H. & B. F. BEAN.

Fences.

No. 166,330. Patented Aug. 3, 1875.

Fig. 1.

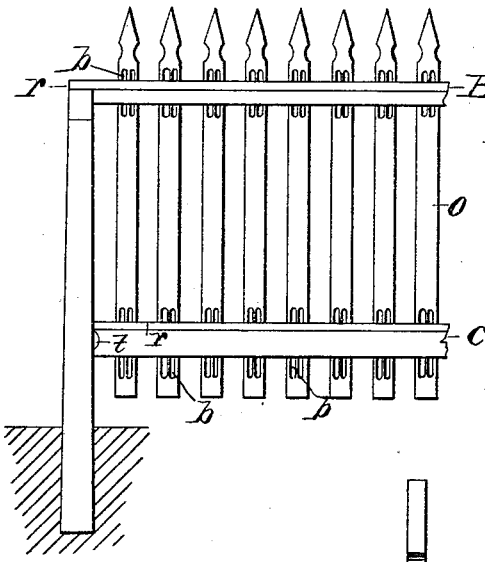


Fig. 2.

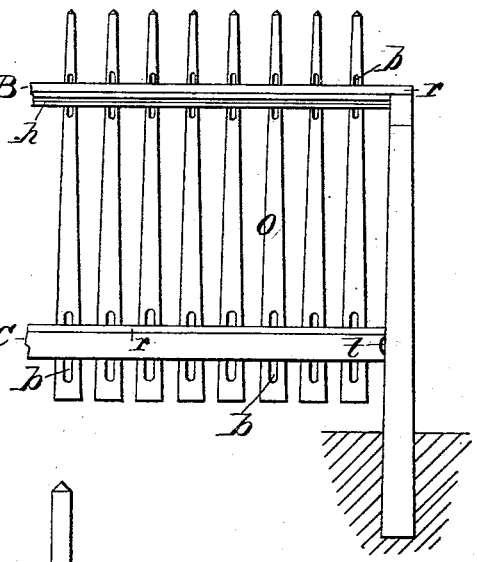


Fig. 3.

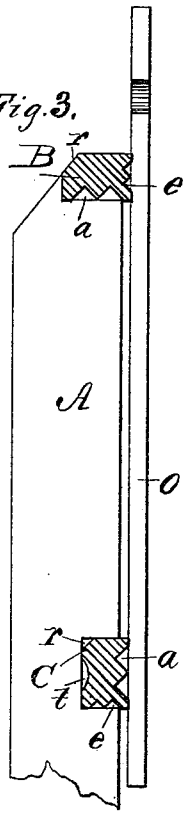


Fig. 4.

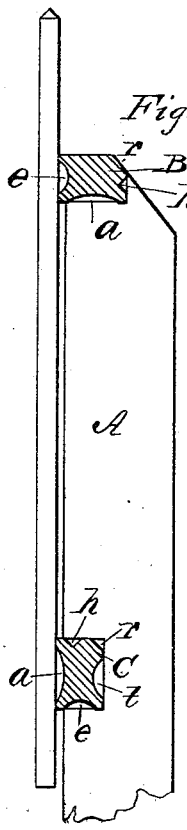


Fig. 5.

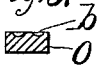
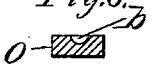


Fig. 6.



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UNITED STATES PATENT OFFICE.

HENRY BEAN AND BENJAMIN F. BEAN, OF PAWLING, PENNSYLVANIA.

IMPROVEMENT IN FENCES.

Specification forming part of Letters Patent No. **166,330**, dated August 3, 1875; application filed April 16, 1875.

To all whom it may concern:

Be it known that we, HENRY BEAN and BENJAMIN F. BEAN, of Pawling, in the county of Chester and State of Pennsylvania, have invented certain Improvements in Fences, of which the following is a specification:

Our invention relates to fences of that class ordinarily termed picket-fences; and the invention consists in forming the rails, and also the pickets with grooves in them, in such a manner as to permit the air to enter between the rails and the posts, and also between the rails and pickets, and by thus drying the adjoining surfaces or joints of these parts more readily after being wet by storms, assist in preventing their decaying, as hereinafter more fully described.

Figures 1 and 2 are face views of a fence embodying our improvements. Figs. 3 and 4 are transverse vertical sections of the same, and Figs. 5 and 6 are cross-sections of a couple of the pickets detached.

It is well known that the decay of picket and similar fences is greatly hastened by rotting of the wood at the joints where the rails are secured to the posts, and also where the pickets are secured to the rails, this being caused by the moisture which enters these joints, they remaining damp long after the other parts have become dry.

To remedy this difficulty we construct the rails with grooves running lengthwise in their sides and edges, as shown in Figs. 3 and 4, *e* indicating the grooves in the edge of the rails, and *a* representing the grooves in the sides of the same. These grooves may be single, as in Fig. 4, or they may be double, as in Fig. 3, it depending somewhat upon the size of the rail.

In constructing a fence, the upper rail B is preferably placed on its side, thus bringing the grooves *a* next to the post, while the grooves *e* are on the edge to which the pickets are nailed. The lower rails C are reversed, bringing the grooves *a* next to the pickets, while the grooves *e* are on their lower edge where the rail rests on the shoulder formed by the notch cut for it in the post A, as shown in Figs. 3 and 4. We also form a groove, *h*, in the edge opposite to that in which the groove *e* is formed, as shown in Fig. 4, this groove *h* being near the side of the rail to which the pickets are fastened, the object being to form a gutter for the water to run in, and thereby prevent it from running down over the face of the rail and against the picket-fences, being almost always more or less inclined in one direction or another, thus insuring the water flowing along this gutter. In cases where it is not inclined an occasional notch may be formed to let the water out of the groove *h*. When the upper rail is arranged on its side, as shown in Fig. 4, this groove *h* will come next to that part of the post which projects up alongside of the rail, thus forming an air-space at that point.

It is obvious, however, that the upper rail may be set on edge the same as the lower one, in which case the groove *h* will serve as a gutter the same as below. One corner of the rail is also beveled, as shown at *r*, which forms an additional air-space when set on its edge. The rails C are also provided with a groove, *t*, at the point where they rest against the posts, as shown in Figs. 1, 2, 3, and 4.

In like manner the pickets O have grooves *b* formed in their face at the points where they rest against the rails, the grooves being either single or double, and about twice as long as the rail is wide, as shown in Figs. 1 and 2, and also in Figs. 5 and 6.

By this construction of the rails and the pickets, it will be seen that surfaces in actual contact at the joints is greatly reduced, and that spaces or openings are left at all the joints into which the air will enter, thereby drying out the moisture, and preventing the parts from rotting or decaying at the joints.

By the use of suitable machinery these grooves can be cut with great rapidity, and at a trifling expense, and thus the material can be prepared at the mill or factory, and put in the market ready for use, the same as ordinary rails and pickets are now made and sold. A fence made of material thus prepared will be far more durable than one made of the ordinary rails and pickets, while the additional expense is but a trifle.

We are aware that shingles have been made with grooves in them, and we do not claim, broadly, the idea of admitting air into the joints of wooden structures; but

What we claim as our invention is—

1. As an improvement in the construction of fences, the rails B C, having their sides and edges provided with the grooves *a* and *e*, substantially as and for the purpose set forth.

2. A fence-rail having a gutter or groove, *h*, in its upper edge near the pickets, for the purpose of conveying away the water that would otherwise enter the joint between the pickets and the rail.

3. The pickets O, having the grooves *b* at the points where they bear against the rails, substantially as shown and described.

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