Aug. 25, 1925. 1,550,837

W. L. MUELLER

SWIVEL SUPPORT FOR OVEN BURNERS

Filed July 17, 1924 2 Sheets-Sheet 1

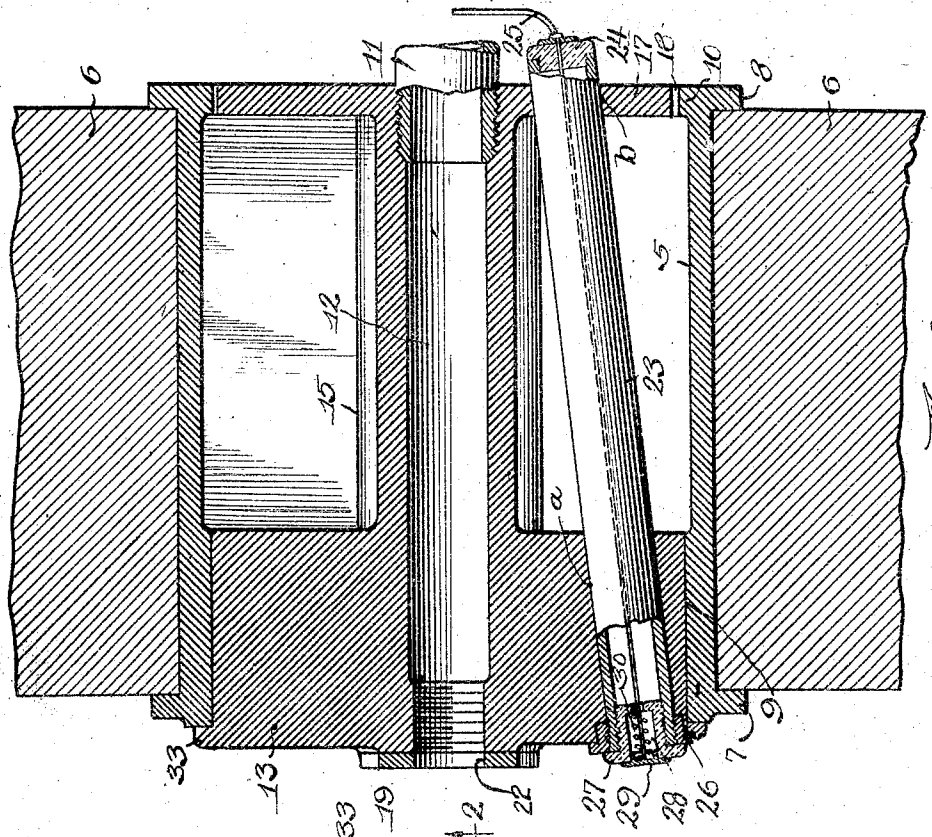


Fig. 2

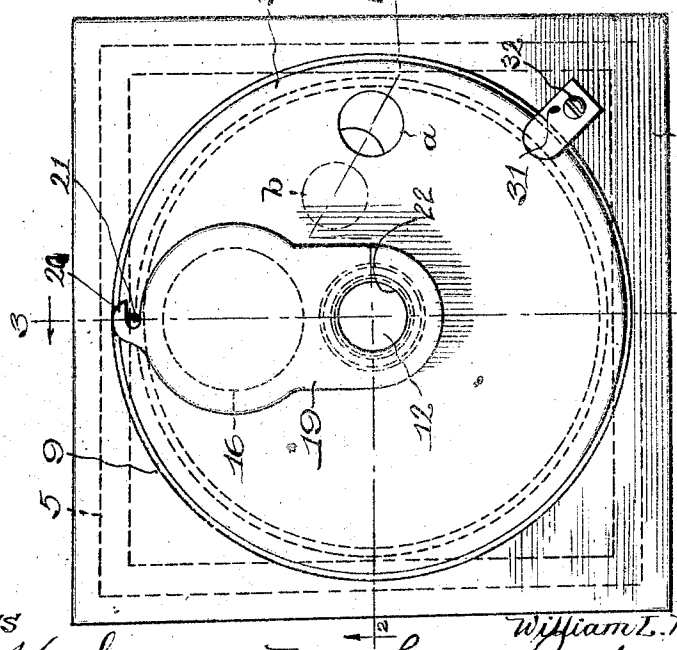


Fig. 1

Witness
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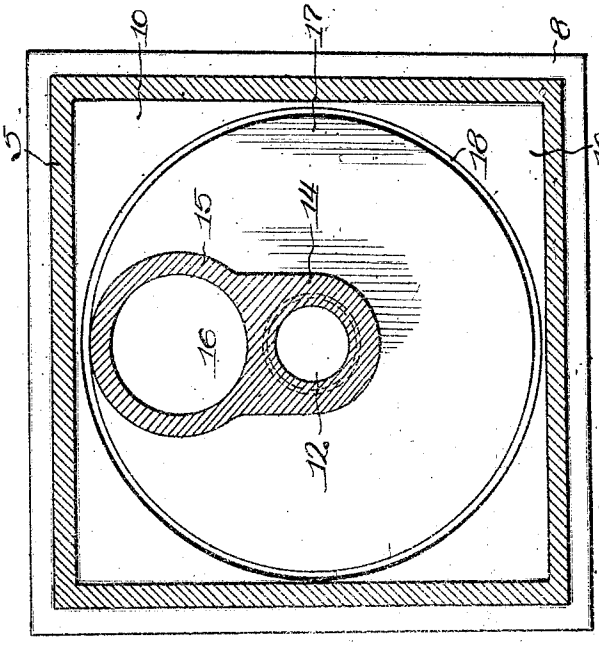


Fig. 4

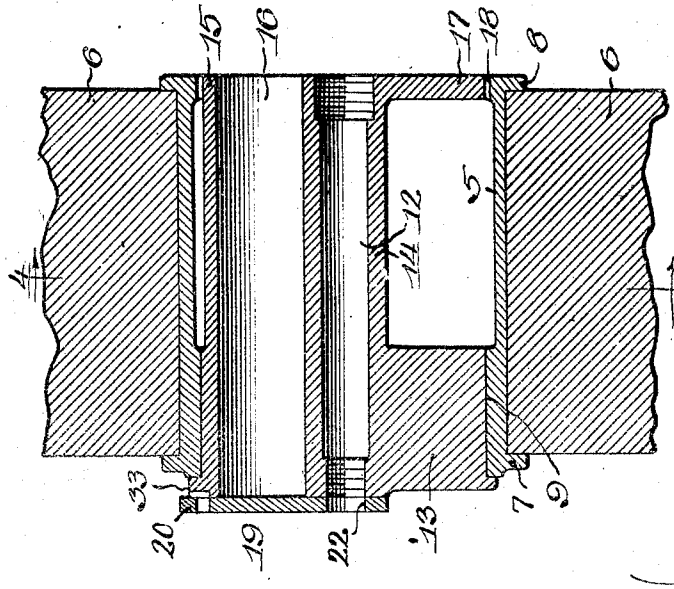


Fig. 3

Witness
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UNITED STATES PATENT OFFICE.

WILLIAM L. MUELLER, OF CHICAGO, ILLINOIS, ASSIGNOR TO WILLIAM F. PETERSEN, OF CHICAGO, ILLINOIS.

SWIVEL SUPPORT FOR OVEN BURNERS.

Application filed July 17, 1924. Serial No. 726,450.

To all whom it may concern:

Be it known that I, WILLIAM L. MUELLER, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in a Swivel Support for Oven Burners, of which the following is a full, clear, and exact description such as will enable others skilled in the art to make and use the same.

My invention relates to burners for bakers' ovens and has more particular reference to means for supporting a burner at one of its ends, which structure is removably mounted in the front wall of the oven.

One of the objects of my invention resides in providing a support to which the adjacent or forward end of the burner is connected and which is adapted to be mounted in the front wall of the oven, the construction and the assembly of the parts being such that the head may be rotated without changing the relation of the parts of the burner and associated structures with respect to each other. This will permit the jets of the burner tube (disclosed in my hereinafter referred to co-pending application) to discharge upwardly, or to one side, or downwardly, as desired. Another object of my invention resides in providing a dependable support that will permit of the use of an elongated burner that extends to the rear of the oven and is supported solely by the head thereof which is in the housing that is built in the front wall of the oven. Also, it will be seen that the burner and its associated parts including the viewing aperture, etc., are all assembled as a unitary structure, and may, as such, be readily removed from the oven. Further objects reside in providing a structure of the character above described that is novel in the arrangement of its parts, dependable in operation, comparatively economical to manufacture, and which, when installed, will provide a maximum of efficiency.

I prefer to carry out my invention and to accomplish the numerous objects thereof in substantially the manner hereinafter fully described and as more particularly pointed out in the claims, reference being had to the accompanying drawings that form a portion of this specification.

In the drawings:—

Figure 1 is a vertical front elevation of the head to which the burner pipe is secured and in which the head is mounted.

Fig. 2 is a substantially horizontal section taken on line 2—2 of Figure 1 and looking upwardly in the direction of the arrow.

Fig. 3 is a vertical longitudinal section taken on line 3—3 of Figure 1.

