Sept. 10, 1963 W. D. BRUNIG 3,103,280

FIREPLACE SCREEN MOUNTING BAR

Filed May 14, 1959 3 Sheets-Sheet 1

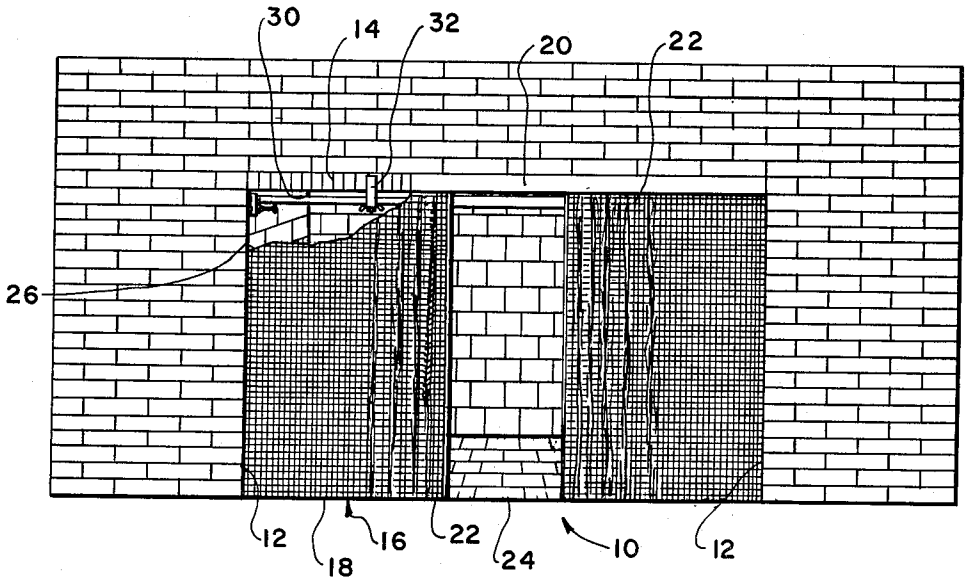


FIG. I.

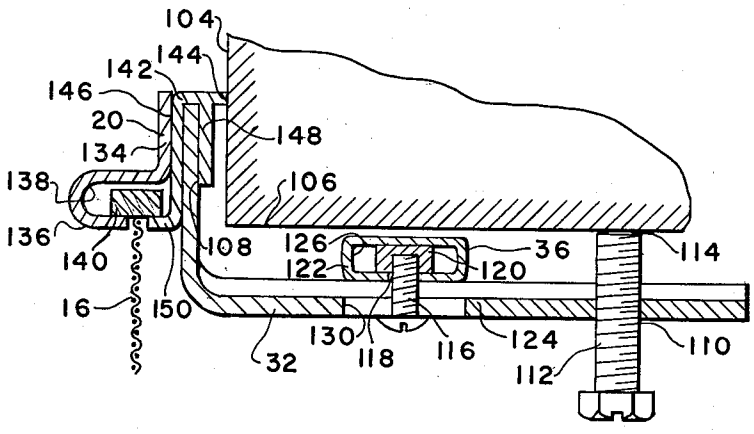


FIG. II.

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FIREPLACE SCREEN MOUNTING BAR

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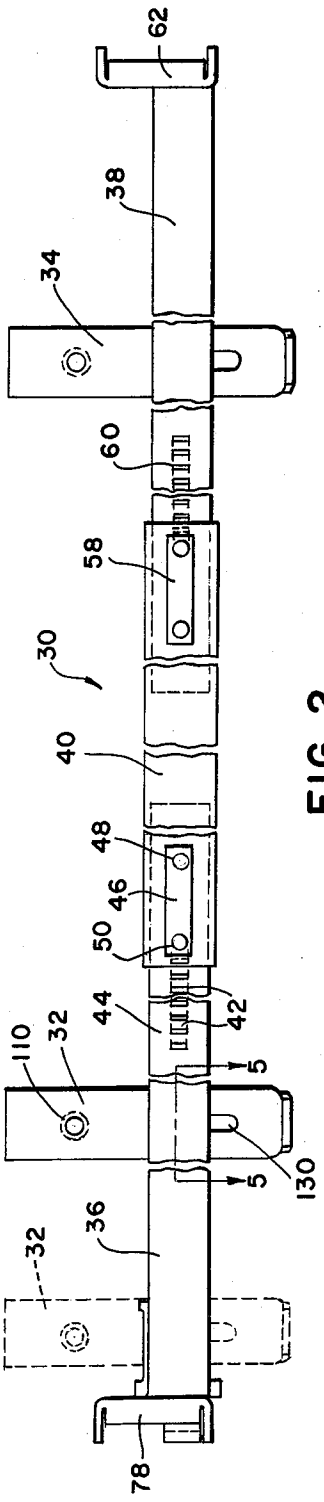


