Aug. 13, 1940. J. B. TURNER 2,211,482

FLEXIBLE FIREPLACE SCREEN AND SUPPORTING MEANS THEREFOR

Filed April 28, 1938 2 Sheets-Sheet 1

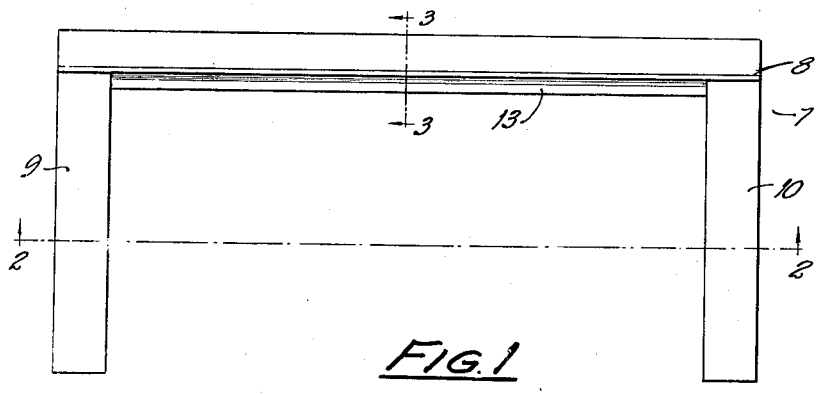


FIG. 1

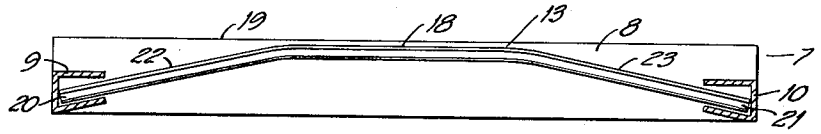


FIG. 2

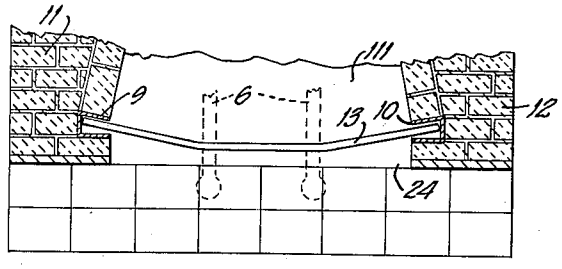


FIG. 4

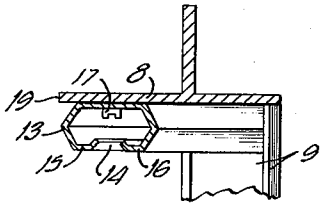


FIG. 3

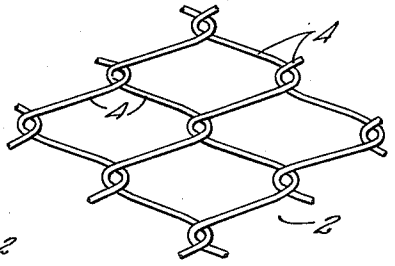


FIG. 7

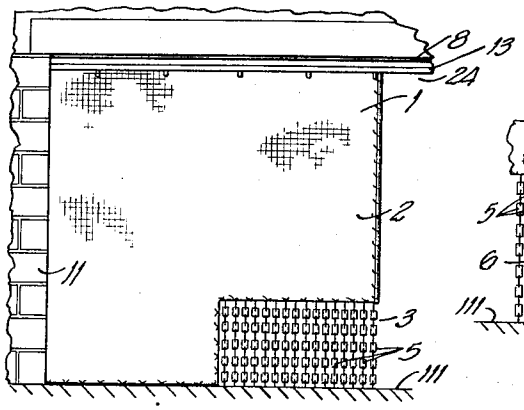


FIG. 5

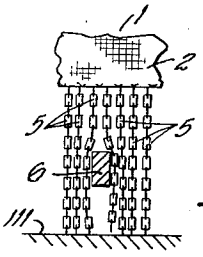


FIG. 6

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FLEXIBLE FIREPLACE SCREEN AND SUPPORTING MEANS THEREFOR

Filed April 28, 1938 2 Sheets-Sheet 2

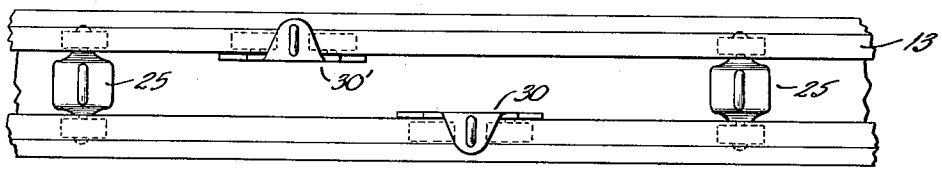


FIG. 8

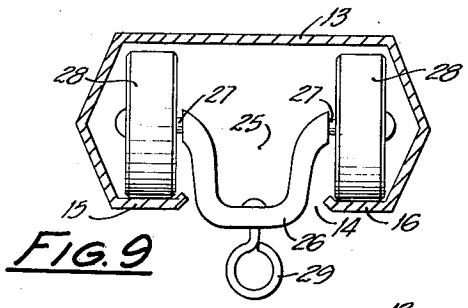


FIG. 9

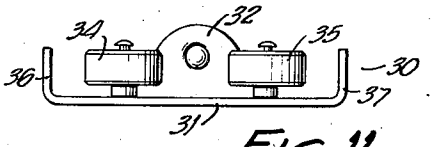


FIG. 11

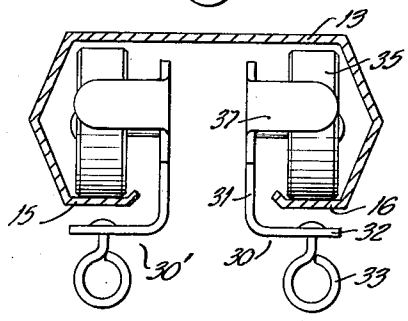


FIG. 10

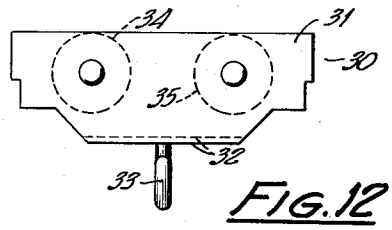


FIG. 12

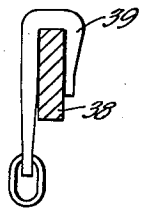


FIG. 13

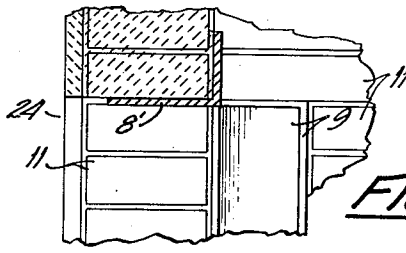


FIG. 14

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UNITED STATES PATENT OFFICE

2,211,482

FLEXIBLE FIREPLACE SCREEN AND SUPPORTING MEANS THEREFOR

John B. Turner, Norwich, N. Y.

Application April 28, 1938, Serial No. 204,792

8 Claims. (Cl. 126—202)

Flexible screens are now available for covering the openings of fireplaces to prevent sparks and burning embers from escaping therefrom and such screens are supported on the face of the fireplace and movable over the opening thereof. In most instances, however, andirons are positioned upon the hearth and are of such length that ordinarily the forward ends thereof project beyond the plane of the face of the fireplace. In such cases where flexible screens are employed, it is customary either to arrange the andirons so that they will not extend beyond the fireplace opening thereby lying wholly in back of the screen when it is moved to cover the fireplace opening or andirons which are sufficiently short in length to lie entirely within the fireplace and between the side walls thereof must be employed.

An object of my invention resides in the provision of a track which is designed movably to support a flexible screen thereon in combination with means forming a recess disposed at an end of said track whereby said screen may be moved within the recess where it will be substantially hidden from view and at least partially protected from the direct radiant heat of a fire in said fireplace. Another object resides in providing a track which is designed to be arranged within a fireplace and which is of such shape that the central portion thereof is farther removed from the back of the fireplace than its ends. With this construction, the screen may be moved over the fireplace and at least that portion which is disposed centrally of its opening is supported as far removed as possible from a fire within the fireplace and this arrangement also permits the screen to be passed in front of andirons in the event they may be of relatively short length. A still further object of my invention resides in the provision of a structural mantel which is designed to provide preformed recesses within which the fireplace screens may be suspended and a lintel beneath which a supporting track for said screens may be mounted in cooperative relation to said recesses; whereby said member may be employed as a structural member in the construction of a fireplace, providing a support for the masonry arch of the fireplace and predesigned recesses about which the fireplace walls may be laid.

