

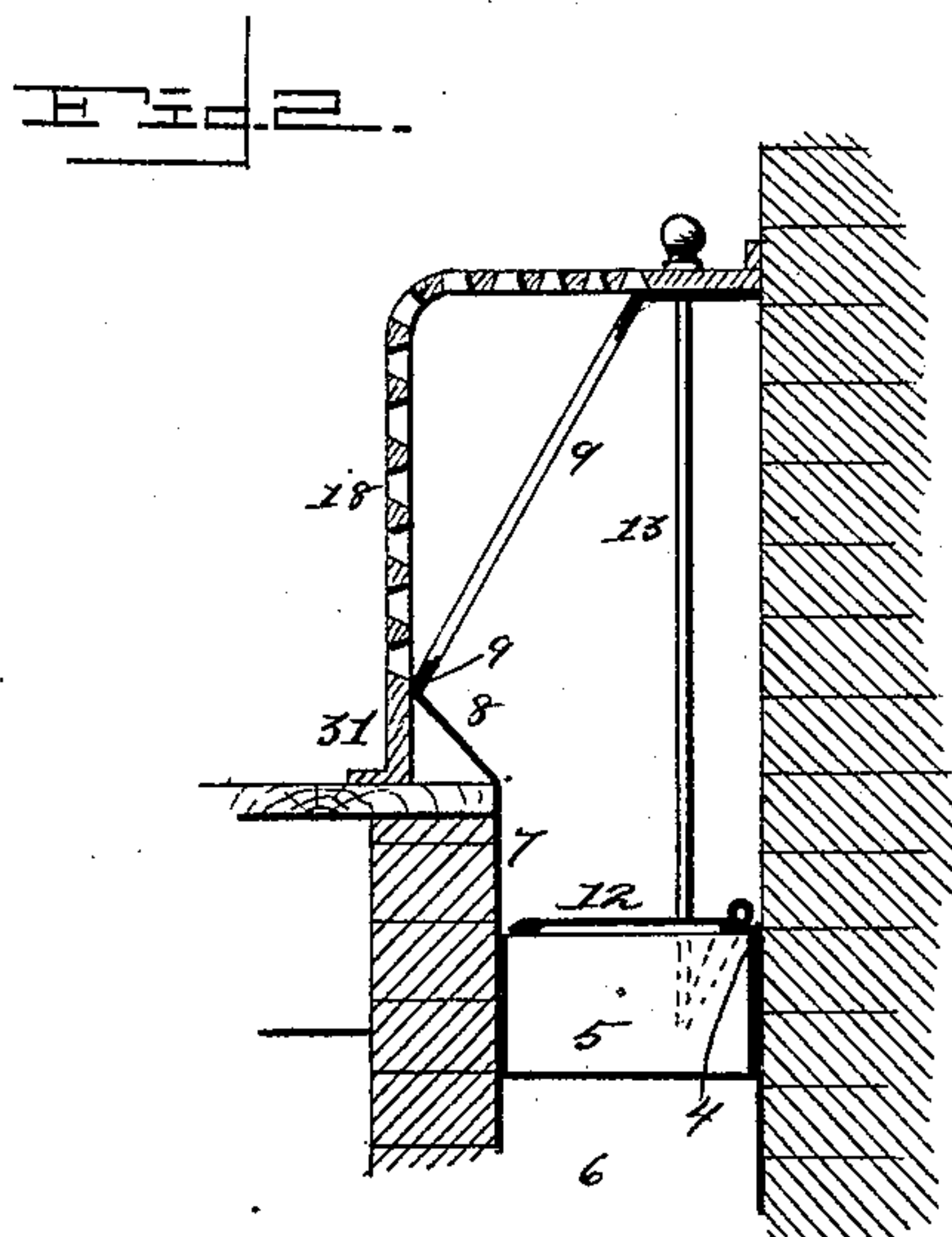
