Aug. 13, 1957 A. P. ROBINSON 2,802,410

AIR VENT

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Fig. 1

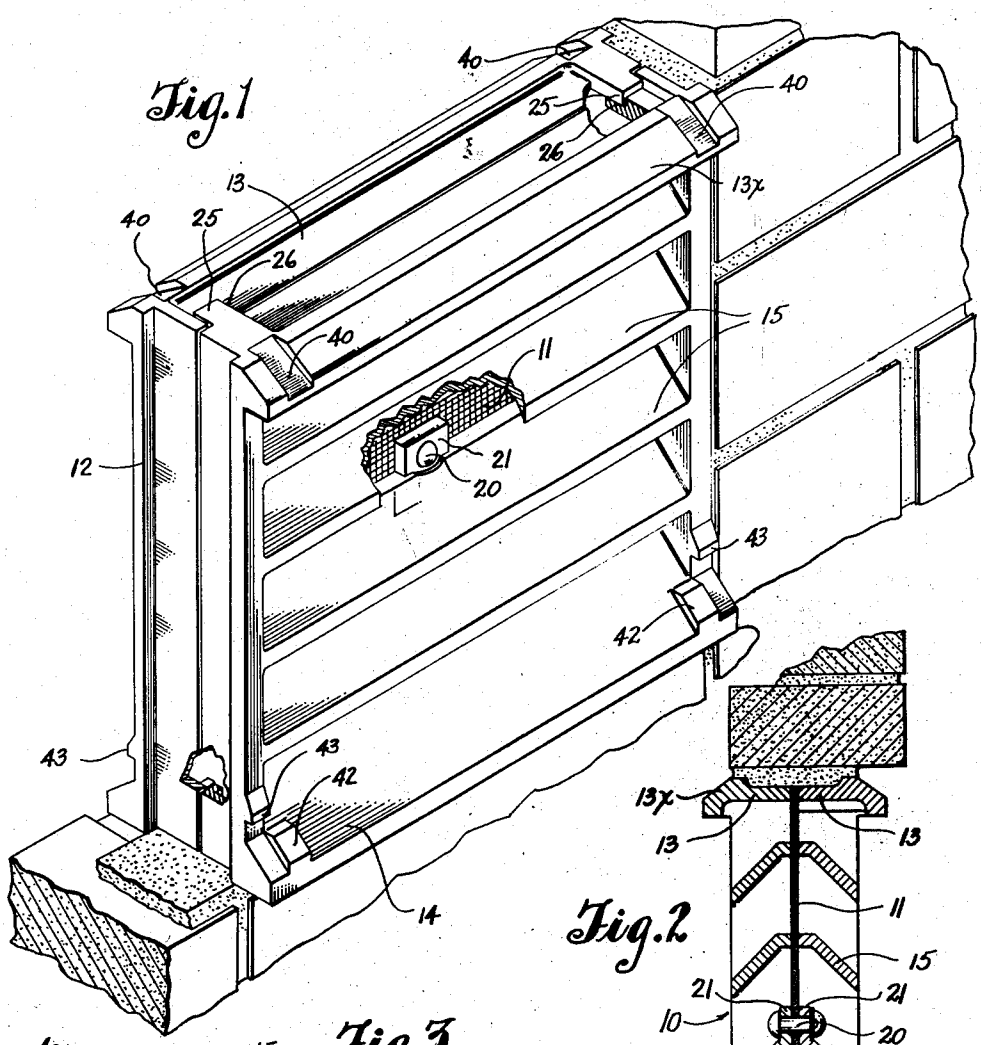
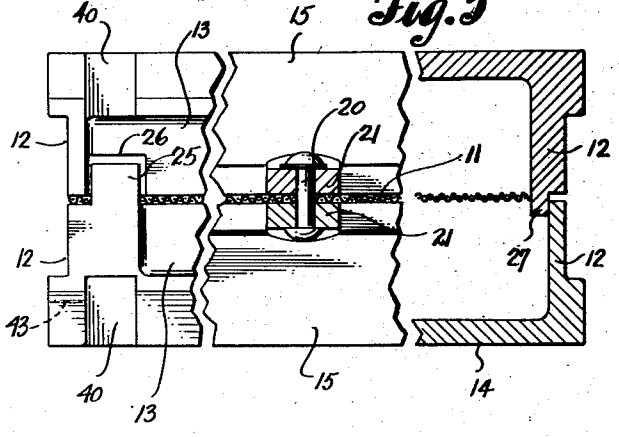


