May 1, 1934. W. J. KIBLER 1,956,767

PICKET FENCE AND GATE

Filed June 8, 1932 2 Sheets-Sheet 1

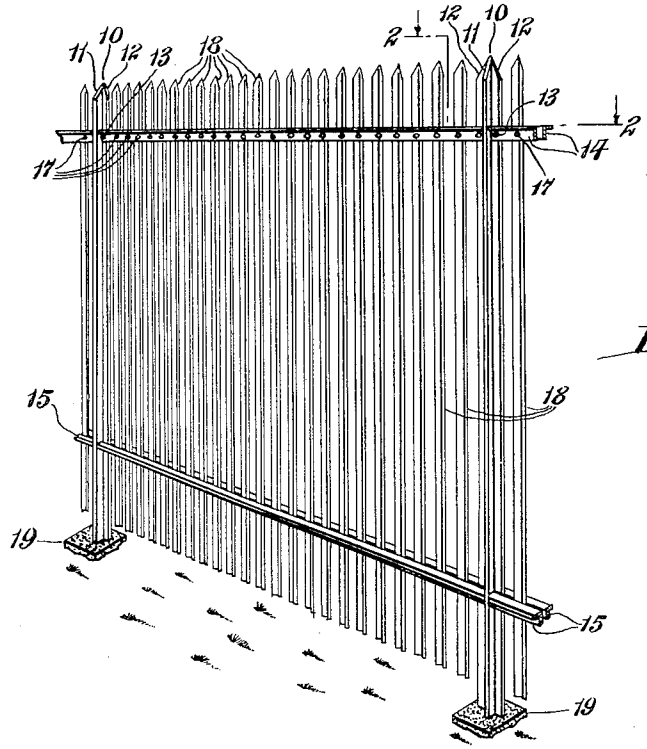


Fig. 1.

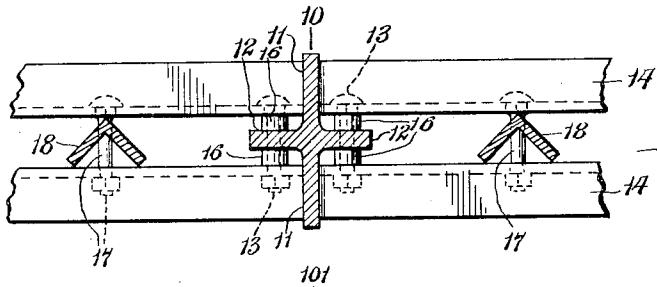


Fig. 2.

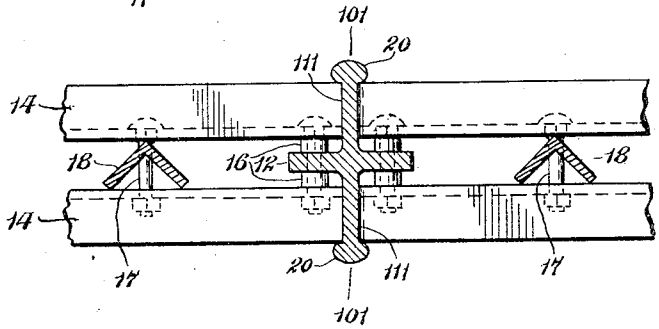


Fig. 3.

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PICKET FENCE AND GATE

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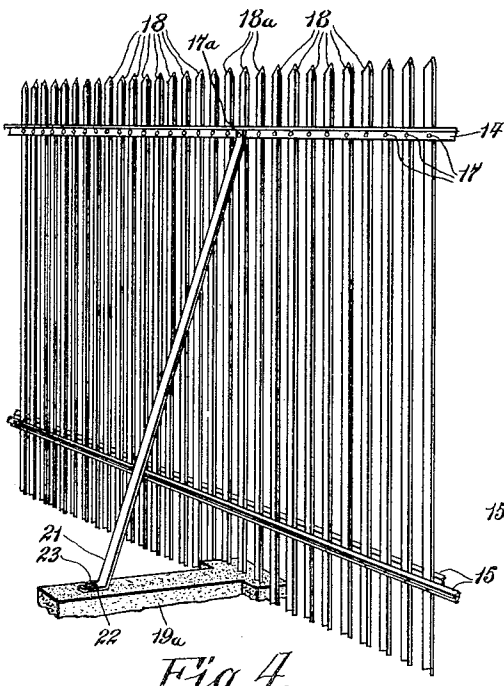


Fig. 4.