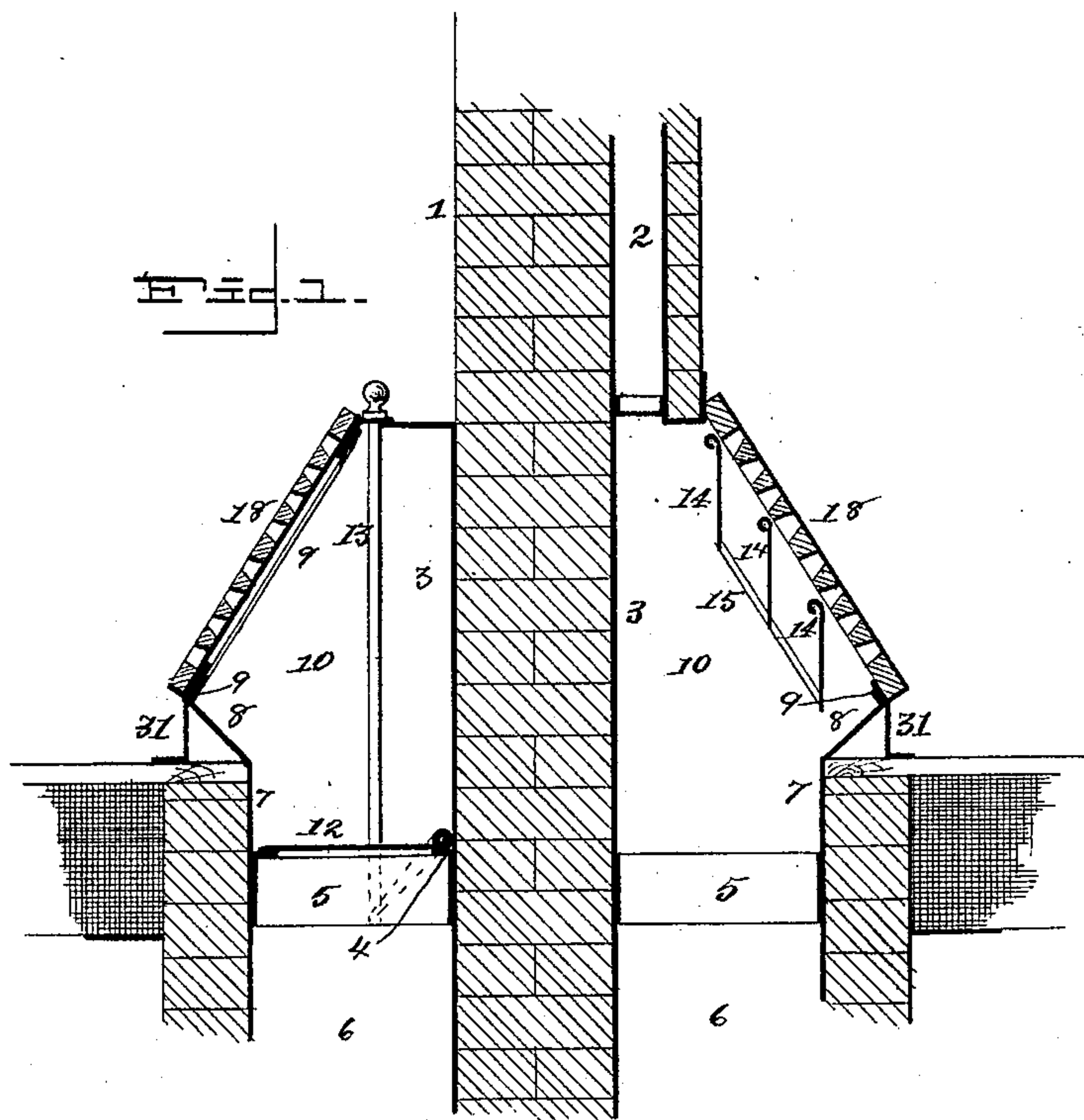
(No Model.)

