

(No Model.)

A. C. TUTTLE.  
HOT AIR REGISTER.

No. 333,089.

Patented Dec. 22, 1885.

Fig. 1.

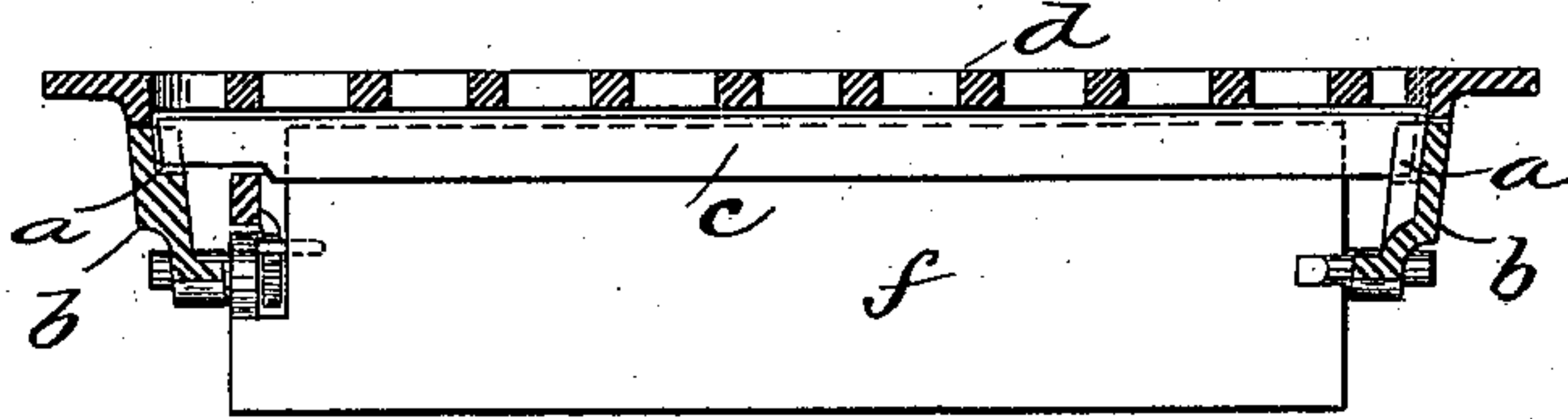


Fig. 2.

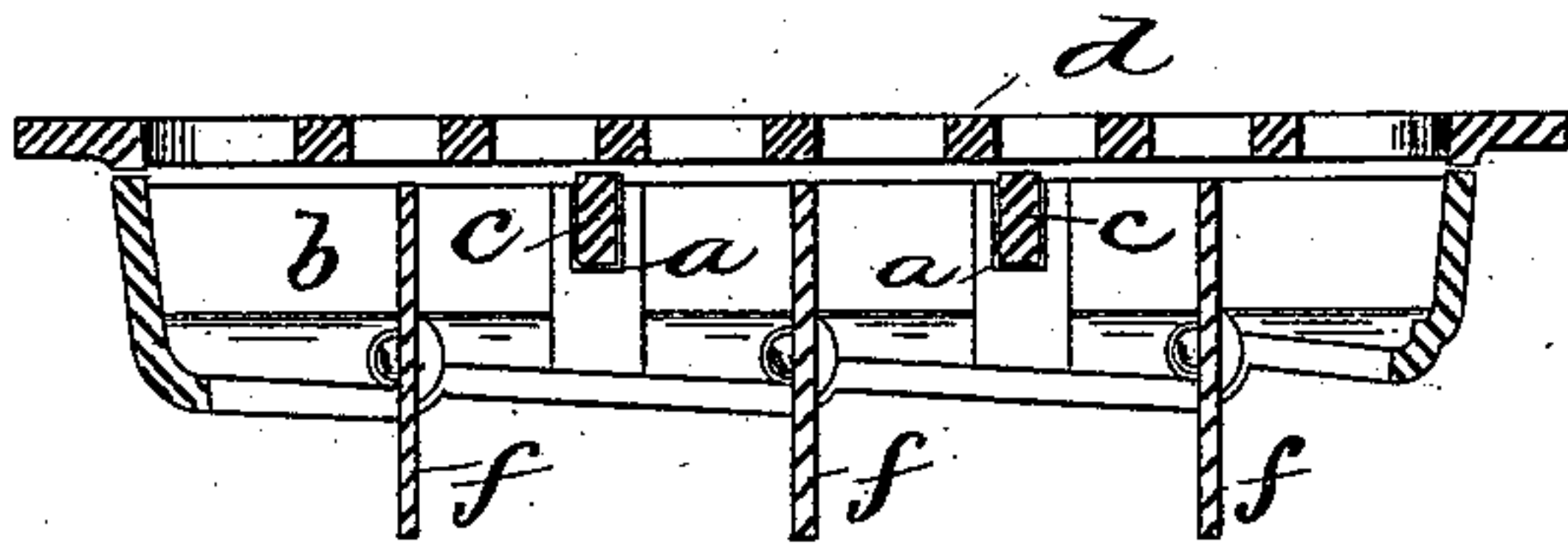


Fig. 3.