With these and other objects in view, my invention includes the novel elements and combinations and arrangements thereof described below and illustrated in the accompanying drawings, in which—

Fig. 1 is an elevation view of a preferred form of structural mantel;

Fig. 2 is a sectional view thereof taken in about the plane 2—2 of Fig. 1;

Fig. 3 is a sectional view taken in about the plane 3—3 of Fig. 1;

Fig. 4 is a fragmentary, sectional plan view of a fireplace construction showing a preferred disposition of various of the elements of my invention with respect thereto;

Fig. 5 is a fragmentary elevation view of a fireplace illustrating a preferred form of flexible, metal screen;

Fig. 6 is a fragmentary detail view illustrating the manner in which the screen is adapted to surround an andiron and prevent the passage of sparks from within a fireplace;

Fig. 7 is an enlarged, fragmentary view of one form of flexible, metal screen;

Fig. 8 is a fragmentary, bottom plan view of a track illustrating preferred forms of carriers for movably supporting a screen thereon;

Fig. 9 is an enlarged sectional view, taken transversely of the track and illustrating one form of carrier element;

Fig. 10 is an enlarged sectional view similar to Fig. 9 but showing a second form of screen carrier;

Fig. 11 is a plan view of the screen carrier shown in Fig. 10 but to a somewhat smaller scale;

Fig. 12 is an elevation view thereof;

Fig. 13 illustrates a modified form of track and means for movably supporting a screen thereon; and

Fig. 14 is a fragmentary, vertical, section taken through a fireplace arch showing one form of my structural mantel.

In its preferred form, the screen of my invention, indicated generally at 1, comprises a portion 2 which preferably forms the major portion of the screen and a portion 3 which is primarily designed to enable the screen to be drawn over and substantially to lie about an andiron whereby to effect a closure of a fireplace opening against the passage of sparks from within the fireplace. The portion 2 may be formed in the manner shown in Fig. 7 wherein a multiplicity of metal wires 4 are loosely interconnected to form a mesh construction and the interlinked meshes permit the screen formed thereof to be contracted, rolled up, overfolded, or extended at will. With this construction, the individual wire elements 4, being loosely interconnected with adjacent wires and extending generally, for example, in a direction longitudinally of the screen,

may be moved relative to each other in a somewhat hinge-like manner so that the screen may be transversely rolled up or overfolded. To the bottom of the portion 2 of the screen are secured a plurality of closely spaced, freely and relatively movable elements 5. These elements may be arranged entirely across the bottom of the portion 2 or, as illustrated, only a part of the bottom of the screen may be comprised of these elements. The portion 3 of the screen is preferably formed of a plurality of metal chains which are connected to the bottom of the meshed portion 2 in closely spaced relation to each other but otherwise are freely and independently movable. Furthermore, the screen is preferably arranged to be supported with its bottom edge practically touching the hearth 11 of the fireplace and, of course, the chains also preferably hang substantially in contact therewith.

It will be understood that in the preferred arrangement of my invention, two screens are employed which are adapted to be moved apart to positions on opposite sides of the fireplace but which may be drawn together to effect a substantially complete screening of the fireplace opening. Assuming that andirons, which rest in spaced relation upon the hearth, extend beyond the face of the fireplace or beyond the zone normally occupied by the screens when drawn together, the chains 4 permit the respective screens to be drawn over an andiron and, as shown in Fig. 6, when the screen is properly positioned the suspended chains will lie on both sides of the substantially horizontal portion 6 of the andiron and effect substantially a seal against the passage of sparks past the andiron and through the fireplace opening.

In the embodiment illustrated, only a portion of the bottom of the screen is composed of freely hanging chains because ordinarily the screens meet in the center of the fireplace and therefore only a portion of each need be drawn over an andiron when disposed in the position it normally occupies on the hearth of a fireplace. Obviously, substantially the entire bottom of the screen may be formed in this manner and a single screen may be employed, if desired, with a fringe-like bottom of chains or similar elements whereby it may be drawn substantially entirely across the fireplace opening and over a pair of andiron to effect a seal against the passage of sparks in the above described manner.

It is desirable in mounting flexible screens to provide recesses on both sides of the fireplace so that when the screens are withdrawn from the opening they may be substantially hidden from view and shielded from the direct radiant heat emanating from a fire in the fireplace. As a preferred means for attaining this end, I have provided a structural mantel indicated generally at 7 in Figs. 1 and 2 which comprises a lintel 8 to which is secured supporting channels 9 and 10. These channels are preferably formed of metal as shown in Fig. 2 and are generally U-shaped to form recesses which are designed to receive the flexible screens in suspended relation therein. The bottom ends of the channels 9 and 10 are designed to rest upon the base of the fireplace and, as illustrated in Fig. 4, the side walls 11 and 12 of the fireplace may be bricked up and about the respective channels so that said channels lie within and form recesses in the interior side walls of the fireplace and in positions slightly spaced from the face thereof. The lintel 8, herein illustrated as a flanged element and which is supported across the tops of the channels 9 and 10, serves to support the masonry arch of the fireplace and the track indicated generally at 13 upon which the screens or metal curtains are designed to be movably supported.

