

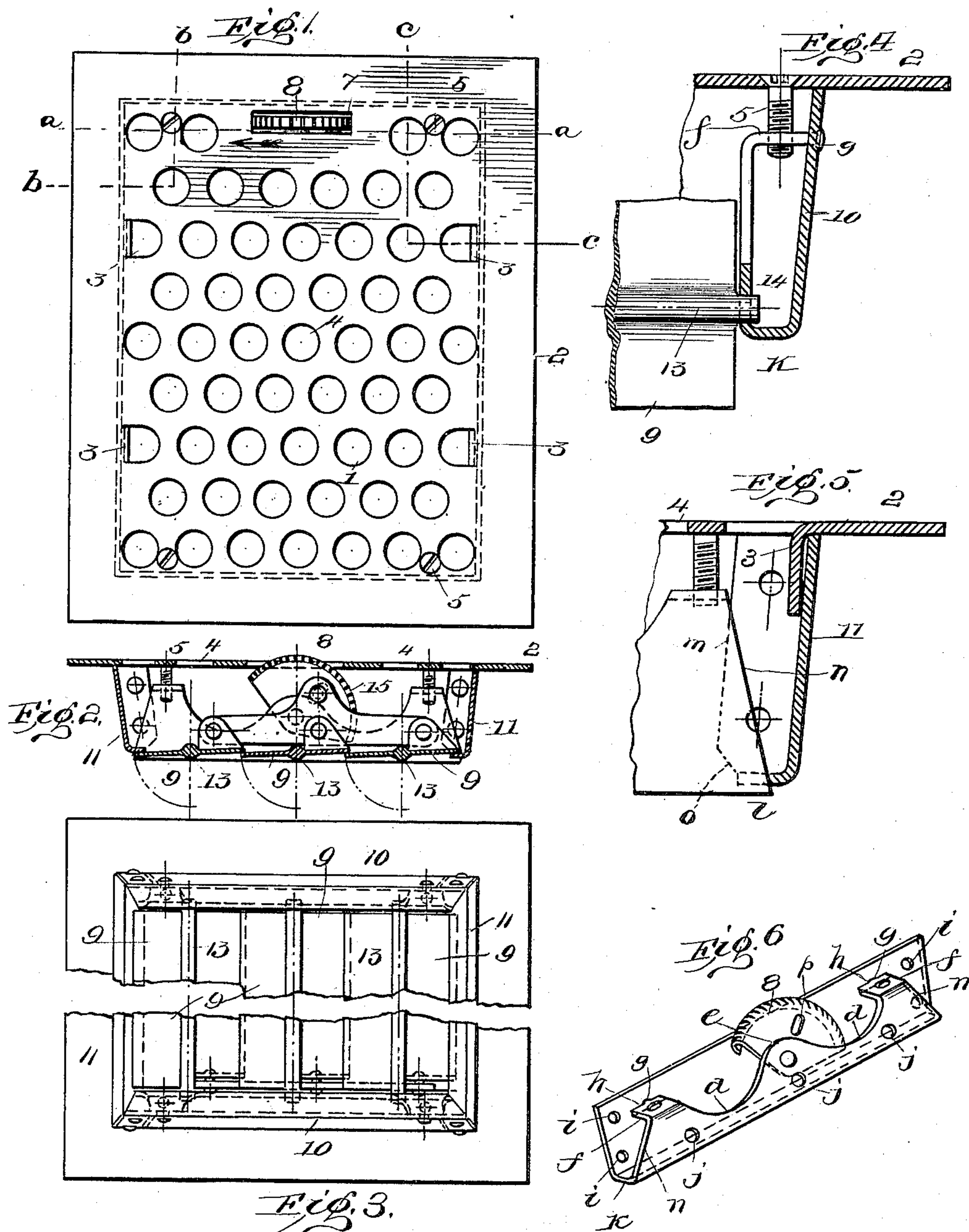
No. 652,576.

Patented June 26, 1900.

C. E. & A. R. WOLF.  
HOT AIR REGISTER.

(Application filed Mar. 13, 1900.)

(No Model.)



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES E. WOLF AND ADAM R. WOLF, OF ALTOONA, PENNSYLVANIA.

## HOT-AIR REGISTER.

SPECIFICATION forming part of Letters Patent No. 652,576, dated June 26, 1900.

Application filed March 13, 1900. Serial No. 8,522. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES E. WOLF and ADAM R. WOLF, citizens of the United States, residing at Altoona, in the county of Blair and State of Pennsylvania, have invented certain new and useful Improvements in Hot-Air Registers; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to hot-air registers, and has for its object to simplify the construction and arrangement of the parts of such registers and provide a device in which broken or worn parts may be readily and easily replaced at comparatively little expense; and it consists of the parts and combinations of parts hereinafter described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a front elevation of our improved register; Fig. 2, a cross-section on the line *a a*, Fig. 1; Fig. 3, a rear elevation with middle portion removed; Fig. 4, an enlarged detail section on the line *b b*, Fig. 1; Fig. 5, an enlarged detail section on the line *c c*, Fig. 1; and Fig. 6, a perspective view of one of the pieces of the register-frame detached.

