

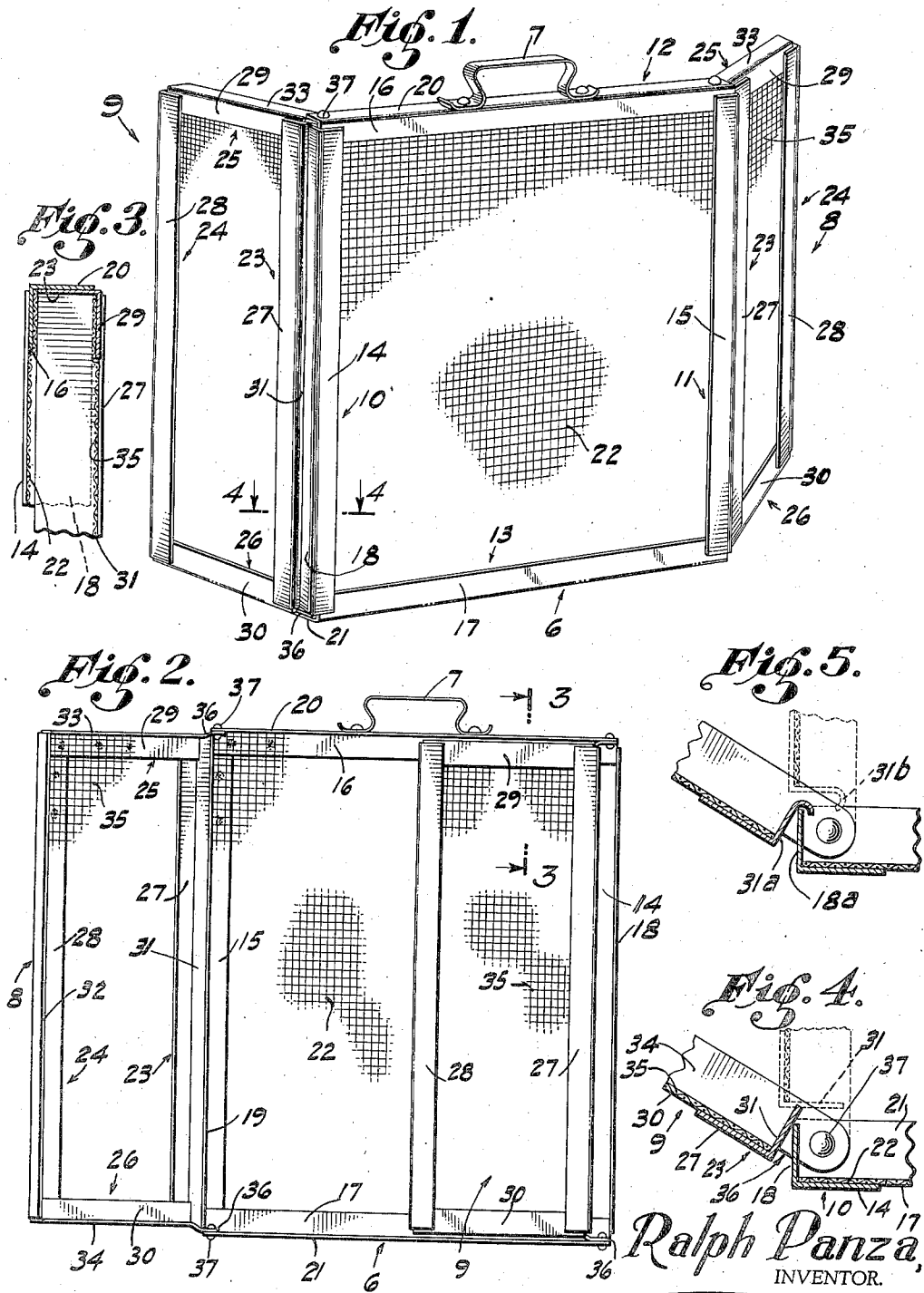
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FIRE SCREEN

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FIRE SCREEN

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The present invention relates to fire screens, and more particularly to improvements in foldable fire screens of the kind set forth in a former patent, No. 2,028,918, issued to me January 28, 1936.

