

United States Patent Office.

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IMPROVEMENT IN FENCE AND GATE.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, ENOCH MUIRHEID, of Greenfield, in the county of Highland and State of Ohio, have invented certain Improvements in Fences and Gates, of which the following is a specification.

Nature of the Invention.

My invention relates to an improvement in the construction of portable fences and gates; and consists in putting together the parts that compose them by the use of rods, nails, and bolts, in such a manner that the fence is self-supporting, and the posts and rails or battens are not weakened by frequently mortising the posts and making tenons on the ends of the rails, as will be hereinafter more fully described.

Description of the Drawings.

Figure 1 is a perspective view of my improved fence and gate.

Figure 2 is a transverse section of the gate, through the line *x x*.

Figure 3 is a transverse section of the fence, through the line *y y*.

Figure 4 is a lateral section of the gate.

General Description.

The pales *a* are nailed to the upper rail, *b*, and lower rail *c*.

The sills or ties *A* are constructed broader than those *B*, and are placed at the junction of two panels.

These ties *A*, and *B* are laid proper distances apart, allowing space enough for a post, *d*, between the panels.

That portion of the panels already constructed, by nailing the pales *a* to the upper and lower rails *b* and *c*, is placed into recesses *e* in the ties *A* and *B*, and a post, *d*, is set between them.

The rails *o* are placed in the recesses *e* on the opposite side of the pales *a* to that occupied by the lower rail *c*.

The wedges or keys *g* are driven into the recesses *e* until the panels will stand alone. But one wedge or key *g* is shown in the drawing. It is intended, however, in constructing the fence, that a wedge or key should be made for every tie.

Pieces, *h*, that will extend from the pale *a*¹ to the pale *a*² are placed in the jaws *i*² of the posts *d*.

The rails *j* are placed on the opposite side of the pales *a* to the rails *b*, and parallel with them.

The rails *b* and *j* and pieces *h* have holes for the reception of the bolts *f*. The bolts *f* are inserted and the nuts put on and turned until the rails *b* and *j* and the pieces *h* are bound tightly together. The nuts on

the bolts *f* are not shown in the drawing, being on the other side of the fence.

The diagonal rails *k* are bolted together on opposite sides of the panels through the pales *a*¹ and *a*², as shown in panel *D*, or simply together where they intersect, as shown in panel *C*, or alternately.

The panels are also bolted to the ties *B*, plates *l* being placed between the pales so as to cover the recesses *e* in the ties *B*.

The braces *m* are used at alternate posts *d*, and the stakes *n* are used at alternate ties *A*.

It will be observed that each end of the braces *m*, used on one side of the fence, is provided with a nut and screw, while the braces *m*, used on the other side, have an eye at one end instead of the nut and screw.

It will also be observed that the ends of the braces *m* having the nut and screw are bent so as to enter the holes made in the posts *d* and stakes *n*.

The end of the brace *m* that enters the post *d* is first put through the eye in the opposite brace *m*.

The gate has the uprights *p* and *q*, to which the strips *r* are fastened by the bolts *s*. The upright *p*, strip *r*, and bolts *s*, on one side of the gate, are shown by fig. 4.

The pales *t* are nailed to the battens *u* and *v*.

The battens *w* and *z* are fastened opposite to the battens *u* and *v* by the bolts *f*.

The diagonal battens *b'* are fastened on opposite sides of the pales *t*, and parallel to each other.

The top and bottom rails *c'* are held in place by the rods *d'*, having a nut and screw at the bottom, and an eye and a washer at the top.

The bolt *e'* has an eye at its head.

The points of the rods *d'* that are next the uprights *p* and *q* are run through the eye in the head of the bolt *e'* before the nut is put upon the rods *d'*.

A rod, *f'*, is run through the eyes of the rods *d'* and fastened through the uprights *p* and *q*.

The upright *q* is provided with the shaft *g'* at the top, which passes through the eyes of the bolts *h'*, which act as hinges.

It also has a short shaft or pivot at the bottom, which works in a metal pit in the recess *i* in the tie *F*.

The rod *j'*, fastened by an eye to the shaft *g'*, is also fastened to the upright *p*, and gives additional strength to the gate.

Braces *k'*, *l'*, *m'*, and *n'* are added to the post *E* and panel *D*, to give the fence greater stability, which is required at the gate.

It will be observed that the battens *z* and *v* and the top rail *c'*, also the battens *u* and *w*, and the bottom

rail *c*, form recesses for the reception of the strips *r*, and that no mortises or tenons are used. This construction gives the gate and fence great strength, and admits of taking them to pieces frequently without doing damage to the joints.

Claims.

I claim as my invention—

1. In combination with the panels C and D, composed of the rails *c*, *o*, *b*, *i*, and *k k*, pales *a a¹ a²* and bolts *f*, the posts E and *d*, pieces *h*, plates *l*, ties A, B, and F, stakes *n*, and braces *m*, *k*, *m'*, *l'*, and *n'*, ar-

ranged relatively one to the other, substantially as described, for the purpose specified.

2. In combination, the battens *u w v z*, rails *c' c'*, pales *t*, bolts *f*, uprights *p* and *q*, rods *d'*, *f'*, and *j'*, bolts *e'* and *s* and *h'*, shaft *g'* and pivot *i'*, arranged relatively one to the other, substantially as described, for the purpose specified.

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Witnesses:

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