Feb. 15, 1966 D. W. DENNY ETAL 3,234,992

CLAMPING AND SUPPORT ARRANGEMENTS FOR FUEL BURNER CONTROL ASSEMBLIES AND THE LIKE

Filed July 29, 1963 2 Sheets-Sheet 1

Fig. 1.

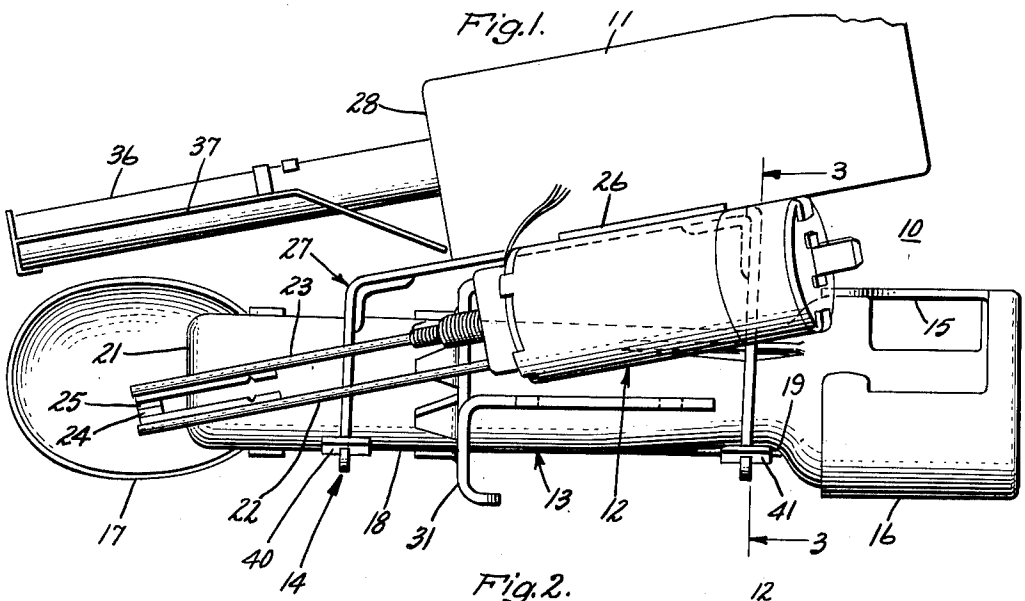


Fig. 2.

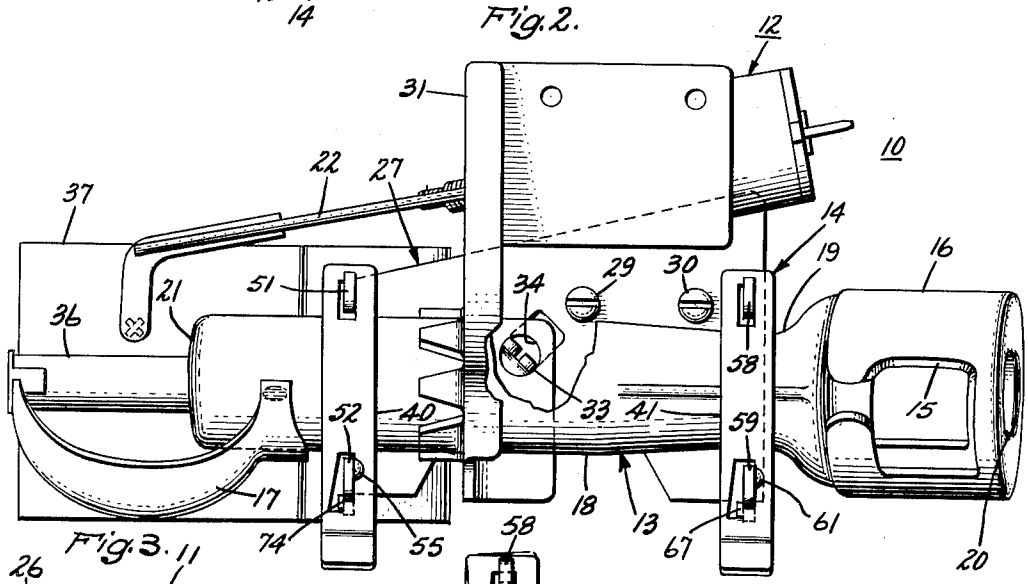


Fig. 3.

