June 14, 1949. W. C. DE ROO 2,473,053

REGISTER CONSTRUCTION

Filed Sept. 15, 1947

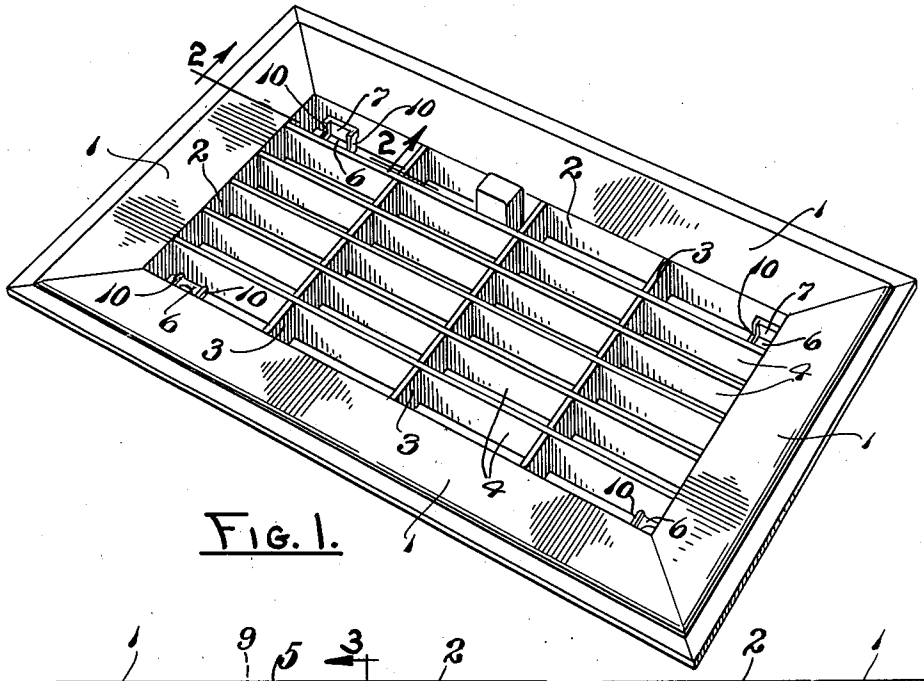


FIG. 1.

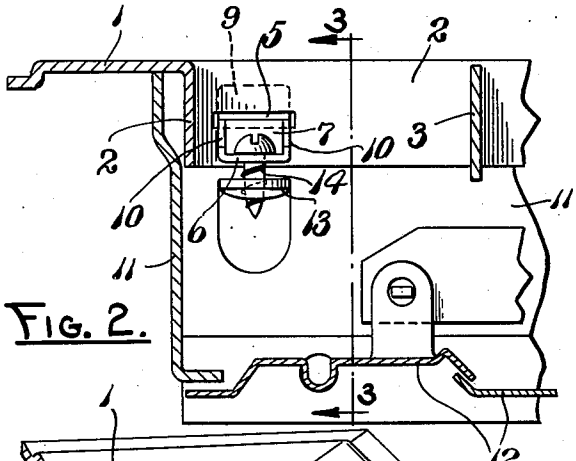


FIG. 2.

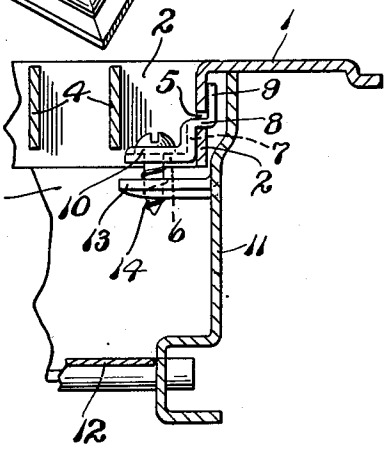


FIG. 3.

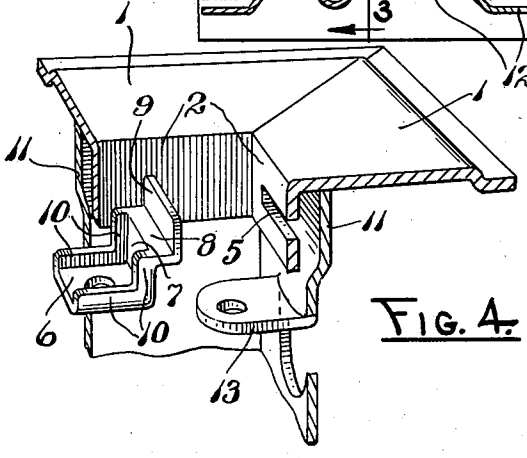


FIG. 4.

