June 10, 1930. H. BEESE 1,762,951

DRUM FOR FURNACES

Filed Dec. 10, 1928

Fig. 1

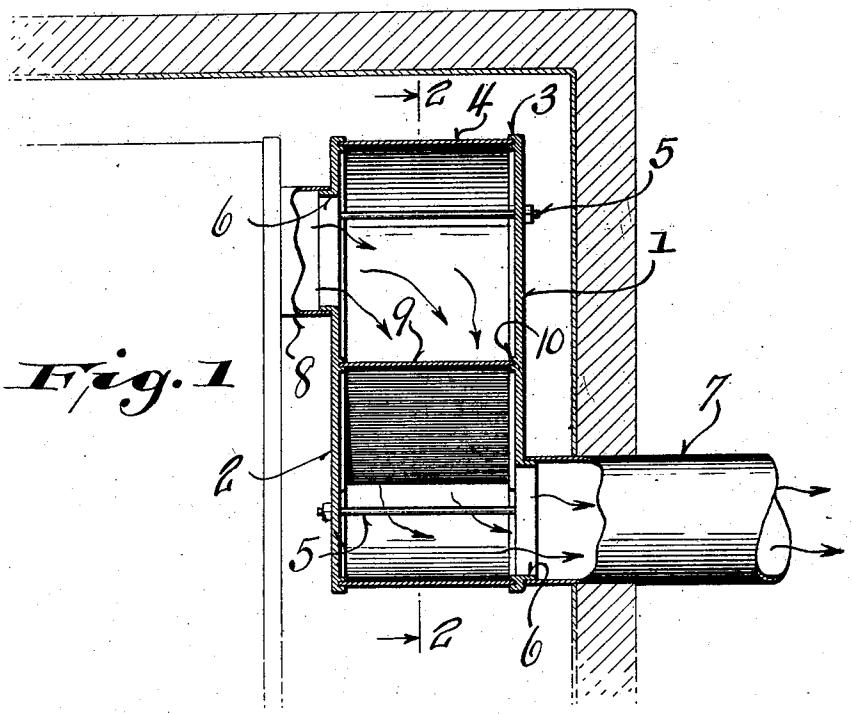
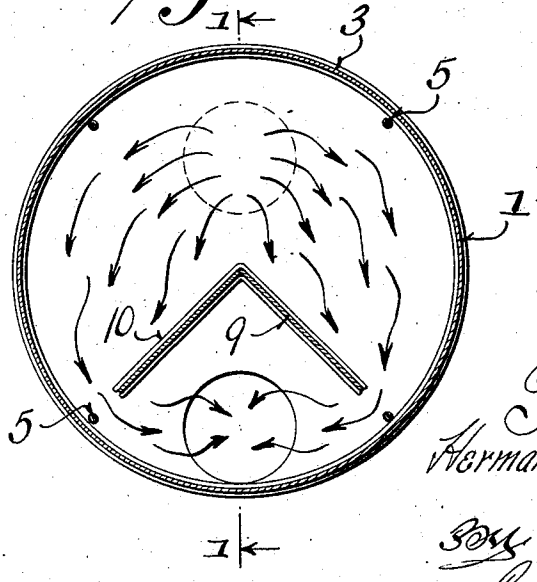


Fig. 2



Inventor:
Herman Beese
By
Attorneys:

Patented June 10, 1930 1,762,951

UNITED STATES PATENT OFFICE

HERMAN BEESE, OF WAUSAU, WISCONSIN, ASSIGNOR TO RIBSIDE FURNACE COMPANY, OF WAUSAU, WISCONSIN

DRUM FOR FURNACES

Application filed December 10, 1928. Serial No. 325,046.

This invention relates to drums for furnaces.

Objects of the invention are to provide a novel form of drum adapted to receive the products of combustion from a furnace and to cause the gases to distribute themselves and sweep around the peripheral portion of the drum and discharge therefrom into the smoke pipe, after a very liberal amount of heat has been extracted from the gases.

Further objects are to provide a drum which is adapted to be enclosed within the outer shell of a hot-air furnace, and which is so constructed that end cast steel plates receive between them a sheet steel peripheral or cylindrical portion; means being provided for securing a gas-tight joint between the sheet metal and the casting, such means being adjustable exteriorly of the drum.

Further objects are to provide a baffle carried by the heads and held directly between the heads, in a manner similar to the manner employed for holding the sheet metal cylindrical portion, such baffle serving to retard the flow of gases and give sufficient time for an effective extraction of heat therefrom and also serving to distribute the flowing gases and cause them to sweep around the interior cylindrical portion of the drum.

An embodiment of the invention is shown in the accompanying drawings, in which:

Figure 1 shows the drum attached to the furnace, such view being a section on a line 1—1 of Figure 2.

Figure 2 is a sectional view taken on a line 2—2 of Figure 1.

Referring to the drawings, it will be seen that the drum comprises a rear head 1 and a front head 2, formed preferably of cast steel and of circular contour. These heads are provided with inwardly projecting grooved flanges 3, which receive the marginal edges of a cylindrical sheet steel body portion 4. The heads are drawn towards each other by means of a plurality of bolts 5, provided with adjusting nuts on the outer sides of the heads. These bolts preferably extend through the drum and are located interiorly of the body portion or cylindrical shell 4. The heads may be duplicates and each is provided with an opening, surrounded by a projecting flange 6.

In assembling the parts, the openings are positioned at diametrical opposite points, as shown in Figure 1. One of these flanges receives the smoke pipe or flue pipe 7, and the other receives a short inlet pipe 8 leading from the furnace, as shown in Figure 1.

It is to be noted from Figure 2 that the incoming hot gases are caused to divide or distribute themselves as shown by the arrows in Figure 2, and to sweep around the interior of the drum in opposite directions, finally entering the flue pipe or smoke pipe.

The distribution of the gases within the drum is secured by means of an inverted V-shaped baffle 9, formed of sheet steel and held between correspondingly shaped grooved flanges 10, formed in the front and rear plates.

Further, it is to be seen that the baffle plate and cylindrical body portion are held between the front and rear heads and that a single set of bolts is required for holding all of the parts together.

Further, it is to be noted that the tension of the bolts may be adjusted exteriorly of the drum with the utmost ease.

It is to be noted further that the drum affords extensive heating surface, both at its front and rear heads and at the cylindrical body portion.

It is to be noted also that the baffle acts somewhat to retard the outgoing gases, and this action is particularly desirable in oil-burning or gas-burning furnaces.

Although the invention has been described in considerable detail, such description is intended as illustrative rather than limiting, as the invention may be variously embodied and as the scope of such invention is to be determined as claimed.

I claim:

A drum for a furnace comprising circular end plates provided with circular grooves, a cylindrical sheet metal body portion having its edges seated within said grooves, bolts extending through said end plates for clamping said end plates to said body portion, one of said end plates having an inlet aperture above

its transverse center, the other of said plates having an outlet apertured below its transverse center, and an inverted V-shaped baffle plate located immediately above said outlet aperture and clamped between said end plates beneath the inlet aperture with its ends arranged in slight spaced relation with the body portion to form a restricted passage upon each side of the baffle plate.

In testimony that I claim the foregoing I have hereunto set my hand at Wausau, in the county of Marathon and State of Wisconsin.

HERMAN BEESE.