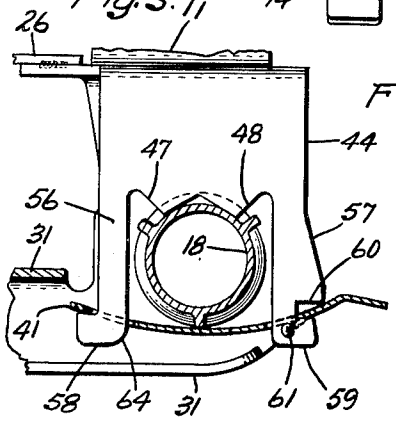
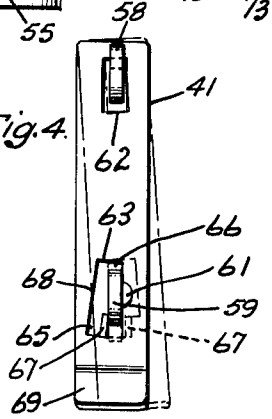


Fig. 4.



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Fig. 5.

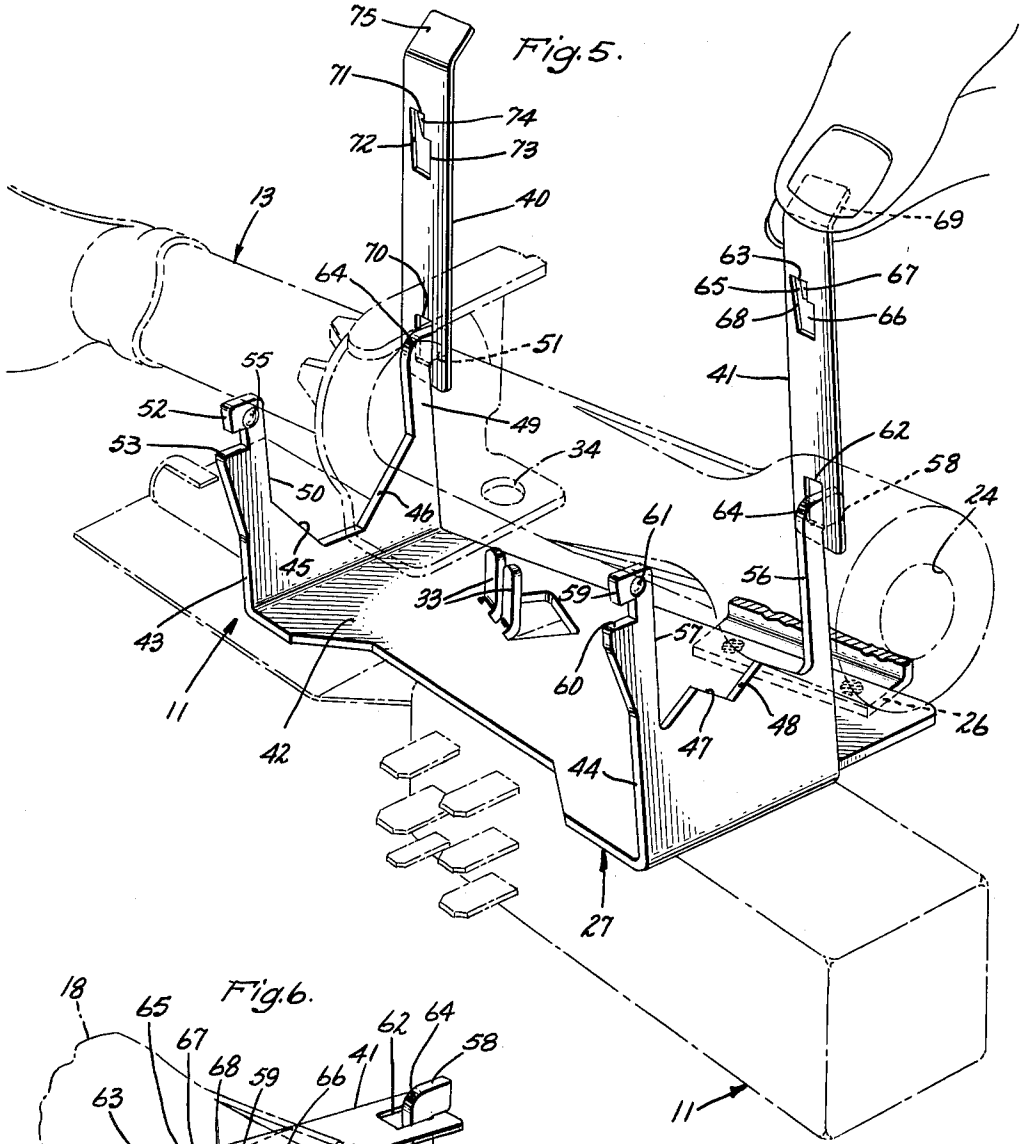
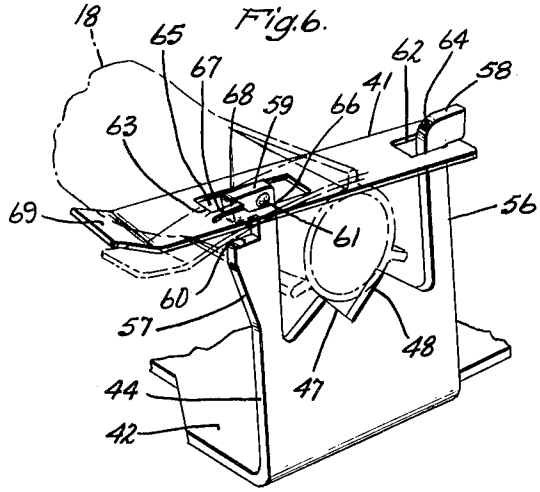


