F. A. EMERICK.

POST AND BAR FENCE.

APPLICATION FILED OCT. 21, 1916.

**1,215,356.** Patented Feb. 13, 1917.

*Fig. 1.*

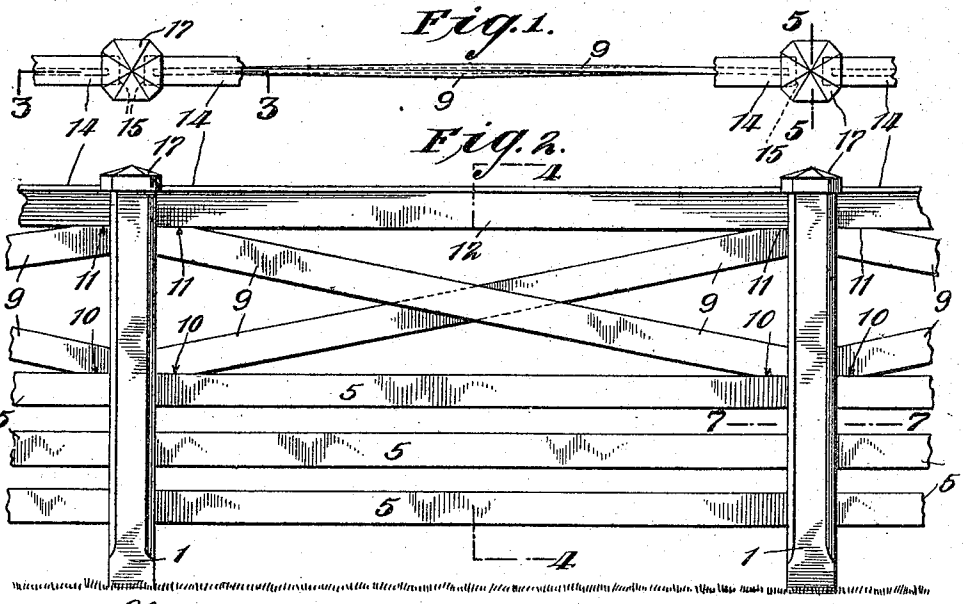


*Fig. 2.*



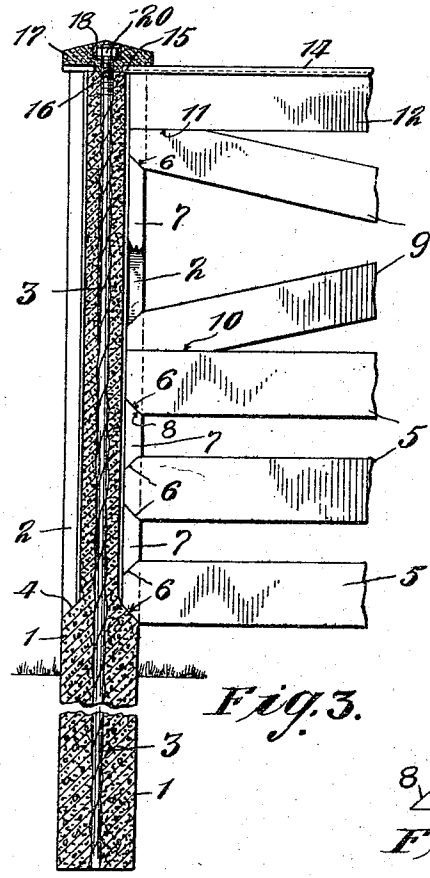


*Fig. 3.*

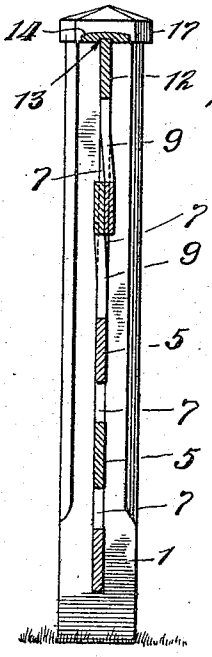


*Fig. 4.*



*Fig. 8.*

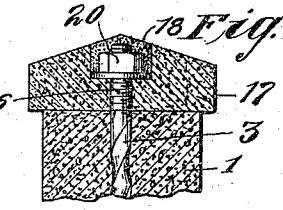


*Fig. 5.*

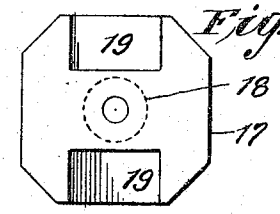


*Fig. 6.*

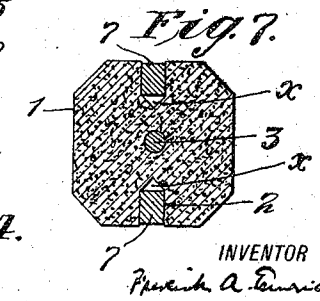


*Fig. 7.*

INVENTOR

Frederick A. Emerick

BY Edward N. Reade

ATTORNEY

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

FREDERICK A. EMERICK, OF OSWEGO, NEW YORK.

## POST-AND-BAR FENCE.

1,215,356. Specification of Letters Patent. Patented Feb. 13, 1917.

Applictaion filed October 21, 1916. Serial No. 126,828.

*To all whom it may concern:*

Be it known that I, FREDERICK A. EMERICK, a citizen of the United States, residing at Oswego, in the county of Oswego and State of New York, have invented certain new and useful Improvements in Post-and-Bar Fences, of which the following is a specification.

This invention relates to post-and-bar fences. Its object is to produce an easily erectable fence without use of nails, screws, bolts or the like, except in each post where the threaded end of a reinforcing rod holds a nut for clamping in place the concrete cap to hold in their proper positions the ends of either one or two groups of bar ends and bar spacers; that is, one group of bar ends and bar spacers at one side of the post, or a group of bar ends and bar spacers at each side of a post. The posts and also the bars hereinafter described may be made of any desired material, but in present practice I prefer to make the posts and post caps of concrete and the bars and bar spacers of wood.

In the accompanying drawings forming a part hereof,

Figure 1 is a top plan view,

Fig. 2 is a side elevation, and

Fig. 3 is a vertical lengthwise elevational view in section through a post at line 3—3 of Fig. 1.

Fig. 4 is a transverse sectional elevation at line 4—4 of Fig. 2, and shows the arrangement of the parallel and crossed bars and of the top rail.

Fig. 5 is a transverse sectional detail, enlarged, at line 5—5 of Fig. 1, and shows the bar and rail clamping means at the top of a post.

Fig. 6 is an under-plan view of one of the post caps.