A particular object of this invention is to provide a fire screen wherein the foldable parts are nestable within the main screen or stationary part so as to minimize to half size the usual shipping carton for the screen.

A further object of the invention is to provide an improved means of fastening the movable parts of the screen to the stationary part thereof and utilizing such means to indicate, at a particular adjusted position of the movable part, the correct or maximum swing to which such part should be limited to make the screen sparkless.

Still another object of the invention resides in providing a foldable winged screen wherein each wing, per se, is provided with improved stop means which limits the swing at a predetermined point and providing a shield for the gap between the wing and stationary part to obstruct the passage of sparks through such gap at other points of its swing.

Yet another object resides in the elimination of certain corner parts, thus simplifying the device and reducing the cost of the manufacture thereof.

Still other objects of the invention will hereinafter appear.

Referring to the accompanying drawing wherein is shown preferred and modified embodiments—

Fig. 1 is a perspective view of my improved fire screen as it would appear in operative position if placed before a fire place,

Fig. 2 is an elevational view looking toward the inside of the screen with one wing thereof nested within the main screen proper,

Fig. 3 is a section taken on line 3—3 of Fig. 2 to further illustrate the nested condition of the foldable wing,

Fig. 4 is a section taken on line 4—4 of Fig. 1, and,

Fig. 5 is a modified showing of the structure shown in Fig. 4.

Referring now more in detail to the drawing and, having reference first to the form of the invention shown in Figs. 1-4 thereof, the fire screen of the present invention comprises a plurality of sections, including a central or main screen frame 6 provided with a handle 7 and wing frame sections 8 and 9 pivoted to said main frame

6, said sections 8 and 9, when not in operative position, being nestable within said main frame.

Each of the sections 6, 8, and 9 are provided with a rectangular frame of angle iron. The central frame 6 is provided with angle irons 10 and 11 at the sides and with angle iron frames 12 and 13 at the top and bottom, the legs 14, 15, 16, and 17 of said angle iron frames being arranged in a common plane, and the remaining legs 18, 19, 20, and 21 of each frame 10, 11, 12, and 13 projecting in a common direction from said plane. Legs 14 and 15 are spot welded to legs 16 and 17 where they overlap, and the screen 22 is spot welded at intervals on the inside faces of said legs.

Wing sections 8 and 9 are formed similarly to frame 6, and since section 8 is the right hand frame as viewing the screen in Fig. 1, and section 9 is the left hand frame, and the latter sections are similar though reversely arranged, a common numbering of the respective elements will be adhered to.

Angle irons 23 and 24 comprise the uprights for the wing sections, and angle irons 25 and 26 compose respectively the top and bottom members. Legs 27, 28, 29, and 30 of the wing section frames are arranged in a common plane, and the remaining legs 31, 32, 33, and 34 project in a common direction therefrom. Legs 27 and 28 are spot welded to legs 29 and 30, where they overlap, and the screen 35 is spot welded at intervals on the inside faces of said legs.

Wing frame sections 8 and 9 are pivoted to the main frame 6 by extending the legs 33 and 34 into an overlapping relation with the ends of legs 20 and 21, as shown in Figs. 2 and 4 and securing these extending portions 36 by means of rivets 37. The end portions of the extensions 36 are rounded as shown in Fig. 4 to permit freedom of swing with relation to the legs 16 and 17 and the wire screen adjacent thereto. Legs 18 and 19 are also cut short as shown in Fig. 2 (note particularly leg 18 at right in Fig. 2) to permit the extension 36 to pass between the ends of legs 18 and 19 and the legs 20 and 21 with a working fit.

The extensions 36 may be slightly offset as shown in Fig. 2 to provide added clearance between the legs 33 and 34 and the legs 20 and 21 when the wings 8 and 9 are swung inwardly into a nested relation with the main frame 6.

