April 8, 1941. B. HIGMAN 2,237,669

FENCE CONSTRUCTION

Filed Feb. 6, 1939

FIG. 1.

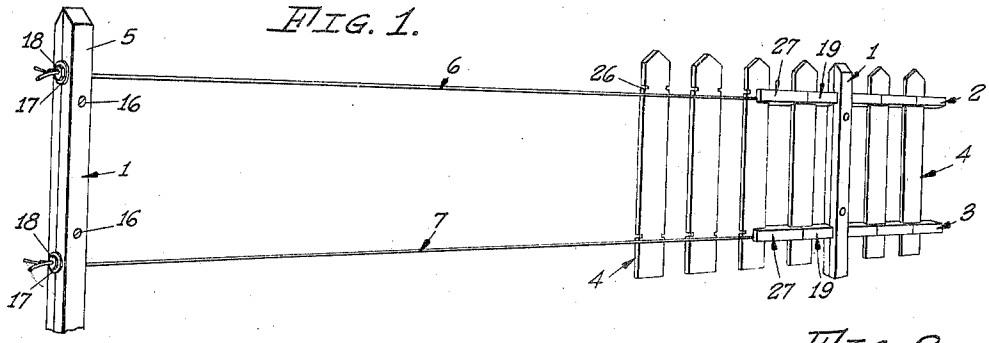


FIG. 2.

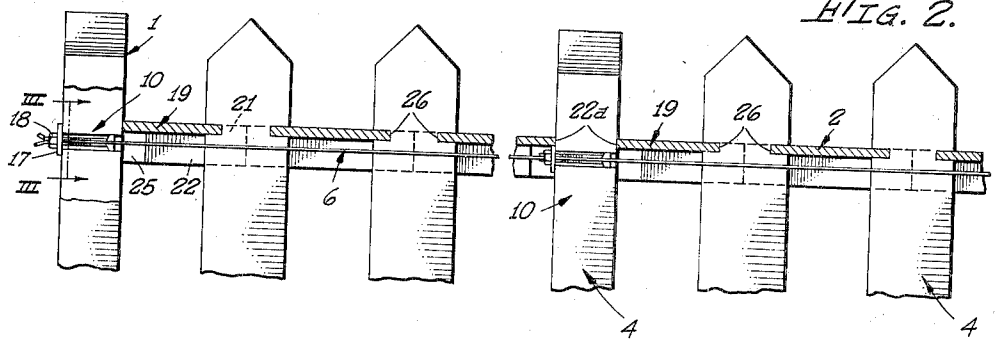


FIG. 3.

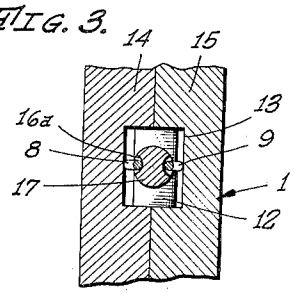


FIG. 4.

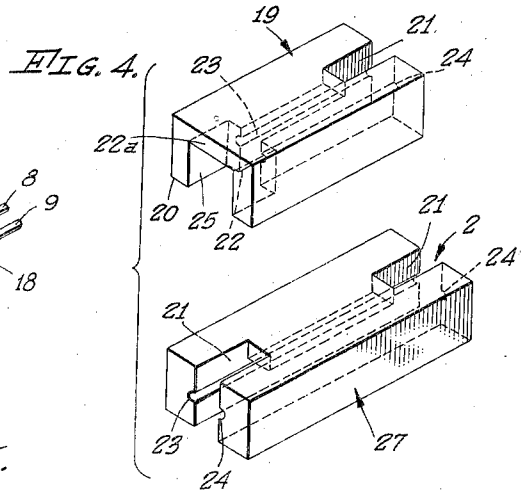


FIG. 5.