Fig. 4 is a transverse section taken on line 4—4 of Fig. 3 and looking in the direction of the arrows.

In the drawings I have employed similar reference characters to designate the same parts wherever the same occur throughout the several views. By referring to the drawings, it will be seen the structure preferably comprises a housing 5 that is preferably a metal casting of substantially rectangular cross-section, and it is of sufficient length to extend from the outside to the inside surfaces of the front wall 6 of the oven in which the same is inserted. Annular retaining flanges 7 and 8 are formed at the forward and rear ends respectively of this casting so as to insure its stability when installed in the oven wall 6, which latter is usually built around the same during the erection of the oven. Extending inwardly from the forward end of the casting or housing 5 is a bearing 9 that is formed by a relatively thick web that is approximately one-fourth the depth of the housing 5 and which extends inwardly from the corners of the rectangular casting forming the housing 5 so as to provide a bearing of cylindrical or circular contour. This bearing has its surface ground smooth so that the head of the burner, when the same is mounted therein, will have a snug fit therein. As seen in Figures 2, 3 and 4 of the drawings the rear portion of the housing has a laterally extending flange 10 projecting inwardly in the opposite direction to the adjacent retaining flange 8 heretofore mentioned and which extends inwardly from the corners of the housing to provide a closure at the rear thereof. The inner edge of this flange 10 is curved to correspond substantially with the curvature of the bearing 9 at the forward end of the housing, and the purpose thereof will hereinafter more fully appear.

The burner is preferably in the form of a pipe 11 that is threaded upon its adjacent forward end and is of any suitable type, preferably that illustrated in my co-pending application for an oven burner

filed even date herewith Serial No. 726,-449, but as the details of said burner form no part of the present invention the same are not illustrated or described herein. The end of the burner pipe 11 is threaded as shown in Figure 2 of the drawings, and is screwed into the adjacent end of a tubular passageway 12 that extends axially through the head. The head preferably comprises a block or plug 13 of cylindrical cross-section and of a diameter sufficient to fit the bearing 9 of the housing or casting 5, and extending axially from the rear of said block is a tubular extension 14 in which the passageway 12 heretofore mentioned is located and to which the burner pipe is connected so that said block affords the sole support for said burner. Extending rearwardly from the block 13, in a plane above the horizontal plane of the extension 14, is a tubular extension 15 having a passageway 16 therethrough, which passageway extends through the block and the axis of which is parallel with the axis of the passageway 12 and which is arranged eccentric to the axis of the block 13. The tubular extensions 14 and 15 may be separate from each other, but I have shown them as formed integral, as will be observed by reference to Figures 3 and 4 of the drawings. A plate or disk 17 of circular shape is formed integral with the rear end portions of the tubular extensions 14 and 15 and the diameter of this disk, as seen in the drawings, is slightly less than the diameter of the circular opening provided in the inwardly extending flange 10 at the rear of the housing. By this arrangement a concentric slot 18 is formed around the disk between the edge of the same and the adjacent edge of the flange.

The outer end of the passageway 16 leads from the tubular extension 15 through the block or plug 13 and is closed by means of a pivoted plate 19 that is provided upon its outer end with a hook 20 to engage with the shank of a pin 21 projecting from the adjacent portion of the block or plug 13. The opposite end portion of the plate 19 is provided with an aperture 22 so that it will surround the gas supply pipe when the latter is screwed into the outer end of the passageway 12 where it extends through the block or plug 13. This will permit the plate to be moved laterally away from the outer end of the passageway 16 so that the flame from the burner may be observed through said passageway, which is, in a sense, a peek-hole. Positioned obliquely in suitable apertures *a* and *b* made diagonally through the block 13 and the rear plate 17 of the head, is an obliquely disposed tube 23 having an insulating plug 24 or bushing at its inner end through which the electric conductor 25 passes. The opposite or outer end of the tube is exteriorly threaded and a flanged sleeve 26 is screwed thereon to secure the tube in position in the head. Another insulating plug or bushing 27, having a central well or recess 28, is screwed into the outer end of the pipe 23, and the conductor 25 passes through an aperture in the bottom of the well 28 and is connected at its outer end to a cap 29. A coiled expansion spring 30 surrounds the conductor within the well and has its opposite ends engaged with the bottom of the well 28 and the inner face of the cap 29 so as to exert its pressure outwardly against the latter and maintain the conductor taut. Suitable connection may be made with an electric circuit, and whenever it is desired to light the burner the current control switch, (not shown) is closed and the current passes along the conductor 25 through pipe 23 and by means of a suitable ignition device (not shown) at the end of the conductor the burner is lighted.