FIG. 2.

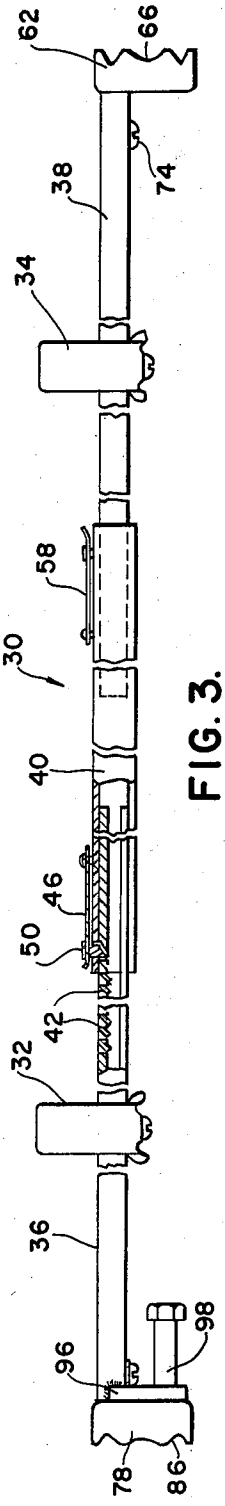


FIG. 3.

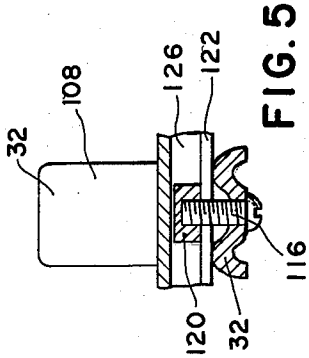


FIG. 5.

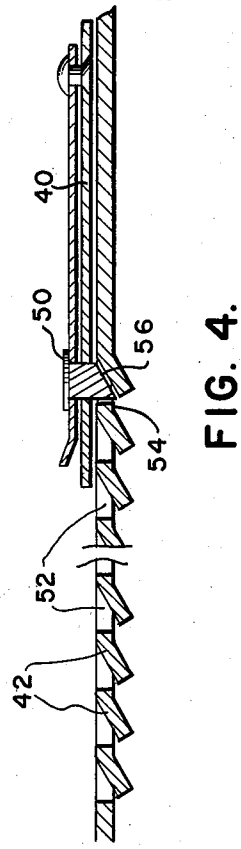


FIG. 4.

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FIREPLACE SCREEN MOUNTING BAR

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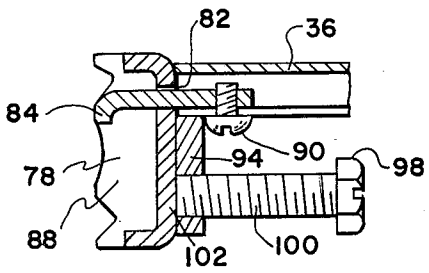


FIG. 9.

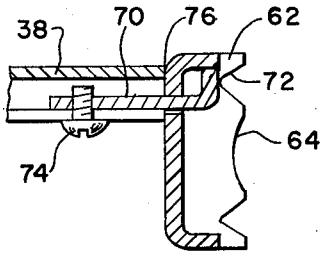


FIG. 7.

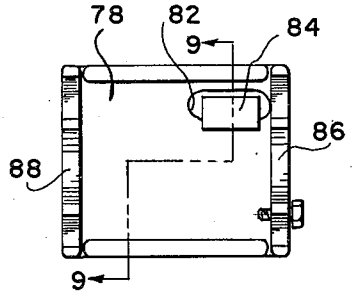


FIG. 8.

