Oct. 6, 1931. F. C. GARRISON 1,826,613

THRESHOLD

Filed April 23, 1930 2 Sheets-Sheet 1

Fig. 1

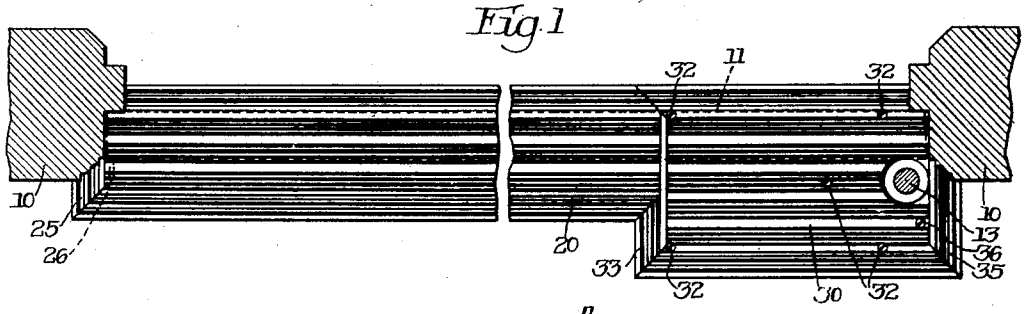


Fig. 2

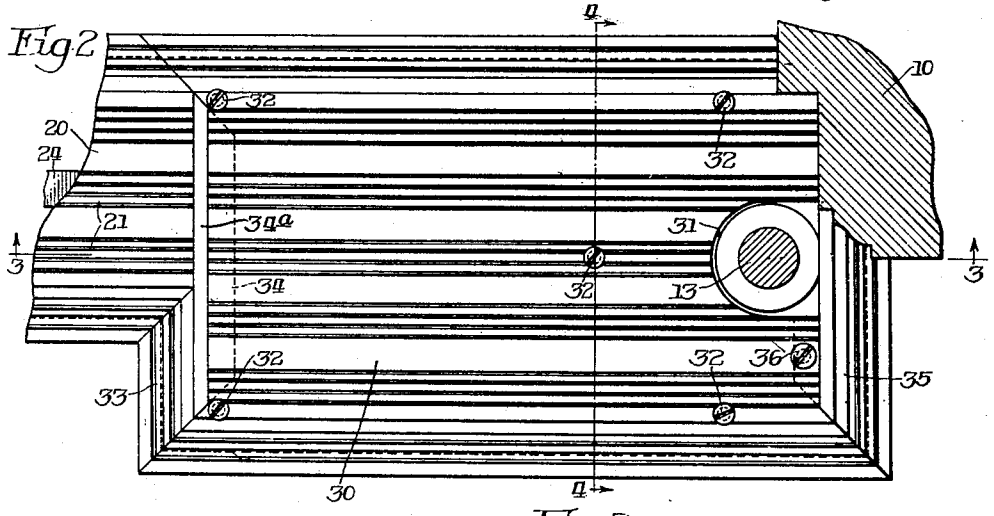


Fig. 3

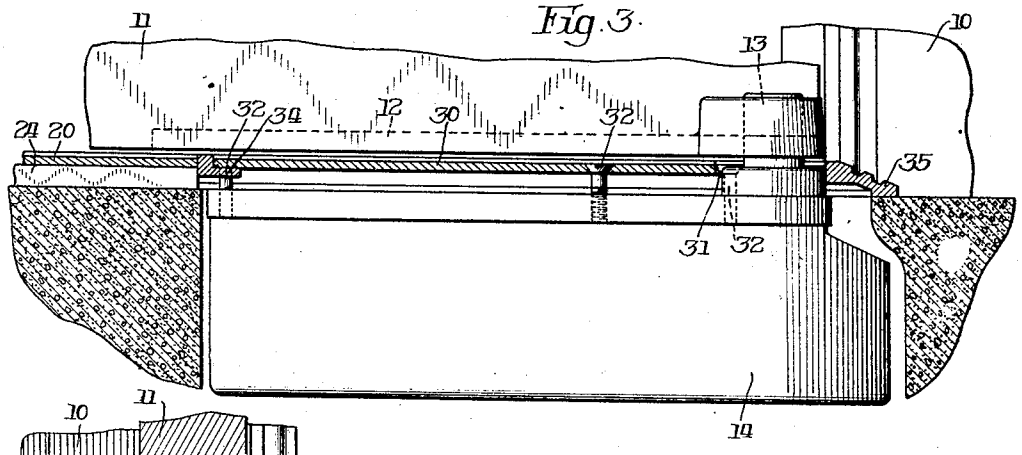
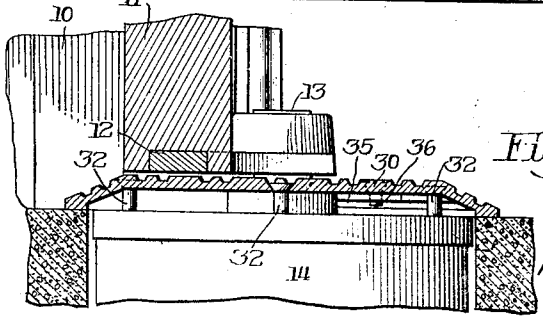