Fig. 6.



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CLAMPING AND SUPPORT ARRANGEMENTS FOR FUEL BURNER CONTROL ASSEMBLIES AND THE LIKE

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10 Claims. (Cl. 158—123)

This invention relates to clamping and support arrangements and more particularly to such an arrangement adapted for use in conjunction with a fuel burner and for attaching and supporting the fuel burner controls on the fuel burner.

Automatically controlled fuel burners of the type used in gas-fired equipment, such as clothes dryers, water heaters and the like, require various control elements to provide for safe and dependable operation of the fuel burner. In order to provide for the ignition of the fuel an igniter is usually mounted on the burner so that the electrodes are positioned near the fuel stream where they can effect ignition of the fuel. The master control includes components such as the relay which energizes an igniter and the gas valve, a hold resistor, a lock-out heater, lock-out contacts, a flame detector for detecting the presence of the flame and other control elements. Where the flame detector includes a flame detector tube, it is important, of course, that the tube be accurately positioned with respect to the fuel burner so that when the fuel is ignited a temperature differential exists between the side of the tube disposed toward the flame and the back side of the tube so that a deflection of the tube will result. It is also important that igniter tips be located in the proper portion of the fuel stream path.

In a conventional arrangement the control devices are usually attached to the fuel burner by attaching the controls to a support plate which is secured to a bracket on the fuel burner. The support plate is generally attached to the bracket on the fuel burner by at least a pair of screws and lock washers. To install the controls during the process of manufacture or to remove them when an end-of-life type of failure occurs, it is necessary to manipulate the small screws and lock washers which secure the controls to the fuel burner. From both a manufacturing and servicing standpoint, it is desirable that such controls be readily and quickly attachable to and detachable from the fuel burner.

Accordingly, it is a general object of the present invention to provide an improved clamping and support assembly particularly adapted for use with fuel burners.

A more specific object of the present invention is to provide an improved fuel burner control device assembly that can be readily attached to the fuel burner and that can be readily detached therefrom when it becomes necessary to service or renew the controls.

It is another object of the present invention to provide an improved clamping and support assembly for attaching fuel burner controls to the fuel burner that does not require the use of screw type of fasteners.

An additional object of the present invention is to provide an improved clamping and support assembly for a fuel burner device that is relatively simple in construction and that can be inexpensively fabricated.

In accordance with one form of our invention, we have provided an improved clamping and support arrangement for attaching controls on a fuel burner. The improved assembly includes a bracket member having a transverse portion for supporting the controls and at least one cradle portion depending from the transverse portion for engaging the fuel burner. Preferably, the cradle portion is formed with a pair of obliquely extending sides for

engagement with the fuel burner and includes a pair of fork arms, which are formed with a first and a second hook end respectively. In order to compressively secure the cradle portion against the fuel burner, a flexible clamping strap having a pivot slot and a locking slot is provided for engagement with the first and second hook ends.

According to a more specific aspect of the invention, the first hook end is essentially L-shaped and is provided with a rounded outer corner to provide a substantially uniform radial width to facilitate entry of the first hook end through the pivot slot of the clamping strap. The pivot slot is engaged with the first hook end by placing the first hook end in the pivot slot when the clamping strap is inclined in an outward position and by pivoting the clamping strap to engage the clamping strap under the first hook end.

The locking slot of the clamping strap is formed with a first and second slot section. The first slot section is adapted for receiving the second hook end to allow the clamping strap to pass over the second hook end when the clamping strap is bent over the fuel burner to secure the burner against the cradle portion. Then, when the clamping strap is pivoted sideways, the second slot section registers with the second hook end so that the clamping strap is secured thereunder. Preferably, a shoulder spaced from the second hook end and extending outwardly thereof is provided on the fork arm to limit the bending of the clamping strap and to guide the clamping strap when it is selectively engaged in and disengaged from the second hook end.

