

Dec. 9, 1958

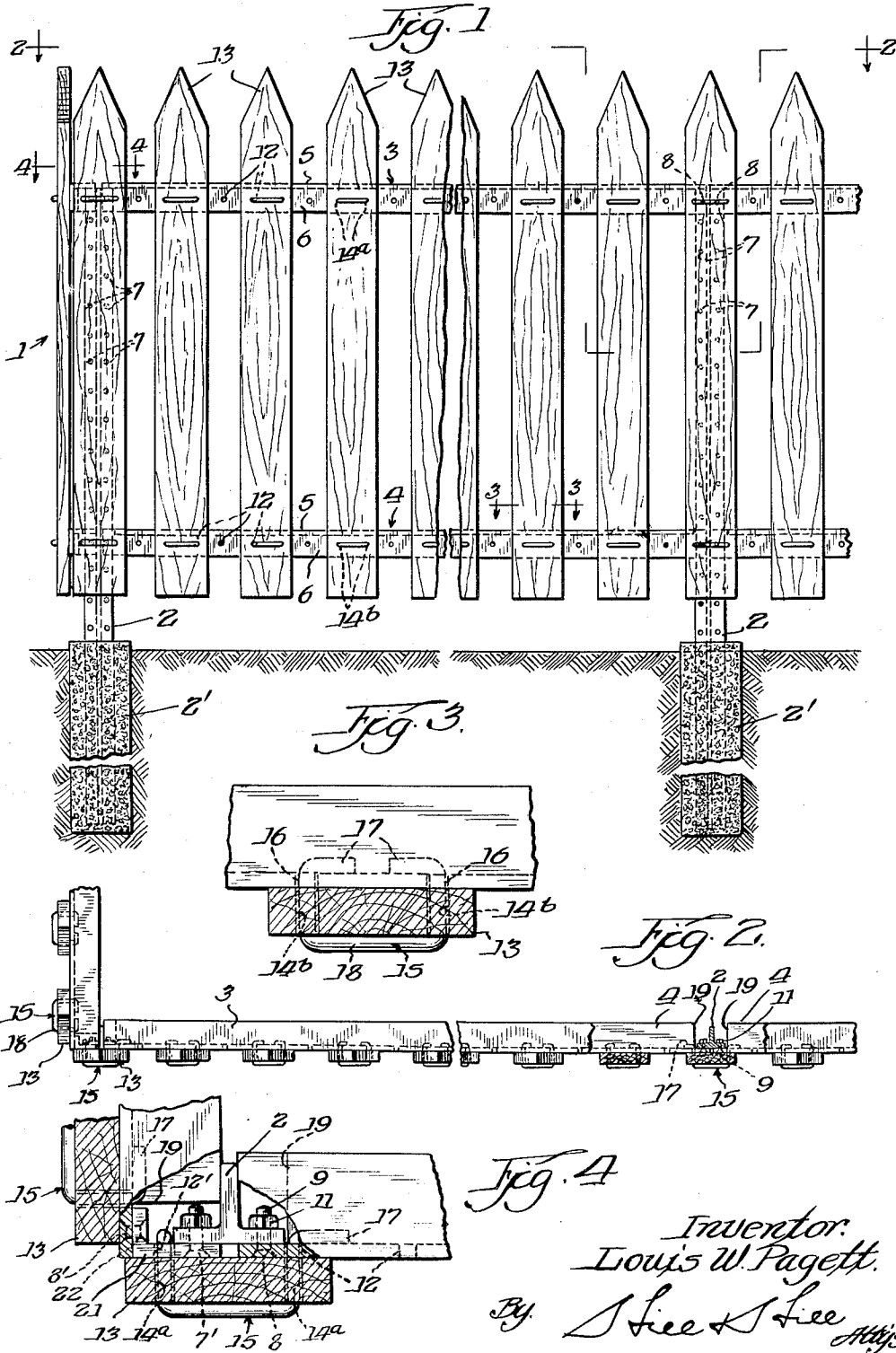
L. W. PAGETT

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FENCE CONSTRUCTION

Filed May 10, 1955

2 Sheets-Sheet 1



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Fig. 5.

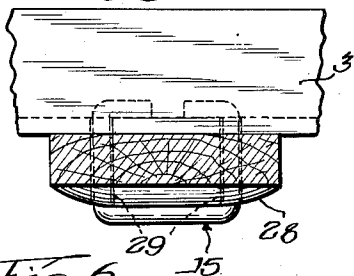


Fig. 6.

