April 7, 1931. S. A. WILDE 1,799,610

STOVE DOOR

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Fig. 2.

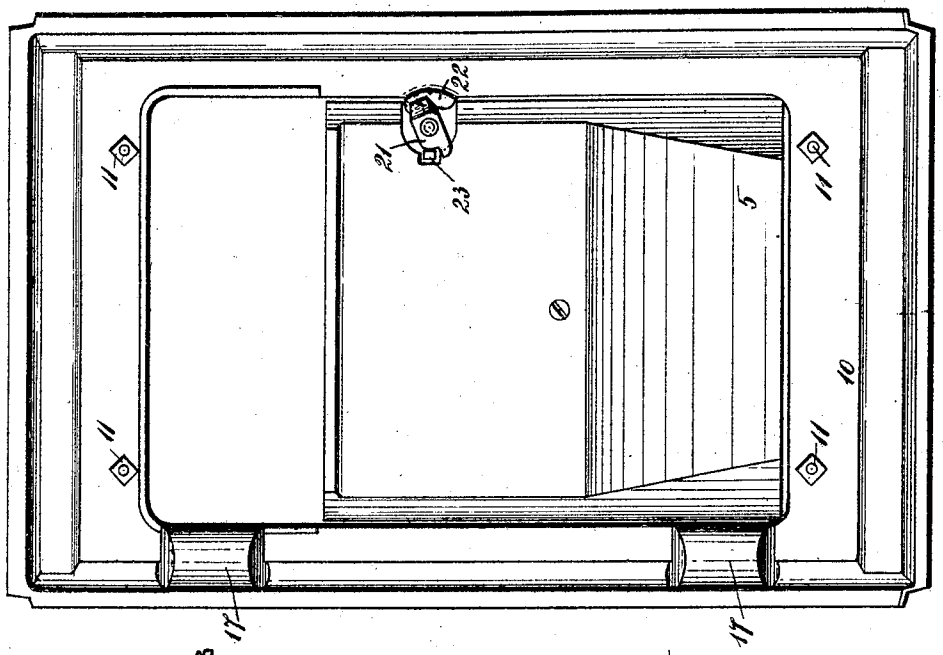
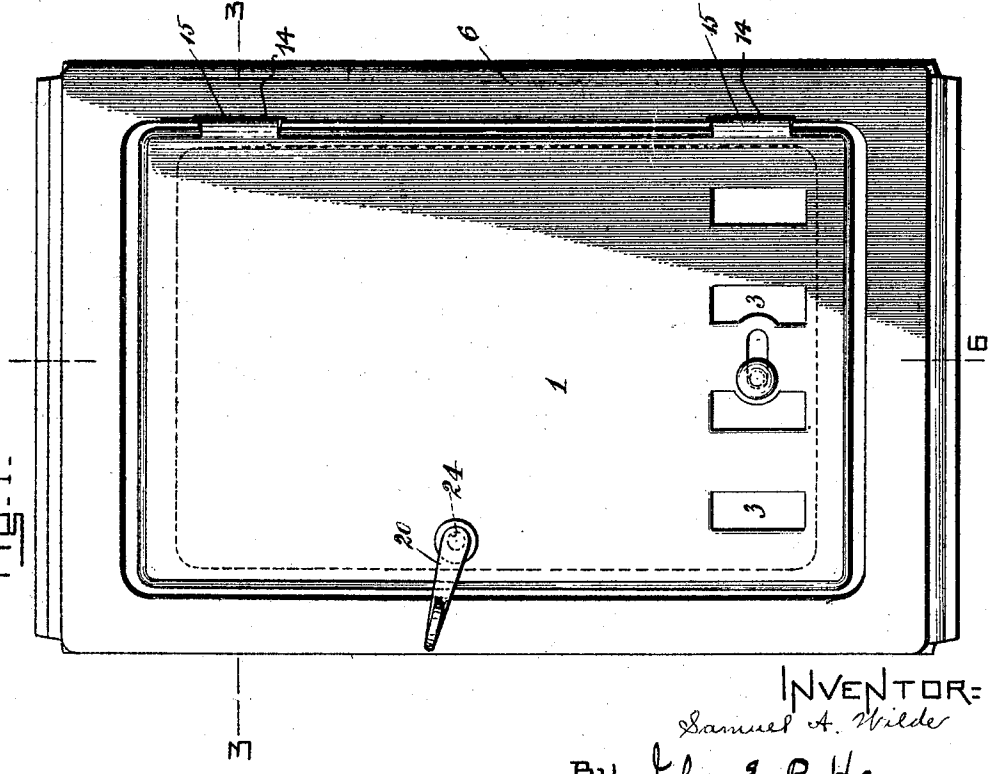


Fig. 1.