To prevent accidental disengagement of the clamping strap, a latching means may be provided between the first and second slot sections of the locking slots. Preferably, the latching means is comprised of a cantilevered portion formed on the clamping strap along the first slot section. The cantilevered portion is bent outwardly to provide a latching engagement of the second hook end when it is disposed in the second slot section of the locking slot. To prevent the clamping strap from being assembled in an upside-down position, we have provided a knob at the side of the hook end which obstructs the entry of the hook end into the locking slot. It will be appreciated that if the clamping straps were assembled in an upside-down position, the latching means would be ineffective.

With the improved clamping and support arrangement the controls for the fuel burner can be readily and quickly attached to the fuel burner during the process of manufacture. Also, when a control device requires servicing, the controls can be easily dismounted from the fuel burner. Further, the improved arrangement permits the controls to be properly positioned with respect to the fuel burner without requiring precise tolerances between the parts of the control assembly.

Further aspects of the invention will become apparent from the more detailed description of the invention. It will be understood that the specification concludes with claims which particularly point out and distinctly claim the subject matter which we regard as our invention. The invention, however, both as to organization and method of operation, together with further objects and advantages thereof, may be best understood with reference to the following description taken in connection with the accompanying drawings in which:

FIGURE 1 is a front elevational view of a fuel burner with a fuel burner and control assembly embodying one form of my invention;

FIGURE 2 is a bottom view of the fuel burner and control assembly shown in FIGURE 1;

FIGURE 3 is a sectional view of a part of the fuel burner and control assembly taken along line 3—3 of FIGURE 1;

FIGURE 4 is an enlarged bottom view of the clamping strap shown in FIGURE 3 in which the bent clamping strap is shown pivoted sideways and engaged under the second hook end to compressively secure the fuel burner in the bracket member;

FIGURE 5 is a perspective view of the bracket member with the fuel burner and the controls shown in dashed outline and with the clamping straps shown in upwardly inclined positions to illustrate how the clamping straps are engaged with the first hook ends of the bracket member; and

FIGURE 6 is a fragmentary view corresponding to the view shown in FIGURE 5 in which the clamping strap is shown in position over the second hook end of the bracket member for engagement therewith.

Referring now in more detail to the drawings, we have shown one form of our invention embodied in a gas burner assembly **10**. A master control **11** and an igniter **12** are attached to a gas burner **13** by means of a clamping and support assembly **14**. The gas burner **13** includes adjustable air intake openings **15**, an air valve **16**, a reflector **17** and an essentially tubular chamber **18** which has a narrow throat section **19** and functions as a venturi tube. Gas is admitted at the throat section **19** of the venturi tube by a gas inlet (not shown) which projects into the gas burner **13** through the aperture **20** at the end of the burner **13**. A controlled supply of air is admitted to the burner **13** through the adjustable air intake openings **15**. During the operation of the burner **10**, a mixture of combustible gases and air in conducted through the interior of the chamber **18**,an d the mixture is ignited in the vicinity of the outlet **21** by the igniter **12**.

The igniter **12** includes a fixed electrode **22** and a rotatably movable electrode **23**, which oscillates, when ignition is required, at a relatively low frequency to provide an arc between the contacts **24**, **25**. It will be seen in the view shown in FIGURE 1 that the igniter **12** is supported on the clamping and support assembly **14** by means of a support **26** which is attached to the bracket member **27**. The master control **11** is housed in a case or control box **28** which is attached to the bracket member **27** by the screws **29** and **30**. Thus, when the bracket member **27** is detached from the burner **13**, both the igniter **12** and the master control **11** are disassembled from the burner **13**.

The fuel burner control assembly **10** is provided with a support bracket **31** which is welded to the burner chamber **18** and is adapted for mounting the control assembly **10** in the equipment in which the control assembly **10** is utilized. As will be seen in the cutaway portion of the view shown in FIGURE 2, positioning lugs **33** formed on the bracket member **27** are engaged in a positioning hole **34**. This arrangement insures that the master control **11** and the igniter **12** carried on the bracket member **27** are in proper assembled relation with respect to the burner **13** when the bracket member **27** is attached thereon.

In the illustrated embodiment of the invention the flame detecting control means is essentially comprised of an elongated flame detector tube **36** on which is mounted a baffle **37** to deflect the burner flame towards one side of the flame detector tube thereby causing heat to be reflected essentially along a portion of the one side of the tube **36** so that a temperature differential will exist between that one side and the other side of the tube when a flame is present. The actuating end of the flame detecting means and the various other components of the fuel burner control device are housed in the control box **28** which provides a protective enclosure for these electrical components.