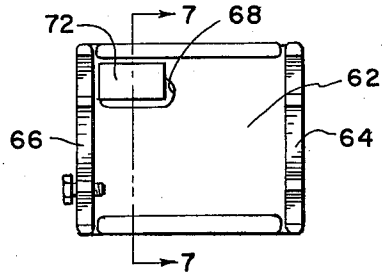


FIG. 6.

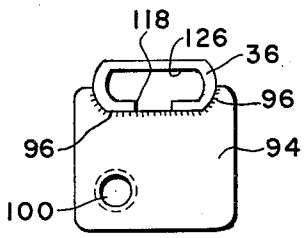


FIG. 10.

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3,103,280

FIREPLACE SCREEN MOUNTING BAR

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Filed May 14, 1959, Ser. No. 813,249
5 Claims. (Cl. 211—105.3)

The present invention relates to a mount for fireplace screens and more particularly is directed to an improved pressure mounting bar particularly suited for use with flexible metallic fireplace screens.

The novel pressure bar of the present invention is particularly suited for use with outside and hooded type flexible metallic screens and in this sense is a companion mount to the construction disclosed in applicant's copending application Serial No. 756,351, filed August 21, 1958, now Patent No. 3,038,537, issued June 12, 1962, relating to a fireplace mounting for recessed type screens.

Fireplace screens of flexible metal are in general either of the enclosed frame type which may be free standing on feet provided in a part of the frame or of the attached type which may be directly attached to the fireplace. Furthermore, attached type screens themselves may be of the "outside type" which are generally larger than the fireplace opening or of the "recessed type" which fit inside the opening. The attached type screens are often custom made in order to fit the individual fireplaces which vary from house to house over quite a substantial range of sizes. Both the outside and recessed screens generally involve the attachment of suitable brackets to the fireplace or in some instances use support assemblies which are friction mounted in the fireplace and upon which the screen is then mounted. A separate mounting for a metallic screen of this type is shown for example in U.S. Patent No. 2,644,191, issued July 7, 1953.

The present invention relates to a pressure type mounting bar for flexible screens of the outside and hooded types possessing several important advantages over known constructions. Important features of the present invention include two separate and independent length adjustments for varying the overall length of the pressure bar to adapt it to a wide variation in fireplace sizes. Furthermore, the novel mounting bar is of relatively simple and rugged construction and may be easily inserted in a fireplace without attachment screws or the like and with a minimum of time and effort. In addition, novel adjustable mounting brackets are provided on the mounting bar for supporting the body proper of either an outside or hooded type flexible metallic screen of conventional construction. These adjustable brackets include means for assuring that the screen will be level with the surface of the fireplace and snugly fit over the fireplace opening to prevent accumulation of any ashes, sparks or the like which may tend to pass outwardly from the fireplace during the times when it is used for maintaining a coal or wood fire.

It is therefore a primary object of the present invention to provide a novel pressure type mounting bar for fireplace screens.

Another object of the present invention is to provide an adjustable mounting bar for fireplace screens which may be simply and readily adjusted to accommodate a wide variety of fireplace sizes.

Another object of the present invention is to provide a novel pressure mounting bar particularly adapted for supporting outside and hooded flexible metallic fireplace screens.

Another object of the present invention is to provide novel adjustable brackets on a pressure type fireplace screen mounting bar for supporting a screen in proper adjustable alignment with the adjacent front wall of a fireplace opening.

Another object of the present invention is to provide an extensible pressure type mounting bar with relatively simple and inexpensive means for varying the length of the bar.