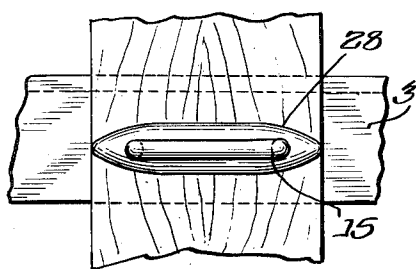


Fig. 7.

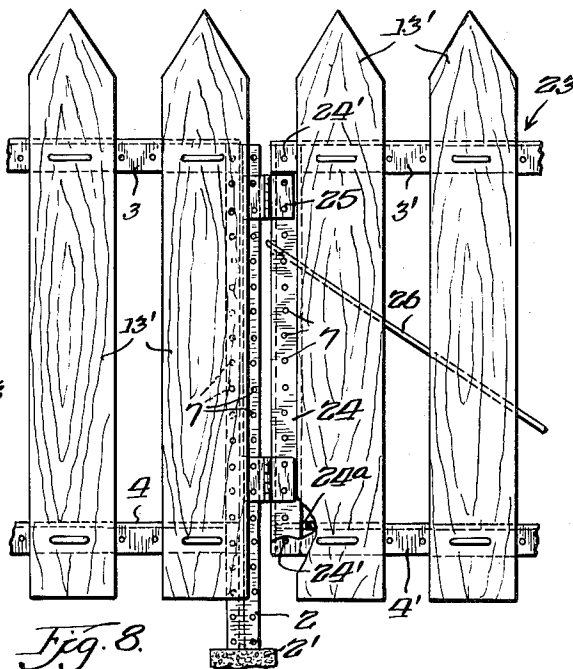


Fig. 10. Fig. 11.

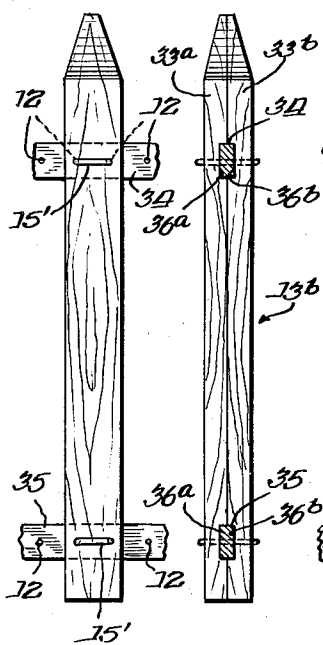


Fig. 8.

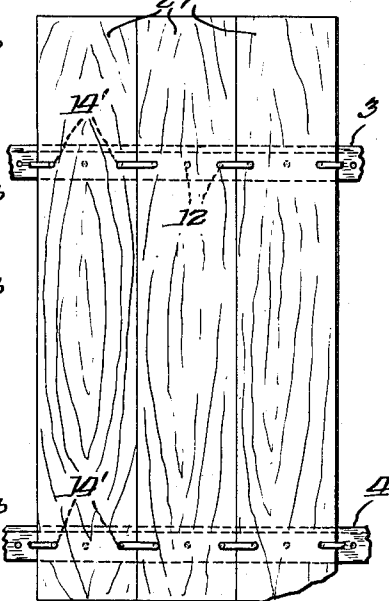
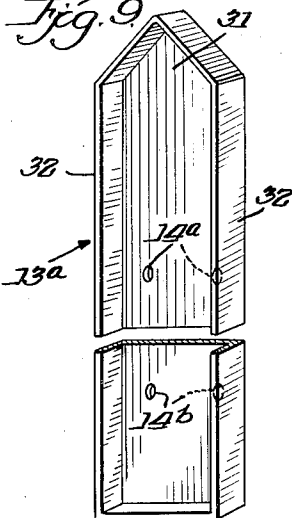


Fig. 9.



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FENCE CONSTRUCTION

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Application May 10, 1955, Serial No. 507,245

11 Claims. (Cl. 256—22)

The invention relates generally to fences, and more particularly to a fence which may be readily fabricated and disassembled in kit form.

The invention has among its objects the production of such a fence structure which may utilize readily assembled posts and rails in conjunction with pickets or boards which may be readily and simply attached to the rails, and in which a gate structure may be readily utilized in conjunction therewith.

Another object of the invention is the production of such a fence structure in which the pickets or boards may be secured to the fence rails by relatively soft metal staples, whereby an inexperienced person may readily assemble the fence structure or, when desired, remove and replace a picket or board.