It will be noted by referring to Fig. 4 that the pivot 37 is arranged in such a manner that at a particular or predetermined part of the swing of the wing 9, the leg 31 is brought into a contacting or closing position with leg 18.

This particular positioning of the wing 9 with relation to its main frame serves two functions. It indicates the setting of the wings whereby the screen as a whole is correctly stabilized, and when in such a position, the screen is made sparkless; that is to say, there is no gap between the juxtaposed legs 18 and 31 through which a spark could pass. It will also be noted in Fig. 4 that during the swing of the wing 9 from nested position to correct open position, the leg 31 overlies leg 18 to bring about this sparkless feature.

However, in the dotted line position of the wing 9 shown in Fig. 4, there is a gap between the leg 31 and 18, notwithstanding in such position the leg 31 extends inwardly of the leg 18; and in order in such position that no spark may pass through such gap, I provide the leg 31a with a curved portion 31b in order that at all times a fire place screen that is truly sparkless may be had.

This latter showing is illustrated as a modification in Fig. 5 in dotted and full line positions, and in full line position, the curved portion engages with the edge portion of leg 18a to provide a definite stop means for the wings 8 and 9 when they are outwardly swung to operative position.

By referring to Fig. 3, it will be noted that when the wing 9 is swung into a nested relation with the main frame (and the same is also true of wing 8) only a space half as great in thickness is needed to box the screen than was required for the screen upon which this improvement is based.

It will be seen that the curved, hook-shaped flange portion 31b not only provides a positive means to prevent escape of sparks, but it also is positioned to hook over the edge of the flange leg 18 to stop the outswing of the swingable wing section before it swings out so far as to prevent stable supporting of the device in its upstanding position.

It should be understood that the present disclosure is for the purpose of illustration only, and that this invention includes all modifications and equivalents which fall within the scope of the subject matter claimed.

What I claim is:

1. A screen of the kind described, including a plurality of sections, each of which is provided with a rectangular frame of angle iron, the angle irons at the top, bottom, and sides of the frame being arranged to have one leg of each in a common plane and the remaining leg of each projecting in a common direction from said plane, and means to pivot one of said sections to another whereby the outer face of the vertical leg of one section contacts with the adjacent vertical leg

of another section at a predetermined part of the movement of one section in relation to the other.

2. The subject matter of claim 1 and, said vertical leg of said movable section in all parts of its swing overhanging the adjacent vertical leg of another section in such a manner as to prevent possibility of sparks passing between said legs.

3. The subject matter of claim 1, and, said vertical leg of said movable section being provided with a curved edge portion, and said curved edge portion overlying the gap existing between adjacent vertical legs.

4. A screen of the kind described, including a plurality of sections, each of which is provided with a rectangular frame of angle iron, the angle irons at the top, bottom, and sides of the frame being arranged to have one leg of each in a common plane and the remaining leg of each projecting in a common direction from said plane, and means to pivot one of said sections to another, said vertical leg of said movable section being provided with a deflected edge portion which comes into a contacting relation with the edge of the adjacent vertical leg of an adjoining section at the limit of the swing of the movable section about said pivot means.

5. The subject matter of claim 4 and, said deflected edge portion being hook-shaped and forming a stop by hooking over said edge of said vertical leg of said adjacent section.

6. A screen of the kind described, including a plurality of sections, each of which is provided with a rectangular frame of angle iron, the angle irons at the top, bottom, and sides of the frame being arranged to have one leg of each in a common plane and the remaining leg of each projecting in a common direction from said plane, and means to pivot one of said sections to another whereby one of said sections constitutes a swingable wing in relation to a stationed section, said wing section having top and bottom flanges with legs which project from one edge thereof to form ears for said pivot means and the adjacent end flanges of said stationed section having legs which are shortened to provide working clearances for said ears.

7. The subject matter of claim 6 and, said shortened legs being continuous from the top to the bottom of the device, and said wing sections having flanges with the adjacent correspondingly continuous legs positioned to cooperate with said shortened legs to prevent escape of sparks in all relative positions of said two sections.

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