Fig. 2

Fig. 3



INVENTOR.
ALBERT P. ROBINSON
BY
Cook & Robinson
ATTORNEYS

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Fig. 4

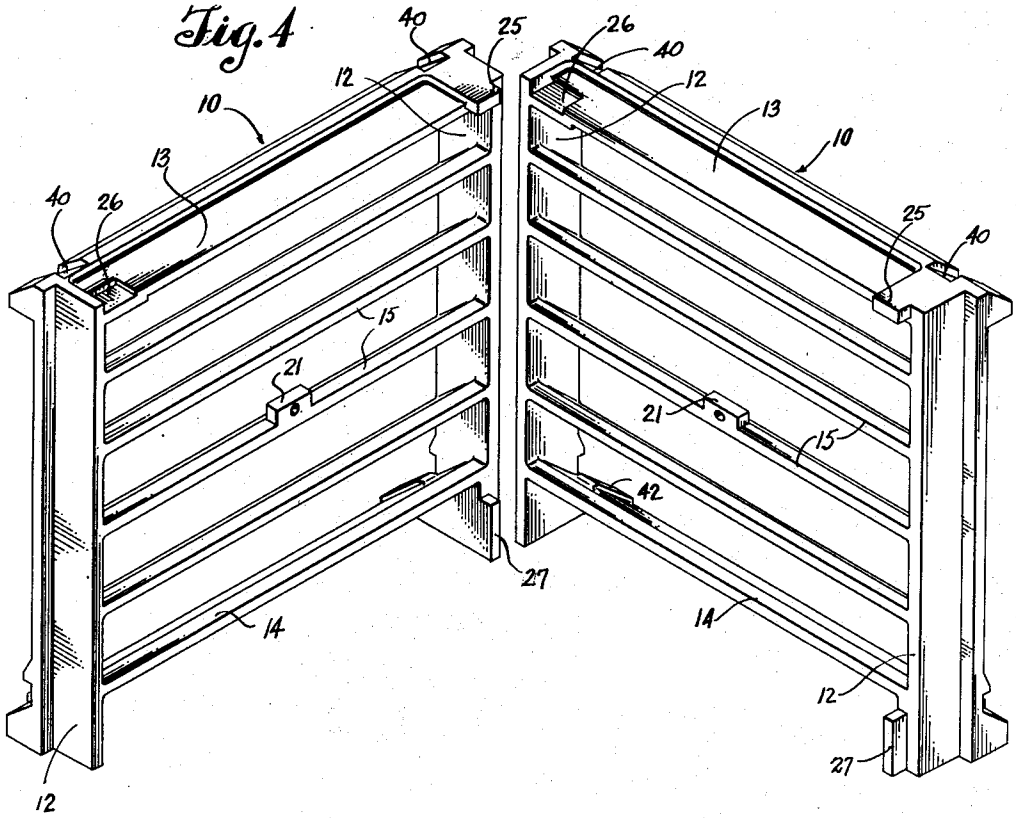


Fig. 5

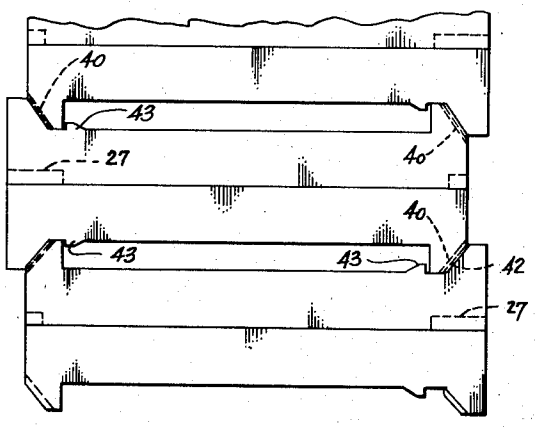
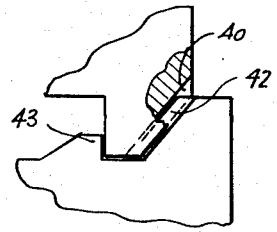


Fig. 6



INVENTOR.
ALBERT P. ROBINSON
BY
Cook & Robinson
ATTORNEYS

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2,802,410

AIR VENT

Albert P. Robinson, Seattle, Wash.

Application June 6, 1955, Serial No. 513,342

5 Claims. (Cl. 98—121)

This invention relates to air vents as used, for example, in the walls of fireplace ash pits, and the like, and it has for its primary object to provide an air vent adapted to be applied within a wall opening to permit a desirable inflow or outflow of air, but without permitting passage of rain, dust, insects or small animals.