A further object of the invention is the production of such a fence structure having the above advantages which may be designed to provide a picket construction or a solid board construction, and in which various sizes of pickets and spacings thereof may be employed with pickets at each fence post irrespective of the particular spacing of the pickets.

A further object of the invention is the production of such a fence structure which may be assembled without special tools or equipment, with the pickets being readily attached or detached, utilizing merely a hammer or similar tool.

Many other objects and advantages of the construction herein shown and described will be obvious to those skilled in the art from the disclosure herein given.

To this end my invention consists in the novel construction, arrangement and combination of parts herein shown and described, and more particularly pointed out in the claims.

In the drawings, wherein like reference characters indicate like or corresponding parts:

Fig. 1 is a front elevational view of a portion of a fence structure utilizing relatively narrow closely spaced pickets;

Fig. 2 is a sectional view taken approximately on the line 2—2 of Fig. 1;

Fig. 3 is a sectional view through one of the pickets taken approximately on the line 3—3 of Fig. 1;

Fig. 4 is a sectional view similar to Fig. 3 taken on the line 4—4 of Fig. 1;

Fig. 5 is a sectional view similar to Fig. 3, illustrating a slightly modified form of construction;

Fig. 6 is a front elevational view of the construction illustrated in Fig. 5;

Fig. 7 is a front elevational view similar to Fig. 1, illustrating the use of wider pickets with a corresponding increase in the spacing therebetween, and showing a portion of a gate structure employed therewith;

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Fig. 8 is a front elevational view illustrating utilization of the present invention in connection with a solid board fence;

Fig. 9 is a perspective view of a fabricated picket which may be employed with the fence structures illustrated;

Fig. 10 is a front elevational view of a picket which gives the appearance of a solid post; and

Fig. 11 is a side elevational view of the post illustrated in Fig. 10.

The present invention is directed to a fence construction wherein posts, rails and pickets and gate structures are adapted to be manufactured and sold as packaged kits which may be subsequently assembled into fence sections of predetermined lengths, whereby the user may purchase a sufficient number of the packaged units to provide the desired amount of fencing and gates and readily assemble the same to form the completed fence structure.

Referring to Fig. 1, the reference numeral 1 indicates generally a corner portion of a fence structure having corner and intermediate posts 2, both of which are illustrated as being constructed from T-shaped stock, the posts being adapted to be inserted into the ground, preferably embedded in concrete 2' or the like, with the posts being of sufficient length to provide adequate rigidity. Secured at their ends to the respective posts are respective upper and lower rails 3 and 4, the rails being illustrated as formed from angle iron and positioned with one face 5 extending horizontally and the other face 6 extending downwardly therefrom. The heads of the T-members forming the posts 2 are each provided with a plurality of pairs of holes 7, the holes of each pair being uniformly spaced and each pair being uniformly spaced from the adjacent pairs, both flanges of the member 1 having such holes. The rails 3 and 4 are each provided with an opening 8 adjacent each end of the rail, each cooperable with one of the openings 7 in the posts 1 or 2, whereby bolts 9 may be passed through the holes in the rails and aligned holes in the post and secured thereto by cooperable nuts 11 threaded on the bolts 9. It will be appreciated that the additional openings 7 in the respective posts enables the height and spacing of the rails 3 and 4 to be varied to accommodate pickets of different lengths. The rails 3 and 4 are also provided with a series of holes 12 located in the vertically extending portions 6 of the rails, such holes being uniformly spaced.

Carried by the rails 3 and 4 is a plurality of pickets 13, illustrated in Figs. 1 to 4 as being constructed of wood or other suitable material, each picket being provided with a pair of holes 14a adjacent the rail 3 and a similar pair of holes 14b adjacent the bottom rail 4, the holes of each pair being spaced a distance equal to the spacing between the holes 12, with the holes 14a vertically aligned with the holes 14b as viewed in Fig. 1, whereby the holes 14a may be aligned with a pair of holes 12 in the rail 3, and the holes 14b aligned with a corresponding pair of holes 12 in the rail 4. The pickets may be secured to the respective rails by staples indicated generally by the numeral 15, of aluminum, copper, or other suitable material preferably relatively soft metal, the staples being adapted to have their leg portions 16 extend through the picket and adjacent rail, following which the free ends of the staple may be clinched against the inner face of the rail as illustrated at 17 in Fig. 3, the connecting portion 18 of the staple being positioned at the outer face of the picket.