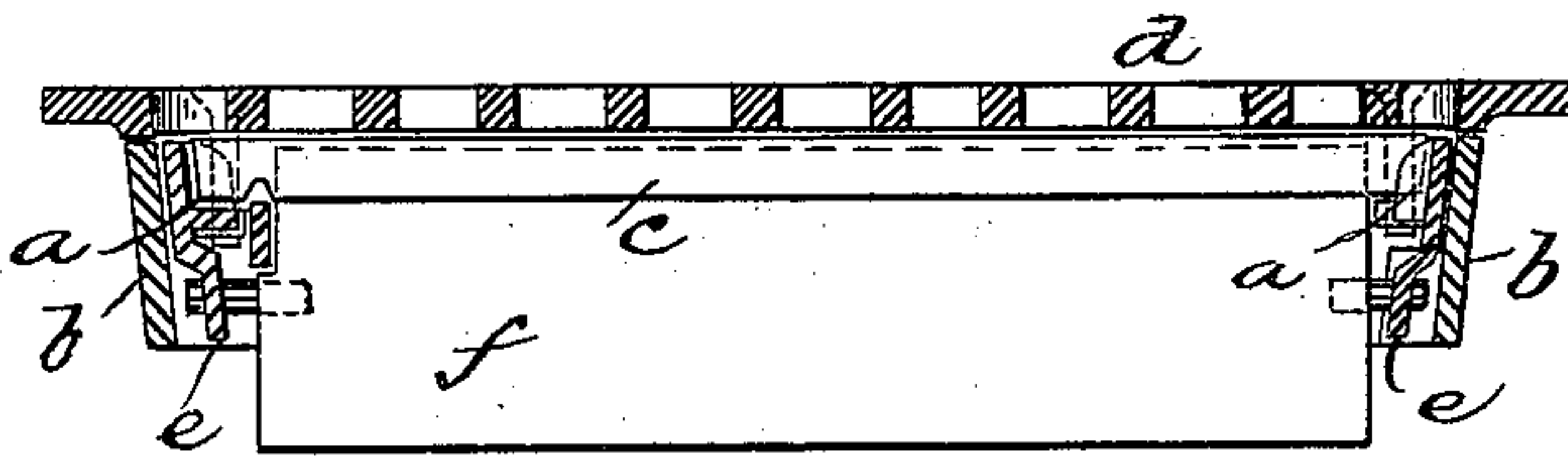
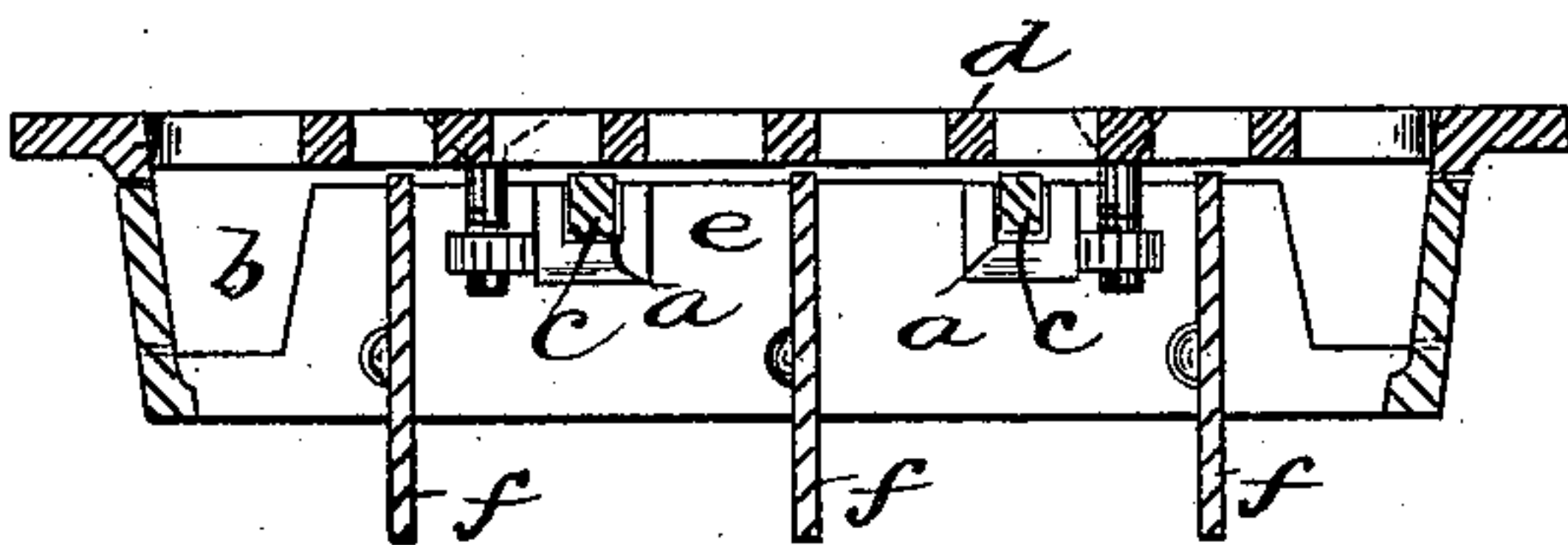


