July 25, 1967 E. P. SELINDER 3,332,648

CONTROL DEVICE MOUNTING

Filed Aug. 16, 1965

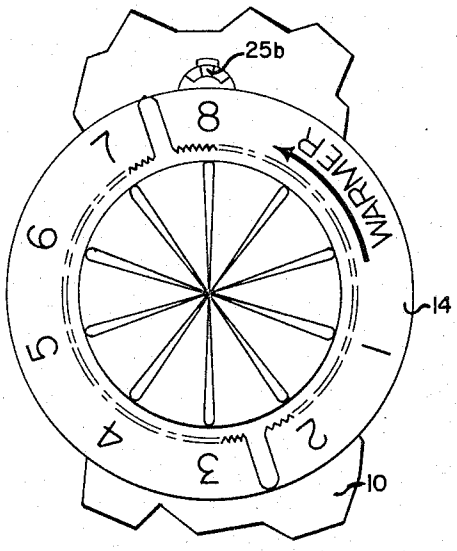


Fig. 1

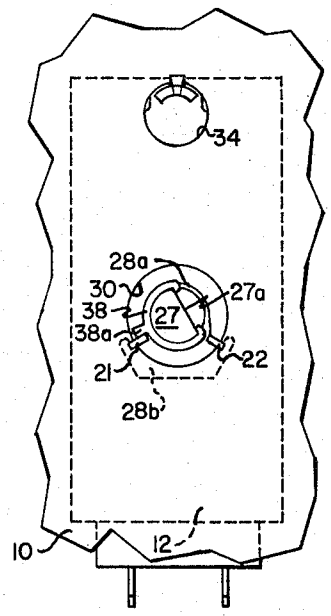


Fig. 2

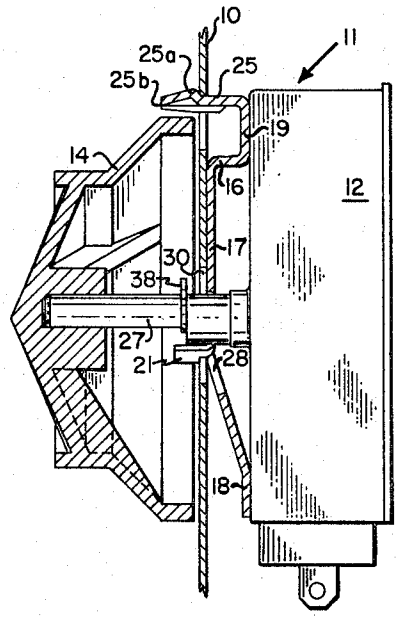


Fig. 3

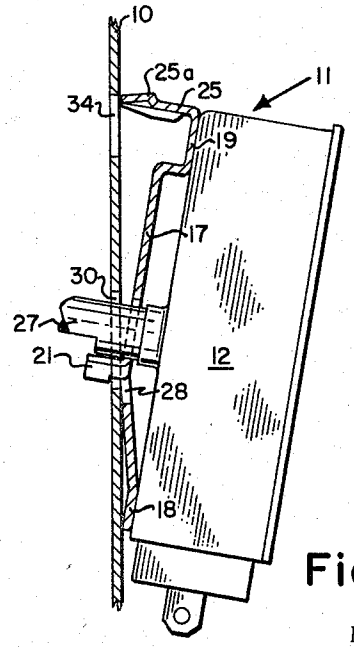


Fig. 4

INVENTOR.
ERIC P. SELINDER
BY Robert S. Craig
ATTORNEY

United States Patent Office 3,332,648 Patented July 25, 1967

3,332,648

CONTROL DEVICE MOUNTING

Eric P. Selinder, San Pedro, Calif., assignor to Honeywell Inc., Minneapolis, Minn., a corporation of Delaware

Filed Aug. 16, 1965, Ser. No. 479,851
4 Claims. (Cl. 248—27)

ABSTRACT OF THE DISCLOSURE

A mounting arrangement for a control device, particularly one that can be snapped into place, requiring no separate fastening means.

In the presently preferred embodiment of the invention a thermostat is mounted on the sheet metal housing of a space heater by means of cooperating portions of the thermostat frame and of a panel forming part of the housing. Portions of the mounting means also cooperate with adjusting means for the thermostat to indicate the setting selected and to limit movement of the adjusting means.

In the drawing:

FIGURE 1 shows a control point adjusting dial for a control device together with a cooperating pointer extending through a panel,

FIGURE 2 is a view similar to FIGURE 1 but with the dial removed.

FIGURE 3 is a side view of the device shown in FIGURE 1, and

FIGURE 4 is a side view of the device in a position preliminary to attachment to the panel.

As seen in the drawing, a panel **10** may be part of an enclosure for a gas fired space heater. A thermostat **11** having a rectangular housing **12** is mounted on the panel **10** in a position where an adjusting knob **14** will be accessible from outside the enclosure. The invention lies in the arrangement for fastening the thermostat to the panel.

The thermostat housing is provided with a mounting bracket **16** having a flat central portion **17** spaced from and parallel to a flat surface of the housing, and offset end portions **18** and **19** lying along the flat surface of the housing. The flat central portion **17** is held against the panel **10** in part by two ears **21** and **22** struck up from an intermediate part of the bracket, and in part by a finger **25** struck up from the bracket **16** beyond its end portion **19**.

