July 7, 1953 F. J. MEYER 2,644,191

FIREPLACE SCREEN SUPPORT

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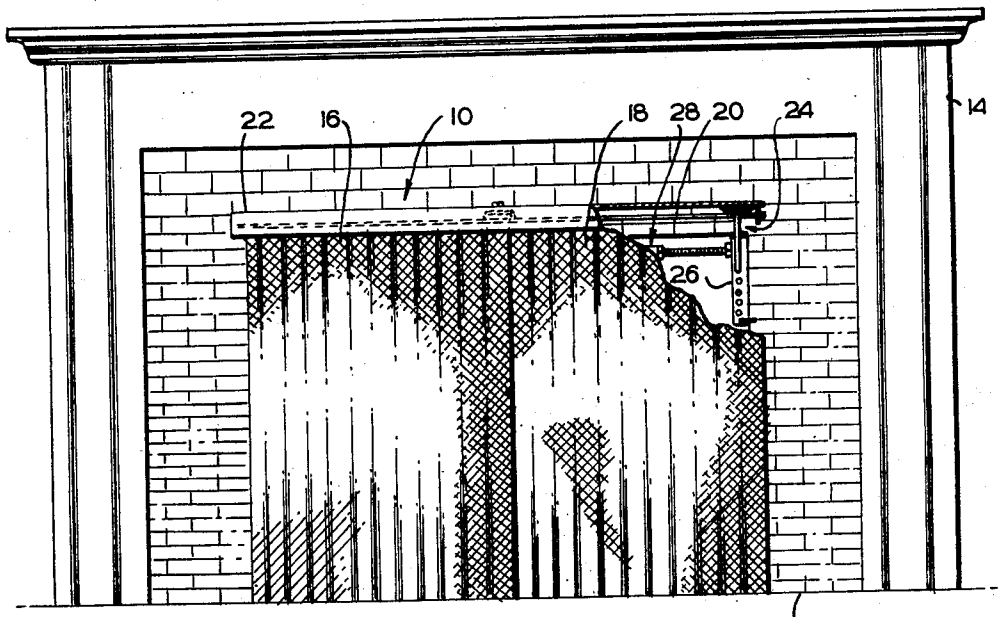
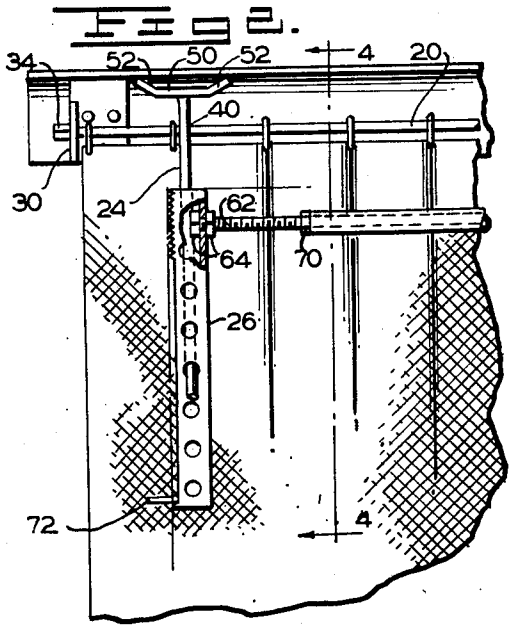
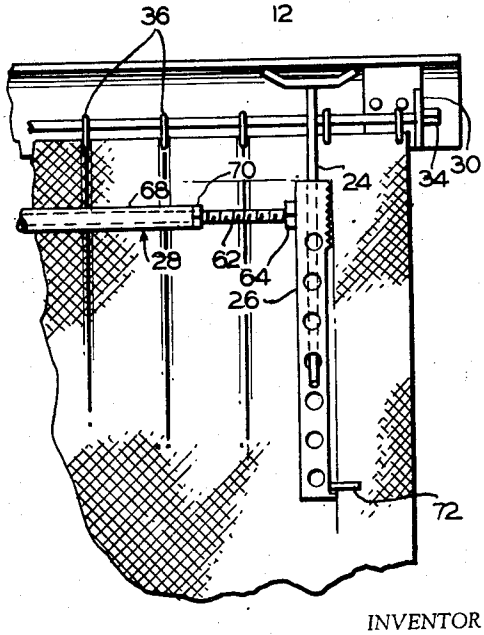


Fig 1.

Fig 2.





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Fig 3.

