June 6, 1939. W. S. McDONOUGH 2,161,070

GAS BURNER CONTROL

Filed April 16, 1937

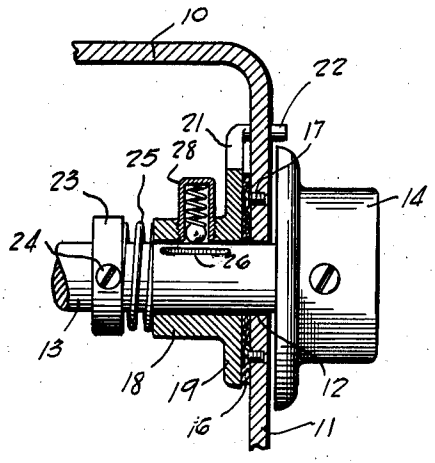


FIG. 2

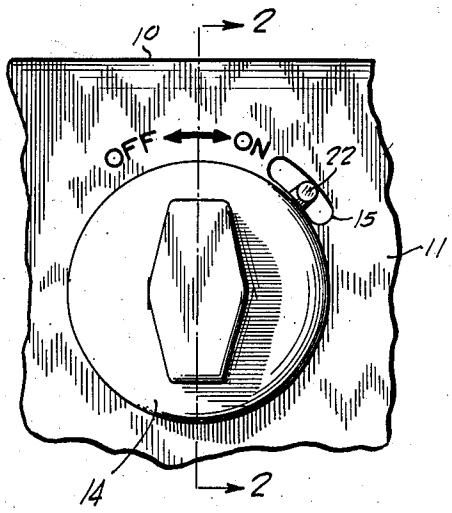


FIG. 1

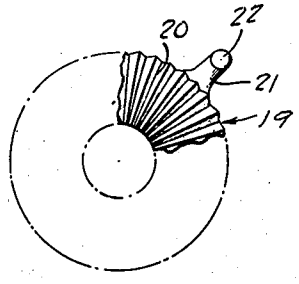


FIG. 3

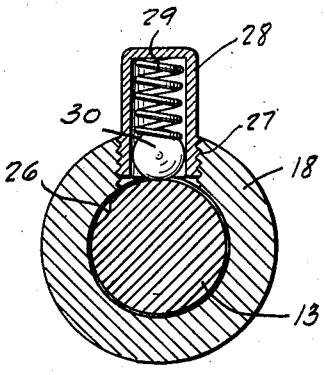


FIG. 4

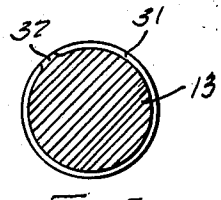


FIG. 5

INVENTOR.
WALTER S. McDONOUGH.
BY Joshua R. H. Potts
ATTORNEY.

Patented June 6, 1939 2,161,070

UNITED STATES PATENT OFFICE

2,161,070

GAS BURNER CONTROL

Walter S. McDonough, Philadelphia, Pa.

Application April 16, 1937, Serial No. 137,187

4 Claims. (Cl. 251—163)

This invention has to do with a control device intended to be employed in conjunction with the gas burners which are present in the usual cooking stoves.

At the present time housewives, and other users of gas burners, on many occasions are desirous of turning the gas to a low or so-called "simmering" point, which usually is a condition in which just sufficient gas is turned on to maintain combustion. However, considerable difficulty and annoyance is experienced in attaining the degree of gas necessary to establish this simmering condition.

Accordingly this invention has in view as its foremost objective the provision of mechanism intended to be associated with a gas burner control for mechanically indicating when this simmering point is reached in the manipulation of the burner control.

In carrying out this idea in a practical embodiment, the invention has in mind the forming of a stop on the burner control, and a spring-pressed detent is designed for cooperation with this stop. It is intended that the parts be so related that when the detent engages the stop the simmering point will have been reached. Obviously the effect of the engagement of this detent with the stop must be capable of being overcome by applying additional force to the burner control, so that the gas may be turned completely off, or further on, as occasion demands.

In providing a device in accordance with the thoughts above noted it becomes important to provide for adjustability as to when the detent will engage the stop. This need for adjustability is particularly important when it is considered that gas pressures vary with different localities, and the users of gas stoves may wish varying degrees of heat in the so-called simmering state.

Accordingly, a further object of the invention is the provision of a control device of the character described in which the detent is readily adjustable, and will be maintained in its adjusted position. This objective is obtained by mounting the detent in a collar which encompasses the burner control, and which collar is provided with a friction surface that is adapted to engage a gasket or similar element to establish sufficient frictional resistance to maintain the collar in position.

However, this frictional resistance may be overcome to adjust the collar, when occasion demands. To insure that this frictional resistance is maintained at a properly effective degree, spring means may be associated with the collar for that purpose.

Various other more detailed objects and advantages will in part become apparent, and in part be hereinafter stated, as the description of the invention proceeds.

The invention, therefore, comprises a gas burner control consisting of a collar carrying a spring-pressed detent which is designed to cooperate with a stop on the burner control member. This collar is maintained in position by friction devices, and is readily adjustable to adjust the point at which the detent engages the stop.

