, the inside sheet being spaced from the outside sheet; a clamp on the fixed panel and extending over the movable panel, 15
- 10 the clamp members having a fixed element extending over the outside sheet only and 20

attached to said sheet, the movable element of the clamp being mounted on the fixed element.

4. The combination of a panel having an outside sheet and an inside sheet; non-conducting material between said sheets; a bolt; a clamp having a head, said bolt extending through the outside sheet only; means for attaching the bolt to said sheet; and a clamp 20

mounted on the bolt.
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