Having more specific reference to FIGURES 3–6 of the drawings, we will now more fully describe the improved clamping and support assembly **14**. The clamping and support assembly **14** includes a pair of flexible clamping straps **40**, **41** and the bracket member **27** having a transverse portion **42**, to which the controls **11**, **12** are attached (control or igniter **12** is attached to the bracket **26**, a fragment of which is shown in FIGURE 5), and a pair of cradle portions **43**, **44** depending from the transverse portion **42**. As will be seen in the view shown in FIGURE 5, the cradle portions **43**, **44** are formed with obliquely extending sides **45**, **46** and **47**, **48** respectively, for engagement with the mounting member or burner chamber **18** and for providing a point type of contact therewith.

Referring now more specifically to the cradle portion **43** at the left end of the bracket member **27** as shown in FIGURE 5, it will be seen that the cradle portion **43** is formed with a pair of fork arms **49**, **50** and that fork arm **49** is formed with an essentially L-shaped hook end **51**. Also, the other fork arm **50** is formed with an essentially L-shaped hook end **52** and, preferably, has a shoulder or stop **53** spaced from the hook end **52**. When the clamping strap **40** is bent inwardly until it touches the shoulder **53**, the bending or flexure of the clamping strap **40** is limited. Also, the shoulder **53** guides the clamping strap **40** when it is pivoted sideways. It will be noted that each of the hook ends **51**, **52** is essentially comprised of an ear which extends outwardly of the fork arms **49**, **50**. The hook end **52** may be formed with a knob **55** at the side to prevent the clamping strap **40** from being assembled on the hook end **52** in an upside-down position.

The cradle portion **44** at the right end of bracket member **27** is similarly formed with a pair of fork arms **56** and **57** with the hook ends **58**, **59**, which extend outwardly for engagement with the clamping strap **41**. Underneath the hook end **59** we have provided a shoulder **60** which extends outwardly from fork arm **57** beyond the hook end **59**. Like shoulder **53** on the other fork arm **50**, shoulder **60** prevents over bending of the clamping strap **41** and serves as a guide for the clamping strap **41** when it is pivoted into locking engagement under hook end **59**.

In the illustrated embodiment of the invention the flexible clamping straps **40**, **41** were of identical construction. Referring now in particular to the clamping strap **41** as shown in FIGURES 3–6, it will be noted that a pivot slot **62** and a locking slot **63** are blanked in the clamping strap **41** for engaging the clamping strap **41** with the hook ends **58**, **59**. As will be seen in the view shown in FIGURE 5, the hook end **58** is engaged with the pivot slot **62** of the clamping strap **41** by threading the hook end **58** through the pivot slot **62** when the clamping strap **41** is inclined in an outward position. It will be seen that the hook end **58** has a rounded outer corner **64** so that an essentially constant radial width is provided with respect to the inside corner of the hook end **58**. Thus, as the clamping strap **41** is swung inwardly, it becomes secured in locking engagement under the ear of hook end **58**.

The locking slot **63** of the clamping strap **41** is formed with a first slot section **65** for receiving hook end **59** and a second slot section **66** for engaging the clamping strap **41** in locking engagement with hook end **59**. The first slot section **65** has a longer length than the second slot section **66** so that when the clamping strap **41** is bent, sufficient clearance for the hook end **59** to pass through it is provided. When the clamping strap **41** is bent until it abutts against the shoulder **60**, a pivotal movement sideways will cause the hook end **59** to register in the second slot section **66** for locking engagement with the strap **41**.

To prevent accidental disengagement of the clamping strap **41**, a latching action is provided by a cantilevered latching portion **67** which is bent upwardly so that a sidewise movement of the clamping strap **41** is prevented unless the strap **41** is bent to clear the latching portion **67**. Further, it will be noted that the first slot section **65** is formed with an obliquely extending side **68** which serves as a guide when the clamping strap **41** is bent to position the clamping strap **41** for the sidewise movement into lock-

ing engagement with the hook end 59. A knob 61 may be provided to prevent the hook end from passing the first slot section 65 of the strap 41 if assembled in an upside-down position. For more convenient manual handling we have provided a small push portion 69 at one end of the clamping strap 41.

Although we have described in detail the arrangement of clamping strap 41 and its disposition on the hook ends 58, 59, it will be appreciated that the description is also applicable to the other clamping strap 40. Clamping strap 40 is formed with a similar pivot slot 70 for engaging the hook end 51 and a locking slot 71 with a first and second slot section 72 and 73, as shown in FIGURE 5, for engagement with the hook end 52 of cradle portion 44. We have also provided a cantilevered latching portion 74 to prevent accidental disengagement of the clamping strap 40 and a push portion 75 to facilitate the manipulation of the clamping strap 40.

