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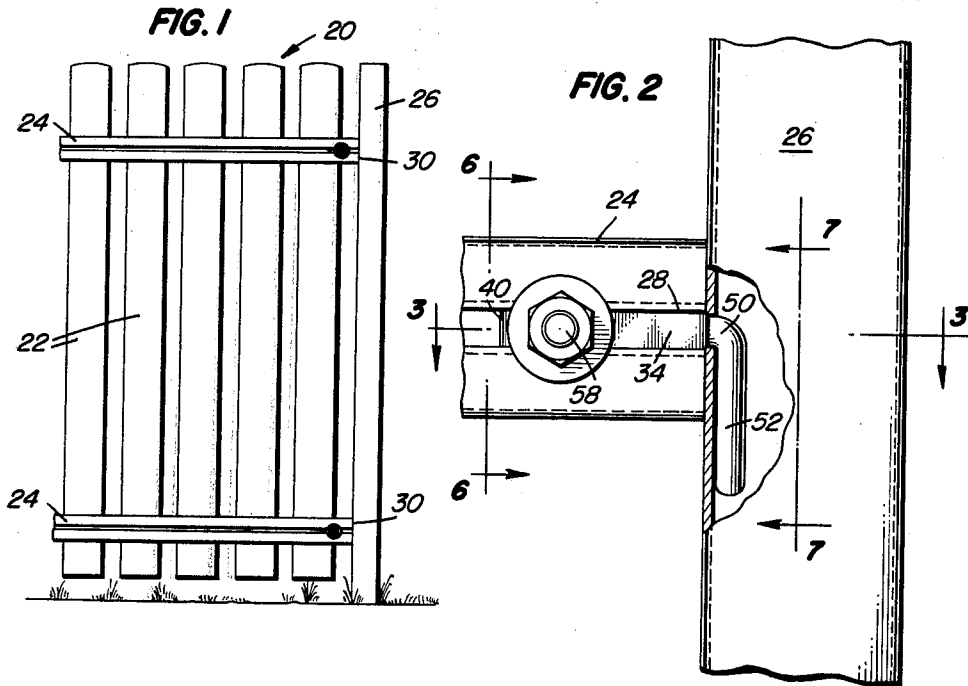
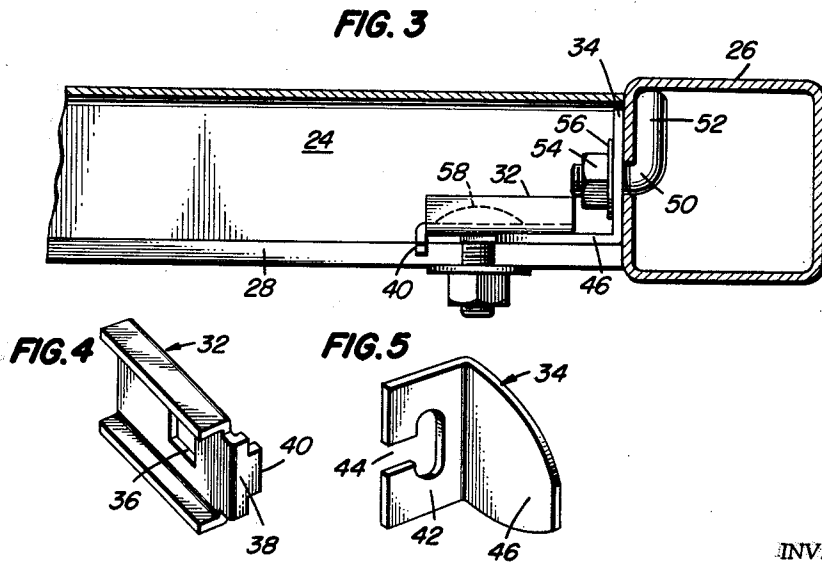
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ADJUSTABLE TERMINAL ATTACHMENT FOR FENCE RAILS

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2 Sheets-Sheet 1



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ADJUSTABLE TERMINAL ATTACHMENT FOR FENCE RAILS

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This invention relates generally to fences, and more particularly it pertains to an adjustable terminal attachment for securing rails to posts in tubular structure fences.

The joints between tubular structure in fences present problems in economy, appearance, adaptability to terrain, and easy field installation with a minimum of tools and labor.

It is an object of this invention, therefore, to provide a terminal attachment for joining a rail to a post which fulfills the above stated requirements. Only two stampings of simple construction and two bolts, one of which is hidden, are required for the novel terminal attachment.

A further object of this invention is to provide a fence structure terminal clamp which requires only the drilling of one hole.

Another object of this invention is to provide a joint between tubular structures such as a fence rail and a post which is adjustable in relative angle therebetween.