Similar numerals and letters refer to similar parts throughout all the views.

Referring to the drawings, the numeral 2 represents the face-plate of our hot-air register, which is made of a single piece of sheet metal stamped or otherwise formed with the backwardly-extending clips 3 at each side, which form guides to insure the proper and easy placing of the same on the frame and to assist in preventing any lateral movement of the face-plate.

The face-plate is formed with any desired number of openings 4, which may be round or of any other desired shape, for the passage of the heated air, and at each end perforations are formed to receive the screws or bolts 5, which secure the face-plate to the frame. At one end of the face-plate an elongated slot 7 is formed, through which the milled edge of a segment 8 projects for operating the shutters 9, as will be hereinafter described.

The frame of the register is formed of two end pieces 10 and two side pieces 11, bolted

or riveted together. The end pieces are each made from a single piece or plate of metal having the edge of one of its longer sides scalloped, as at *d*, so as to provide the central projecting portion *e* and the projecting ends *f*, the latter being reduced to form rivets 9 and the shoulders *h*. At the ends of the plates or pieces 10 perforations *i* are formed, and at proper intervals perforations *j* are formed in the body of the plates or pieces 10 and also in the projecting ends *f*. The end plates or pieces 10 are first bent at right angles, as at *k*, and then the scalloped sides are bent upwardly to form an approximately U-shaped trough, as best shown in Fig. 6. The projecting ends *f* of the plate are then bent at right angles, and the rivets *g* thereon are inserted in suitable perforations therefor formed in the body of the plate and expanded or headed over to secure the parts firmly together. The segment 8 is arranged in one of the end pieces 10 of the frame and journaled or pivoted between the projection *e* and the body of said end piece or plate, so as to have a limited movement or oscillation on its pivot in the trough. The side pieces 11 are also formed from a single sheet or plate of metal bent along one edge or side at right angles to form a flange, as at *l*, and having its ends bent inwardly or at right angles, as at *m*, and said ends being perforated to correspond with the perforations *i* of the end plates or pieces 10. The ends of the plates 10 are cut off at an angle, as at *o*, in order to provide for the easy bolting or riveting together of the two parts. The shutters 9 are made of wrought-steel, having a central longitudinal bead 13 to increase their strength and formed with the trunnions 14 at each end, which are fitted in the openings or perforations *j*, so as to turn freely therein.

The segment 8 is formed from a single blank of sector shape having its periphery bent over and milled and formed with a slot *p*, into which a pin secured in a central projection of a governing-bar 16 extends. The bar 16 is also connected to the shutters 9 at its ends and midway its length by pins 17, which enter perforations formed on lugs 18, projecting from said shutters, whereby the oscillation of the segment 8 throws the bar back or forth to open or close the shutters.



It will be observed that the frame of the register consists of but four parts all readily securable together and that the end pieces may be quickly replaced in case of wear of the openings in which the shutters are pivoted and that a broken or worn shutter may also be quickly replaced. It will also be noted that the bent edges or flanges of the side pieces serve as stops for the shutters and limit their throw in closing the register and make a tight joint with the shutters when closed, so as to more effectually prevent the escape of the heated air.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The hereinbefore-described end plate for hot-air-register frames consisting of a single piece or plate of metal bent trough-shaped and having one edge scalloped and the projecting ends of said scalloped side being bent at right angles and reduced to form rivets.

2. In a hot-air register a frame consisting of end pieces or plates bent to a trough shape and having one edge scalloped and the projecting ends bent at right angles and reduced to form rivets, side pieces or plates having one longitudinal edge and the ends bent at right angles, and means for securing said end and side pieces together.

3. In a hot-air register a frame comprising end pieces bent to a trough shape the two walls of said end pieces being secured together, and the side pieces having their ends bent at right angles and secured to said end pieces.

4. In a hot-air register, the combination with the frame comprising the end pieces bent to a trough shape and having their walls

secured together, and the side pieces having their ends bent at right angles and secured to said end pieces, of the shutters journaled in said end pieces, and means for operating said shutters.

5. In a hot-air register, the combination, with a frame comprising the end pieces bent to a trough shape and formed with right-angled perforated ends, side pieces having flanges at right angles, and right-angled ends, a face-plate having perforations corresponding to said perforated ends, and bolts for securing said plate to said ends.

6. The combination, in a hot-air register, with a face-plate having guiding-clips struck or stamped therein at intervals adjacent to its side edges and bent at right angles, of a frame comprising side and end pieces, the latter being bent upwardly and at right angles to form lugs to receive fastening screw-bolts to secure the face-plate and frame together.

7. The combination in a hot-air register, of the trough-shaped end pieces, the side pieces secured thereto, a face-plate having an elongated slot formed therein secured to said end pieces, a segment pivoted in one of the end pieces and extending into said slot, a series of shutters journaled in the end pieces, and a governing-rod connecting said shutters and the segment.

In testimony whereof we affix our signatures in presence of two witnesses.

CHARLES E. WOLF.  
ADAM R. WOLF.

Witnesses:

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