Having reference again to the views shown in FIGURES 3–6, we will now more fully describe the manner in which the bracket member 27, on which the fuel burner controls 11, 12 are mounted, is attached to the fuel burner 13. Referring to FIGURE 5, the fuel burner 13 and bracket member 27 with the controls 11, 12 mounted thereon are assembled so that the burner 13 is disposed in the cradle portions 43, 44 and so that the positioning lugs 33 are aligned with the positioning hole 34. In order to secure the bracket member 27 in compressive engagement with the fuel burner 13, the clamping straps 40, 41 are first inclined in an outward position as shown so that pivot slots 62, 70 engage the hook ends 51, 58. In the preferred form of the invention the length of the pivot slots 62, 70 was such that the hook ends 51, 58 would not pass through the pivot slots 62, 70 when the clamping straps 40, 41 were essentially at right angles to the fork arms 49, 56.

Continuing further with the description of the manner in which the bracket member 27 is secured, we will specifically refer now only to the clamping strap 41. After the clamping strap 41 is hooked under the ear of the hook end 58, it is pivoted inwardly. When the strap 41 engages the fuel burner 13 as shown in FIGURE 6, it will be appreciated that the second hook end 59 will not pass through the first slot section 65 if the strap 41 is assembled in an upsidedown position since the knob 61 would be under the side 68 and would obstruct the entry of the hook end 59 into the locking slot 63.

In order to lock the clamping strap 41 under the second hook end 59, the clamping strap 41 must be bent by applying a pressure at the push portion 69 until it engages the shoulder 60, and then the strap 41 is pivoted sideways to position the second hook end 59 in the second slot section 66. When the pressure applied at the push portion 75 is released, the strap 41 is engaged in locking relation under the second hook end 59 and compressively secures the fuel burner 13 in the cradle portion 41 of the bracket member 27. It will be understood that when the clamping strap 41 is locked under the second hook end 59 a predetermined amount of flexure is present in the strap 41 to provide a desired compressive force and securely hold the bracket member 27 in assembled relation with the fuel burner 13.

The other clamping strap 40 is attached to the first and second hook ends 51, 52 by first hooking the strap 40 under the ear of the first hook end 51, bending the strap 40 so that the first slot section 72 passes over the second hook end 52 and then pivoting the strap 40 sideways to engage the second hook end 52 in the second slot section 73 of the locking slot 71.

To disengage the clamping straps 40, 41 it is necessary only to push inwardly on the push portions 69, 75 and bend the straps 40, 41 until they touch the shoulders 53, 60 and then pivot the straps 40, 41 sideways to place the hook ends 52, 59 in the first slot sections 65, 72. When the pressure applied to the push portions 69, 75 is released, the straps 40, 41 will spring out of engagement with the fork arms 50, 57.

From the foregoing description it will be apparent that we have provided an improved arrangement wherein the burner controls can be readily and quickly attached to and detached from a burner without parts that require precise tolerances and without need for manipulating the screw type of fastening devices to attach or detach the controls. It will be apparent that in the preferred arrangement improper assembly of a clamping strap is prevented by a knob which does not allow the strap to be engaged in locking relation unless it is assembled with the latching side up as shown in FIGURE 6.

It will be understood that the specific exemplification of the invention which we have described herein may be changed without departing from the principle of the invention. While this invention has been explained by describing a preferred embodiment thereof, it will be apparent that many modifications may be made without departing from the spirit of the invention, and therefore it is intended to cover all such equivalent variations within the scope of the appended claims.

What we claim as new and desire to secure by Letters Patent of the United States is:

1. In a fuel burner control assembly for use with a fuel burner having an elongated chamber, said fuel burner control assembly including controls for the fuel burner, a bracket member having a support plate for mounting the controls and a pair of spaced cradle portions for engagement with the elongated chamber, said cradle portions extending from said support plate, each of said cradle portions having a pair of fork arms, one fork arm having a first hook end and the other a second hook end, a pair of flexible clamping straps engaging said first and second hook ends to compressively secure said cradle portions against the elongated chamber of the fuel burner, each of said clamping straps having a pivot slot and a locking slot, said pivot slots of said clamping straps registering with the hook ends so that the clamping straps are hooked thereunder, each of said locking slots having a first slot section for receiving a second hook end when the clamping strap is bent and a second section for engaging with said second hook end in locking relation, and means for holding said clamping straps in latching relation to prevent accidental disengagement of said clamping straps from said second hook ends, said flexible clamping straps being deflectable and swingable sideways to disengage the flexible straps from locking engagement with the second hook end to permit the control assembly to be detached from the fuel burner.