2 Sheets—Sheet 1.

C. S. HOOD.
SIDE WALL HOT AIR REGISTER.

No. 405,092.

Patented June 11, 1889.



WITNESSES
Matter H. Humphrey.
Howell Bartle.

INVENTOR
Cyrus S. Hood
By Johnson and Johnson
his Attorneys

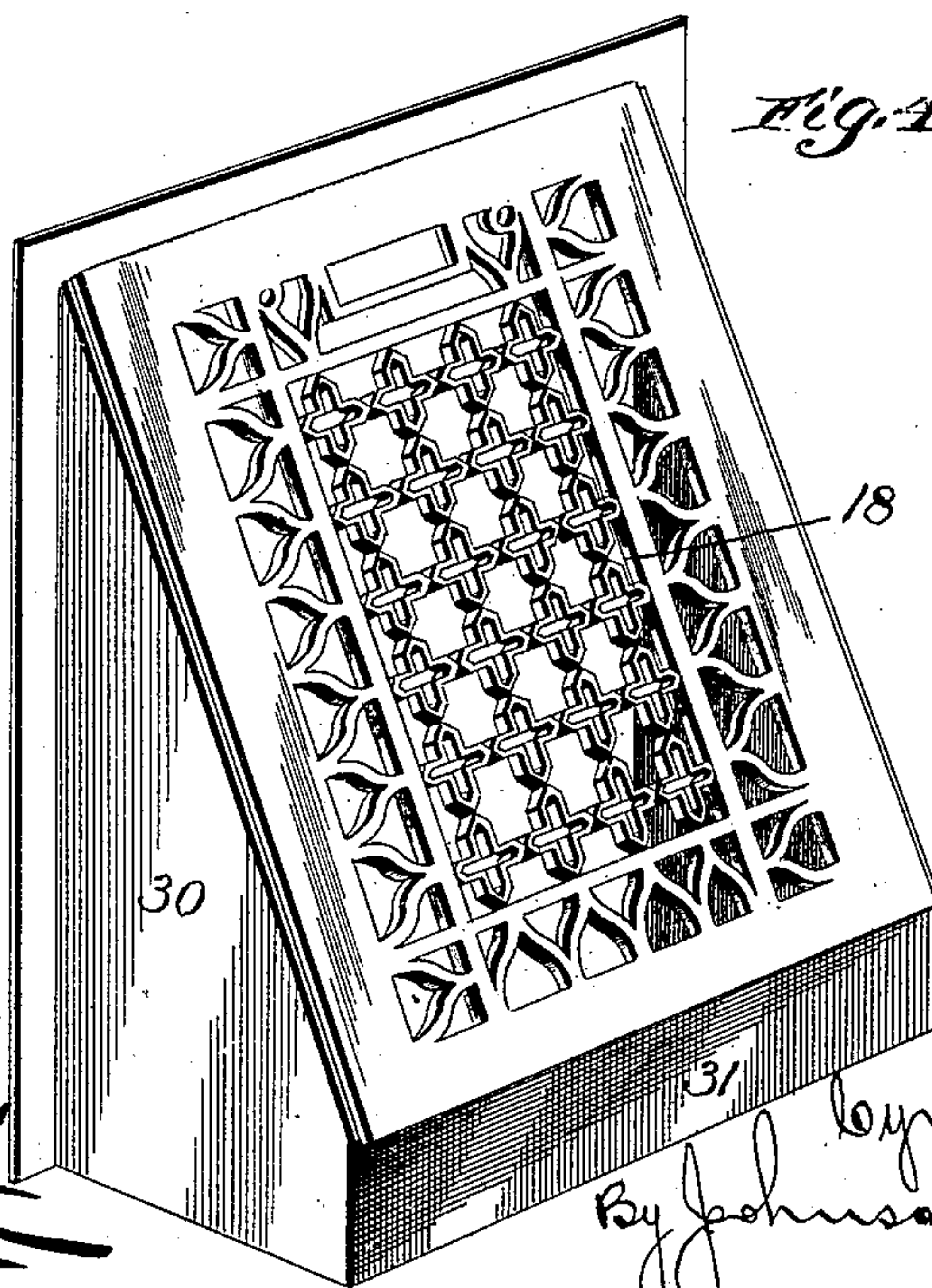
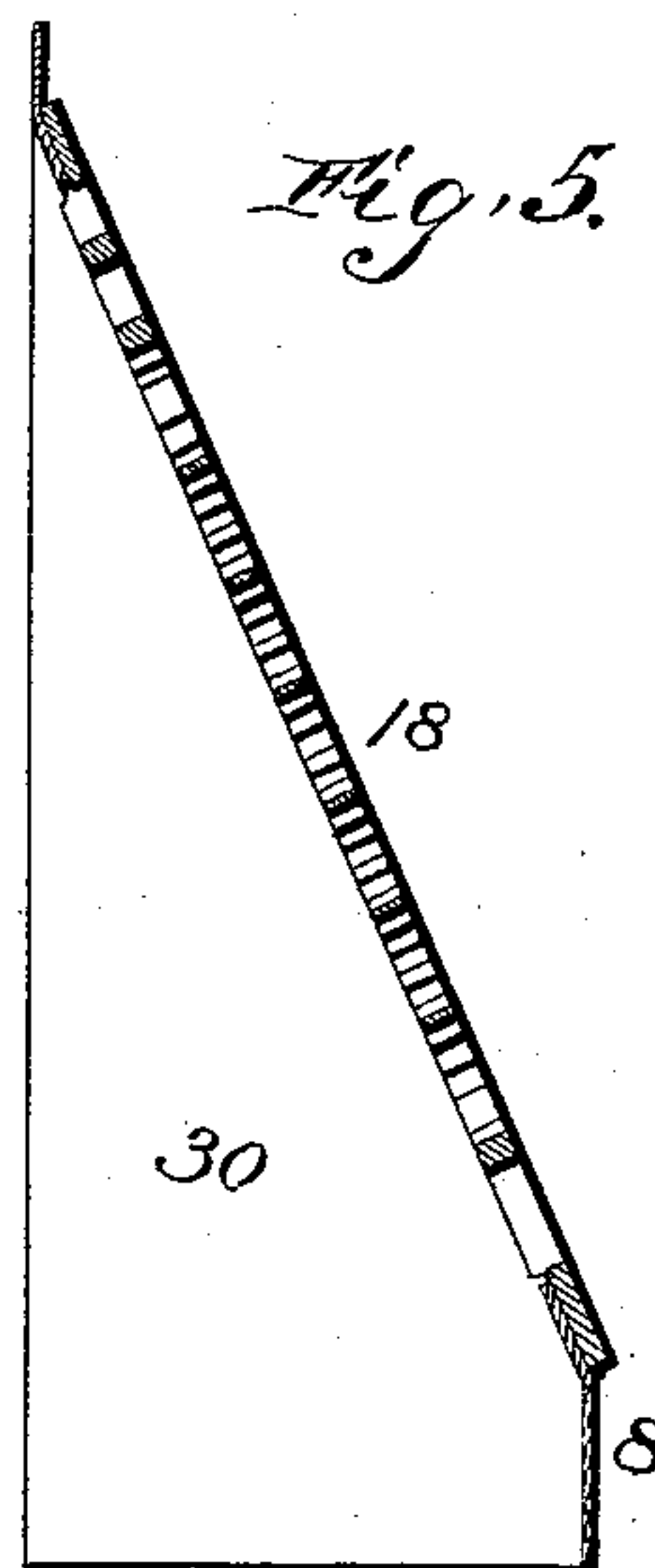