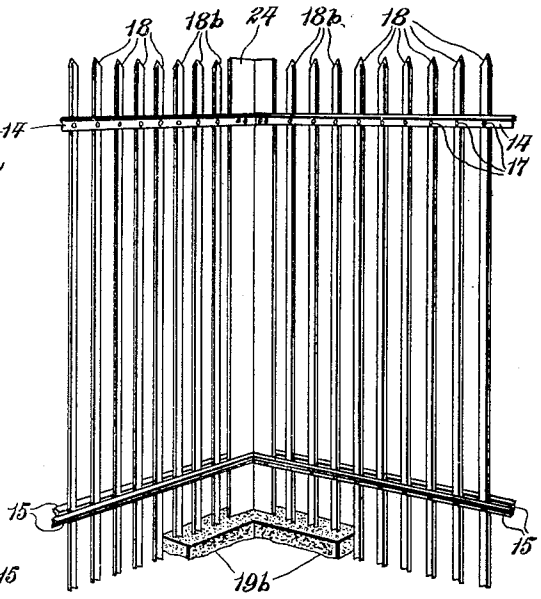


Fig. 5.

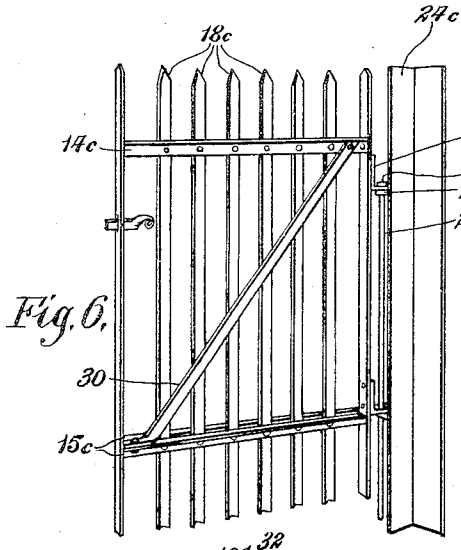


Fig. 6.

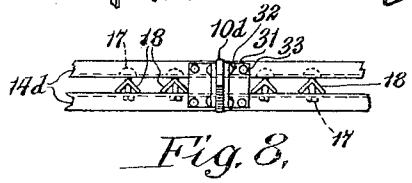


Fig. 8.

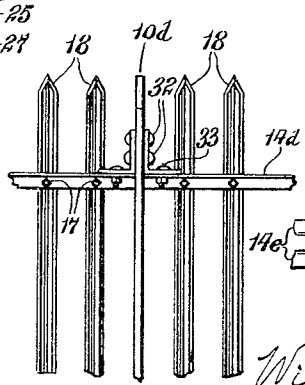


Fig. 7.

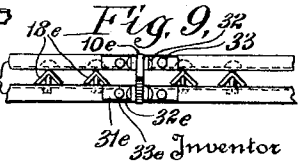


Fig. 9.

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UNITED STATES PATENT OFFICE

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PICKET FENCE AND GATE

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Application June 8, 1932, Serial No. 616,083

12 Claims. (Cl. 256—21)

This invention relates to a metal picket fence and picket gate construction and relates more particularly to a fence construction of standard structural steel shapes such as angle irons.

The principal object of the invention is to provide a neat, inexpensive and yet strong and durable picket fence and gate, and the component parts of which may be shipped in compact form and then set up in situ with the least amount of time and effort. Numerous other advantages of the invention and practical solutions thereof are disclosed in detail in the herein patent specification wherein:

In the accompanying drawings:

Fig. 1 is a perspective view of a section of fence constructed in accordance with my invention.

Fig. 2 is an enlarged, horizontal, fragmentary section thereof taken on line 2—2, Fig. 1.