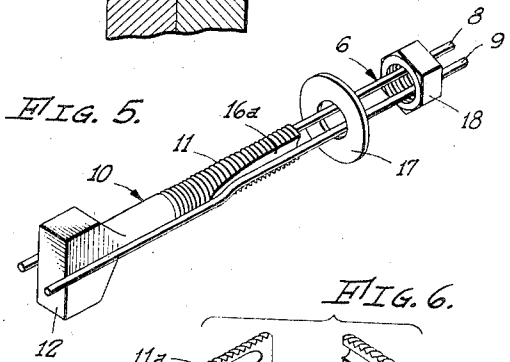
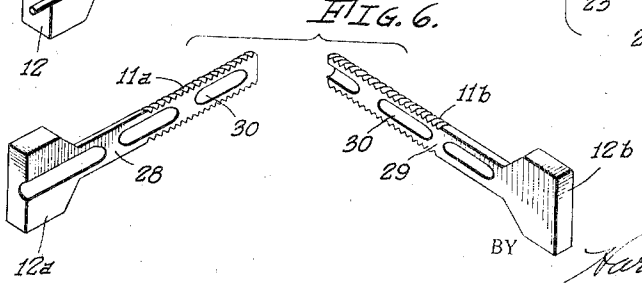


FIG. 6.



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FENCE CONSTRUCTION

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Application February 6, 1939, Serial No. 254,880

3 Claims. (Cl. 256—34)

My invention relates to a novel fence construction and method for erecting the same and has particular reference to a fence construction employing prefabricated parts which may be readily assembled to form a fence of any desired dimensions.

Fences of various types, particularly those known as picket, lattice and similar types, are widely used for ornamental purposes around homesites, public buildings and the like. The most common and popular types of these fences are constructed of wood, and since individual fencing requirements vary as to the length of the fence and the length of span between adjacent fence posts, it is common practice to employ a carpenter or similarly qualified artisan to construct the fence and install it on the site. This involves setting the posts, cutting the various parts to fit between the posts, securing the various elements together as by nails, and finally painting the completed structure. As is well known, this is a very costly method because of the amount of time consumed and the hand methods used in the process. Furthermore, premises are invariably littered with shavings, sawdust and not infrequently paint is spilled or splattered on adjacent buildings.

It is therefore an object of my invention to provide a fence construction employing prefabricated parts which may be readily and cheaply manufactured in quantities by factory methods, which parts may be speedily and cheaply assembled after painting to provide a fence for any specific requirement.

It is also an object of my invention to provide a fence construction of the character set forth in the preceding paragraph which may be installed or erected by relatively unskilled labor.

It is an additional object of my invention to provide a method of erecting fences in which prefabricated unit parts are connected to provide a fence whose dimensions are determined by the number of unit parts employed.

It is an additional object of my invention to provide a fence of the character set forth in the preceding paragraphs in which the plurality of unit parts are disposed between adjacent fence posts and secured therebetween by means of a plurality of tension members extending between said posts.

It is also an object of my invention to provide in a fence of the character set forth hereinbefore a novel securing means for adjustably securing a tension means between adjacent fence posts to intertie prefabricated unit parts disposed between said posts.

Other objects and advantages of my invention will be apparent from a study of the following specification, read in connection with the accompanying drawing, wherein:

Fig. 1 is a perspective view illustrating the manner in which the fence of my invention may be erected;

Fig. 2 is a fragmentary longitudinal section illustrating the relationship between the various unit parts employed in assembling the fence;

Fig. 3 is a fragmentary vertical section taken substantially on the line III—III of Fig. 2 and illustrating the adjustable securing means used with a tension member to intertie the various elements employed in the fence construction;

Fig. 4 is a perspective view illusrating the appearance and construction of certain of the unit parts employed;

Fig. 5 is a perspective view showing the construction of an adjustable securing means for the tension member and its relationship to the tension members with which it is used; and

Fig. 6 is a perspective view illustrating a modified form of the device shown in Fig. 5 and shown with the parts separated to show the interior construction employed.

Referring to the drawing, I have illustrated in Fig. 1 the preferred embodiment of the fence construction of my invention as comprising a section of picket type of fence. This type of fence accordingly provides a plurality of fence posts 1 between adjacent ones of which is extended a pair of horizontal rails 2 and 3. A plurality of vertically extending picket members 4 are secured to the rails 2 and 3. My invention provides for the novel construction of the rails 2 and 3 and the manner in which the rails 2 and 3 are secured to the posts 1 and the manner in which the pickets 4 are secured to the rails 2 and 3.