The rails are so positioned that the end holes 12 in

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adjacent rails are spaced apart the same distance as adjacent holes on each rail so that, when desired, a picket may be positioned at each fence post as illustrated in Figs. 1, 2 and 4, in which case the end staples 15 may have their ends 17 crimped as illustrated in Fig. 4.

While the upper rail 3 may have both faces 5 and 6 co-extensive in length, with the top face 5 extending above the posts 1 and 2 as illustrated in Fig. 1, the lower rail 4 is preferably formed with the front face 6 extending laterally outward beyond the face 5, whereby the end edges 19 terminate adjacent the side edges of the posts 1 or 2, with the rails secured to the posts at the front face 6.

A corner may be readily formed, as illustrated in Figs. 1 and 2, using the same posts and rails, the details of the corner connections being shown in Fig. 4. In the embodiment illustrated, a small angle member 21 connects the one pair of rails 3 and 4 to the post 2, the angle being provided with holes 8' and 7' in its respective walls, the holes 8' being adapted to be aligned with the holes 8 in the respective rails 3 and 4, and the holes 7' being adapted to be aligned with the respective holes 7 in the post 2. The angles 21 may be secured to their associated rails 3 and 4 by any suitable means, as for example rivets 22. The pickets 13 carried by the last-mentioned rails 3 and 4 may be applied thereto as illustrated in Figs. 2 and 4, whereby a uniform corner is produced. It will be noted that the angles are also provided with respective holes 12' through which the staples 15 of the picket centered on the post 2 may extend, the ends 17 of such staples passing through the member 21 being crimped downwardly rather than laterally.

The spacing of the holes 12 in the rails as well as the location and number of holes in each rail are so selected with respect to the length of the rail that different sized pickets may be employed with different spacings, at the same time permitting a picket to be positioned in overlying relation at each corner or intermediate fence post, if desired. For example, Fig. 1 illustrates the use of relatively narrow pickets with relatively narrow spacing therebetween, while Fig. 7 illustrates the use of wider pickets with a wider spacing therebetween. In the examples illustrated in Fig. 1, assuming the distance between adjacent holes 12 in the rails is two units of measurement, as for example inches, the width of the pickets 13 is approximately three units, each picket being spaced approximately two and one-half or three units apart. In the construction illustrated in Fig. 7, the pickets 13' are approximately five units in width and spaced approximately three units apart. Referring to Figs. 1 and 4, the end openings 12 in the rails would be spaced approximately one unit or less from the end of the rail, so that the distance from the center line of the post to the first hole 12 is one unit. Assuming that each rail extended from such center line, the length of each rail preferably is a multiple of twenty-four units, with each end hole 12 being spaced substantially one unit from the adjacent end of the rail. Obviously, the rails may be somewhat shorter as illustrated in Fig. 4 to provide adequate mounting clearance, the mounting holes 8 being positioned accordingly.

With the arrangement of the holes in the manner described and the rails being of the specified length, with either form illustrated in Fig. 1 or 7, a picket may be positioned at each fence post as illustrated in Fig. 1.

The additional openings 7 in the posts 1 and 2 enable an adjustment in the spacing between the rails 3 and 4, whereby different lengths of pickets may be employed.

Fig. 7 also illustrates a gate construction for use with a fence such as that described, wherein only one-half of the gate is illustrated as both sides of the gate may be similarly constructed, the only difference being that the hinges are mounted at one side while a suitable latch may be mounted at the other. In this construction, the rails 3 and 4 are secured to the post 2 in the usual man-

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ner, the end picket 13', however, being positioned to expose approximately one-half of the post 2 and the outer row of openings 7. The gate 23 may comprise upper and lower rails 3' and 4' connected at corresponding ends by uprights or side members 24, only one of which is illustrated in Fig. 7.

All of the members 3', 4' and 24 may be formed from the same angle stock as the rails 3 and 4, with the rails 3' and 4' forming holes 12 therein located similarly to the holes in the rails 3 and 4 and the members 24 having holes 7 formed therein. The members 3' and 4' are positioned in the same relation as the rails 3 and 4 and connected by rivets or bolts 24' to the side members 24. As illustrated in Fig. 7, the lower rail 4' is provided with a notch 24a in its upper wall or face to receive the front wall or face of the member 24 with the upper wall of the member 4' extending to adjacent the side wall of the member 24. The pickets 13' on the gate are preferably positioned to maintain uniform spacing with the fence pickets and secured in the same manner to the rails 3' and 4'.