Fig. 3 is an enlarged, horizontal section similar to Fig. 2 but showing a modified form of post.

Fig. 4 is a perspective view of another modified form of the invention in which posts are dispensed with and an inclined brace bar used to obtain the same effect.

Fig. 5 is a perspective view of the corner of the picket fence.

Fig. 6 is a perspective view of the picket gate.

Fig. 7 is an enlarged, fragmentary, side elevation of a still further modified form of the invention showing a post constructed of flat, bar iron.

Fig. 8 is a top plan thereof.

Fig. 9 is a top plan similar to Fig. 8 but showing a modified means of securing said flat, bar-iron post to the horizontal rails.

Similar characters of reference indicate like parts in the several figures of the drawings.

My invention may be embodied in various forms and in picket fences and gates of different constructions and the present applications are therefore to be regarded merely as a few of the organizations which satisfactorily carry out the invention in practice. As here shown the same is constructed as follows (referring for the present to only Figs. 1 and 2):

Suitably embedded in a concrete foundation block or footing 19 is a post 10, which, as shown in Fig. 2, is constructed of standard rolled iron stock of T-shaped cross section. This post is constituted of a pair of relatively wide, vertical, lateral flanges 11, 11 and a pair of relatively narrow, vertical, longitudinal flanges 12, 12. The reason for having the flanges 11 wider than the flanges 12 is because the heaviest strains ordinarily imposed on a fence are in a lateral direction and each post is required to have sufficient strength to resist such lateral strains independently of the other posts, whereas horizontal longitudinal strains are carried by a number of posts enabled to exert their combined strength in resisting such a longitudinal force.

Adjacent the upper and lower ends of each of said posts 10, the longitudinal flanges 12, 12 thereof are punched or drilled to receive horizontal securing bolts 13 which pass through the vertical longitudinal flanges of companion upper and lower pairs of rails 14, 14 and 15, 15, all of which are constructed of angle iron. The upper horizontal flanges of each pair of rails 14, 14 and 15, 15 face away from each other. The opposite ends of said rails abut against the adjacent faces of their companion, lateral, post flanges 11 and are disposed at opposite sides of their companion, longitudinal post flanges 12. Encircling each securing bolt 13 and disposed between the vertical flange of each rail 14 and 15 and the companion longitudinal post flange 12 is a collar or spacing washer 16 which is slipped over its companion bolt during the assembling operation.

Intermediately of the posts 10, each of the rails 14 and 15 is symmetrically drilled or punched at uniform intervals to receive a plurality of picket bolts 17. Each of said bolts passes through the apex corner of a companion picket 18, the latter being constructed of standard, rolled, angle iron having its flanges of equal width. The outer edges of the flanges of each picket bear against the inner vertical face of the vertical flange of one of the rails 14, 15 while its apex corner bears against the inner, vertical face of the vertical flange of a companion rail 14, 15.

By this construction there is a broad area of contact between each picket and its companion upper and lower rails 14, 15. By this construction also the upper horizontal flanges of each of the rails 14, 15 acts in the capacity of an eave so that the heads and the nuts of both the picket bolts 17 and the securing bolts 13 are protected from rain, snow and dirt and at the same time throw a shadow down upon and otherwise more or less conceal the heads and nuts of said bolts from view, thereby making the assembled fence (and gate) neat and attractive in appearance. It is desirable that the pickets 18 be of fairly generous size and it is for this reason that the spacing washers 16 are required so as to space the pairs of rails a sufficient distance apart to provide room

between said pairs of rails for the reception of the pickets 18. It will be noticed that such a fence is symmetrical when viewed from either of its faces and furthermore that each face is neat and attractive. Most fences are more or less pleasing when viewed from the one side but are distinctly ugly when viewed from the other side. It is also obvious that the pickets and rails between any two posts form a plurality of parallelograms, so that each section of the fence may be sloped up or down as the case may be so as to conform to the contour of the ground and still enable the posts 10 and the pickets 18 to be absolutely vertical and parallel with each other.