Fig. 4



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THRESHOLD

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Fig. 5.

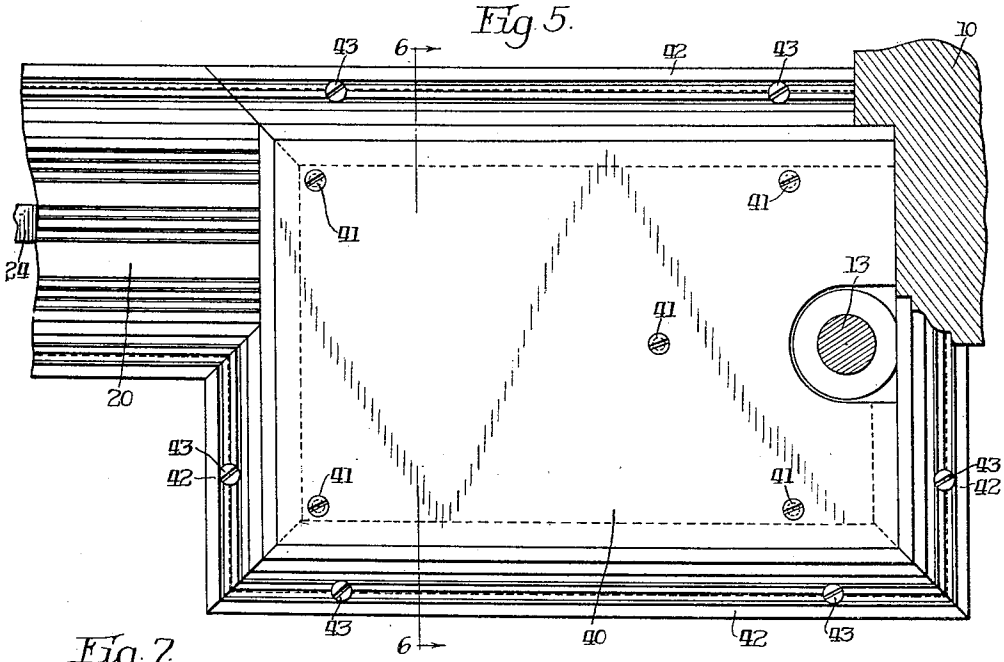


Fig. 7.

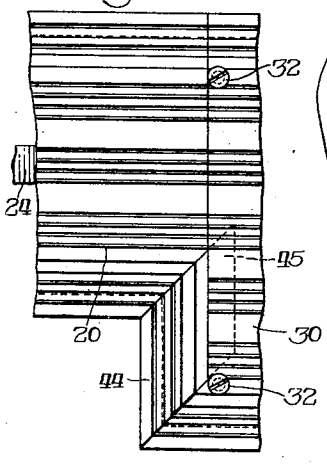


Fig. 6.

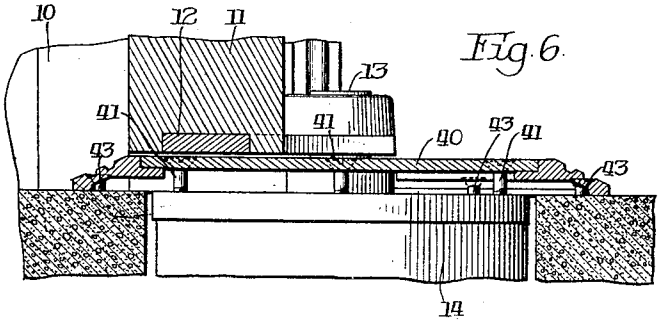


Fig. 8.