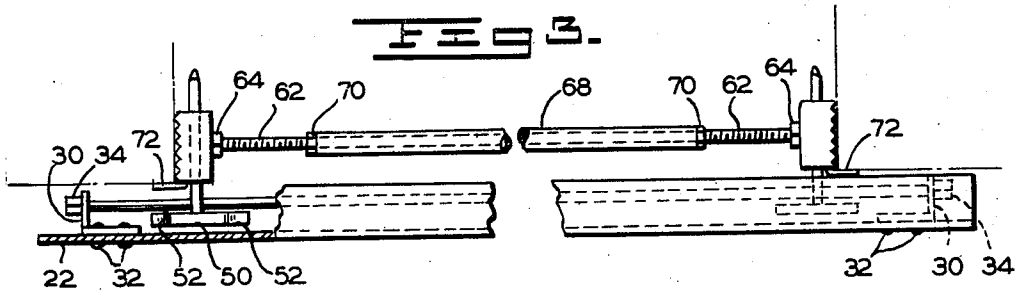


Fig 4.

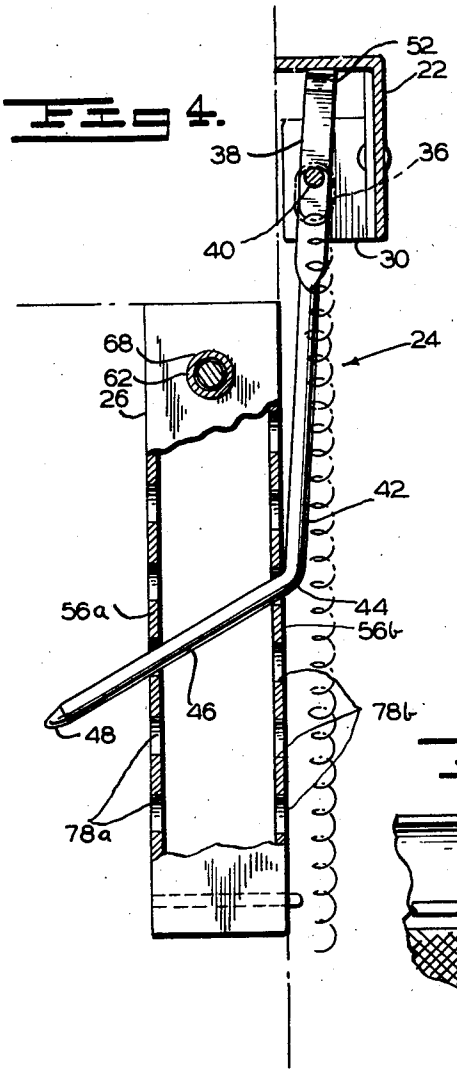


Fig 5

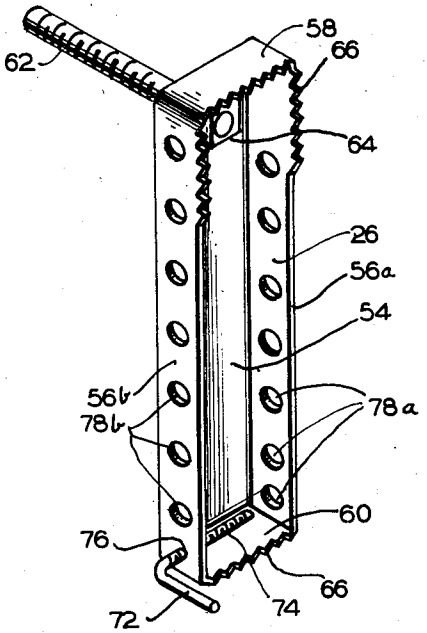
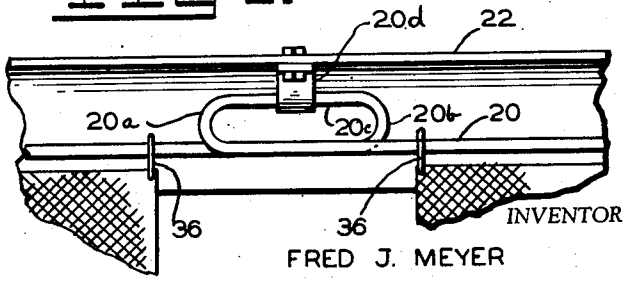


Fig 6.



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FIREPLACE SCREEN SUPPORT

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5 Claims. (Cl. 16—87.4)

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This invention relates to fireplace screens and in particular to improved means for supporting screens of the metal mesh type.