It is a further object of the invention to provide an air vent comprising substantially identical opposite face sections, between which a screen is disposed and secured as a means for preventing the passage through the vent of dust, ashes or insects, and which face sections are formed with inclined louvers whereby rain, dirt, ashes or the like, falling along either face of the wall to which the vent is applied will be deflected away from the passage.

It is also an object of the invention to provide an air vent of the above described character wherein the said opposite face sections are identical castings and are provided with interfitting parts whereby the sections will be held in their proper relationship after once being brought properly together and secured.

Still another object of the invention is to so design the opposite face sections or complemental parts of the device that assembled units may be stacked in an interfitting and interlocking relationship that is practical for their shipment or storage.

Still further objects and advantages of the invention reside in the details of construction and combination of the paired parts and in the mode of use of the device as will hereinafter be fully described.

In accomplishing these and other objects of the invention, I have provided the improved details of construction, the preferred forms of which are illustrated in the accompanying drawings wherein:

Fig. 1 is a perspective view of a cast metal air vent embodied by the present invention illustrating its application to an opening in a brick wall.

Fig. 2 is a section, taken in a vertical plane transversely through the air vent.

Fig. 3 is a horizontal section through the air vent, taken at different levels, and with parts broken away for the purpose of reducing the length of the view.

Fig. 4 is a perspective view, with the opposite face sections of the air vent in separated relationship, and showing their inside faces.

Fig. 5 is a view illustrating the manner of stacking the present units for storage or shipment.

Fig. 6 is an enlarged detail showing the interfitting of parts of stacked units.

Referring more in detail to the drawings:

The present device was designed primarily for use in the wall of a fireplace ash pit for ventilation of the pit, and it is anticipated that when so used, it might be located in a wall opening that opens either to the inside or outside of the building. In the event that it is applied to an opening in an outside wall, then it is desirable that provision be made to prevent rain driving into the opening. It is also desirable that provision be made for the ready passage of air through the vent, to the exclusion of dirt, trash, dust, insects or small animals. It is also of importance that the device be substantially built, strong and durable in its use, easy to install, relatively inexpensive to manufacture and practical for installation in masonry walls.

Briefly described, the present air vent comprises two cast metal sections herein referred to as the "opposite face sections," these being identical in form and adapted to be assembled back to back, with a sheet of metal screen between them, and then interlocked, and secured together by means of a single rivet or bolt.

More specifically described, the present air vent comprises the two opposite face sections, **10—10**, shown in separated relationship in Fig. 4 for purpose of better understanding of construction. Each section is identical to the other, in size and form, and in their assembled relationship, they are disposed back to back with a rectangular piece of metal screen **11** clamped flatly between them, as has been well shown in Figs. 2 and 3.

Each of the opposite face sections, as here shown, is a one piece, metal casting that comprises parallel, opposite end walls **12** and **12**, joined across their upper ends by a horizontal sill **14**. Between the top wall **13** and the sill **14**, the sidewalls are joined by a plurality of horizontal, vertically spaced and downwardly and outwardly inclined louvers **15**. It is to be observed by reference to Figs. 2 and 4 that the inner edges of the walls **12—12**, **13** and sill **14** and louvers **15** of each of the opposite side sections, all are in the same vertical plane, and therefore, when the two sections are brought together, back to back with the screen panel **11** between them, the latter will be clamped and held perfectly flat, as has been illustrated in Fig. 2.

It is also to be noted by reference to Fig. 2, that in the application of the air vent to an outside wall, it is desirable that the top wall **13** of the section be formed with an outwardly extended and downwardly inclined water table portion **13***x* along its outer edge. This somewhat overhangs the vertical plane of the outer edges of the louvers **15**. Also, it is shown that the sill portion **14** projects somewhat beyond the edges of the sidewalls to overhang the outside surface of the wall to which the unit is applied.

The screen panel **11** preferably is woven of brass wire, of .028 diameter and 8 meshes per inch and is cut to an exact length and height that permits its side edge portions to be gripped between the inner edges of the end walls **12—12** of the two sections, and its top and bottom edge portions to be likewise gripped between the inside edges of the top wall and sill. After the two sections have thus been assembled with the screen between them, they are drawn tightly against opposite sides of the screen panel and secured by a single rivet **20** applied through perforated lugs **21—21**, cast on the inner edge portions of the central louvers of the two sections as has been shown in Figs. 2 and 3.