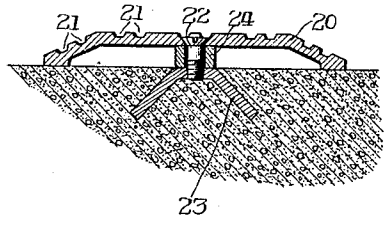
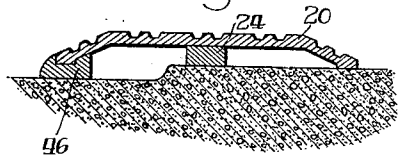


Fig. 9.



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Patented Oct. 6, 1931

1,826,613

UNITED STATES PATENT OFFICE

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THRESHOLD

Application filed April 23, 1930. Serial No. 446,435.

The invention relates in general to thresholds and more particularly to a metal threshold for a door, gate or the like. Such a door may have a door check mounted in the floor.

The general object of the invention is to provide a new and improved threshold composed of interfitting standard forms and sizes of parts which may be adapted to fit any size of door and door check, if the latter be employed.

Another object is to provide such a threshold which provides easy access to the door check without dismounting the door so that the door check may be adjusted.

A further object is to provide such a threshold which may be easily applied for all sizes of doors, which presents a neat and uniform appearance, and whose surfaces prevent slipping.

Other objects and advantages of the invention will become apparent from the following detailed description taken in connection with the accompanying drawings, in which:

Figure 1 is a plan view of a threshold embodying the features of my invention.

Fig. 2 is an enlarged plan view of the portion of the threshold covering the door check.

Fig. 3 is a longitudinal vertical section taken along the line 3—3 of Fig. 2 and showing the relation of the threshold to the door and door check.

Fig. 4 is a transverse vertical section taken along the line 4—4 of Fig. 2.

Fig. 5 is a plan view of a modified form of threshold.

Fig. 6 is a transverse vertical section taken along the line 6—6 of Fig. 5.

Fig. 7 is a fragmental plan view of a modification of a portion of the threshold shown in Fig. 2.

Fig. 8 is a vertical cross-section of the narrow portion of the threshold, showing the means for attaching it to the floor.

Fig. 9 is a vertical cross-section of the threshold showing the means for supporting the threshold when the floors on opposite sides of the doorway have different levels.

While the invention is susceptible of various modifications and alternative constructions, I have shown in the drawings and will herein describe in detail the preferred embodiment, but it is to be understood that I do not thereby intend to limit the invention to the specific form disclosed, but intend to cover all modifications and alternative constructions falling within the spirit and scope of the invention as expressed in the appended claims.

To attain the objects of the invention, a few standard shapes of metal strips of uniform cross-section throughout their length are provided, which are made in lengths best suited to the particular process of manufacture employed. From such strips, the length required for any particular threshold may be cut. Thus, one shape, which is employed to form the greatest portion of a threshold, is a strip of arched cross-section whose edges are beveled off from the top surface and in which grooves or ribs are formed in the top and beveled surfaces which are symmetrically spaced apart laterally of the strip. Such a strip may be formed in varying lengths but of a uniform cross-section throughout its length by any well-known process such as extrusion.

Strips having the shape mentioned above are made in several widths for use with various sizes of doors and also for purposes later to be described. But in all the widths, all dimensions are the same, except for the width, and, by virtue of this fact, the grooves or ribs and beveled edges of pieces of different widths match when the pieces are placed together. Other standard shapes are used in conjunction with the shapes above mentioned, whose forms and method of use will later be described.

As shown in the drawings, a threshold extending across a doorway is fitted on each end around the door jambs 10. A door 11 is supported on a bracket 12 which extends from the spindle 13 of a door check 14 mounted in the floor adjacent one jamb and beneath the door. While the invention has been illustrated in connection with a door supported by a door check mounted in the floor, it is understood that the invention is not limited to a door so supported but may be used in connection with doors supported by other means.