In the past, metal mesh type fireplace screens which are mounted on the fireplace structure have not been overly popular for several reasons, one reason being that nearly all fireplace openings are different, varying in size from 27 inches by 30 inches to 33 inches by 42 inches in over 95 percent of fireplaces. This variation in size, in view of the fact that individual screens have been made to fit only one size, has meant that retail stores must take orders to be sent to factories for constructing custom made screens to fit a particular fireplace. This has resulted in a very unsatisfactory situation because of the expense of custom made screens and also because many mistakes are made in taking the measurements, rendering the screens unusable.

An additional difficulty in the past with installed screens has been the necessity of defacing the front of the fireplace by drilling or tapping the stone or brick so that suitable brackets may be secured to the fireplace to retain the screen. This is a difficult operation for a householder unskilled in the use of tools, and while a craftsman may make such an installation it obviously adds to the cost of the installed screen.

According to the present invention, a screen is provided which overcomes the foregoing difficulties and has many other further advantages. By the present invention, a screen is provided which is adjustable as to both height and width, the adjustment being sufficient to adequately take care of the above-mentioned variations in dimensions. Furthermore, there is no need to drill, tap or nail any supporting bracket in or to the fireplace structure. The operation of installing the mounting brackets associated with the screen of the present invention involves merely turning threaded adjustment devices.

Therefore, a primary object of this invention is to provide improved fireplace screens.

A further object of this invention is to provide improved fireplace screens which are adjustable as to height and width to be adaptable to any size of fireplace.

A further object of this invention is to provide a fireplace screen which may be quickly installed by adjusting threaded devices to retain the screen in the fireplace by the action of friction or the like.

It is a further object of this invention to provide a height adjustment for a fireplace screen which comprises a plurality of adjustment positions is in brackets secured by clamping or the like to the inner surfaces of the fireplace side walls.

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A further object of this invention is to provide fireplace screens which may be readily installed and removed without in any way defacing or tampering with the fireplace structure.

Further objects and the entire scope of the invention will become apparent from the following detailed description and from the appended claims. It will be understood that the following detailed description is made only for purposes of illustration and is not intended to limit the scope of the invention.

The invention may be best understood with reference to the accompanying drawings in which:

Fig. 1 shows a front view of a screen assembly embodying the present invention installed in a fireplace.

Fig. 2 shows a rear view of the structure of a screen assembly according to the present invention.

Fig. 3 shows a top view partly in section of the screen according to the present invention.

Fig. 4 shows a sectional view taken along the line 4—4 of Fig. 2.

Fig. 5 shows an isometric view of a screen mounting bracket which forms a part of the present invention, and

Fig. 6 shows a detail view of structure for permitting overlapping of a metal mesh screen at the center of a fireplace.

Referring now to Fig. 1, a complete screen assembly designated generally as 10 is shown in place in a masonry fireplace 12 which is surrounded by a conventional mantel structure 14. There is provided a first panel 16 and a second panel 18 of conventional wire mesh hanging from a transverse wire mesh supporting rod 20 which in turn is supported in a transverse cover member 22. The unit comprising rod 20 and cover 22 is supported at either end thereof by means of hanger prongs 24, which receive the transverse rod 20 near their upper ends and which are supported in side bracket members 26 at their lower ends. The bracket members 26 are retained against the inner surfaces of the fireplace side walls under the action of an expansible turnbuckle device designated generally as 28.

Referring next to Figs. 2–4 in addition to Fig. 1, it may be observed that the transverse rod 20 is attached to the cover 22 by means of right angle brackets 30 which may be attached to the

cover 22 by suitable rivets 32 or by any other convenient means, such as welding or brazing. It may be further noted that cover 22 is of inverted L-section, thus forming top and front cover members. The arms of brackets 30 which extend outwardly from cover 22 are provided with suitable apertures to receive the ends of rod 20 and the ends of this rod may be threaded to receive threaded retaining nuts 34. The rod 20 is located a sufficient distance from both of the two sides of cover member 22 to permit a plurality of supporting rings 36 to be freely slidable along the rod. Each of the rings 36 also surrounds an upper section of one or the other of the wire mesh panels 16 and 18. Since the wire mesh is flexible, the panels 16 and 18 may be moved to either side of the fireplace to open the screen. If desired, the outer upper corners of the mesh panels 16 and 18 may be secured by any suitable means to the brackets 30 or other suitable point on the cover 22 to prevent the outer edges of the screen from being unintentionally moved toward the center of the fireplace. Hanger members, to be described below, will also serve the same purpose.