Fig. 14 shows the manner in which the masonary arch is supported on the lintel and a slightly modified construction of the structural mantel wherein the channels may be closed at their tops by the lintel or in any suitable manner but the lintel, which comprises the angle iron 8', is secured to and lies adjacent the edges of the channels.

The track 13 is generally tubular in form but provided with an opening 14 extending longitudinally thereof and with spaced bottom walls 15 and 16 upon which the rollers of the screen carriers are designed to bear. The inner ends of the walls 15 and 16 are preferably up-turned slightly to provide ledges for retaining the rollers within the tubular track and the track may be secured to the lintel by screws 17 or in any other desired manner such as by welding or the like. Furthermore, that portion of the track which is disposed substantially centrally between the channels 9 and 10, as indicated at 18 is preferably arranged to lie nearer the front edge 19 of the lintel than the ends 20 and 21 thereof and hence farther from the back of the fireplace. The portions 22 and 23 of the track contiguous the portion 18 thereof extend diagonally of the lintel and pass within the recesses formed by the channels 9 and 10. In Fig. 4, the lintel has not been illustrated but the track is shown substantially in the position it will occupy when supported by said lintel with respect to the channels and the fireplace opening 24. It should be evident therefore that when the screens are withdrawn from their respective recesses in the side walls of a fireplace they will move forwardly and across the fireplace opening. Hence, although in a particular case, the andirons may extend outwardly slightly beyond the plane of the ends of the track, the curvature of the track may be sufficient to enable the screens to be drawn across the fireplace opening without interfering with the andirons.

In Figs. 8 through 12, I have illustrated a preferred means for movably supporting a screen upon a track of the foregoing character. Inasmuch as it is desirable to support the screens so that they may be moved to overlapping relationship, I have provided a carrier of the character particularly illustrated in Figs. 10 to 12 which is adapted to be fastened to the upper, inner edges of the respective screens whereby to permit them to be overlapped to some extent and a plurality of carriers of the type shown in Fig. 9 may be connected to the screens at suitable, spaced intervals. These latter carriers, indicated generally at 25 in Fig. 9, comprise a yoke 26 provided with trunnions 27 upon which are rotatably supported wheels or rollers 28. The rollers 28 are adapted respectively to engage the walls 15 and 16 of the track while the depending yoke 26 passes through the opening 14 of the track. To the yoke 26 is secured a ring or eye 29 to which, in turn, the screen is adapted to be connected and, of course, the eye 29 may be passed through the meshes of the screen or an intermediate link may be provided.

The carrier indicated generally at 30 in Figs. 10 to 12 comprises a frame 31 which may be stamped to provide a lip 32 which is bent over substantially at right angles to the frame and to which is suitably connected a ring or eye 33 which

may be secured to a screen at or adjacent the inner edge thereof. To the frame 31 is rotatably connected two rollers 34 and 35 and the ends of the frame may be provided with bent-over lips 36 and 37. The carriers 30 are designed to be mounted with the rollers 34 and 35 thereof in engagement with one of the bottom walls 15 or 16 of the track as shown in Fig. 10. Assuming, therefore, that to the carrier 30 is connected the inner edge of one screen and that the carrier 30' serves to support a second screen substantially at its inner edge, the screens may be movably supported upon the track 13 and said inner edges thereof moved past one another to arrange said screens in overlapping relationship.

Inasmuch as it is desirable to provide merely a 2'' or 3'' overlap of the screens, it is believed evident that the last described means for supporting the screens need only be provided at the inner edges thereof and, due to the character of supporting means above described, the screens may be easily moved from overlapping position to positions wherein they lie substantially hidden and protected within the recesses on each side of the fireplace.

In Fig. 13, I have illustrated a modified form of track as indicated at 38 and it will be understood that it may be outwardly bowed substantially in the same manner as the track 13 and arranged relative to a fireplace substantially in like manner. With this form of track, hooks of the character of that shown at 39 may be employed which are adapted to be connected at spaced points to a screen whereby slidably to support the same on the track 38.