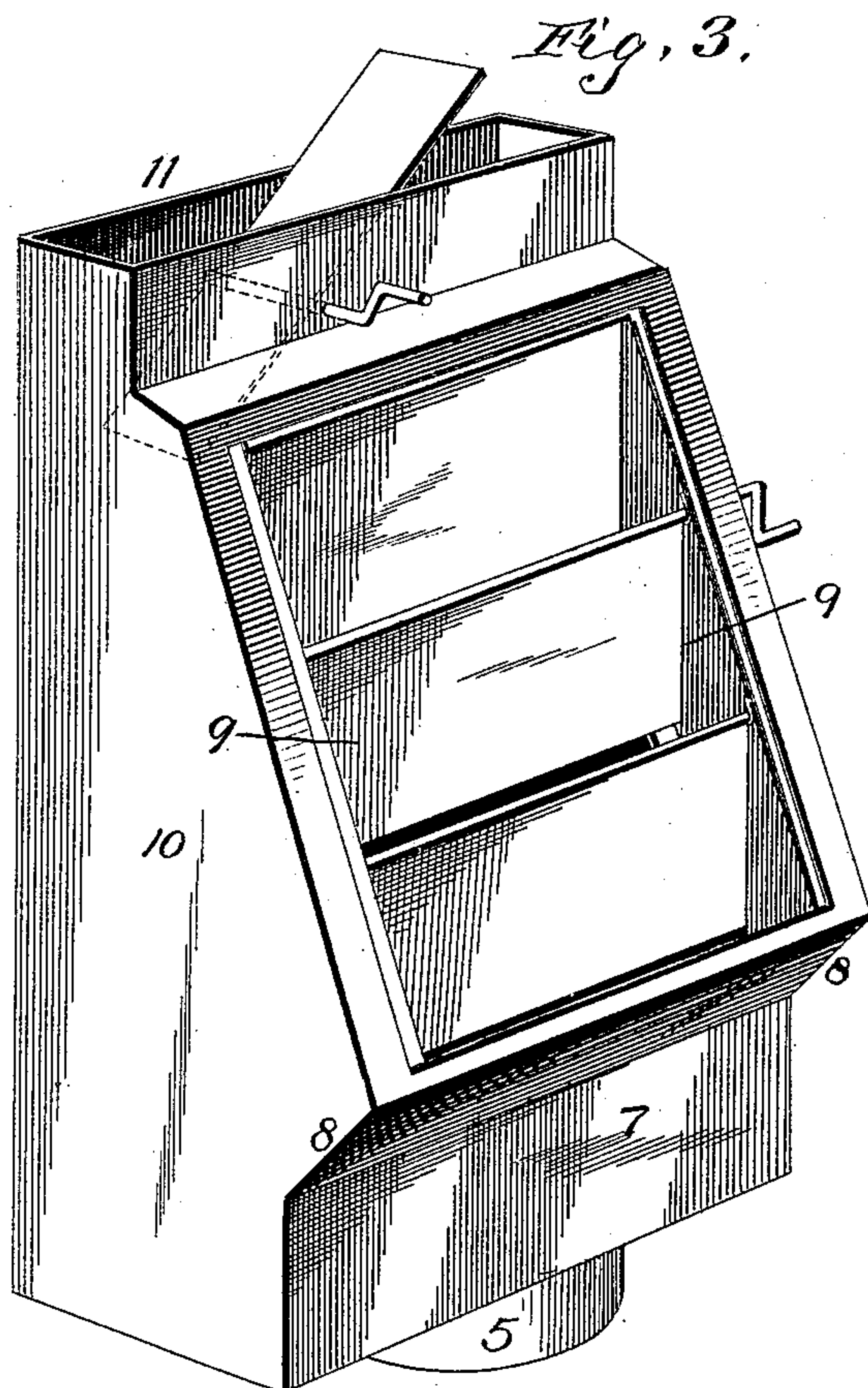
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WITNESSES
Walter H. Humphrey
Howell Zantle