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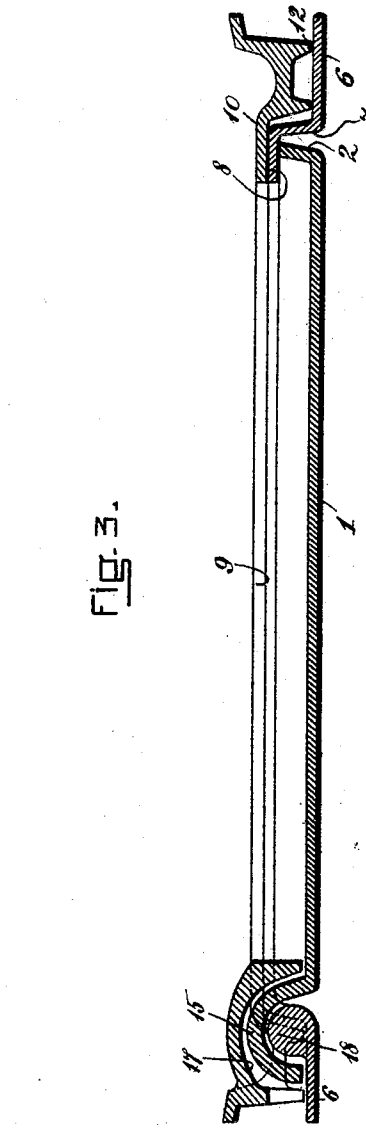


Fig. 3.

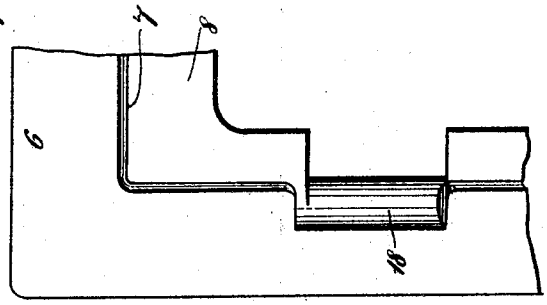


Fig. 4.

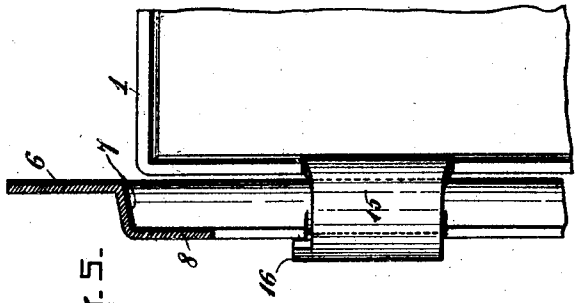


Fig. 5.

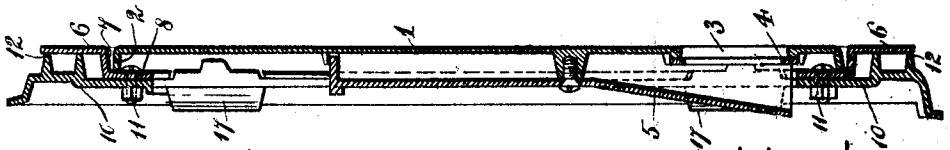


Fig. 6.

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UNITED STATES PATENT OFFICE

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STOVE DOOR

Application filed March 4, 1930. Serial No. 432,995.

The invention relates to a stove door having a hinged connection, and the object of the invention is to provide a stove door in which the hinges are concealed, and this especially in a construction where the door and its casing each present a smooth outer facing lying substantially in the same plane.

A further object of the invention is to provide a hinged connection presenting relatively large wear resisting bearing surfaces for preventing sagging of the door especially when the door is an upright one; a hinged connection that will permit of an easy application or removal of the door, and a hinged connection, also, which is formed by an assemblage of cast metal plates comprising the door fitted with hinge members, and other plates including the door casing and a frame co-operating therewith to assist in the housing and retention of the hinge members on the door as will afterward be explained.

The hinged connection is one applicable to any type of stove door having a hinged connection, either a drop door or an upright door. For purposes of illustration an upright door is shown of a type employed for controlling the entrance to the body of a stove having a grate and ash chamber beneath it, although this embodiment of the invention is purely illustrative.

The invention can best be seen and understood by reference to the drawings, in which—

Figure 1 is a front elevation of the door and its casing with the door occupying a closed position.

Fig. 2 is a rear or inside elevation of the door together with the frame backing the door casing.

Fig. 3 is a section on the line 3—3 of Fig. 1.

Fig. 4 is a rear or inside elevation in enlarged detail of a portion of the door casing which assists in forming one of the hinged connections.

Fig. 5 is an inside elevation of a portion of the back of the door fitted with a hinge member, later to be referred to, and which portion of the door with hinge member is shown co-operating with a portion of the door casing shown in inside edge elevation.