The present embodiment of the invention comprises a main section 20 extending from a point adjacent the outer edge of the door check 14 to the opposite door jamb 10. The main section 20 is cut from a strip of greater length having a uniform cross-section. The cross-section is in the form of an arch (Fig. 8) with a flat top face and beveled longitudinal side edges. Flat-bottomed grooves 21 are formed in both the top and beveled surfaces at uniformly spaced positions. The sides of the grooves 21 are tapered outwardly so that in cleaning any accumulation of dirt may be easily removed, and they form sharp corners with the top surface giving it a non-skid character to prevent slipping. The grooves adjacent the corners between the beveled and top surfaces are spaced a substantial distance from said corner so that a maximum amount of metal is provided at these corners where the greatest wear occurs.

The main section 20 is attached to the floor by any known means, such as screws 22 fitting in countersunk holes at spaced points along the center line of the main section. In Fig. 8, the main section is shown attached to a concrete floor in which case the screws 22 are threaded into a concrete anchor 23 of known form. In the case of wood floors, wood screws would be employed. Along its center line, the main section is supported by a rectangular strip 24 whose height is equal to the depth of the arch of the main section and which has holes registering with the screw holes in the main section. The supporting strip 24 reinforces the main section and prevents it from springing when a person's weight is put upon it, and hence prevents loosening of the screws 22 by intermittent releasing of the tension thereon. The strip 24 may be coextensive with the main section and may be attached to the piece 20 as by brazing or soldering.

In Fig. 1, the main section is shown as having a width which extends transversely beyond the edge of the left hand jamb 10. To finish off the transversely extending portion of the end, a short piece of edging 25 is cut from a standard strip which has a cross-sectional form and external appearance corresponding to the beveled edge portion of the strip from which the main section is cut, but having, in addition, a small flange 26 adapted to extend under the main section for attaching thereto as by brazing or soldering. The strip, from which the piece of edging 25 is cut, is also grooved similarly to the beveled portion of the main section so that, when the edging 25 is mitered to the main section, the grooves match to present a neat and uniform appearance.

To cover the door check 14, a piece is cut from one of the standard arched sections which may have the same width as the main section or may have a greater width depending upon the width of the door check to be covered.

As shown in Figs. 1 to 4 inclusive, a second section or plate 30 is formed from a piece of strip of arched section having a width greater than the main section. All the dimensions, other than the width, of the wider strip including the spacing and size of grooves and beveled edges are the same as those of the main section, except that on account of the width, there are a greater number of grooves. Thus, when pieces from two widths of these standard arched sections are placed end to end, the grooves and one beveled edge of one piece match, or form continuations of, those of the other piece.

The second section 30 is cut to fit around the door jamb 10 and is notched as at 31 to fit around the spindle 13 of the door check. The second section is removably attached to the door check as by means of screws 32.

To finish off the portion of the end of the second section 30 which extends laterally beyond the main section 20, a piece 33, cut from the same standard form of beveled edging which the piece 25 is cut from, is mitered to fit between the beveled edges of the main and second sections. The underlying flange, shown at 34, is cut to extend beneath the major portion of the width of the plate 30 and to be attached thereto, as by brazing, soldering, screws, rivets or the like, in order to provide ample support for the piece 33, while the plain top portion of the beveled edging, as shown at 34^a, extends substantially across the end of the second section to increase the strength of the attachment thereto. The end of the main section is also mitered on lines converging toward the second section to fit neatly therewith.

On the end of the second section, adjacent the door jamb 10, a piece 35, cut from the same standard form as the pieces 25 and 33, is mitered to finish off the exposed end. The piece 35 is detachably attached to the second section as by a screw 36 so that the second section may be removed from over the door check, without taking down the door 11, merely by removing the screws 32 and 36. Thus, easy access is provided to the door check.

It will be seen that the threshold just described comprises two pieces cut from the standard arched stock, namely, the main section 20 and the second section 30, and three pieces cut from the standard beveled stock, namely, the pieces 25, 33 and 35.

In Figs. 5 and 6, a form of threshold is shown which is used when the plate necessary to cover the door check 14 is wider than any of the standard arched sections. In this form, a plate 40 is formed of flat metal of the required thickness and is removably attached to the door check as by screws 41. The plate 40 is supported by four pieces 42 cut from a

strip of the standard beveled edging stock, which are mitered to each other and to the main section 20, the grooves in the pieces 42 forming continuations of the grooves in the beveled edges of the main section. The underlying flanges of the pieces 42 form a seat for the plate 40. The pieces 42 are adapted to be permanently attached to the floor as by screws 43. Thus, to have access to the door check, the screws 41 are removed and the plate 40 may be lifted out without taking down the door.