It will also be understood that any conventional draw chain means may be provided for synchronizing the movement of the separate mesh panels 16 and 18. Such draw chains are sometimes preferred not only to synchronize the movement of the panels, but also to provide a means of opening the screen without having to grasp the panels themselves, since the panels may be quite hot.

Continuing to refer to Figs. 1–4, the previously mentioned hanger prongs 24 may be fabricated from round stock forged in one section to provide a flattened or rectangular section 38, and this portion may be drilled to form an aperture 40 for receiving the transverse wire mesh supporting rod 20. The diameter of aperture 40 should be just slightly larger than the diameter of rod 20 for reasons which will become more fully apparent below. The hanger prong 24 is further characterized by a downwardly extending portion 42 extending a considerable distance below the lower edge of cover member 22. The prong is then bent as at 44 in a direction toward the inside of the fireplace. The remaining portion of the prong is designated 46 and extends in a downwardly sloping direction and terminates in a somewhat rounded or pointed end 48. At the upper end of each hanger prong 24, there is also provided a cross-piece 50 having upwardly extending ends 52. As best observed in Figs. 2 and 4, the extremities of the upturned ends 52 are so positioned as to just engage the undersurface of the horizontal side of cover member 22. By this arrangement, it has been found that the hanger prongs 24 are effectively locked in position as regards lateral sliding movement along the rod 20. This comes about because an attempt to slide the prongs 24 along the rod 20 by grasping the lower end of the prong as at portions 42 or 46 thereof tends to pivot the prong laterally at the aperture 40 and in so doing one or the other of the upturned ends 52 firmly engages the cover 22. Also, the edges of the aperture 40 tend to bind on the rod 40 because the section 30 is of more limited dimension lengthwise of the rod 20 than is the spacing of end 52. Accordingly, since the prong 24 is supported generally at portion 46, as will be explained further below, any tendency of the supporting assembly comprising rod 20 and cover 22 to move to the right or left, as viewed in Fig. 1, is overcome. However, in installing the screen the prongs 24 may be readily moved along the rod 20 by grasping the prong substantially at the aperture 40. By so doing, the prong may be maintained in perpendicular relationship to the rod 20 and the above-mentioned binding effect will not occur. Since the prongs 24 may be readily moved along rod 20, any width of fireplace opening may be accommodated.

Each of the prongs 24 will generally be located on rod 20 between two of the mesh support rings 36. For an extreme variation in fireplace width, the rod 20 may be readily removed temporarily to permit rearrangement of the prongs relative to rings 36.

Referring now to Fig. 5, in addition to Figs. 1–4, the construction of the mounting brackets 26 and the turnbuckle 28 for retaining these brackets in place may be understood in detail. In the illustrated embodiment each of the brackets 26 is of a rectangular box-like construction open at one side. That is, the brackets are characterized by a cover panel 54 having vertical side walls 56*a* and 56*b* and an upper end wall 58 and a lower end wall 60.

Securely fixed in the upper portion of cover 54 is a threaded rod 62, this rod extending in perpendicular relation to the cover 54. The rod 62 may be securely fastened to the cover 54 by means of inner and outer threaded nuts 64, or the rod 62 may be welded or otherwise mounted in cover 54.

At least a portion of the edges of the walls 56*a*, 56*b*, 58 and 60 are preferably of serrated form, as designated at 66, to form a more positive engagement with the inner surfaces of the fireplace side walls. Furthermore, it is preferable to have the serrations only at the upper and lower ends of the bracket 26, as shown in Fig. 5, with the remaining edges of the vertical walls being somewhat retracted so that they will not engage the fireplace wall. The reason for this is that if a protruding irregularity should occur near the center of the bracket, there would be less resistance to rotation of the bracket at this point. On the other hand, where the most positive engagement occurs at the top and bottom of the bracket, all turning moments exerted on the bracket will be overcome. The serrations also preferably extend down the side edges 56*a* and 56*b* to a point slightly beyond the point of connection of rods 62.

It will be understood that the brackets 26 need not be of the particular shape which is shown. For example, they may be solid blocks or the like.

The brackets 26 may be maintained in position in the fireplace by means of what may be termed a turnbuckle tube 68 having an internal diameter just sufficient to receive the rods 62. The tube 68 may form a strict turnbuckle by being internally threaded to receive the rods 62. In this case, the threads at either end of the tube 68 would be of complementary type, that is, one would be a right hand thread, and the other a left hand thread. Then with rods 62 correspondingly threaded, the tube 68 could be rotated to move the rods 62 outwardly and thus firmly engage the serrated edges of brackets 26 with the masonry walls of the fireplace. However, to use more conventional threading, the tube 68 may be unthreaded and nuts 70 may be placed on tube 68 and these nuts turned to create the same turnbuckle effect.