The fence of my invention may be erected by setting one of the posts 1 securely in the ground in its final desired position and by providing a temporary post 5 which is disposed on an extension of the line to be occupied by the completed fence. A plurality of tension members 6 and 7 are then extended between the posts 1 and 5 and secured thereto. As best shown in Figs. 1 and 5, each of the tension members 6 and 7 preferably comprises a pair of wires or cables 8 and 9 which may be secured to the posts 1 and 5 by the employment of a securing means 10 of the type illustrated in Fig. 5. The securing means 10 com-

prises a threaded cylindrical shank portion 11 terminating at one end in a rectangular head portion 12.

Each of the posts 1 and 5 are preferably provided with a rectangular opening 13 adapted to receive the head 12 of the securing member 10 in such a manner that axial rotation of the securing member 10 is prevented by the interengagement of the head 12 thereof and the rectangular recess 13 provided in the posts 1 and 5. The rectangular recess 13 may be readily provided by forming each of the posts 1 and 5 of a pair of post halves 14 and 15 adapted to be placed in side by side abutting relationship with each other and secured together by means of suitable securing devices, such as bolts 16. Each of the post halves 14 and 15 are provided with a rectangular notch in the side adjacent the adjoining half so that when the halves 14 and 15 are assembled in the manner described, the notches provided therein will lie adjacent each other so as to form the rectangular opening 13.

The securing member 10 is preferably provided over a part of its threaded length with a pair of longitudinally extending grooves 16a which are chosen of such depth relative to the diameter of the wires or cables 8 and 9 that when these wires are extended longitudinally within the groove 16a, the outer surface of said wires will lie tangential to the exterior surface of the shank 11.

A washer 17 is provided which has an interior diameter sufficient to allow it to slide easily over the shank 11 of the securing device 10 and of an external diameter sufficient to allow it to overlap the sides of the rectangular recess 13 which is provided in the posts 1 and 5. A nut 18 is also provided which is adapted to threadedly engage the threaded shank 11 of the securing device 10.

It will be apparent that whenever the wires 8 and 9 are placed in the grooves 16a, as illustrated in Fig. 5, the washer 17 may be slid thereover and the nut 18 engaged with the threaded shank 11. It will also be apparent that since the outer surface of the wires 8 and 9 lies tangential to the exterior surface of the threaded shank 11 that the internal threads provided in the nut 18 will deform the exterior surface of the wires 8 and 9 to form corresponding threads thereon whenever the nut 18 is screwed onto the threaded shank 11.

This clamping action provided between the nut 18 and the shank 11 will secure the wires 8 and 9 to the securing device 10 and prevent movement of these wires relative thereto. This device is accordingly inserted in the rectangular opening 13 with the head portion 12 thereof disposed on the side of the post adjacent the section of fence to be erected with the washer 17 and the nut 18 engaging the opposite side of the post.

It is apparent that rotation of the nut 18 to advance it along the shank 11 will cause the washer 17 to engage the side of the posts 1 or 5 and pull the securing device 10 and the wires 8 and 9 secured thereto in a direction away from the section of fence to be erected and thus tighten said wires. After the wires are stretched between the post 1 and the temporary post 5 in this manner, a fence rail unit 19 is placed upon the wires adjacent the erected fence post 1.

The unit 19 may be constructed as illustrated in Fig. 4 and comprise a rectangular block provided with a post contacting end 20 and a picket engaging notch 21. A longitudinally extending groove 22 is provided which extends from one end to the other end of the block and upwardly from the bottom surface thereof to a point disposed between the longitudinal center line of the block and the top surface thereof to define an upper web portion 22a. A pair of wire receiving grooves 23 and 24 are provided in each of the side walls of the groove 22 and disposed in a horizontal plane passed through the longitudinal center line of the block.