Hinges 25 may be mounted on the post 2 and side member 24 utilizing the holes 7 in these members and if desired a suitable brace 26 may be provided having a threaded end or turnbuckle means to provide for adjustment.

Fig. 8 illustrates a solid board fence structure utilizing the present invention, this construction utilizing the same rails 3 and 4 and employing a plurality of flat boards 27, the boards being illustrated as of six units in width and having a pair of holes 14' therein adjacent the rail 3 and a similar pair of openings adjacent the rail 4, the openings of each pair being spaced inwardly from the adjacent edge of the board a distance equivalent to one unit, are spaced a distance of four units apart. Thus adjacent openings on adjoining boards are spaced the same distance apart as the openings 12 in the rails 3 and 4, so that a staple may extend across the juncture of a pair of boards through openings in the rails and crimped in the same manner as illustrated in Figs. 3 and 4, the staples in this instance, however, serving to connect adjacent boards as well as secure the latter to the rails.

Where wood is employed as the material for the pickets 13, 13' or boards 27, a suitably shaped metal plate 28 may be associated with each staple 15 as illustrated in Fig. 5, each plate having a pair of holes 29 therein adapted to be aligned with the holes in the pickets and the rails, with the staples extending through the associated plate. The plates 28 provide additional bearing surface for the staples 15 and at the same time tend to restrict warping, etc., of the pickets.

If desired, instead of wood pickets, the latter may be constructed of any suitable material including metal or plastic, such type of picket being illustrated in Fig. 9 with the picket 13a being of general hollow construction having a front wall 31 and peripheral walls 32. The front wall 31 is provided with pairs of openings 14a and 14b adapted to receive the staples 15 for attachment to the rails 3 and 4, with the pickets 13a positioned on the rails with the front wall 31 outermost.

The fence structure preferably may be manufactured and sold in a package or kit form, with the elements of the fence disassembled. To assemble the fence structure, the fence posts 1 and 2 are first installed in their proper positions, the posts being set in concrete 3 if desired as illustrated in Fig. 1. The fence posts may be successively erected, the rails 3 and 4 being bolted in position and forming means for accurately spacing each succeeding post. After the posts have been firmly erected, each picket or board may be positioned in its proper position on the rails, staples 15 inserted through the picket and corresponding openings in the rails, following which the ends of the staples may be readily bent or crimped over as illustrated in Fig. 3 or 4 by striking the same with a

hammer or similar tool. The staples 15 preferably are sufficiently bendable to permit straightening of the staples when desired and removal of a picket to permit replacement with a new picket, the staples, however, being sufficiently stiff to insure an efficient connection of the pickets to the rails.

Figs. 10 and 11 illustrate the application of the member to a post type of fence, as for example, the type commonly utilizing cedar posts. In this construction each post 13b may be formed in two halves 33a and 33b, while the rails 34 and 35 are preferably formed from bar stock, and provided with openings 12, the post halves being provided with opposed notches 36a and 36b of a size to receive the rails 34 and 35. In this construction longer staples 15' would be utilized, the staple extending through the rail and both halves of the post, the legs of the staple being crimped over the adjacent post half. The staples 15' thus secure the two halves of the post together as well as connect the same to the associated rails.

While I have illustrated the use of the present invention to picket and board fences, the post and rail construction may be utilized with other types of fence including wire or horizontal board or planks, the fencing material being secured to the posts and rails by staples such as those illustrated.

It will be noted that I have provided a fence structure which is extremely flexible in use, permitting a single rail and post design to be utilized with different types and sizes of fencing elements such as pickets, boards, etc. It will also be noted that the rails, pickets, etc., fence and gate may be easily and quickly secured in assembled relation with a minimum of tools.

Having thus described my invention, it is obvious that various immaterial modifications may be made in the same without departing from the spirit of my invention; hence, I do not wish to be understood as limiting myself to the exact form, construction, arrangement and combination of parts herein shown and described, or uses mentioned.

What I claim as new and desire to secure by letters patent is:

1. In a knockdown fence structure, the combination of a plurality of rails arranged in vertically spaced parallel relation with their corresponding ends secured to horizontally spaced vertically extending fence posts, said rails each having a plurality of equally spaced transverse holes therethrough, a plurality of vertically extending fence members mounted on said rails in longitudinally spaced relation, said fence members having a plurality of pairs of holes therein, the holes of each pair being laterally spaced the same distance as adjacent pairs of holes in the rails, and said pairs being vertically aligned with corresponding holes in the respective rails, and U-shaped staples, each staple having the leg portions thereof extending through cooperable holes in the fence members and in the rails, with the free end portions of each of the staples having a clinch thereon for securing the fence members to the rails.