Fig. 4.



WITNESSES:

INVENTOR=

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# UNITED STATES PATENT OFFICE.

ARTHUR C. TUTTLE, OF NEW YORK, N. Y., ASSIGNOR TO THE TUTTLE & BAILEY MANUFACTURING COMPANY, OF SAME PLACE.

## HOT-AIR REGISTER.

SPECIFICATION forming part of Letters Patent No. 333,089, dated December 22, 1885.

Application filed May 14, 1885. Serial No. 165,545. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR C. TUTTLE, a citizen of the United States, residing at New York city, in the county and State of New York, have invented new and useful Improvements in Hot-Air Registers, of which the following is a specification.

My invention is an improvement in the construction of hot-air registers and ventilators; and it consists of an inexpensive and efficacious method of strengthening them by adding separate strengthening or re-enforcing bars placed within the body of the register and supporting the top plate or open fret-work, as hereinafter more fully described, reference being made to the accompanying drawings, in which—

Figure 1 is a longitudinal section of a register constructed according to my invention. Fig. 2 is a transverse section of the same. Fig. 3 is a longitudinal section of a register differing somewhat from the other in construction, and showing the application of the improvement to it. Fig. 4 is a transverse section of the register as represented in Fig. 3.

Registers when placed in the floor require very much greater strength in the fret-work top plate than those places in the side walls or ceilings. By this improvement a uniform pattern may be used for both floor and wall, and of only such strength as is required for the side wall. Furthermore, patterns or designs of the top plate, although sufficiently strong when made of cast-iron, are not adequate to meet the strain upon them when made of the softer metals—such as brass or bronze—when used for floor-registers.

For this class of registers, also, my invention enables me to use uniform designs, and they may be as light, open, and artistic in these more expensive metals without endangering the strength as if made of cast-iron. The re-enforcing bars may also be made of the cheaper metal.

The body of the register, with its fans and operating device, may be made after any of the usual methods.

In my improvement, parallel with the fans *f* of the register, I place the re-enforcing bars *c*, supported at their ends against the side of the frame *b*. The bars are made laterally

thin and vertically deep, to obtain greatest strength with least obstruction to the air passing through the register. They are placed between the arcs of the circles described by the fans, so as not to interfere with their opening and closing. The upper edge of these bars is in contact with the lower surface of the open fret-work *d*, so that any weight placed upon the face of the register is supported directly by these re-enforcing bars. The ends of these bars rest in sockets or recesses *a*, of size and shape corresponding to the ends of the bars, and cast integral with the register-frame or in plates attached to the frame. These sockets or recesses are preferably made with the upper end open, that the re-enforcing bars may be readily inserted or removed by simply removing the top plate or fret-work, and are sufficiently secured in place by replacing the top plate.

Registers may be constructed with seats or rests for bars *c*, with no more expense than without them, and said seats do not in the least interfere with the use of the register without the supporting-bars, so that registers made in this manner serve either with or without the bars, it only being necessary to place the bars in their seats when they are required.

What I claim, and desire to secure by Letters Patent, is—

1. The improvement in hot-air registers consisting of the combination of the re-enforcing bars *c* with frame-plates or attached plates having end-bearing seats or rests *a*, molded or cast therein, and being adapted to enable the re-enforcing bars *c* to be inserted from the top of the frame when the top plate, *d*, is removed, substantially as described.

2. The improvement in hot-air registers consisting of the combination of the frame having end-bearing seats or rests *a*, the insertible re-enforcing bars *c*, and the face-plate of the register, said plate securing said bars, substantially as described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ARTHUR C. TUTTLE.

Witnesses:

W. J. MORGAN,  
L. H. MORGAN.