The picket engaging notch 21 is provided by extending a portion of the side walls of the groove 22 upwardly until these portions of the side walls meet the upper surface of the block so as to provide a notch of the same width as the width of the groove 22 which extends vertically from top to bottom of the block 19. The groove 22 is provided at the post contacting end of the block 19 with an enlarged portion 25 of dimensions sufficiently large to receive the nut 18 and washer 17 employed on the securing means 10. The block 19 is accordingly placed on the wires 8 and 9 with the post contacting face thereof against the face of the post 1 and the nut 18 and the washer 17 of the securing means confined in the recess 25 provided therein. The tension member 6 comprising the wires 8 and 9 passes through the length of the block 19, being carried in the wire receiving grooves 23 and 24. A pair of these blocks are installed in this manner, one associated with the upper tension member 6 and another associated with the lower member 7.

The next operation of erecting the fence of my invention comprises the placing of the first picket. As illustrated in Figs. 1 and 2, each of the pickets comprises a vertically extending member having a width dimension substantially greater than its thickness and ordinarily, for ornamental purposes, being provided with a pointed top.

I provide in each of the pickets 4 a pair of notches 26 near the upper end thereof and a pair of similar notches near the lower end thereof. Each of these pairs of notches are spaced from the other by a distance equal to the vertical spacing between the tension members 6 and 7 and each of the notches is made with a depth substantially equal to one-fourth the width of the picket and a heighth equal to the thickness of the web portion 22a of the block 19.

The picket receiving notch 21 which is provided in the block 19 is preferably extended lengthwise of the block a distance substantially equal to one-fourth the width of the picket 4. The picket is therefore placed in a vertical position between each of the wires 8 and 9 so that half the tension member 6 lies on one side of the picket while the other half lies on the other side thereof, and so that half of the tension member 7 also lies on one side of the picket 4 while the other half of the tension member 7 lies on the opposite side thereof. The picket 4 is then moved horizontally along the length of the tension members 6 and 7 toward the post 1 and the block members 19 so that said picket enters the picket receiving notch 21 of the block 19 and the notch 26 in the picket extends beyond the length of the notch 21 and receives the web portion 22a of the block 19, so that the end of the block 19 opposite to the end contacting the post 1 is disposed substantially on the vertical center line of the picket 4. After installing the first picket, a pair of block members 27 are then placed on the tension members 6 and 7 in a fashion similar to that employed in installing the block members 19.

As illustrated in Fig. 4, the block members 27

are very similar to the block members 19 previously described but differ therefrom by substituting for the post contacting face 20 and recess 25 associated therewith, another picket engaging notch 21. The blocks 27 are securely placed on the tension members 6 and 7 with one of the picket engaging notches 21 thereof cooperating with the notch 26 in the picket to place one end of the blocks 27 into abutting relationship with the exposed end of the blocks 19.

Similar alternate assemblies of pickets 4 and blocks 27 are then added until the desired span length is completed at which time the span is finished off by adding a pair of the blocks 19 and another of the posts 1. By this fashion the final location of this latter post 1 along the line of the fence being erected is determined and suitable provision may be made for securing the post 1 in its final position. The post 1, of course, carries a pair of securing means 10 for securing the tension members 6 and 7 thereto and these may be operated at this time to draw the adjacent posts 1 toward each other and clamp the assembly of pickets and spacing blocks securely therebetween.

It will be readily observed that the manner in which the pickets are placed between each pair of wires 8 and 9, and the manner in which each pair of wires is confined in the longitudinal slot in the blocks 19 and 27, allows the tension members 6 and 7 to be highly stressed and clamp the assembled unit into a single unitary, rigid structure.

In Fig. 6 I have illustrated an alternative form of the securing means 10 which comprises a pair of threaded shank portions 11*a* and 11*b* which may be disposed in side to side abutting relation to provide a cylindrical threaded shank member. Each of the threaded shanks 11*a* and 11*b* terminate in a rectangular head portion 12*a* and 12*b* which may be similarly disposed side by side to provide a rectangular head structure similar in shape and size to the head 12 described in connection with Fig. 5. Abutting faces 28 and 29 of the separable halves are each provided with recesses 30 disposed in staggered relationship relative to each other and of such size that each will accommodate both of the wires 8 and 9.