Fig. 6 is a section on the line 6—6 of Fig. 1.

Referring to the drawings:—

1 represents the door having a down turned flange 2 around its edge. As before explained the door shown is of a type suitable for controlling the entrance to the body of a stove having a grate and ash chamber beneath it, on which account the door is provided with openings 3 in it controlled by a slide 4 and backed by a guard 5.

6 represents the door casing. Downturned from the inner edge of the casing and outwardly disposed with relation to the flange 2 on the door, is a flange 7. Borne by this flange is an inturned edging 8 framing the opening 9 forming the doorway, and against this edging the flanged edge 2 of the door is adapted to bear when the door is closed. The relative depth of the flanges 2 and 7 on the door and casing, respectively, are preferably such that when the door is closed, bearing against the edging 8 as aforesaid, the outer face of the door will lie substantially flush with the outer face of the casing.

Backing the door casing 6 is a frame 10. This frame may form a part of the body of the stove on which the door is hung in which case the casing and door are secured to the frame, or the door casing may form a part of the body of the stove and the frame 10 be fixed to the casing. In so far as the present construction is concerned the frame may be considered a backing preferably having the same general form as the door casing, and with the doorway 9 extending through it. The casing 6 and the frame 10 are rigidly fastened together by means of fastenings 11 extending through the depressed edging 8 of the door casing and through the body of the frame 10 backing it. The frame is, also, preferably provided with outstanding ribs 12 against which the casing has bearing.

There is thus combined the door, the door casing and, also, a frame backing the casing and fixed to it, and the manner in which the door casing and frame co-operate to assist in the hinged support of the door will now be explained.

Projecting with outstanding lateral extension from one side edge of the door (being

its hinged edge) with extension through slots 14 in the edging 8 of the door casing and thence outwardly beneath the adjacent portion of the door casing are hinge members 15. These members are semicircular in form, and are so far depressed with relation to the body of the door that they will at all times lie concealed beneath the door casing. The hinge members are also slightly widened at their outer ends by an outstanding lip 16, for a purpose presently to be explained.

The hinge members 15 lie socketed to turn, as the door is opened and closed, within rounded sockets 17 formed within the frame 10. Not only do the hinge members turn within these sockets, but the width of the sockets with relation to the hinge members plus their lip extension is such that when the hinge members are contained within the sockets the door will be held against endwise displacement.

The hinge members are held within their respective sockets on the frame by means of the door casing 6 the downturned flanged edge 7 of which at the points where the hinges occur are formed to provide bearings 18 which fit within the hinge members and around which the members are curved to turn as the door is opened and closed. The bearings 18 are substantially equal to the width of the body of the hinge members so that when the door is fully opened the outstanding lips 16 of the hinge members will be brought to bear against the flanged edge of the casing acting as a stop to prevent further opening of the door and withdrawal of the hinge members from the sockets in which they are contained.

Inasmuch as the curved hinged members lie interposed between the casing and frame it is accordingly necessary when the parts are assembled that the door and its casing be first combined before the door casing and frame are fastened together.

The door is opened and closed by an outside handle 20, and is held in a closed position by a hasp 21 inside the door. When the door is closed this hasp may be turned to engage a keeper 22 on the frame 10 and the locking position of the hasp is defined by a stop 23 on the door. The hasp is arranged upon a pin 24 extending through the door and is turned by the handle 20.

Having thus fully described my invention, I claim and desire to secure by Letters Patent of the United States:—

1. A stove door assembly comprising a door, a door casing, a frame backing the casing and fixed thereto, said frame having sockets within it, curved hinge members on the door extending beneath the casing and retained to turn within said sockets in the frame, and bearings on the casing retaining the hinge members to turn within said sockets and around which bearings the hinge members turn.

2. A stove door assembly comprising a door, a door casing having a flanged edge against which the door closes, said edge having slots in it, a frame backing the casing and fixed thereto said frame having sockets within it, curved hinge members on the door extending through the slots in the casing and thence outwardly beneath said casing whereby they may be retained to turn within said sockets in the frame, and bearings on the casing retaining the hinge members to turn within said sockets and around which bearings the hinge members turn.

3. A stove door assembly comprising a door, a door casing having a flanged edge against which the door closes, said edge having slots in it, a frame backing the casing and fixed thereto, said frame having sockets within it, curved hinge members on the door extending through said slots in the casing and thence outwardly beneath the casing whereby they may be retained to turn within said sockets in the frame, said hinge members being widened at their outer ends each by a projecting lip, and bearings on the casing retaining the hinge members to turn within said sockets in the frame, and around which bearings the hinge members turn, said bearings being arranged also whereby the lips on the hinge members will engage the casing forming a stop when the door has been turned to a full open position.

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