2. In a knockdown fence structure as defined in claim 1, wherein each staple is provided with a cooperable washer adapted to bear on the fence member.

3. In a knockdown fence structure as defined in claim 1, wherein said fence members comprise flat boards adapted to have their side edges in abutting relation with each staple extending through cooperable holes in adjacent boards.

4. In a knockdown fence structure as defined in claim 1, wherein said fence members comprise spaced pickets, said pickets being approximately three units in width and spaced two units apart, with a picket being positioned at each fence post and concealing the juncture of adjacent rails.

5. In a knockdown fence structure as defined in claim 1, wherein said fence members comprise spaced pickets, said pickets being approximately five units in width and

spaced three units apart, with a picket being positioned at each fence post and concealing the juncture of adjacent rails.

6. In a knockdown fence structure as defined in claim 1, wherein said transverse holes in said rails are horizontally spaced one unit apart, with the end holes of each rail being so spaced from the corresponding ends of such rails that the end holes of assembled longitudinally adjacent rails are spaced one unit apart.

7. In a knockdown fence structure as defined in claim 1, wherein said transverse holes in said rails are horizontally spaced one unit apart, the effective length of said rails being a multiple of twelve units with the effective end holes of each rail being so spaced from the corresponding ends of such rails that the end holes of assembled longitudinally adjacent rails are spaced one unit apart, said fence members formed as vertically extending pickets, and the holes of the aforesaid plurality of pairs of holes being laterally spaced substantially one unit.

8. In a knockdown fence structure as set forth in claim 1, wherein said rails are formed from angle stock and having the aforesaid transverse holes in a vertical wall thereof and said transverse holes are horizontally spaced one unit apart, the effective length of said rails being a multiple of twenty-four units with the effective end holes of each rail being so spaced from the corresponding ends of such rails that the end holes of assembled longitudinally adjacent rails are spaced one unit apart, said rails having a hole therein located intermediate each end hole and the adjacent end of the rail cooperable with holes in the fence posts for receiving mounting means, each of said fence posts having a plurality of vertically spaced mounting holes therein to provide for vertical adjustment of the rails.

9. In a knockdown fence structure as defined in claim 1, wherein said transverse holes in said rails are horizontally spaced one unit apart with the end holes of each rail being so spaced from the corresponding ends of such rails that the end holes of assembled longitudinally adjacent rails are spaced one unit apart, said fence members are formed as vertically extending pickets for mounting on said rails in longitudinally spaced relation and provided with a plurality of pairs of holes therein, the holes of each pair being laterally spaced substantially one unit and said pairs of holes for said pickets being vertically aligned with corresponding holes in the respective rails, and an angle member for certain rail members adapted to be connected to respective rails and one of said posts for forming a corner in the fence structure.

10. In knockdown fence structure as defined in claim 1, wherein said transverse holes in said rails are horizontally spaced one unit apart, end holes of each rail being so spaced from the corresponding ends of such rails that the end holes of assembled longitudinally adjacent rails are spaced one unit apart, a gate structure comprising upper and lower rails and cooperable end members formed from angle stock, the rails being similarly positioned with respect to the fence rails, said gate rails and end members being secured together at adjoining ends, the lower rail having a notch at each end of the top wall thereof adapted to receive respective front walls of the end members, hinge means pivotally connecting one of the end members with an adjacent fence post, a plurality of fence members adapted to be mounted on said gate, said fence members for the gate structure having a plurality of pairs of holes therein, the holes of each pair being laterally spaced substantially one unit and said pairs being aligned with corresponding holes in the upper and lower rails of the gate structure, and U-shaped staples, one for each pair of holes of the fence members for the gate structure, each staple having the leg portions thereof extending through cooperable holes in the fence members for the gate and cooperable holes of the upper and lower rails of the gate structure with the free end portions of the staples contacting a face of each of said upper and

lower rails of the gate structure to secure the fence members thereto.

11. In a knockdown fence structure as defined in claim 1, wherein said rails are formed from bar stock and said fence members comprise spaced post members, each comprising a pair of halves disposed on opposite sides of said rails, said posts having a notch to receive the rails, and the aforesaid clinches of the staples contacting a face of said fence members for securing the fence members to the rails.

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