In operation, the wires 8 and 9 are placed between the halves 11*a* and 11*b* and clamping pressure is applied forcing the halves together and causing the wires 8 and 9 to assume a sinuous form passing from side to side relative to the junction between the halves as they extend along the length of the clamping member. When a nut, such as the nut 18, is placed on the threaded shank formed by the halves 11*a* and 11*b*, these halves are securely held together and the wires 8 and 9 are clamped securely therebetween so that as the nut and washer associated therewith are rotated to bring them to bear upon one face of the posts 1 or 5, the shank and the wires 8 and 9 clamped therebetween are moved endwise relative to the length of these wires.

I prefer to manufacture the post parts, the pickets, and the block members in large quantities by factory production methods and have found that the cost of materials for a given section of fence, together with the cost of machining or forming these parts in accordance with the previous description to be far less than the ordinary cost of cutting lumber to fit a specified installation on the job. Furthermore, I prefer to paint each of the parts at the time it is manufactured, and by this means avoid the littering of the premises on which the fence is to be installed.

It will be readily observed that a fence constructed and assembled in accordance with my invention may be installed by a relatively unskilled person and that as a result thereof the cost of such installation may be kept to a minimum.

It is apparent therefore that I have provided a new and novel type of fence construction which employs prefabricated parts which may be readily and speedily assembled to provide a fence to meet any specific requirement and that a fence so constructed is neat in appearance and as sturdy as if it were made in the common fashion employing one-piece units for posts, rails and pickets.

While I have shown and described the preferred embodiment of my invention as comprising a fence construction for a picket fence, it is to be understood that the same methods of construction may be employed for the building of other types of fences, such as lattice, colonial, or the like, and that I do not desire to be limited to any of the details of construction shown or described herein, except as defined in the appended claims.

I claim:

1. In a fence construction having a plurality of fence posts spaced from each other, a plurality of fence rails extending between said posts, and a plurality of fence members disposed transversely of said rails and secured thereto, the combination of: a plurality of fence rail units, each of which extends between adjacent fence members; a plurality of notches in each of said members; a notch and web construction carried by each of said units, said notch being arranged to encompass one edge of said fence member while said web enters said notch carried by said member; and tension means extending between adjacent posts and inter-engaging each of said units and members for drawing said posts toward each other and securing said rails and members therebetween.

2. In a fence construction having a plurality of fence posts spaced from each other, a plurality of fence rails extending between said posts, and a plurality of fence members disposed transversely of said rails and secured thereto, the combination of: a plurality of fence rail units, each of which extends between adjacent fence members; a plurality of notches in each of said members; a notch and web construction carried by each of said units, said notch being arranged to encompass one edge of said fence member while said web enters said notch carried by said member; a tension means extending between adjacent posts and comprising a pair of tension members disposed on opposite sides of said fence members to prevent lateral movement of said fence members relative to said posts; channel means in each of said units for engaging said tension members and preventing vertical transverse movement of said units and said fence members; and means for applying a tension force to said tension means for drawing said posts toward each other to secure said rails and members therebetween.

3. In a fence construction having a plurality of fence posts spaced from each other, a plurality of fence rails extending between said posts, and a plurality of fence members disposed transversely of said rails and secured thereto, the combination of: a plurality of fence rail

units, each of which extends between adjacent fence members; a plurality of notches in each of said members; a notch and web construction carried by each of said units, said notch being arranged to encompass one edge of said fence member while said web enters said notch carried by said member; a tension means extending between adjacent posts and comprising a pair of tension members disposed on opposite sides of said fence members to prevent lateral movement of said fence members relative to said posts; channel means in each of said units for engaging said tension members and preventing vertical transverse movement of said units and said fence members; manually operable means carried by said posts and extending exteriorly thereof for applying a tension force to said tension member to draw said posts toward each other and secure said rails and members therebetween; and recess means carried in each of the units which are disposed adjacent said posts for encompassing said manually operable means.

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