For a full and more complete understanding of the invention reference may be had to the following description and accompanying drawing, wherein:

Figure 1 is a front elevational showing of a portion of a gas stove to which the gas burner control has been applied in accordance with the precepts of this invention,

Figure 2 is a sectional showing taken about on the plane represented by the line 2—2 of Figure 1,

Figure 3 is a detailed view of the collar element, bringing out the friction surface thereon,

Figure 4 is a section through the collar and burner control, and

Figure 5 is a detailed view in section of a modified form of stop.

Referring now to the drawing, wherein like reference characters denote corresponding parts, the supporting structure of a gas stove with which this invention is concerned is fragmentarily illustrated, and shown as comprising a top wall 10 with which is integrally connected a front wall 11. The front wall 11 is formed with an opening at 12 through which extends the burner control 13 that carries at its front end an operating member, as illustrated at 14.

The mechanism comprising the burner control 13 and operating member 14 are conventional, and well-known to those skilled in this art; the operating member 14 normally being turned to vary the amount of gas which is supplied to the burner.

The front wall 11 is formed with a slot 15, for a purpose to be later described, and on its inner face is mounted a gasket 16 which may be held in position in any preferred manner, as by screw members shown at 17. This gasket 16 surrounds the control member 13, as illustrated in Figure 2.

A collar member designated 18 is of a substantially cylindrical formation, and at the end adja-

cent to the wall 11 is formed with a flange 19 having a friction surface, as illustrated in Figure 3, and which surface is designated 20. Upstanding from the flange 19 is an arm 21 from which extends a projection 22 that passes through the slot 15.

An anchoring ring is shown at 23 as being securely affixed to the burner control 13 as by a screw member shown at 24, and a coil spring 25 is interposed between the ring 23 and collar 18. This spring 25 serves to urge the flange 19 against the gasket 16, and due to the presence of the friction surface 20 with the gasket sufficient frictional resistance is created to maintain the collar 18 immovably in position about the burner control 13. However, the projection 22 may be grasped by an operator, and sufficient force applied to overcome this frictional resistance whereby the position of the collar may be adjusted.

The burner control 13 is formed with a recess 26, while the collar 18 is formed with a threaded opening 27 in which is screwed a housing 28 which contains a coil spring 29, and a ball detent 30. During the usual turning of the burner control 13 the ball detent 30 rides over the surface thereof. However, when the recess 26 is positioned beneath the ball the spring 29 urges the ball thereinto, and thus serves to yieldably stop rotation of the burner control 13.

Obviously the point of engagement of the detent 30 with the recess 26 will be so adjusted as to take place when just sufficient gas is supplied to the burner to establish the simmering state.

Referring now more particularly to Figure 5, a slightly modified form of the invention is illustrated. In this form the burner control 13 is formed with a ring-like groove 31 which is interrupted by a stop member 32. In this form the ball detent 30 will ride around in the groove 31 until it engages the stop 32, which will be at the point of simmering.

While preferred specific embodiments of the invention are hereinbefore set forth, it is to be clearly understood that I am not to be limited to the exact constructions illustrated and described, because various modifications of these details may be provided in putting the invention into practice within the purview of the appended claims.

I claim:

1. Control mechanism for a valve operating shaft which passes through an opening in a plate, said control mechanism comprising a stop formed on the shaft, a collar disposed about said shaft, a spring pressed detent carried by said collar for engaging said stop, said collar and plate being formed with cooperating elements for establishing frictional resistance against rotative movement of the collar, and means accessible from the side of the plate remote from the stop for overcoming said frictional resistance and rotating said collar.

2. Control mechanism for a valve operating shaft which passes through an opening in a plate, said mechanism comprising a collar disposed about said shaft on one side of the plate, said shaft being formed with a stop disposed within said collar, a spring pressed detent carried by the collar designed for cooperation with said stop, said plate being formed with a slot, and means extending through the said slot in the plate for adjusting the relative position of said collar with respect to the said plate, said means being accessible from the side of the plate remote from the collar.

3. Control mechanism for a valve operating shaft which extends through an opening in a plate, said mechanism comprising a collar disposed about said shaft on one side of the said plate, said shaft being formed with a stop, a detent carried by said collar and adapted to cooperate with said stop, a ring spaced from the collar and anchored to said shaft, friction material on the face of said plate adjacent to said collar, and a spring interposed between said ring and collar for urging the collar into engagement with the friction material on the said plate.

4. Control mechanism for a valve operating shaft which passes through an opening in a plate comprising a collar disposed about said shaft on one side of the plate, said shaft being formed with a stop within said collar, a detent carried by the collar and adapted to cooperate with the said stop, said collar being formed with a flange, a gasket secured to said plate and in engagement with the said flange, said flange being formed with an upstanding arm having a forwardly extending projection, the plate being formed with an arcuate slot through which said projection extends rendering the same accessible from the side of the plate remote from the collar, and spring means for urging said collar in the direction whereby the said flange frictionally engages the gasket.

WALTER S. McDONOUGH.