In Fig. 3 is illustrated a modification of the invention, the difference (as compared to the fence of Figs. 1 and 2) residing in the fact that the lateral flanges 111 of the post 101 are longitudinally thickened at their outer edges at 20, 20. This construction makes said post 101 of I-beam shape as far as lateral pressures are concerned. This increases the lateral strength of the post in greater proportion than the increase of weight due to said thickenings 20, 20 and also has the advantage that such a construction renders the fence safer for children and animals in that the exposed edges of said post are rounded off on a generous radius instead of presenting ninety degree corners.

In Fig. 4 is shown a fence in which no posts are used. In this case the fence is supported upon the ground at suitable intervals by three pickets 18*a* whose lower ends are set into a T-shaped concrete footing 19*a*. For some installations these three pickets are sufficiently strong to themselves resist lateral forces imposed upon the fence. The construction shown is however preferred, said lateral strains being resisted by an inclined brace bar 21 which is preferably constructed of angle iron or like standard rolled bar. This brace bar is bent at its upper end and suitably punched to receive the upper bolt 17*a* of the central one of the three pickets 18*a*, said bolt thereby serving to hold said picket to the upper rails 14 and also to secure the upper end of said brace bar 21. The lower end of said brace bar is provided with a somewhat longer bent end than its upper end and is slotted at 22 to adjustably receive a stud bolt 23 whose lower end is set in the stem portion of the T-shaped concrete footing 19*a*. By means of this stud bolt 23 and slot 22 the central one of the pickets 18*a* may be adjusted laterally until it is exactly vertical, whereupon the nut of said stud bolt 23 may be tightened so as to laterally hold the upper part of said central picket 18*a* in this adjusted position.

In Fig. 5 is shown one means of supporting the corner of a metal picket fence. In this case the three endmost pickets 18*b* of each adjacent fence section are set in an L-shaped concrete footing 19*b* as is also an angle iron corner post 24 whose lower end is also set in said concrete footing. The upper and lower picket sets 14 and 15 are bolted to the flanges of said corner post 24 and also (as before) to the pickets 18 and 18*a*.

In Fig. 6 is shown the construction of the picket gate which is used with this picket fence. This gate may be mounted on either an intermediate post such as that shown in Figs. 1–3 or upon a corner post 24*c* as illustrated. To this corner post are suitably secured a pair of hinge brackets 25 each of which constitutes a hinge together with a companion hinge bracket 26 and a single, long, round, bar or pintle 27 which passes through both pairs of hinge brackets 25, 26 and even extends some distance below the lower pair of hinge brackets. By this construction said pintle 27 is rendered sufficiently heavy that its mere weight prevents it from becoming gradually displaced upwardly as so frequently occurs when short, light pintles are used in the ordinary hinge. Downward displacement of said pintle is prevented by a head 28 formed integrally or otherwise at the upper end of said pintle.

The main body of the gate is formed, similarly to the fence, of a plurality of angle iron pickets 18*c* bolted at their upper and lower ends between upper and lower sets of gate rails 14*c* and 15*c*. The outer portion of said gate is supported by a single, tension, supporting bar 30 which is secured at its upper end to the inner part of one of the upper rails 14*c* and extends diagonally down and is secured at its lower end to the outer part of one of the lower rails 15*c*. Any downward strains, imposed upon the outer part of the gate, cause a tensile stress in said supporting bar 30 so that such strains cannot cause any buckling of said supporting bar as would tend to occur if it extended diagonally from the upper, outer part of the gate down to the lower, inner part thereof. For this reason this supporting bar 30 may be constructed of straight bar stock, though angle iron or other standard stock may obviously be employed as well.

Fig. 8 illustrates a modified form of fence post 10*d* and also a modified means of securing the same to the rails 14*d*. In this construction said post 10*d* is constructed of flat, bar iron stock disposed transversely of the fence to resist the lateral strains to which a fence is subjected. Each pair of rails 14*d* is secured to said post by an angle iron plate 31 the vertical flange of which is secured to the post by rivets 32 while its horizontal flange is secured to the companion pair of rails 14*d* by bolts 33. In this construction each one of the angle iron plates 31 extends horizontally from the one rail 14*d* to its companion rail 14*d*.

