

(No Model.)

E. A. EVERSMAN & D. WAGNER.  
FOOT BOX FOR FURNACES.

No. 562,596.

Patented June 23, 1896.

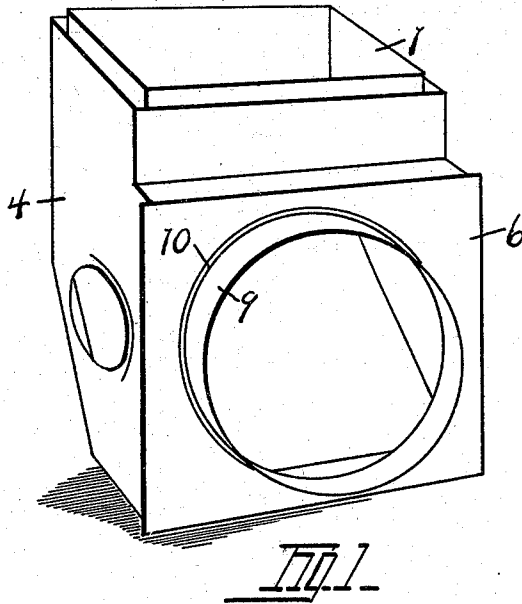


Fig. 2

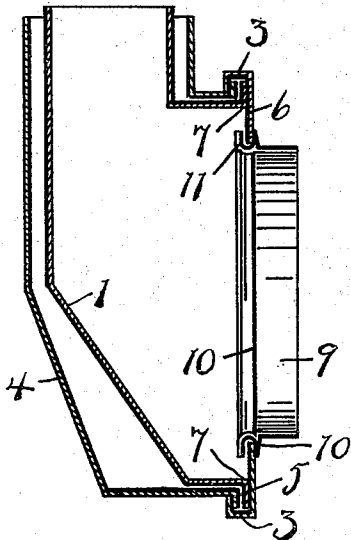
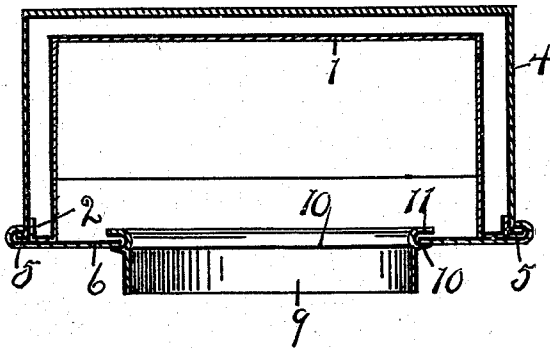


Fig. 3



WITNESSES

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INVENTORS

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*Att'y*

# UNITED STATES PATENT OFFICE.

ERNST A. EVERSMAN AND DANIEL WAGNER, OF TOLEDO, OHIO.

## FOOT-BOX FOR FURNACES.

SPECIFICATION forming part of Letters Patent No. 562,596, dated June 23, 1896.

Application filed May 13, 1895, Serial No. 549,107. (No model.)

*To all whom it may concern:*

Be it known that we, ERNST A. EVERSMAN and DANIEL WAGNER, of Toledo, county of Lucas, and State of Ohio, have invented certain new and useful Improvements in Foot-Boxes for Furnaces; and we do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

Our invention relates to a foot-box for furnace-pipe, and has for its object to render the construction of greater strength and rigidity than heretofore and to greatly cheapen the manufacture.

One feature of the invention pertains to the general construction of the box in which the two sections are joined by the cap-plate and to the novel construction of the sections held the proper distance apart to insure the desired circulation of air between the same without the use of supplemental stays, this construction being accomplished by the structural arrangement of the parts, whereby strength and uniformity are insured with less expense than heretofore.

Another feature is to the joinder of the hot-air pipe from the furnace and relates to the attachment of the collar to the foot-box, this joinder being accomplished by means of the construction of the collar and dispenses with the manual labor of double-seaming the parts together.

In the drawings, Figure 1 is an elevation of the foot-box, showing the face-plate secured upon the box-sections and the collar seamed in the face-plate. Fig. 2 is a central vertical section of the foot-box and collar. Fig. 3 is a horizontal section of the foot-box and collar.

1 designates the inner section of the foot-box, formed upon the front edge with a rectangular return-bend 2 upon the two vertical sides of the width it is desired to separate the sections, and serves the purpose of a rigid stay when the sections are joined.

The two horizontal edges of the section 1

are bent at right angles to receive the seamed horizontal edges or lock 3 of the face-plate, thereby holding the rear side of section 1 the proper distance from the outer section to form an air-space.

The outer section 4 is formed of the proper size and contour and has a flange 5 at right angles to all four sides. The face-plate 6 is turned upon all four sides to form a lock 3, which embraces the flanges 5 upon the outer section 4 and the two horizontal flanges 7 of the section 1, thereby holding the two sections closely assembled in their proper relative positions. Face-plate 6 is formed with a central orifice in which is secured a collar 9 for the reception of the pipe leading from the furnace.

Another feature of valuable novelty is the means employed in securing the collar in the face-plate, whereby the ordinary form of double seaming is dispensed with and a more perfect and finished joinder is effected at considerably less expense.

The collar 9 is formed with a bead 10 near the inner end or a sufficient distance from the end to allow for the thickness of the face-plate, and a flange 11, which is formed by flanging the metal of the pipe upon the face-plate after the end of the pipe is passed into the orifice 8 of the face-plate with the bead abutting against the outer side of the wall of the orifice 8. By this means the pipe is firmly secured in the face-plate and a more rigid and finished union is made than by the usual method.

In assembling the parts, section 1 is inserted into section 4, the return-bends 2 of the vertical sides properly spacing the sections as the air-flue upon each side, and the right-angled edges of the horizontal sides of section 1 coinciding with those of section 4, whereby when the face-plate is in position the lock of the face-plate not only holds the sections firmly in place, but holds the section 1 properly spaced with relation to the rear side of section 4, providing for the proper flue-space at this point.

Heretofore in the manufacture of foot-boxes there have necessarily been employed two parallel plates at the front side, the inner

plate being secured to the inner section, and the face-plate to the outer section with the collar passing through both.

It will be seen that in the present construction, by reason of the continuation and flange of the inner section to coincide with the outer section, the face-plate having the marginal lock embraces the two flanges and holds the sections assembled, thereby dispensing with the inner plate of present manufacture, this inner plate being entirely unnecessary, as there is no contact of the front with combustible matter whatever. This construction therefore reduces the cost of manufacture in this particular, the expense of the inner plate, and also the labor incident to formation and the labor of securing the same together.

What we claim is—

1. In a foot-box for furnace-pipes, an inner section having an outward-projecting return-bend flange, an outer section abutting against

the said flange and forming an air-space between the two sections, and a face-plate for holding the two sections assembled.

2. In a foot-box for furnace-pipes, an inner section having an outward-projecting return-bend flange, an outer section abutting against the said flange and having an outturned flange, a face-plate having a central opening, and an outturned flange embracing and holding the flange of the outer section, and a collar held within the said opening by having the inner end upset about the walls of the opening.

In testimony that we claim the foregoing as our own we hereby affix our signatures in presence of two witnesses.

ERNST A. EVERSMAN.  
DANIEL WAGNER.

Witnesses:

WILLIAM WEBSTER,  
PETER J. MEULER.