These and further objects and advantages of the invention will be more apparent upon reference to the following specification, claims and appended drawings wherein:

FIGURE 1 is a front view of a fireplace screen and mounting bar construction in accordance with the present invention positioned over the fireplace opening with a portion of the screen broken away to show one end of the mounting bar;

FIGURE 2 is a plan view of the novel pressure type mounting bar of the present invention;

FIGURE 3 is an elevational view of the mounting bar shown in FIGURE 2;

FIGURE 4 is an enlarged view of a portion of the pressure bar of FIGURE 3 showing the engagement of a spring loaded dog with a plurality of ratchet teeth for adjusting the length of the bar;

FIGURE 5 is a cross-section of an adjustable bracket taken along lines 5—5 of FIGURE 2;

FIGURE 6 is a view of the right end of the mounting bar shown in FIGURE 3;

FIGURE 7 is a cross-section of the right end of the mounting bar of FIGURE 3 taken along line 7—7 of FIGURE 6;

FIGURE 8 is an end view of the left end of the mounting bar shown in FIGURE 3;

FIGURE 9 is a cross-section of the left end of the mounting bar of FIGURE 3 taken along line 9—9 of FIGURE 8;

FIGURE 10 is an end view of the left ratchet bar shown in FIGURE 3; and

FIGURE 11 is a cross-section through the pressure bar and a mounting bracket showing the adjustable arrangement provided for leveling a conventional outside screen.

Referring to the drawings, FIGURE 1 shows a typical fireplace **10** including side walls **12** and a lintel **14**. A firescreen generally indicated at **16** is mounted over the fireplace opening so that when the screen is closed the only parts visible are the curtains **18** and the ornamental trim strip **20** across the top of the screen. Screen **16** is shown as partially opened in FIGURE 1 forming a plurality of vertical pleats **22** near the center portions of the screen and permitting a partial view of the interior firebrick **24** in the fireplace **10**.

A portion of the firescreen **16** is shown broken away at **26** showing one end of the novel pressure bar **30** of the present invention in frictional engagement with an inside wall **12** of the fireplace. Spaced along the length of pressure bar **30** are a pair of screen support brackets one of which is visible at **32** in FIGURE 1.

Referring more particularly to FIGURES 2 and 3, the pressure bar of the present invention generally indicated at **30** comprises a left hand ratchet bar **36** and a right hand ratchet bar **38** telescopically received in a central tubular sleeve **40**. The ratchet bars **36** and **38** carry screen support brackets **32** and **34** respectively adjustably mounted thereon. Each of the support brackets **32** and **34** is movable between two extreme positions such as the positions indicated in both solid and dotted lines for the left hand bracket **32** in FIGURE 2.

In FIGURE 3, a portion of ratchet bar **36** is broken away. Part of the broken away portion is drawn to a much larger scale in FIGURE 4 illustrating a plurality of ratchet teeth **42** stamped out of the metal forming a portion of the flat upper surface **44** of the ratchet bar. Sleeve **40** carries a resilient elongated metallic spring **46** riveted at one end **48** to the sleeve **40** and possessing a tapered dog or detent **50** received in its other end and adapted to engage in the slots **52** defined by the stamped

out portions 42 of the ratchet bar 36. Dog 50 includes a straight vertical side 54 and a tapered side 56 adapted to mate in engagement with the cooperating surfaces of the slots 52. It will be apparent from this structure that the dog 50 is resiliently retained by the spring 46 in one of the slots 52 and while permitting movement of the ratchet bar 36 in a leftward direction opposes movement of the ratchet bar 36 in the opposite rightward direction so as to resist any reduction in overall length of the pressure bar.

The right hand end of sleeve 40 as shown in FIGURES 2 and 3 includes a similar spring 58 for engagement in similar ratchet slots 60 formed in right hand ratchet bar 38. Since the operation of spring 58 in conjunction with ratchet bar 38 is similar in all respects, to that described with respect to spring 46 and ratchet bar 36, it is thought unnecessary that it be described in detail. The dogs may be manually released when it is desired to shorten the pressure bar.

Secured to the outer end of ratchet bar 38 is an end clamp 62 for frictionally gripping the side wall of the fireplace, shown in detail in FIGURES 6 and 7. End clamp 62 includes parallel serrated edges 64 and 66 for securely gripping one edge wall 12 of the fireplace shown in FIGURE 1. Passing through an aperture 68 in clamping plate 62 is a clamping arm 70 having an upturned outer end 72. Clamp arm 70 is secured to the underside of ratchet arm 38 by a clamping screw 74 threadedly received in the clamping arm. As best seen in FIGURE 6, aperture 68 is more than large enough to permit passage of clamping lever 70 so that clamping plate 62 has a certain limited freedom of movement about clamping arm 70 in every direction. In this way clamping plate 62 is free to move a restricted distance along the clamping arm and to tilt in any desired direction so as to accommodate any irregularities which may exist in the inner side walls 12 of the fireplace shown in FIGURE 1. As shown in FIGURE 7, clamping plate 62 is illustrated as in abutment with the extreme end 76 of ratchet bar 38 which approximate position it assumes when engaging the interior wall of a fireplace.