Fig. 7 is a transverse section at line 7—7 of Fig. 2 through one of the posts to illustrate the air space preferably provided for in the post at the ends of the bars.

Fig. 8 is a perspective view of one of the bar spacers, all of which are of the same shape, but some of which are longer than others.

In the drawings, each post 1 is formed with lengthwise extending grooves 2, 2, one at one and the other at the opposite side of the post, each groove being open at the top and extending part way toward the earth-entrant foot portion of the post. The grooves at their vertical bottoms are preferably ∠-shape to provide air circulation spaces at the ends of the bars and inner edges of the bar-spacers if bars and bar-spacers are of wood. The posts are shown of concrete, and a vertical reinforcing bar 3 extends preferably throughout the entire length of the post in the central solid wall or portion between the grooves so far as they extend. The bottom end shoulder 4 of each groove is preferably beveled upwardly and inwardly toward the vertical bottom or lengthwise-extending bottom-forming ∠-shaped wall of each groove as a matter of convenience in assembly. For this purpose each of the horizontal bars 5 has the upper and under corners of each end beveled toward the lengthwise axis of the bar, as at 6, the bars as shown being rectangular in cross-section, and located edgewise with their ends in the opposed grooves of two posts. The bar ends are flat and do not fill the ∠-shaped vertical air-circulation spaces *x* formed by the ∠-shaped vertical bottom walls. If the beveled shoulders were made horizontal, the under corner portion of the lowermost bar would need to be straight and workmen would often make mistakes in putting in the bottom bar; whereas by making all the horizontal bars alike at their ends and making the shoulders 4 upwardly and inwardly slanting, such mistakes in assemblage are avoided and any one of the horizontal bars may be properly used as the horizontal bottom bar. While I have emphasized these two details of my preferred construction, I do not intend to limit this invention to such details, to wit the ∠-shaped vertical bottom walls for securing air circulation and the slanted bottom end shoulders of the grooves; and in other respects the particular construction as shown may be varied without departure from the invention.

