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C. W. WHEELOCK

1,740,486

FIRE SCREEN

Filed March 22, 1928

*Fig. 1*

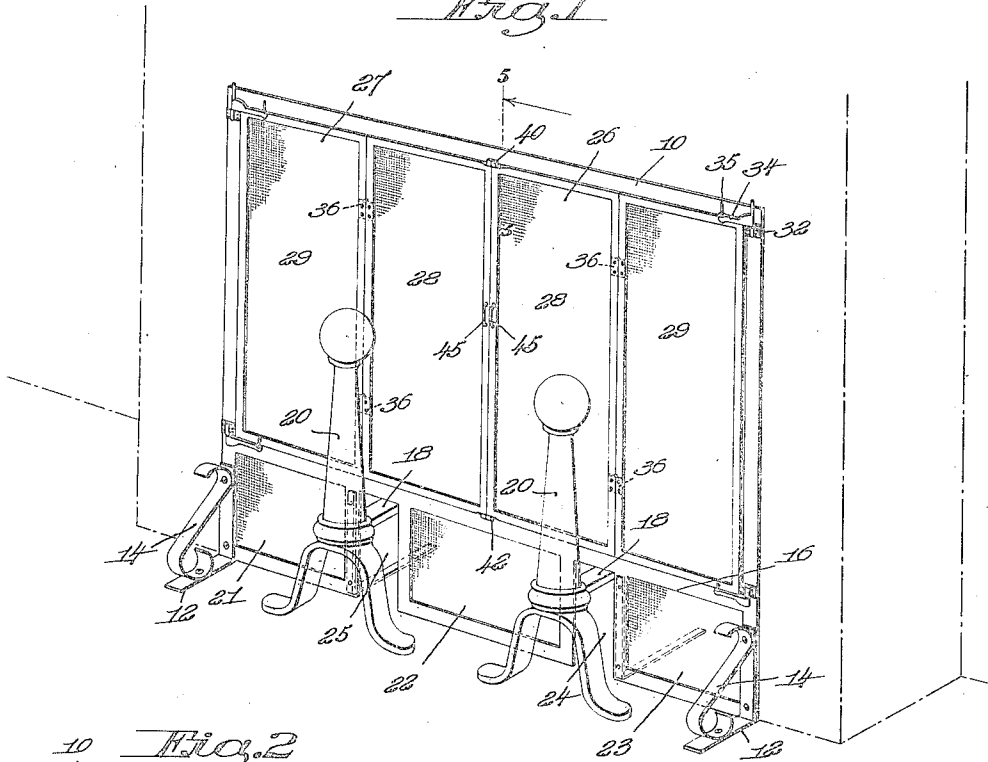
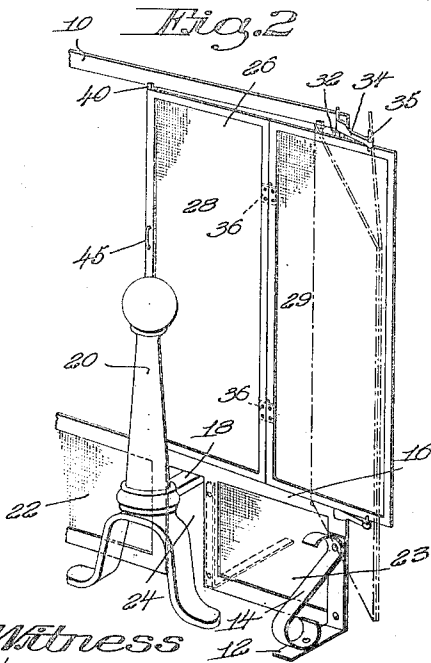


*Fig. 2*



Witness

*Frederick S. Gunkel*

*Fig. 3*

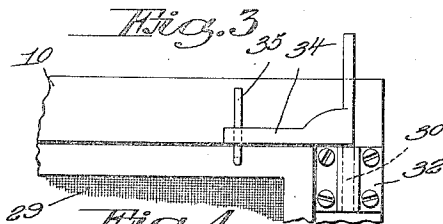


*Fig. 4*

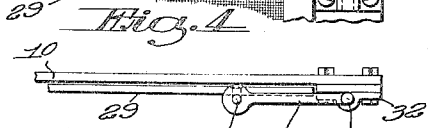
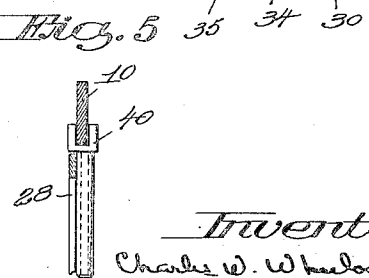