2. In a fuel burner control assembly for use in conjunction with a fuel burner having an elongated chamber, said fuel burner control assembly including controls for the fuel burner, a bracket member having a transverse portion for supporting the controls and a pair of spaced cradle portions extending from said transverse portion for engagement with the elongated chamber, each of the cradle portions having a pair of arms with an ear extending outwardly at each end thereof, a first and a second flexible clamping strap, each of said clamping straps having a pivot slot and a locking slot, the pivot slots of the clamping straps registering with two of the arms to cause the straps to be engaged under two of said ears, each of the locking slots being formed with a first slot section, the first slot sections receiving the other two ears of the arms of the cradle portions when the clamping straps are bent inwardly, each of said locking slots being formed with a second slot section, said clamping straps being engaged under said other two ears when said clamping straps are bent and swung sideways in a pivotal movement to position the clamping straps so that the arms of the cradle portions are aligned in said second slot sections of the locking slots, and a means disposed between said first and second slot sections to prevent inadvertent dis-

engagement of said arms disposed in said second slot sections.

3. In a fuel burner control assembly for use with a fuel burner, said fuel burner control assembly including controls for the fuel burner, said controls including a flame detector having a flame detector tube extending from said assembly, a baffle member mounted on said tube to deflect the burner flame towards one side of the flame detector tube, a bracket member having a transverse portion for supporting the controls and at least one cradle portion depending therefrom, said cradle portion having a pair of obliquely extending sides for engagement with the fuel burner, a pair of fork arms, one fork arm having a first hook end and the other a second hook end, a flexible clamping strap engaging the first end and the second hook end to compressively secure the cradle portion against the fuel burner, said clamping strap having a pivot slot and a locking slot, said pivot slot of the clamping strap registering with the hook end so that the clamping strap is hooked thereunder, said locking slot having a first slot section for receiving the second hook end when the clamping strap is bent and a second slot section for engaging the second hook end in locking relation with the clamping strap, and a latching means for holding the clamping strap in latching engagement to prevent accidental disengagement of said clamping straps from said second hook ends.

4. A clamping and support assembly for attachment on a mounting member, said clamping and support assembly comprising: a bracket member having a transverse portion and a pair of cradle portions extending therefrom for engagement with the mounting member, each of said cradle portions having a pair of fork arms, one of the fork arms of each pair having a first hook end and the other fork arm having a second hook end, a first and a second flexible clamping strap engaging the first and second hook ends of said cradle portions, each of said clamping straps having a pivot slot and a locking slot, each of said pivot slots registering with said first hook ends so that the clamping straps are disposed in locking and pivotal relation therewith, each of said locking slots having a first slot section for receiving the second hook ends and a second slot section for selectively locking the straps under said second hook ends and for holding said cradle portions compressively against the mounting member for attachment therewith, said clamping straps when bent and swung sideways in a pivotal movement with respect to said first hook ends causing the second hook ends to be disposed in said second slot sections and to be engaged in locking relation with said clamping straps, and a latching means disposed between the first and second slot sections of the locking slots to prevent accidental disengagement of said clamping straps.

5. A clamping and support assembly for attaching fuel burner controls on a fuel burner, said clamping and support assembly comprising: a bracket member having a transverse portion for mounting the controls and having at least one cradle portion depending therefrom, said cradle portion being formed with a pair of obliquely extending sides for engagement with the fuel burner, said cradle portion having a pair of fork arms, one of the fork arms having a first ear extending outwardly at the end thereof and the other fork arm having a second ear extending outwardly at the end of said other fork arm, a flexible clamping strap formed with a pivot slot for registering with said one of the fork arms under the first ear to permit the clamping strap to be hooked thereunder, said clamping strap formed with a locking slot having a first slot section for passing over said second ear and a second slot section for registering with the second ear when said clamping strap is bent and pivoted while engaged in the pivot slot to cause the clamping strap to pass under the second ear to the second slot section for engagement in locking relation with said clamping strap and hold the cradle portion compressively against the fuel burner, and a latching means disposed on the clamping strap between the first and second slot sections to prevent the clamping strap from being accidentally disengaged from its locking relation with the second ear.