By the employment of the structure such as has been hereinbefore described it will be seen that the burner, an element of the ignition device, and the peek-hole is mounted in a single head and the parts are always in the same relation to each other no matter in what position the head may be rotated within the housing. A clamp plate 31, secured by means of a screw 32 to the front of the housing, extends over the outer overhanging edge or flanged portion 33 of the block or plug 13 so that the structure may be maintained in its adjusted positions without liability of accidental displacement.

The tubular extension 15 with its passageway may be utilized to insert a torch, gas tip or the like in the event it is desired to light the burner whenever the electrical ignition devices are not installed or may be out of working order. Due to the fact that the bearing 9 and the block 13 have wide engaging faces and the fit between them is very snug there is a practically sealed joint between the burner head and the housing that prevents leakage of steam from the interior of the oven.

What I claim is:—

1. A burner support for bakers' ovens comprising a suitable housing having therein a cylindrical bearing, a burner head mounted in said housing and supported upon said bearing, said burner head provided with a cylindrical passageway to the inner end of which a burner pipe is adapted to be secured, and a cylindrical passageway disposed eccentric to the first named passageway and having its axis parallel thereto.

2. A burner support for bakers' ovens comprising a housing of tubular formation having a cylindrical bearing adjacent one end, and a burner head mounted therein con-

sisting of a cylindrical block of substantially the diameter of said bearing and engaged therewith, said block having an axial and an eccentric bore, and extensions projecting rearwardly from said block, and provided with bores which provide continuations of the axial and eccentric bores in said block, one of said extensions providing means whereby a burner tube is connected to said block.

3. A burner support for bakers' ovens comprising a suitable housing having therein a cylindrical bearing, a burner head mounted in said housing and supported upon said bearing, said burner head provided with an extension that is bored and to the inner end of which a burner pipe is adapted to be secured, and an electrical ignition conductor extended through said head the inner end of which terminates adjacent the burner pipe, the construction and arrangement of the parts being such that said head may be rotated in said bearing without changing the relation of the parts to each other.

4. A burner support for bakers' ovens comprising a housing of tubular formation having a cylindrical bearing adjacent one end, and a burner head mounted therein consisting of a cylindrical block of substantially the diameter of said bearing and engaged therewith, said block having an axial and an eccentric bore, and tubes projecting rearwardly from said block, the bores of which provide continuations of the axial and eccentric bores in said block, one of said tubes providing means whereby a burner tube is connected to said block, and an element of an electrical ignition device extended through said block and terminating adjacent the burner tube, the construction and arrangement of the parts being such that said block may be rotated in said bearing without affecting the relation of the parts to each other.

5. A burner support for bakers' ovens comprising a suitable housing inserted in the wall of an oven and having a cylindrical bearing therein, a rotatable block supported in said bearing and having a fuel passageway therethrough, and a burner communicating with said fuel passageway, said burner connected to said block and solely supported thereby.

6. A burner support for bakers' ovens comprising a suitable housing inserted in the wall of an oven and having a cylindrical bearing at its forward end, a rotatable block supported in said bearing and having a fuel passageway therethrough, a tube projecting from said block at the discharge end of said passageway and adapted to support a burner at its inner end, and a centrally apertured disk at the inner end of said tube the periphery of which disk is spaced from the adjacent walls of the housing to provide a concentric slot between said disk and housing.

7. A burner support for bakers' ovens comprising a suitable housing inserted in the wall of an oven and having a cylindrical bearing at its forward end, a removable rotatable block supported in said bearing and provided with a central fuel passageway and an eccentric channel, means normally closing said eccentric channel, an axial tube and an eccentrically arranged tube integral with said block and communicating respectively with said passageway and said channel, a disk integral with the inner ends of said tubes and having central and eccentric apertures in registry with the adjacent ends of said tubes, and a burner secured in the central aperture of said disk.

8. A burner support for bakers' ovens comprising a suitable housing inserted in the wall of an oven and having a cylindrical bearing at its forward end, a removable rotatable block supported in said bearing and provided with a central fuel passageway and an eccentric channel, means normally closing said eccentric channel, an axial tube and an eccentrically arranged tube integral with said block and communicating respectively with said passageway and said channel, a disk integral with the inner ends of said tubes and having central and eccentric apertures in registry with the adjacent ends of said tubes, and a burner secured in the central aperture of said disk, the edge of said disk being spaced from the adjacent walls of the housing to provide a concentric slot between said disk and housing whereby said block may be rotated in its bearing without affecting the relation of the parts to each other.

Signed at Chicago, county of Cook, and State of Illinois, this fifth day of June, 1924.

WILLIAM L. MUELLER.