*Fig. 5*



*Inventor*

*Charles W. Wheelock*

*by his Attorney*

*Van Eenren Fish Wildness Cary.*

## UNITED STATES PATENT OFFICE

CHARLES W. WHEELOCK, OF MALDEN, MASSACHUSETTS, ASSIGNOR TO WHEELOCK MANUFACTURING COMPANY, OF MALDEN, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS

## FIRE SCREEN

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The present invention relates to a combined fire screen and spark arrester which is intended for employment in connection with open fireplaces.

The ordinary type of fire screen or spark arrester comprises either a solid screen, which is employed for closing the opening in the fireplace, or a sectional screen which closes the lower portion of the opening, including the andirons. In either type of construction the screen must be completely removed and set aside in order to conveniently obtain access to the interior of the fireplace.

The object of the present invention is to provide a new and improved type of combined screen and spark arrester which closes the opening in the fireplace, affording the desired protection, and which at the same time permits access to the interior without removal or bodily displacement.

With this object in view, the various features of the invention consist in certain novel features of construction, combinations and arrangements of parts hereinafter described and claimed, the advantages of which will be obvious to those skilled in the art from the following description.

In the accompanying drawings illustrating the preferred form of the invention,

Fig. 1 represents a perspective of the new type of screen;

Fig. 2 is a detail illustrating a perspective of one section displaced in a manner to expose the fireplace opening;

Figs. 3 and 4 are details illustrating an elevation and plan respectively of the offset screen hinge; and

Fig. 5 is a section on line 5—5 of Fig. 1.

The combined screen and spark arrester shown in the illustrated embodiment of the invention comprises essentially a frame portion having substantially the dimensions of the fireplace opening and adapted to completely close the opening when in place. The interior of the frame is closed by screen sections which are hinged to the frame at opposite sides in a manner to permit the screen sections, when desired, to be folded back about the hinged connections, affording access to the interior of the fireplace without re-

moval of the frame. The lower portion of the screen is provided with openings for the projection of the usual andirons therethrough, thus permitting the screen to be erected in contact with the surrounding walls of the fireplace opening and between the front portions of the andirons and the fire. In order to permit opening or folding back of the screen sections without interference or contact with the adjacent front portions of the andirons, each hinged screen section is preferably made in two parts and hingedly connected to the frame at the outer edges through a crane type of hinge, so designed that initial opening or separating movement of the screen sections occurs in substantially the plane of the frame. This movement accomplishes a substantial separation of the screen sections, which is equivalent to twice the length of the crane hinge, and thereafter further movement is accomplished by doubling or folding the two parts of the screen section one upon another to completely remove the screen sections from the fireplace opening. The doubling or folding of the screen sections outwardly, however, does not occur until the intermediate hinge between each two halves of the sections has been shifted laterally beyond the adjacent andiron. With this type of construction, it will be evident that access is had to the interior of the fireplace without disturbing the mounting of the screen. In addition, with the sections closed, complete protection is afforded against the accidental discharge of embers, sparks, etc.

The illustrated embodiment of the invention comprises a frame 10 of generally rectangular form of proper dimensions to encompass the opening of the fireplace, the sides of the frame preferably engaging with the wall about the fireplace opening in proximity to the edge of the opening. The lower portion of the frame may be provided with outwardly extending feet or brackets 12, provided with ornamental braces 14 to maintain the screen as a whole in operating position. The frame is provided with an intermediate portion 16 which extends lengthwise thereof above the supporting portions 18 of the usual andirons. This permits the frame to be