A left hand friction grip type clamping plate 78 of similar construction is illustrated in FIGURES 8 and 9 and similarly includes an enlarged aperture 80 providing more than adequate clearance for a clamping arm 82 including a turned over, downwardly extending or hooked end 84. Serrated edges 86 and 88 are similarly for the purposes of resiliently engaging and tightly gripping the inside wall surfaces of a fireplace such as that shown in FIGURE 1. Clamping lever 82 as before is secured to the underside of ratchet bar 36 by means of a screw 90.

An end plate 94 best seen in FIGURE 10 is soldered as indicated at 96 or otherwise suitably secured to the underside of the extreme end of ratchet bar 36. Threadedly received through end plate 94 is an adjusting bolt 98 having a shank 100 the extreme end of which is in abutment with the back surface 102 of clamping plate 78. Adjustment of bolt 98 bearing on clamping plate 78 causes the clamping plate to slide along clamping arm 82, to be finally retained by hooked portion 84. Because of the enlarged size of aperture 80 clamping plate 78 is free to pivot to a limited extent about arm 82 and hence can be adjusted to accommodate variations in the inside surface of a fireplace. Adjusting bolt 98 serves as a means for applying pressure to the fireplace wall so that the pressure bar 30 acting through the serrated edges of the clamping plates is frictionally retained under the pressure of adjusting screw 98 between the spaced interior walls of a fireplace.

FIGURE 11 is a cross section in elevation through the screen supporting bracket 32 slidably mounted on ratchet bar 36. Surfaces 104 and 106 represent the front and interior ceiling surfaces respectively of the fireplace 10. Ratchet bar 36 shown in cross-section is indicated as extending parallel to the front surface 104 just beneath the fireplace ceiling 106 and spaced inwardly of the fireplace from the front wall 104. FIGURE 5 is a cross-section through supporting bracket 32 along lines 5—5 of FIGURE 2 and is taken at right angles to the cross section shown in FIGURE 11.

As can be seen from FIGURES 5 and 11, bracket 32 extends outwardly from ratchet bar 36 beyond the front surface 104 of the fireplace and terminates in upwardly extending arm 108. Bracket 32 also extends rearwardly of ratchet bar 36 and is apertured at 110 to threadedly receive a vertical adjusting bolt 112 having its extreme tip bearing on ceiling 106 as indicated at 114.

Bracket 32 is secured to ratchet bar 36 by a screw 116 which passes through the bracket and through an elongated central channel 118 in the lower surface of ratchet bar 36 as seen in FIGURES 10 and 11 and is threadedly received in a nut 120 slidably enclosed by the wraparound arms 122 and 124 of the ratchet bar. The latter arms define the interior elongated chamber 126 along which the nut may slide to adjust the position of bracket 32 along ratchet bar 36 between the limits indicated. Bracket 34 is similarly attached for longitudinal sliding movement of ratchet bar 38 to the desired position. An elongated aperture 130 in bracket 32 partly seen in FIGURE 2 and shown in FIGURE 11 provides inward and outward adjustment for the bracket 32 so that it may be varied in relation to the front surface 104 of the fireplace 10.

By way of example only, FIGURE 11 includes one type of ornamental trim strip 20, which trim strip includes an angle iron 134 hooked over at 136 to define one side of a chamber 138 receiving a plurality of slidable plugs one of which is indicated at 140 to which is secured in any suitable manner the wire mesh screen 16. Angle iron 134 may be welded, soldered or otherwise suitably secured to a support channel 142 having an inwardly extending flange 144 in abutment with the front surface 104 of the fireplace. A pair of downwardly extending channel arms 146 and 148 receivably engage the upper end of bracket arm 108 and the entire screen assembly rests on this bracket arm. The lower end of channel arm 146 is turned over as indicated at 150 to define the other side of chamber 138 with sliding plug 140 movable therein.