The thermostat **11** has an adjusting shaft **27** which extends from housing **12** and through an opening **28** in the bracket **16**. The opening **28** has an upper portion **28***a* that is concentric with the shaft **27** and a lower portion **28***b* from which the material for ears **21** and **22** was punched.

The ears **21** and **22** extend radially with respect to the adjusting shaft **27** and are notched at their outer edges to hook on the panel **10** at the edge of a circular hole **30**. Conveniently, the hole **30** is concentric with the adjusting shaft **27** and has a diameter greater than the distance between the outer extremities of ears **21** and **22** to facilitate mounting the thermostat on the panel.

The finger **25** which extends from the upper end of bracket **16** engages an edge of panel **10** formed by the upper edge of a circular hole **34**. Part of the upper surface of the finger **25** has a cylindrical surface that conforms to the hole **34**, but a raised detent **25***a* is provided on the finger to engage the outer edge of the hole to hold the bracket in position against the panel. The finger **25** also extends outwardly beyond the detent portions **25***a* and is tapered to form a pointer **25***b* that serves as an index to cooperate with indicia on the knob **14** which is carried on the adjusting shaft **27**.

FIGURE 4 shows how the thermostat is attached to the panel. The ears **21** and **22** are hooked to the panel edge formed by the hole **30**. In this position the pointer **25***b* will just enter the hole **34**. To move the thermostat counterclockwise with the ears **21** and **22** fixing the pivotal axis, the finger **25** is deflected to permit the detent portion **25***a* to pass to the outer side of the panel. The finger **25** is sufficiently resilient to assume the position shown in FIGURE 3 after being forced into engagement with the panel.

The adjusting shaft **27** is generally cylindrical but has a flat surface **27***a* at its outer end to prevent rotation of the knob **36** with respect to the shaft. Also carried on the shaft **27** is snap ring **38** that is hooked onto the flat portion of the shaft and has a radial abutment portion **38***a* adapted to cooperate with the ears **21** and **22** to limit rotation of adjusting shaft **27** and knob **14** to the desired range for adjustment of the thermostat, as shown in FIGURE 2.

It will be seen that the construction illustrated provides a thermostat mounting that is both inexpensive and very convenient in use in that no tools or loose fastening means are needed. The configuration of the mounting bracket not only spaces the thermostat from the mounting panel to provide good air circulation but permits the thermostat to be tilted with respect to the panel during the mounting procedure. Additionally, this spacing permits the upper mounting finger to have sufficient length to give enough resilience for the deflection necessary to snap the thermostat into place on the panel. The mounting bracket also provides the additional functions of serving as a pointer for the adjusting dial and of providing stops to limit dial rotation.

What is claimed is:

1. A mounting arrangement for a control device comprising: a panel of generally flat configuration having two spaced circular holes therein, a control device having a frame to which mounting means is secured, said mounting means including a spaced pair of hooks shaped to engage the edge of said panel at one of said openings at points spaced equal distances from a line connecting the centers of the holes in said panel, and including a resilient finger having a detent portion engaging the edge of said panel at the other of said openings on the line connecting the centers of the holes, and further including a flat abutment surface engaging the panel between the two holes.

2. A mounting arrangement for a control device comprising: a panel of generally flat configuration having two spaced holes therein one of which is circular, a control device having a frame with mounting means integral therewith, said mounting means including a pair of hooks engaging an edge of said panel defined by the circular hole, and further including a resilient finger having a detent portion engaging an edge of said panel within the other hole, said two hooks being equally spaced from said finger, said control device having an adjusting shaft extending therefrom through the circular hole in said panel, and an abutment on said shaft cooperating with said hooks to limit rotation of said shaft.

3. A mounting arrangement for a control device comprising: a panel of generally flat configuration having two spaced holes therein one of which is circular, a control device having a frame with mounting means integral therewith, said mounting means including a pair of hooks engaging an edge of said panel defined by the circular hole, and further including a resilient finger having a detent portion engaging an edge of said panel within the other hole, said two hooks being equally spaced from said finger, said control device having an adjusting shaft extending therefrom through the circular hole in said panel, a dial on said shaft having indicia thereon, cooperating with said finger acting as an index.

4. A mounting for a control device comprising, a panel of generally flat configuration having at least one opening

therein providing a pair of oppositely disposed panel edges, a control device having a frame with mounting means integral therewith, said mounting means including a pair of hooks engaging one of said oppositely disposed panel edges, and further including a resilient finger having a detent portion engaging the other of said pair of oppositely disposed panel edges, said control device having an adjusting shaft extending therefrom through said panel, and a dial on said shaft having indicia thereon cooperating with said finger acting as an index.

References Cited

UNITED STATES PATENTS

2,146,701	2/1939	Peterson	248—27
2,275,773	3/1942	Kost	85—80
3,222,023	12/1965	Schweitzer	248—225

ROY D. FRAZIER, *Primary Examiner.*

CLAUDE A. LE ROY, *Examiner.*

J. F. FOSS, *Assistant Examiner.*