It will be understood that the track is preferably fastened to the under surface of the lintel or horizontally extending element of the structural mantel so that the tops of the screens, supported on said track, lie beneath and closely adjacent the arch of the fireplace whereby sparks or embers are prevented from escaping between the tops of the screens and the fireplace arch. Furthermore, although I may refer to a screen or a pair of screens, one or a plurality thereof may be employed.

While I have described my invention in its preferred embodiments, it is to be understood that the words which I have used are words of description and not of limitation and that changes within the purview of the appended claims may be made without departing from the true scope and spirit of my invention in its broader aspects.

What I claim is:

1. A frame for use in fireplace constructions comprising a horizontally extending element adapted to support the masonry arch of said fireplace, vertically extending supports for said element disposed adjacent the ends thereof, at least one of said supports being provided with a reentrant portion adapted to receive a flexible screen, and a track supported beneath and extending lengthwise of said horizontally extending element with one end thereof extending within the reentrant portion of said support for supporting said screen.

2. A metal frame for use in fireplace constructions comprising a horizontally extending element adapted to support the masonry arch of said fireplace, vertically extending channels disposed adjacent the ends of said element for supporting the same, said channels comprising portions forming open sided compartments extending substantially throughout the length of said channels with the open sides thereof facing each other, and a track supported beneath said horizontally extending element with the ends thereof extending within said compartments whereby a flexible screen may be movably supported on said track and moved within said compartment.

3. A frame for use in fireplace constructions comprising a horizontally extending element adapted to support the masonry arch of said fireplace, vertically extending channels disposed adjacent the ends of said element for supporting the same, at least one of said supports being provided with a reentrant portion adapted to receive a flexible screen and a track supported substantially adjacent the under surface of said horizontally extending element and an end of said track extending within the reentrant portion of said support for supporting said screen.

4. In a fireplace comprising side walls and arch extending therebetween, a frame comprising a horizontally extending element adapted to support the masonry arch of said fireplace and vertically extending means disposed adjacent the ends of said element for supporting the same, said means comprising portions embedded in the side walls of said fireplace and at least in part defining vertically extending recesses disposed in opposed relation in opposite side walls of said fireplace, and a track supported beneath said horizontally extending element with the ends thereof disposed within said recesses, said recesses being adapted to receive a screen when moved therewithin.

5. In a fireplace comprising side walls and arch extending therebetween, a frame comprising a horizontally extending element adapted to support the masonry arch of said fireplace, vertically extending means disposed adjacent the ends of said element for supporting the same, one of said means comprising portions embedded in a side wall of said fireplace and at least in part defining a vertically extending recess in said side wall adapted to receive a flexible screen, and a track supported beneath said horizontally extending element with an end thereof disposed within said recess, said track being adapted movably to support a flexible screen and said recess being adapted to receive said screen when moved therewithin.

6. A frame for use in fireplace constructions comprising a horizontally extending element adapted to support the masonry arch of said fireplace, vertically extending supports for said element disposed adjacent the ends thereof, at least one of said supports being provided with a reentrant portion adapted to receive a flexible screen, and a track supported beneath and extending lengthwise of said horizontally extending element with one end thereof extending within the reentrant portion of said support for supporting said screen; the portion of said track lying substantially midway between the ends of said horizontally extending element being disposed forwardly of said end of said track and nearer to the front of the masonry arch.

7. A fireplace construction comprising a hearth, spaced side walls and an arch extending therebetween, at least one of said side walls in the side thereof forming an interior wall of said fireplace being provided with a recess adapted to receive a flexible screen, a track supported beneath said arch and extending across said fireplace with an end thereof extending within said recess and a flexible screen movably supported at spaced points along the length thereof on said track; said track being so constructed and ar-

ranged relative to said recess that said screen may be moved therealong and entirely within said recess whereby to shield said screen from direct radiant heat of a fire in said fireplace.

8. A fireplace construction comprising a hearth, spaced side walls and an arch extending therebetween, at least one of said side walls in the side thereof forming an interior wall of said fireplace being provided with a recess adapted to receive a flexible screen, a track supported beneath said arch and extending across said fireplace with an end thereof extending within said recess, the portion of said track lying beneath the central portion of said arch being disposed forwardly of the end thereof within said recess and nearer to the front of said arch, and a flexible screen movably supported at spaced points along the length thereof on said track, said track being so constructed and arranged relative to said recess that said screen may be moved therealong and entirely within said recess whereby to shield said screen from direct radiant heat of a fire in said fireplace.

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