6. A clamping and support assembly for attachment on a mounting member, said clamping and support assembly comprising: a bracket member having a transverse portion and at least one cradle portion for engaging the mounting member, said cradle portion extending from said transverse portion and having a first and second fork arm, each of said fork arms having an ear extending outwardly at the end thereof, a flexible clamping strap formed with a pivot slot and a locking slot, said pivot slot registering with the ear of the first fork arm so that when said ear is passed through the pivot slot the clamping strap is hooked thereunder, said locking slot having a first section for receiving the ear of the second fork arm while the clamping strap is bent inwardly and engaged under the ear of the first fork arm, said locking slot having a second section for engaging the clamping strap in locking relation under the ear of the second fork arm to compressively hold the cradle portion against the mounting member for attachment therewith, and a latching means disposed on the clamping straps to prevent said locking strap from being accidentally disengaged from the ear of the second fork arm.

7. A clamping and support assembly for attaching burner controls to a fuel burner, said clamping and support assembly comprising: a bracket member having a transverse portion for supporting the controls and at least one cradle portion extending from the transverse portion, said cradle portion having a pair of fork arms, one of said fork arms being formed with a first hook end and the other fork arm with a second hook end, a flexible clamping strap having a pivot slot and a locking slot engaging said first and second hook ends respectively to compressively secure the cradle portion against the fuel burner, said first hook end being essentially L-shaped and having an outer corner thereof rounded to provide a substantially uniform radial width to facilitate entry of said first hook end through said pivot slot, said second hook end being essentially L-shaped and having a shoulder extending outwardly of and spaced from said second hook end, said pivot slot being engageable with said first hook end when said clamping strap is inclined in an outward position and pivoted inwardly, said locking slot being formed with a first and a second slot section, said first slot section being longer than said second slot section to allow the clamping strap to pass over the second hook end, said second slot section registering with said second hook end to allow the clamping strap to be hooked thereunder when the clamping strap is bent and pivoted sideways to position the second hook end in the second slot section, and a cantilevered portion formed in said clamping strap and bent outwardly to maintain the strap in latching engagement when the second hook end is disposed in the second slot section of the locking slot, and said shoulder spaced from said second hook end providing a stop to limit the bending of said clamping strap and to guide the clamping strap when it is selectively engaged in and disengaged from the second hook end.

8. A clamping and support assembly for attaching burner controls to a fuel burner, said clamping and support assembly comprising: a bracket member having a transverse portion for supporting the controls and at least one cradle portion depending from said transverse portion, said cradle portion having a pair of obliquely extending sides for engagement with the fuel burner and having a pair of fork arms, one of said fork arms being formed with a first hook end and the other fork arm with a second hook end, a flexible clamping strap having a pivot slot and a locking slot engaging said first and second hook ends respectively and when assembled thereon drawing the cradle portion against the fuel burner for attachment thereon, said first hook end being essentially

L-shaped and having an outer corner thereon rounded to provide a substantially uniform radial width to facilitate entry of said first hook and through said pivot slot, said second hook end being essentially L-shaped and having a shoulder extending outwardly of and spaced from the second hook end, said pivot slot being engageable with said first hook end by placing the hook end in the pivot slot when the clamping strap is inclined in an outward position and pivoting the clamping strap inwardly, said locking slot being formed with a first and a second slot section, said first slot being longer than said second slot section to allow the clamping strap to pass over the second hook end, said second slot section registering with said second hook end to allow the clamping strap to be hooked thereunder when the clamping strap is bent and pivoted sideways to position the second hook end in the second slot section, and a latching means for holding the clamping strap in latching relation to prevent accidental disengagement of said clamping strap from the second slot section, said flexible clamping strap being deflectable and swingable sideways to disengage the flexible strap from locking engagement with the second hook end and detach the controls from the fuel burner.

9. A clamping and support assembly for attaching controls a fuel burner, said clamping and support assembly comprising: a bracket member having a transverse portion for supporting the controls and at least one cradle portion extending from the transverse portion, said cradle portion having a pair of arms, one of said arms being formed with a first hook end and the other of said arms with a second hook end, a flexible clamping strap formed with a pivot slot and a locking slot for engaging said first and second hook ends, said pivot slot registering with said first hook end so that the clamping strap is disposed in locking and pivotal relation with respect to said first hook end, said locking slot having a first slot section for receiving the second hook end and a second slot section for selectively locking the clamping strap under said hook end to hold said cradle portion compressively against the fuel burner, and a cantilevered portion formd on said clamping strap and bent outwardly to provide a latching engagement when the second hook end is disposed in the second slot section of the locking slot.

10. The clamping and support assembly set forth in claim **9** wherein a knob is provided on the side of the second hook end, said knob passing through the second slot section when said clamping strap is properly assembled and obstructing entry of said second hook end into said first slot section when the clamping strap is assembled in an upside-down position to prevent the clamping strap from being engaged in locking relation.

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