It has been found that the usual fireplace screen which may weigh about twelve pounds may be firmly secured in a fireplace by use of the brackets 26 when the nuts 70 are turned up

merely by hand. When the nuts are further tightened by use of a wrench, the brackets will be so firmly secured that a weight may be supported which is tremendously in excess of the weight of the screen.

With reference to Fig. 4, it will be observed that there will be a turning moment exerted on the brackets **26**. This comes about because the weight of the screen is considerably to one side of the center lines of the brackets. To positively prevent the lower end of the bracket **26** from turning inwardly into the fireplace, there is provided a hook arm **72** which is threaded as at **74** and is received in a threaded aperture **76** in one of the bracket sides **56***a* or **56***b*, depending on which side of the fireplace the bracket is to be mounted. For convenience in manufacturing the brackets, each side of the bracket may be provided with a threaded aperture **76** so that the hook **72** may be inserted as required. This will avoid the special manufacture of both left and right hand brackets. As best shown in Fig. 3, the hook **72** will be turned to overlie the front surface of the fireplace. It will thus be clear that the brackets **26** cannot turn inwardly. Furthermore, since the rods **62** are connected with the brackets **26** near the upper ends of the latter, the upper ends will be most firmly engaged with the fireplace walls, and, therefore, the upper ends will not be able to move outwardly under the rotational forces exerted by the weight of the screen.

To provide adjustment in height, the side walls **56***a* and **56***b* of brackets **26** are provided with a series of apertures **78***a* and **78***b*, respectively. These apertures are of a diameter somewhat larger than the diameter of the downwardly sloping portion **46** of hanger prongs **24**. Accordingly, the hanger prongs **24** may be supported in the brackets **26** by inserting the bracket portion **46** through one of the apertures **78***b* and the next or other lower one of the apertures **78***a*. This arrangement is best shown in Fig. 4. The number and relative arrangement of the apertures **78***a* and **78***b* may be as desired. Where it is satisfactory to construct both right and left hand brackets, the apertures **78***a* and **78***b* need not be aligned. However, if the apertures are aligned as by drilling straight first through side **56***a* and then side **56***b*, if the apertures are of sufficient diameter the brackets may be used so that the portion **46** of hanger prong **24** is inserted from either side.

Inasmuch as the prong **46** slopes downwardly, the weight of the screen will tend to slide the prong portion **46** downwardly, and accordingly the bent portion **44** will be firmly seated against the side **56***b* of the bracket as shown in Fig. 4. Since there are a plurality of apertures, it is obvious that the height of the screen may be readily adjusted. A more fine adjustment may be provided by increasing the number of apertures. As the number of apertures is increased, the slope of prong portion **46** may be maintained as desired by simply having the used aperture differential more than one. That is the inner aperture which is used may be several apertures below the outer aperture through which prong portion **46** is inserted.

Referring to Fig. 6, to provide overlapping of the mesh panels **16** and **18** at the center of the fireplace, the rod **20** may be formed in an elongated loop having end portions **20***a* and **20***b* and a top portion **20***c*. The top portion **20***c* may then be supported on the cover **22** by means of

any suitable support, such as that designated **20***d*. Accordingly, with the top portion **20***c* twisted a slight amount about its axis, the overlapping portions of rod **20** leading to the loop ends **20***a* and **20***b* may be separated sufficiently so that the screen support rings **36** of one mesh panel may pass beside the corresponding rings **36** of the other mesh panel.

It will be clear from the foregoing that the screen may be attached to fireplaces of various widths since the cover **22** and rod **20** may overlap the actual edges of the fireplace as required. This is permissible because in all fireplaces there is a considerable amount of masonry between the edge of the fireplace and the inner edge of the mantel. Since the outer edges of the mesh panels **16** and **18** will normally be retained at approximately the ends of the cover **22**, the actual edge of the fireplace will not be predominantly visible and the complete effect of the screen is nothing other than an apparent enlargement of the actual fireplace opening.

As to the adjustment in height, it has been mentioned above that the fine adjustment may be achieved by simply providing a large number of apertures in the brackets **26**. Again, since there is invariably a considerable area of masonry between the top of the fireplace and the lower edge of the mantel top, a standard length of wire mesh may be provided for use with fireplaces ranging in the usual sizes as mentioned above.