Fig. 7 illustrates a form of meeting between the main section 20 and the second section 30 which is a modification of the form shown in Figs. 1 and 2. In Fig. 7, a piece 44 of the beveled edging stock is mitered to fit with the mitered and beveled edges of the main and second sections, but its underlying flange 45 does not extend across the entire width of the second section, so that the main and second sections are in direct abutment along a straight line.

It sometimes happens that the floors on opposite sides of a doorway have different levels. Unless provisions were made for this, the threshold would have a slanting position which would present an unsightly appearance. In Fig. 9, a means is illustrated to overcome this difficulty, which means comprises a levelling member 46 cut from a strip having the cross-section illustrated. The member 46 has a notch in its upper surface in which the foot of the arched section of the main section fits. Its outer surface is rounded off to conform to the surface of the beveled edge of the main section.

It will be seen that a complete threshold, of any desired dimension to conform to different widths and thicknesses of doors and to different sizes of door checks, can be quickly and conveniently made up from a few standard pieces of stock, so that it is not necessary for a manufacturer to carry a large variety of shapes and sizes to conform to all cases met in practice.

It is also evident that a threshold made in accordance with this invention may be easily applied, and presents a neat and uniform appearance.

I claim as my invention:

1. A threshold for a swinging door which is equipped with a door check mounted in a recess in the floor beneath the threshold comprising, in combination, a main section consisting of an integral strip of metal, arch shaped in cross section, having a flat top face and beveled longitudinal side edges, said strip having formed in its outer face a series of grooves or ribs symmetrically spaced apart laterally of said strip and extending longitudinally throughout the length thereof, a second section shorter than said main section and overlying the door check and constituting a cover therefor, said second section comprising an integral plate of cross sectional shape corresponding to but of greater width than said main section, said second section having formed in its outer face longitudinally extending grooves or ribs spaced to match those in the main section, the two sections being arranged in end to end abutting relation with their beveled edges at one side of the threshold in alinement, the opposite side edge of the second section thus projecting laterally beyond the adjacent side edge of the main section, the corners of both sections at their abutting ends being mitered on lines converging toward the second section, and a piece of edging stock shaped to match in external appearance the beveled edge portions of said strip and plate, said piece being located along the end portion of the second section which projects laterally beyond the main section and said piece being mitered at its ends to complement and interfit with the aforesaid mitered corners of said strip and plate.

2. A threshold for a swinging door which is equipped with a door check mounted in a recess in the floor beneath the threshold comprising, in combination, a main section, arch-shaped in cross section, having beveled longitudinal side edges, said section having formed in its beveled edges a series of grooves or ribs symmetrically spaced apart laterally of said strip and extending longitudinally throughout the length thereof, a second section overlying the door check and constituting a cover therefor, said second section comprising an integral plate of cross sectional shape corresponding to but of greater width than said main section, said second section having formed in its beveled edges longitudinally extending grooves or ribs spaced to match those in the main section, the two sections being arranged in end to end abutting relation with their beveled edges at one side of the threshold in alinement, the opposite side of the second section thus projecting laterally beyond the adjacent side edge of the main section, the abutting ends of both sections being mitered together, and a piece of edging stock shaped to match in external appearances the beveled edge portions of said sections and having corresponding grooves or ribs, said piece being located along the end portion of the second section which projects laterally beyond the main section and said piece being mitered to interfit with said strip and plate.

3. A threshold for a swinging door which is equipped with a door check mounted in the floor beneath the threshold comprising pieces cut from three forms of stock, two of said forms being arch shaped in cross section and having beveled longitudinal side edges, one of said two forms being wider than the other, and the third of said forms being shaped to match in external appearance the beveled edges of said first two forms, said pieces com-

prising a first piece cut from the narrower form of arch shaped stock to extend from the outer edge of the door check to the opposite door jamb, a second piece cut from the wider form of arch shaped stock to be attached to and to cover said door check, and pieces cut from said third form of stock to fit along the ends of said first and second pieces where they extend laterally beyond the door jamb and along the end of said second piece where it extends laterally beyond said first piece.

4. A threshold comprising, in combination, a metallic strip of arched cross-section with the feet of the arch adapted to rest on the floor and having countersunk holes at spaced points along its center line, a reinforcing bar underlying said strip along its center line, and having a thickness equal to the height of said arch to prevent springing of said strip when weight is placed thereon, said bar having spaced holes registering with the holes in said strip, and screws passing through the holes in said strip and said bar and threaded into the floor to secure said strip and bar to the floor and to each other.