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His Attorneys

UNITED STATES PATENT OFFICE.

CYRUS S. HOOD, OF CORNING, NEW YORK.

SIDE-WALL HOT-AIR REGISTER.

SPECIFICATION forming part of Letters Patent No. 405,092, dated June 11, 1889.

Application filed November 7, 1887. Serial No. 254,508. (No model.)

To all whom it may concern:

Be it known that I, CYRUS S. HOOD, a citizen of the United States, residing at Corning, in the county of Steuben and State of New York, have invented new and useful Improvements in Side-Wall Hot-Air Registers, of which the following is a specification.

This invention relates to hot-air registers which receive a current of heated air from a suitable furnace or stove placed in a story below the story or stories to be heated.

The invention contemplates certain improvements in such hot-air register by means of which the heated air may be properly deflected out into the room to be heated by placing the register-plate upon the face of a box or casing having the hot-air flue entering it at its bottom and projecting from the wall, and in which the outflow of the heated air may be governed.

My improvements give the advantage of a larger volume of hot air from the register than is possible with such registers now in use. This advantage is obtained by constructing the flue box or casing with an overhanging or projecting open front standing out from the wall, its open face inclining from near the floor toward the wall and terminating in an under inclined flange part joining the flue at the floor, whereby the flue-space at the register-plate is increased in area to increase the volume of hot air issuing into the room and to give a direct course from the flue through the register-plate, so that the hot air will emerge with its full velocity from the furnace-flue into the room.

The register-plate is constructed with the open face, as usual, but is made with closed sides and a front foot part to entirely envelop the projecting open front casing or box part, its sides, and under inclined foot part, and to rest upon the floor and form a finish at the wall.

These improvements will be more fully explained in the following description, and will be illustrated in the accompanying drawings, in which—

Figure 1 is a vertical sectional view of a wall or partition of a building extending through the floor and provided with the improved register, one at each side of the par-

tion, the casing to the right side of the partition being shown partly placed within the latter, while the casing at the left side of the partition is shown projecting entirely from the face of the same. Fig. 2 is a similar view of the partition, showing a slightly-modified form of casing register-plate at the floor-opening. Fig. 3 is the flue box or casing, showing its open overhanging or projecting front. Fig. 4 is the register-plate, which envelops the projecting flue-box part and rests upon the floor. Fig. 5 is a vertical section of the same.

Similar numerals of reference indicate corresponding parts in the figures.

In the accompanying drawings, the numeral 1 indicates the partition, which is formed with a flue 2 extending from the lower floor.

It will be understood that the register may be used at the end of a hot-air flue, as well as at intermediate points of a flue extending through more than one story.

The casing of the register consists of a vertical back plate 3, secured at the lower edge to the rear edge of the bottom plate 4, which is formed with a downwardly-extending neck or flue 5, secured in the upper end of the hot-air-supplying flue 6. A narrow vertical flange 7 projects upward from the forward edge of the bottom plate, and the upper edge of this flange has an outwardly-inclined flange 8 extending from it, the inclined front projecting frame 9 being secured with its lower edge to the upper edge of this flange. These flanges may be made in one piece or may be secured to each other in any suitable manner, all the parts of the casing being preferably made of sheet metal.

The side pieces 10 of the casing are formed to correspond in shape to the outline formed by the inclined front projecting frame and the inclined and vertical flanges. The upper end of the casing is formed into a neck or flue 11 of the same width as the casing.

The damper or valve 12 is hinged at its rear edge in the rear of the bottom of casing covering the downwardly-extending flue, and this valve or damper has suitable pivots journaled in the sides of the casing and a handle 13, by means of which it may be tilted up or down, opening or closing the flue and admitting hot air into the casing or excluding it from the

same. Dampers or valves 14 are hinged to the inner side of the front frame of the casing, opening inward and closing the entire front aperture when tilted outward, and these
 5 valves or dampers are connected by means of a connecting-rod 15, pivoted to the corners, so that they may all be simultaneously opened or closed, one of the valves or dampers having a shaft extending through the side of the casing and provided with a suitable outside handle,
 10 by means of which it may be tilted and the other dampers with it.