Other objects and attendant advantages of this invention will become more readily apparent and understood from the following detailed specification and accompanying drawings in which:

FIG. 1 is a vertical elevation of a terminal section of a metallic picket fence type structure incorporating features of this invention;

FIG. 2 is an enlarged fragmentary vertical elevation of one of the joints between the rail and post of the fence shown in FIG. 1;

FIG. 3 is a section taken on line 3-3 of FIG. 2;

FIG. 4 is a perspective of a clamp member;

FIG. 5 is a perspective of an angle member;

FIG. 6 is a section, partly in elevation, taken on line 6-6 of FIG. 2;

FIG. 7 is a vertical section taken on line 7-7 of FIG. 2; and

FIG. 8 is an exploded perspective of the joint illustrated in FIG. 2.

Referring now to the details of the drawings, FIG. 1 depicts generally a fence 20 comprising pickets 22, horizontal rails or stringers 24, and a post 26. Each rail or stringer 24 is secured to the post 26 at a joint 30.

As shown best in FIG. 8, the rail 24 and the post 26 are of rectangular cross section extruded tubing of relatively thin wall. In addition, the rail 24 is provided with an inwardly flanged longitudinal slot 28 the full length on one side thereof.

The joint 30 utilizes an assembly consisting of two metal stampings, a clamp 32, and a bracket 34, shown respectively, in FIGS. 4 and 5.

The clamp 32 is made from a length of metal channel which is punched near one end with a square aperture 36. One end of the clamp 32 is formed with a bent ear 38 having a narrow tab 40 at its end.

The bracket 34 is provided with a flat web 42 punched with a keyhole slot 44 that extends to one side thereof.

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At the other side of the bracket 34, there is provided a tongue 46 which extends at right angles and is formed in the shape of a curvi-sided blunted point.

The installation of the joint 30 is easily made in the field. A hole 48 is drilled through the side of the post 26 at the desired location of the rail 24. The bent end 52 of an angle bolt 50 is then inserted through the hole 48. The angle bolt 50 has only a limited rotation before engaging the side of the post interior as shown in FIGS. 2 and 7. Consequently, it is easy to tighten a nut 54 and a flat washer 56 over the key hole slot 44 and secure the bracket 34 tightly in place as shown in FIG. 3.

The rail 24 is now fitted with the clamp 32. A carriage bolt 58 passed through the square aperture 36 retains the clamp 32, loosely at first, inside the rail 24 against the slot 28. The end of rail 24 is next slipped over the tongue 46 of bracket 34 and against the post 26.

The clamp 32 is next manipulated along the slot 28 until it bears against the face of tongue 46. The tab 40 acts as a key in the slot 28 to prevent rotation of the clamp 32 and bolt 58.

As a nut 60 is tightened over a washer 62 on the bolt 58, the clamp 32 bears and pivots upon the ear 38 at one end and tightly secures the tongue 46 against the flanges of slot 28 within the rail 24 by the other end as shown best in FIGS. 3 and 6.

Because of the curved shape of the tongue 46, the joint 30 is equally effective in joining a rail 24 at an angle to post 26, it being only necessary to cut the end of the rail at a suitable angle for abutment.

Obviously, many modifications and variations of the present invention are possible in the light of the above teachings. It is, therefore, to be understood that within the scope of the appended claims the invention may be practiced otherwise than as specifically described.

What is claimed is:

1. An adjustable terminal device for joining a first tubular member having an inwardly flanged longitudinal slot to a second tubular member having an opening in one side, comprising bolt means positioned within said second tubular member and having its threaded end extending through said opening therein, a bracket member having an opening for receiving the extended end of said bolt means exteriorly of said second tubular member, means for tightening along the threads of said extended end for clamping said bracket member to said second tubular member, means for preventing rotation of said bolt means during said tightening, a clamp member positioned within said first tubular member and having a tab portion for engaging the flanges of said longitudinal slot to prevent rotation of said clamp member, said bracket member having a tongue for extending between a portion of said clamp member and the interior edges of said flanges, and means for tightening said clamp member towards said interior edges to thereby clamp said tongue therebetween, with said tongue having at least one curved edge to enable said first tubular member to extend angularly with respect to said tongue.

2. The adjustable terminal device as recited in claim 1 wherein said means for preventing rotation of said bolt means is an angle portion extending therefrom to engage an interior wall of said second tubular member during said tightening.

3. The adjustable terminal device as recited in claim 1

wherein said opening in said bracket member is a keyhole slot having an opening extending to an end of said bracket member.

4. The adjustable terminal device as recited in claim 1 wherein said clamp member has a square aperture therein and said means for tightening said clamp member towards the interior edges of said flanges includes a bolt having a portion for engagement with said square aperture to prevent rotation of said bolt, with the threaded portion thereof extending through said longitudinal slot to the exterior of said first tubular member, and a nut for tightening along said bolt.

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