mounted in contact with the fireplace opening with the andirons extending there-through, the front portions 20 of the andirons being positioned in advance of the screen, as indicated in Fig. 1. The lower portion of the frame is provided with a plurality of fixed screens 21, 22 and 23, which guard the space below the andirons, leaving openings 24 and 25 for the projection of the andirons there-through. The space in the upper portion of the fireplace opening is completely closed by screen sections, indicated generally at 26 and 27. Each screen section comprises inner and outer screen portions 28 and 29, respectively, the outer section in each case being connected to the supporting frame by offset hinges of the crane type. As indicated more particularly in Fig. 3, the hinge comprises a vertical pin 30 swiveled in a bracket 32 secured to the side of the frame. Extending from the pin is an arm 34 joined with the screen section 29 at 35. The hinge is mounted adjacent to the frame so that in the closed position the screen section lies thereagainst. A lateral pressure exerted upon the inner screen section, however, swings the arm 34 outwardly and permits the two connected screen sections to be displaced laterally through an arc of 180 degrees. Thereafter, further pressure causes the two screen sections to fold back upon one another, as indicated in dotted lines in Fig. 2, the pin 35 permitting the necessary swiveling movements of the screen with respect to the arm 34. As will be evident, each outer screen section is supported by an upper and lower hinge. The two screen sections are hingedly connected at adjacent edges by hinges 36 which serve to maintain the assembled relation of the two portions of the screen section in either closed or open position. During the opening and closing movement of the screen sections they are preferably guided by upper and lower slotted guides 40 and 42, which are connected to the inner screen portion and have provision for swiveling movement with relation thereto. Each inner screen section is provided with a suitable form of handle 45 to accomplish the opening and closing movements. With the construction as described, it will be evident that lateral pressure exerted upon the inner screen section causes first a bodily displacement substantially in the plane of the fireplace opening of the two screen sections 26 and 27. This initial displacement exposes an opening equivalent to four times the length of the hinged arm, and thereafter further movement, due to the folding back of the screen sections on one another, completely exposes the opening. The initial movement or displacement of the screen sections in the plane of the opening displaces the intermediate hinge connection between the inner and outer screens sufficiently beyond the adjacent front portion of the andiron to avoid any interfer-

ence between the screen sections and the andiron when opening and to thereafter permit outward folding of the screen sections to accomplish complete exposure of the opening.

It will be evident to those skilled in the art that with this form of construction access may be had to the interior of the fireplace without dismounting the guard or screen, and that furthermore complete exposure of the fireplace opening is obtained without interference with the andirons, irrespective of the type which may be used. Obviously, the shape of the frame and the particular method of mounting and supporting the screen sections may be varied without departing from the spirit of the invention.

What is claimed is:

1. A combined fire screen and spark arrester comprising a frame adapted to encompass the fireplace opening, a plurality of sliding and folding screen sections within the frame, and means for hingedly connecting the screen sections to the frame and adapted to permit bodily lateral displacement of the screen sections without removing the frame from operative position.
2. A combined fire screen and spark arrester comprising a skeleton frame adapted to fit about the fireplace opening back of the front portions of the usual andirons, a plurality of sliding and folding screen sections adapted to close the opening in the frame above the andirons, and means for supporting the sections to permit initial lateral movement in the plane of the fireplace opening, and thereafter folding of the screen sections on one another to completely expose the interior of the fireplace.
3. A combined fire screen and spark arrester comprising a frame, a plurality of slidable and foldable screen sections mounted in the frame, offset hinges connecting the screen sections with the frame, and means for moving the screen sections laterally to permit displacement through the offset hinges.
4. A combined fire screen and spark arrester comprising a plurality of slidable and foldable screen sections, means for hingedly connecting the sections along adjacent edges, pivoted arms supporting the outer sections so as to permit bodily displacement of both sections without folding the sections along adjacent edges.
5. A combined fire screen and spark arrester comprising a frame adapted to encompass the fireplace opening behind the front portions of the usual andirons, fixed screen sections below the andirons, a plurality of displaceable screen sections above the andirons, means for hingedly connecting screen sections to the frame at their outer edges, means for hingedly connecting the screen sections intermediate thereof, and means for guiding the screen sections with respect to the frame during displacement.

6. A combined fire screen and spark arrest-  
er comprising an open frame designed to en-  
compass the fireplace opening and abut  
against the surrounding walls when in place,  
screen sections supported within the frame  
5 and serving to completely enclose the space  
surrounded by the frame above the andiron  
supports, connections between the screen  
sections and frame for permitting a relative  
sliding movement of the screen sections with-  
10 in the frame and designed to permit move-  
ment of the screen sections beyond the frame  
at opposite sides to substantially completely  
expose the entire opening of the frame nor-  
mally closed by the screen sections, and per-  
15 mit free access to the interior of the fireplace.

CHARLES W. WHEELLOCK.

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