When the bottom damper is used, the dampers upon the front frame may be dispensed with, and vice versa, although both sets of dampers may be used in the same casing. The register-plate 18 is attached to the casing by means of two side flanges 30, which are secured to the side pieces of the casing, and
 20 this plate may either be secured to the rest in an inclined position upon the inclined front frame of the casing, as shown in Fig. 1, or it may be supported in a vertical position, as shown in Fig. 2 of the drawings.

25 The lower edge of the register is provided with a downwardly-extending vertical flange 31, which rests against the floor.

By having the forwardly-projecting portion of the casing formed by the outwardly-inclined flange of the front wall the casing may be made sufficiently projecting to throw a large quantity of heat out into the room, and at the same time it will not be necessary to cut away any considerable portion of the
 35 floor, and the space formed under the overhanging front of the casing will be protected from dirt and dust being swept into it by the flange at the lower edge of the register-plate, which likewise will serve to raise the said
 40 plate sufficiently above the floor to prevent dirt or dust being swept into it. It will be seen that by having the forward portion of the casing overhanging or projecting forward a large chamber will be formed in the
 45 hot-air flue, which will throw the heated air out into the room, thus preventing the loss of heat usual in registers flush with the walls, in which there is not sufficiently free outlet for the heated air, which will pass up through
 50 the flue and lose its heat instead of passing out through the register-plate.

That portion of the flue-casing which projects from or overhangs the wall is formed of two inclined parts joined nearly at right
 55 angles and both inclined toward the wall. The face part 9 is open, while the under flange part 8 joins the flue-entering part 7 at the floor, and this is the construction that enlarges the flue within the register-box and

gives the advantage stated. The under flange part allows the register-plate to stand back on an incline over the flue, and thus gives a direct and free outlet for the air, so that it enters the room in a direct course when the register is open.

65 The under flange part, inclined as stated, allows the box to be tilted in fitting it into the flue. The foot-flange 31 of the register-plate closes the space under the front casing-flange 8, so as to exclude dirt, and allows the
 70 carpet to be fitted around the projection.

I claim as my improvement—

1. A hot-air-register box or casing constructed with a projecting inclined open front 9, terminating in an under inclined flange
 75 part 8, joining the flue-neck 7, substantially as described, for the purpose stated.

2. In a hot-air register, the combination of the box or casing constructed with a projecting inclined open front 9, terminating in an
 80 under inclined flange part 8, joining the flue-neck 7, with a register-face having sides 30 and a front flange part 31, adapted to envelop the said projecting part of the box or casing and to rest upon the floor, substantially as
 85 described, for the purpose specified.

3. A register face-plate having an open front 18, terminating in a foot-flange 31, and having closed sides 30, adapted to fit over and envelop a register-box projecting front,
 90 substantially as described.

4. In a hot-air register, the box or casing constructed with a projecting inclined open front 9, terminating in an under inclined flange part 8, joining the flue-neck 7, in combination with a register-plate having an inclined face terminating in a closed flange 31 and having closed sides and adapted to envelop the projecting inclined open front of the box or casing, substantially as described.
 100

5. A hot-air-register box consisting of the casing 10, constructed with a projecting inclined open front 9, terminating in an under inclined flange part 8, a bottom neck or flue part 7, and a top neck or flue part 11, combined with a register face-plate having closed sides and a front flange adapted to envelop the projecting inclined open front of the box or casing and to rest upon the floor, substantially as described.
 105 110

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

CYRUS S. HOOD.

Witnesses:

GEORGE ESDEN,
 ED. HOOD.