In order that the opposite face sections **10—10** may be held interlocked and against any relative endwise or up and down movement upon being assembled in the manner above disclosed, each is formed at one end of its horizontal top wall **13** with a projecting tongue **25**, and at the opposite end of the top wall with an upwardly facing recess **26**. Likewise, each section is formed at the lower end and inner edge of one end wall **12** with an inset and inwardly projecting tongue **27**. With the understanding that the two sections **10—10** are identical castings, it will be understood that when they are placed back to back, as in Fig. 1, the projecting tongue **25** of each will be received in the top wall recess **26** of the other section, as has been shown. Also, it will be understood that the

projecting tongues 27, each will be received within and against the inner face of the wall of the other sections, as shown at the left hand end of Fig. 3. With the parts thus assembled and with the parts interfitted and secured by the rivet 20, the device presents a rigid and durable assembly of parts.

It is preferred also that each of the sections 10—10 be cast with recessed faces, as at 30 and 31 in Figs. 2 and 3 to receive the joint sealing mortar used to mount the device in a wall opening.

For purpose of stacking and securing the units against relative slippage when in stacked relationship, as for shipment or storage, each section is formed in the opposite end portions of its downwardly inclined top wall surfaces 13*x* with recesses 40, as well shown in Fig. 1, and also each section has lugs, as at 42—42, cast on the outer edge portions of its sloping sill. Also, projecting lugs 43 are cast on the edges of its end walls 13—13, spaced upwardly from the sill.

In stacking the units, they are laid horizontally, one upon the other, alternately reversed in direction, as shown in Fig. 5. In this disposition, lugs 42 as formed on the sill of each is received in the recesses 40 of the next adjacent unit and the overhanging lip portion 13*x* of each top wall is engaged at its ends against the under edge surfaces of the projecting lugs 43 of adjacent units. This interfitting and locking of parts prevents any possible endwise or lateral shifting of one unit relative to the others while stacked.

Air vents of this kind are not limited to any specific application or use, but are well adapted to and desirable for use in pits and the like, as has been described. They may be made in various sizes, and their life in use is indefinite.

Having thus described my invention, what I claim as new therein and desire to secure by Letters Patent is:

1. An air vent of the character described adapted for mounting in a vertical wall opening; said air vent comprising a screen panel and identical opposite face frames assembled therewith back to back with said screen panel clamped thereby flatly between them; each of said opposite face frames comprising a one-piece casting of rectangular form, defined by opposite side walls, a top wall and a sill and louvers extended between opposite side walls, and means on the inner edges of the top and sidewalls of each frame adapted to interlock with complemental portions of the companion frame to retain a registered relationship of the frames, and means joining said opposite face frames together, and clamped against the screen panel with its bounding edge portions secured between inner edges of the side walls, top walls and sills of said opposite face frames.

2. An air vent as recited in claim 3 wherein the inner longitudinal edges of corresponding louvers of the opposite face frames are registered and clamp the screen between them, and wherein registered louvers that are substantially midway of the top walls and sills are provided mid-way between the side walls with lugs in registering alignment, and the means for joining said opposite face

frames together comprises a bolt applied through said lugs and through that portion of the screen that is between them.

3. An air vent unit of the character described adapted for mounting in a vertical wall opening; said air vent comprising a screen panel and identical opposite face frames disposed back to back with said screen panel clamped thereby flatly between them; each of said opposite face frames comprising a one-piece casting of rectangular form, defined by opposite side walls, a top wall and a sill and louvers extended between opposite side walls, and means joining said opposite face frame together, and clamped against the screen panel with its bounding edge portions secured between inner edges of the side walls, top walls and sills of said opposite face frames, said louvers being outwardly and downwardly inclined, and said top wall having a downwardly inclined water table portion projecting beyond the vertical plane of the outer edges of the louvers.

4. An air vent unit of the character described adapted for mounting in a vertical wall opening; said unit comprising a screen panel and identical opposite face frames assembled therewith, back to back, with said screen panel disposed flatly between them; each frame comprising a one piece casting defined by opposite sidewalls, a top wall, and a sill and louvers extended between opposite sidewalls, means joining said opposite face frames together with the bounding edge portions of said screen panel clamped between the inside edges of the sidewalls, top walls and sills thereof; the top wall of each of said frames having an overhanging outer edge portion formed with a downwardly inclined top surface, formed adjacent its opposite ends with transverse upwardly facing channels, and the sill of each frame having a downwardly inclined top surface formed with transversely directed lugs that are adapted, incident to the flat stacking of like units alternately in reversed relationship, to be seated in said surface channels of the next adjacent units.

5. The air vent unit of claim 4 wherein each of said face frames is provided on the outer edge of each of its sidewalls and in close spaced relationship to the inclined surface of its sill, with a projecting lug; said projecting lugs being adapted, in the stacked relationship of units, to engage with the underside of the overhanging edge of the top wall of the adjacent section to provide an interlock whereby relative shifting of stacked units in the direction of the end wall is prevented.

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