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REGISTER CONSTRUCTION

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Application September 15, 1947, Serial No. 774,017

1 Claim. (Cl. 98—114)

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This invention relates to a register and grille construction. Such register and grille constructions are used in connection with warm air furnace installations, as one place of use, though not necessarily limited solely to such furnace installations. The grille and grille frame, called the "face," may be used at the wall or floor of a room with both cold and hot air furnace pipes. When used in connection with warm air pipes, a valve box is connected with the inwardly extending flange of the face frame of the grille, but with cold air registers such valve box is not used. The valve box substantially is a surrounding frame of flat metal across which a manually operable shutter for controlling the passage of the furnace heated air is mounted. Such air may be entirely shut off, with the shutter of the register closed, may be open to permit the passage of a maximum quantity of warm air, or by varying the position of the shutter, the quantity of warm air passed may be correspondingly varied.

With my invention a grille is provided which is universally usable both for cold and warm air register purposes. A novel provision is made for the ready attachment of the shutter or valve box therewith. This permits the manufacture and storage of a single pattern of grille in its several sizes, without one pattern for the cold air register installation and another when it is to be used in conjunction with the furnace warm air pipes. There is a consequent elimination of a second line of grilles which previously have been required to be kept in stock for filling orders, part of which are for grilles alone and others for grilles to have the shutter valve addition connected therewith.

My invention has for its object and purpose the attainment of the stated objects and purposes and the economical results coming therefrom by means of a novel, very practical and useful construction, an understanding of which may be had from the following description, taken in connection with the accompanying drawing, in which,

Fig. 1 is a perspective view of the grille face and cross bars therewithin, to which is detachably connected the air controlling valve or shutter box structure,

Fig. 2 is a fragmentary longitudinal vertical section, substantially on the plane of line 2—2 of Fig. 1,

Fig. 3 is a fragmentary transverse vertical section on the plane of line 3—3 of Fig. 2, and

Fig. 4 is a fragmentary perspective view at a corner of the construction, a supporting bracket for the valve or shutter box being shown disconnected.

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Like reference characters refer to like parts in the different figures of the drawing.

In the illustrated embodiment of the invention, an open grille frame, generally of rectangular form, has sides and ends of flat metal, each with a face 1, from the inner edge of which a leg 2 extends at right angles as shown. The transverse and longitudinal grille bars 3 and 4 extend between the legs 2 and are secured therewith in any suitable manner.

With my invention, adjacent each corner of the open frame and in opposed sides thereof, slots 5 are cut in the legs 2. At each of the slots 5, when the valve or shutter box is to be connected with the grille frame, a bracket is detachably connected.

The bracket is stamped from flat metal, having a ledge 6 extending away from the leg 2 to which it is attached, a section 7 at right angles thereto which lies against the inner side of such leg 2, a ledge 8 passing through the slot 5, and a terminal section 9 bearing against the outer side of said leg 2 and extending above the slot 5. The parts 6 and 7 are strengthened and reinforced by flanges 10 at the sides thereof, as best shown in Fig. 4. The ledge 6 has an opening therethrough for the passage of a screw.

One of these brackets is located adjacent each corner of and within the legs 2 of the sides of the grille frame.

The valve or shutter box has four sides 11 of flat metal connected at their ends, that is, at the corners of the box, which is of dimensions such that it may be telescoped over the legs 2. At its ends farthest away from the grille frame, shutters 12 are pivotally mounted which may be opened, closed, or partly opened in the usual and well known manner. From the sides 11 of the valve box tongues 13 are struck inwardly. Upon assembly of the box, said tongues are located within and parallel to the ledges 6 of the described brackets. Each tongue has an opening in alinement with the opening in its associated bracket ledge 6. Self-tapping screws 14 may be passed through the openings in the ledges 6 and driven through the openings in the tongues 13, thereby securing the grille frame and the valve box together.

When the grille is used with the cold air pipes in a furnace installation, the brackets 5 are not used. Being separate and detachable from the legs 2 of the grille frame, they are eliminated

and do not extend uselessly from opposite sides of the grille frame, as they would with the grille alone used in conjunction with the cold air furnace pipes. The tongues 13, preferably, are dished as shown, for strengthening and reinforcement and to hold them from being bent out of position toward the brackets when the screws 14 are tightened.

The construction described is very practical and useful and has resulted in economies, particularly in conjunction with a marked reduction in the quantities for lines of standard parts which are kept in stock.

The invention is defined in the appended claim and is to be considered comprehensive of all forms of structure coming within its scope.

I claim:

In a structure as described, a conduit having an open end, a plurality of ears extending into said conduit near the open end, each ear having a screw threaded opening therethrough, an open grille frame having an outer face adjacent the open end of the conduit, inturned flanges on said face insertable into the open end of the conduit, said flanges having openings there-

through aligned with said ears and bracket members removably insertable into said openings and each having a ledge extending inwardly from the flange adjacent an ear and each ledge having a screw passing hole therethrough each bracket having a leg extending upwardly from the ledge, a section at right angles to the leg and a terminal portion on said section bearing against the outer wall of the flange.

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