5. A threshold of the character described comprising, in combination, a beveled-edged metallic strip having non-skid indentations uniformly spaced in its top and beveled surfaces, means for attaching said strip to the floor, and a readily removable plate forming one end of the threshold and abutting said strip for covering the door check, said plate having beveled longitudinal edges having indentations matching the indentations in said strip to form a uniform appearance therewith.

6. A threshold of the character described comprising, in combination, a beveled-edged arched metallic strip, means for attaching said strip to the floor, a metal reinforcing bar underlying said strip and having a thickness equal to the depth of the arch of said strip to prevent springing of the strip and loosening of said attaching means, and a readily removable end section of a width greater than said strip and sufficient to cover the door check and attached thereto, said section having beveled lateral and longitudinal edges conforming in shape to the beveled edges of said strip and mitered therewith to form continuations thereof.

7. A threshold of the character described comprising, in combination, a beveled-edged metallic strip having sharp-edged non-skid grooves spaced from the corners of said strip to provide heavy wearing surfaces at said corners, and a readily removable end section of a width greater than said strip and sufficient to cover the door check and attached thereto, said section having grooves forming continuations of the grooves in said strip and having a portion of its beveled edge adjacent the door check pivot detachable therefrom to permit removal of the section to give access to the door check while the door remains in position.

8. A threshold for a door which is provided with a door check mounted in the floor, said threshold comprising, in combination, a beveled-edged and grooved metallic strip cut to a length to extend from adjacent one edge of the door check to the opposite door jamb and having a uniform cross-section throughout its length, and a readily removable section cut from a strip having a similar cross-section to that of the first-mentioned strip but of a width sufficient to cover the door check, said section having pieces cut from a strip of a cross-section corresponding to the beveled portions of said first-mentioned strip attached to the portions of its ends extending laterally beyond said strip and the door jamb and mitered to fit with the beveled portions of said first-mentioned strip and said section.

9. A threshold for a swinging door which is equipped with a door check mounted in a recess in the floor beneath the threshold comprising, in combination, a main section consisting of a strip of metal, arch shaped in cross section, having a flat top face and beveled longitudinal edges, a second section overlying the door check and constituting a cover therefor, said second section comprising a plate of cross-sectional shape corresponding to but of greater width than said main section, the two sections being arranged in an end to end relation with their beveled edges at one side of the threshold in alinement, the opposite side edge of the second section thus projecting laterally beyond the adjacent side edge of the main section, and a piece of edging stock shaped to match in external appearance the beveled edge portions of said main and second sections, said piece being located along the end portion of the second section which projects laterally beyond the main section and having a flange underlying the second section which extends across said second section and is mitered to fit with the opposite edge thereof, said main section having its beveled edge portions mitered to fit with the alined beveled edge portion of said section and with said piece of edging stock respectively.

10. A threshold for a doorway, the floors on opposite sides of which have different levels, said threshold comprising, in combination, a section of metal, arch shaped in cross section, having beveled longitudinal edges constituting the feet of the arch, and a strip of metal having a longitudinal groove which receives the foot of the arch on the side overlying the floor having the lower level and which fits closely around said foot, the outer face of said strip forming in appearance a continuation of the beveled edge of said section, the distance between the bottom of the groove and the lower face of said strip being equal to the difference in level between

the two floors whereby said section is held in a level position.

11. A threshold for a swinging door which is equipped with a door check mounted in a recess in the floor beneath the threshold comprising, in combination, a main section consisting of a strip of metal, arch shaped in cross section, having a flat top face and beveled longitudinal edges, a second section overlying the door check and constituting a cover therefor, said second section comprising a plate of cross-sectional shape corresponding to but of greater width than said main section, the two sections being arranged in an end to end relation with their beveled edges at one side of the threshold in alinement, the opposite side edge of the second section thus projecting laterally beyond the adjacent side edge of the main section, and a piece of edging stock located along the end portion of the second section which projects laterally beyond the main section and having a flange underlying the second section, said piece of edging stock having its ends mitered to fit with the adjacent beveled edge portions of said sections.

In testimony whereof, I have hereunto affixed my signature.

FORREST C. GARRISON.