Any variance in the structure of a particular fireplace or any tendency of the weight of the ornamental strip 20 and depending screen 16 resting on upper arm 108 of the bracket 32 tending to twist the bracket about ratchet bar 36 is prevented by the adjustable bolt 112 bearing against ceiling 106. Adjustment of this bolt makes it possible to maintain bracket 32 completely horizontal. Bracket 34 is of like construction and a similar bolt on bracket 34 in turn makes it possible to keep the entire trim strip and screen assembly perfectly horizontal.

From the foregoing, it is apparent that the present invention provides a novel pressure bar particularly adapted for use with outside and hooded type flexible metallic firescreens. The bar comprises a central sleeve fitted with a pair of spring loaded dogs to engage ratchet teeth on right and left hand ratchet bars telescopically slidable into and out of the sleeve making it possible to adjust the overall length of the pressure bar over a substantial range of fireplace sizes. For example, through movement of the ratchet bars alone, the overall length of the pressure bar may be varied in one example constructed by as much as 7 inches. In addition, movement of the screen supporting brackets 32 and 34 may vary the spacing between these brackets by as much as 17 inches. The fine adjustment for the pressure bar is provided by the screw 98.

The present invention provides a relatively simple, inexpensive and yet rugged structure incorporating as many as five separate independent adjustments for adapting the

structure to several variations in fireplace dimensions and surface variations. In view of these many adjustments available, the device may be manufactured in quantity and with a very limited stock may be adapted to almost all available fireplaces.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment is therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What is claimed and desired to be secured by United States Letters Patent is:

1. A mounting bar for fireplace screens comprising a central sleeve, a pair of ratchet bars slidably received in the ends of said sleeve, spring biased detent means on said sleeve cooperating with said ratchet bars for resisting inward movement thereof, means for frictionally gripping the walls of a fireplace mounted on the ends of said ratchet bars remote from said sleeve, a pair of firescreen supporting brackets adjustable lengthwise of said ratchet bars, said gripping means being freely mounted for nutating movement about the ends of said ratchet bars to compensate for irregularities in the wall surface of said fireplace, one of said gripping means being movable outwardly to lock said mounting bar in position in said fireplace, said movable gripping means being slidable along an end portion of one of said ratchet bars under the influence of an adjustable pressure screw.

2. A mounting bar according to claim 1 wherein said firescreen supporting brackets include offset adjustable means for engaging the ceiling of a fireplace to horizontally position saiid brackets with respect to the front of said fireplace.

3. A mounting bar according to claim 2 wherein said brackets are adjustable transversely of said ratchet bars.

4. A mounting device for adjustably holding fireplace screens between the walls of a fireplace comprising: an extensible pressure bar having a central member and a pair of telescoping members extending from respective ends of said central member; said telescoping members being adjustably mounted on said central member and engaged by spring biased detent means; a pair of gripping members respectively mounted on the ends of said telescoping members remote from said central member for frictionally gripping the walls of said fireplace; said gripping members being freely mounted for nutational movement about said remote ends of said telescoping members so as to compensate for irregularities in said walls of said fireplace; one of said gripping members being slidable along said remote end of its respective telescoping member for locking said mounting device in position between said walls of said fireplace; and support means mounted on said pressure bar and being adjustable in position lengthwise of said pressure bar for mounting said fireplace screens on said mounting device.

5. A mounting device for adjustably holding fireplace screens between the sidewalls of a fireplace comprising: an extensible pressure bar having a central sleeve and a pair of telescoping ratchet bars slidably extending into respective ends of said sleeve; said ratchet bars being adjustably mounted to said sleeve and engaged by spring biased detent means; said detent means cooperating with said ratchet bars for resisting inward movement thereof; a pair of gripping plates respectively mounted on the ends of said ratchet bars remote from said sleeve for frictionally gripping said sidewalls of said fireplace; said gripping plates being freely mounted for nutational movement about said remote ends of said ratchet bars so as to compensate for irregularities in said sidewalls of said fireplace; one of said gripping plates being slidable along said remote end of its respective ratchet bar for locking said mounting device in position between said sidewalls of said fireplace; and at least two support brackets mounted on said pressure bar and being adjustable in position both lengthwise and transverse of said pressure bar for mounting said fireplace screens on said mounting device.

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