Between each end of each horizontal bar 5 and the corresponding end of each higher horizontal bar, spacers 7 are inserted in the post grooves, each end of each spacer being beveled at 8 in the direction of the open side or mouth of the grooves, the beveled ends 8 matching the beveled corners 6 of the bars with the result that in the completed assemblage the spacers are securely held in place, being interlocked in the grooves with the bar ends. Thus no nails or fasteners through the horizontal bar ends, or through any bar ends, or through any of the spacers, are required. Two upper cross-bars 9 which

are preferably, and as shown, bent past each other midway between their ends, may be used above the horizontal bars 5, and intermediate the uppermost horizontal bar 5 and a top horizontal clamp rail. The under corner of each cross-bar 9 is chamfered at 10 to rest flat on the top edge of the uppermost horizontal bar 5 and the upper corner of each cross-bar is chamfered at 11 to bear flatly against the under edge of the clamp rail 12. The ends of the cross-bars 9 are located in the post grooves and the opposed corners of the cross-bars are beveled at 6, similarly to the bevels 6 of the horizontal bars 5 for interlocking with the elongated upper spacers 7 which except for length are identical with the under spacers 7. The top or clamp rail 12 has its ends in the post grooves and its ends rest on the chamfered upper corners 11. Its upper edge is socketed in a lengthwise-extending groove 13 of a horizontally disposed cap-board 14, the ends 15 of which overlap the ends of the clamp rail 12 and rest on the post tops, extending only part way across the post tops. The opposed ends 15 of two top clamp rails 12 are arranged to permit the upward extension between and above them of the upper threaded end portion 16 of the upstanding reinforcing bar in a post. A post cap 17 having a central bore 18, and in its flat bottom two alined recesses 19, fits on the upstanding threaded end 16 and over the opposed ends of two opposed cap boards 14, and a clamp nut 20 on the end of the upstanding threaded end 16 clamps the whole assemblage firmly together without the use of other fasteners than the nuts and threaded ends 16 of the vertical reinforcing bars 3; but except for such fasteners, no fasteners are necessary, and my invention may be called a nailless fence. The interlocking spacers 7 serve in lieu of nails, bolts or screws for holding the ends of the bars in place, and such spacers cannot work loose or out. The post-cap construction prevents the cap-board from turning and also prevents the post cap from turning when the clamping nut is screwed firmly down; and this arrangement tends to insure the cap from becoming fractured by undue strains brought on the cap board. In present practice, I prefer to make all the parts except the posts, post caps, reinforcing rods and nuts, of wood. The cap-boards are preferably convex on the upper surface in order better to shed water and to prevent them from cupping under the action of moisture. Obviously all the bars 9 as well as the bars 5 may be horizontally disposed if desired; and any desired number of bars may be used.

What I claim is,—

1. The combination of a fence post having oppositely disposed vertical bar-receiving grooves; an upstanding threaded clamp member; a series of bar ends in each groove; a series of spacers in each groove between the bar ends therein, such spacers interlocking at their ends with the bar ends; top rails each having an end in a post groove; for each top rail a horizontal cap-board, the opposed ends of the cap-boards bearing on the post top, and said clamp member passing upwardly between such opposed ends; a post-cap having alined bottom grooves each of which fits on an end of a cap-board with an end wall of each groove opposed to an end of a cap-board, the cap having a hole through it whereby the cap fits over said threaded clamp member; and a nut thereon and bearing against said cap, each end of each of said spacers being slanted in the direction of the open side of the bar-holding groove, and each interlocking bar having slanted corner portions bearing on and thereby interlocking with the slanted ends of the spacers.

2. In post-and-rail fence construction, the combination of a post provided at its upper end with an upstanding threaded projection and with a vertical groove for reception of rail ends and for reception of separable rail spacers; a series of rails corresponding ends of which are mounted in said groove; a series of spacers located in said groove, one between each two opposed rail ends, each of said spacers interlocking at each end with an end of a rail; and means for clamping the assembled rail ends and spacers demountably in said groove; each end of each of said spacers being slanted in the direction of the open side of the bar-holding groove, and each interlocking bar having slanted corner portions bearing on and thereby interlocking with the slanted ends of the spacers.

In testimony whereof I have hereunto set my hand.

FREDERICK A. EMERICK.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."