In Fig. 9 the arrangement is substantially like that of Fig. 8 except that each rail 14*e* is secured to its companion post 10*e* by an individual angle iron plate 31*e* secured by suitable rivets 32*e* and bolts 33*e*. In this case the width of each angle iron plate 31*e* is narrower than that of Fig. 8 and is substantially the width of the flange of the rail 14*e*.

I claim as my invention:

1. A picket fence comprising: a horizontal rail; a vertical picket constructed of angle iron and having the outer edges of its flanges in contact with one vertical face of said rail; and a fastening means passing through said picket and said rail and thereby securing said picket to said rail.

2. A picket fence comprising: a horizontal rail; a vertical picket constructed of angle iron and having the apex corner of its flanges in contact with one vertical face of said rail; and a fastening means passing through said picket and said rail and thereby securing said picket to said rail.

3. A picket fence comprising: a horizontal rail constructed of angle iron; a vertical picket constructed of angle iron and having the outer edges of its flanges in contact with one vertical face of said rail; and a fastening means passing through said picket and said rail and thereby securing said picket to said rail.

4. A picket fence comprising: a horizontal rail constructed of angle iron having one of its flanges extending horizontally outward; a vertical picket arranged against the inner face of said rail; and

a fastening means passing through said picket and said rail and thereby securing said picket to said rail.

5. A picket fence comprising: a horizontal rail constructed of angle iron having one of its flanges extending horizontally outward; a vertical picket constructed of angle iron and arranged against the inner face of said rail; and a fastening means passing through said picket and said rail and thereby securing said picket to said rail.

6. A picket fence comprising: a horizontal rail constructed of angle iron having one of its flanges extending horizontally outward; a vertical picket constructed of angle iron and having the outer edges of its flanges arranged against the inner face of said rail; and a fastening means passing through said picket and said rail and thereby securing said picket to said rail.

7. A picket fence comprising: a horizontal rail constructed of angle iron having one of its flanges extending horizontally outward; a vertical picket constructed of angle iron and having the apex corner of its flanges arranged against the inner face of said rail; and a fastening means passing through said picket and said rail and thereby securing said picket to said rail.

8. A picket fence comprising: a pair of horizontal, parallel rails; a vertical picket constructed of angle iron and disposed therebetween; and a fastening means passing through said picket and said rail and thereby securing said picket to said rails.

9. A picket fence comprising: a pair of horizontal, parallel rails; a vertical picket disposed between said rails and constructed of angle iron and having the outer edges of its flanges bearing against the vertical face of one of said rails and its apex corner bearing against the vertical face of the other of said rails; and a fastening means passing through said picket and said rail and thereby securing said picket to said rails.

10. A picket fence comprising: a pair of horizontal, parallel rails constructed of angle irons and having their upper flanges horizontal and facing away from each other; a vertical picket disposed between said rails and constructed of angle iron and having the outer edges of its flanges bearing against the vertical face of one of said rails and having its apex corner bearing against the other of said rails; and a picket bolt passing through the vertical flanges of said rails and through said picket.

11. A picket fence comprising: a vertical post of + shaped cross section; a pair of rails disposed at opposite sides of one of the vertical flanges of said post; spacing washers interposed between each of said rails and the adjacent face of said post; a securing bolt passing through both of said rails and through said washers and through the companion flange of said post; and a plurality of pickets arranged between said rails and secured thereto.

12. A picket fence comprising: a vertical post of + shaped cross section with one pair of its opposite, vertical, flange edges thickened; a pair of rails constructed of angle iron and having their upper horizontal flanges facing away from each other and disposed at opposite sides of one of the flanges of said post; spacing washers interposed between each of said rails and the adjacent flange of said post; a securing bolt passing through the vertical flanges of both of said rails and through said washers and through the companion flange of said post; a plurality of pickets constructed of angle iron and having the outer edges of their flanges bearing against one of said rails and having their apex corners bearing against the other of said rails; and a plurality of picket bolts passing through said rails and through each one of said pickets.

WILLIAM J. KIBLER.