Many other embodiments of the present invention will undoubtedly occur to others upon reading the foregoing detailed description. However, it is intended that the foregoing detailed description of one embodiment of the invention serve merely for purposes of illustration, and the scope of the invention is to be determined from the appended claims.

I claim:

1. In a device for supporting a fireplace screen, a pair of brackets, expansible means for forcing the brackets against the inner surfaces of opposing fireplace walls, support means for supporting the screen, a pair of hanger members connected to the support means and each having a prong member, and means comprising a series of apertures in the brackets for receiving the prong members, the apertures being arranged so that the prong members are received in a downwardly sloping position relative to a fireplace in which the screen is installed so that the gravitational forces exerted by the support means firmly seat the prongs against undesired removal, the series of apertures being arranged in a vertical row to permit adjustment in the height of the support means.

2. In a device for supporting a fireplace screen, a transverse rod, a hanger member, means for mounting the hanger member on the rod for sliding movement along the rod, a transverse member having ends which are interconnected with the ends of the transverse rod for retaining the rod and transverse member in parallel spaced apart relation to one another, the hanger member having a first portion extending toward the transverse member and terminating closely adjacent thereto, the first portion having a dimension along the axis of the rod substantially greater than the dimension of the hanger member in a corresponding direction at the location of the said hanger member mounting means, the hanger member having a second portion for supporting the assembly comprising the hanger member and transverse rod, the arrangement being such that the

hanger member will be locked from sliding movement on the rod in response to force components applied to the second portion of the hanger members in a direction parallel to the axis of the rod.

3. In a device for supporting a fireplace screen, a transverse rod, a hanger member, means for mounting the hanger member on the rod for sliding movement along the rod, the mounting means comprising an aperture in the hanger member of diameter only slightly larger than the diameter of the rod, a transverse member having ends which are interconnected with the ends of the transverse rod for retaining the rod and member in parallel spaced apart relation to one another, the hanger member having a first portion extending toward the transverse member and terminating closely adjacent thereto, the first portion having a dimension along the axis of the rod substantially greater than the dimension of the hanger member in a corresponding direction at the location of the said mounting means, comprising an aperture, the hanger member having a second portion for supporting the assembly comprising the hanger member and transverse rod, the arrangement being such that the hanger member will be locked from sliding movement on the rod in response to force components applied to the second portion of the hanger member in a direction parallel to the axis of the rod.

4. In a device for supporting a fireplace screen, means for providing adjustment to fit standard size screens to fireplaces of various heights and widths, said means comprising a pair of brackets, expansible means for clamping the brackets to opposing inner surfaces of the side walls of a fireplace opening, a screening support assembly comprising a transverse rod, a pair of hanger members mounted on the rod for sliding movement along the rod, a plurality of aperture means in each bracket, the hanger members each having a prong portion for insertion into the bracket aperture means, the plurality of aperture means being arranged to be in a vertical row relative to a fireplace in which the screen is installed to permit adjustment in height of the screening

support, the slidable movement of the hanger members on the rod permitting the apparatus to be fitted to fireplace openings of various widths.

5. In a device for supporting a fireplace screen, means for providing adjustment to fit standard size screens to fireplaces of various heights and widths, said means comprising a pair of brackets, expansible means for clamping the brackets to opposing inner surfaces of the side walls of a fireplace opening, a screening support assembly comprising a transverse rod, a pair of hanger members mounted on the rod for sliding movement along the rod, a plurality of aperture means in each bracket, the hanger members each having a prong portion for insertion into the bracket aperture means, the plurality of aperture means being arranged to be in a vertical row relative to a fireplace in which the screen is installed to permit adjustment in height of the screening support, the slidable movement of the hanger members on the rod permitting the apparatus to be fitted to fireplaces of various widths, the aperture means being arranged to permit the hanger prongs to extend downwardly and inwardly to firmly seat the screening support assembly against the front of the fireplace.

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References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date
265,740	Betts	Oct. 10, 1882
609,236	Law	Aug. 16, 1898
668,735	Hutchison	Feb. 26, 1901
767,741	Dittenheimer et al.	Aug. 16, 1904
1,016,641	Mason	Feb. 6, 1912
1,253,808	Garnett	Jan. 15, 1918
1,264,755	Bealin	Apr. 30, 1918
1,822,037	Kerschner	Sept. 8, 1931
2,210,606	Speranza	Aug. 6, 1940

FOREIGN PATENTS

Number	Country	Date
4,257	Great Britain	of 1892