R. Merrill,

Portable Fence

No. 19,434, Patented Feb. 23, 1858.

Fig. 1.

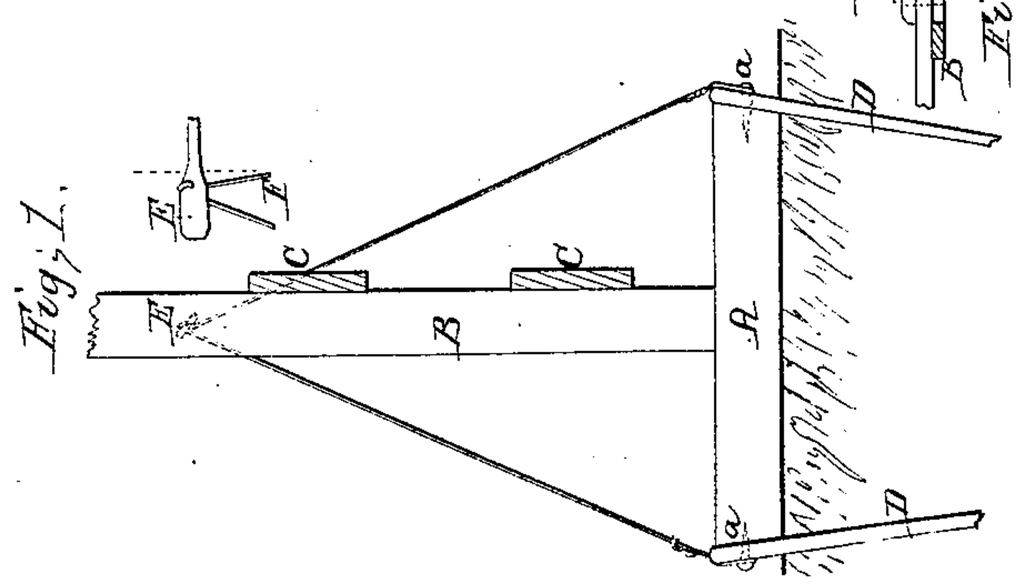

Fig. 2.

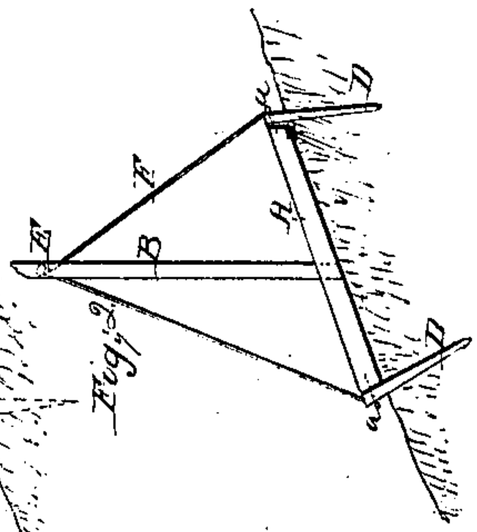

Fig. 3.

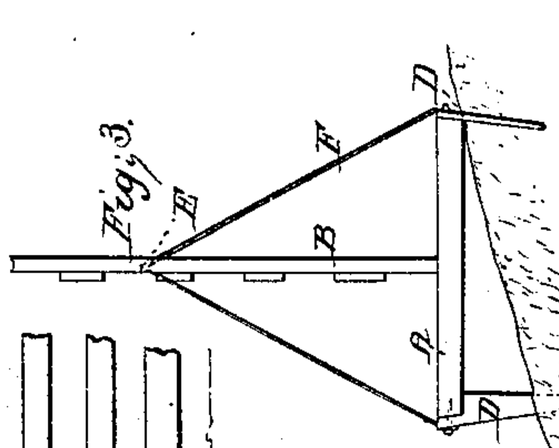

Fig. 4.

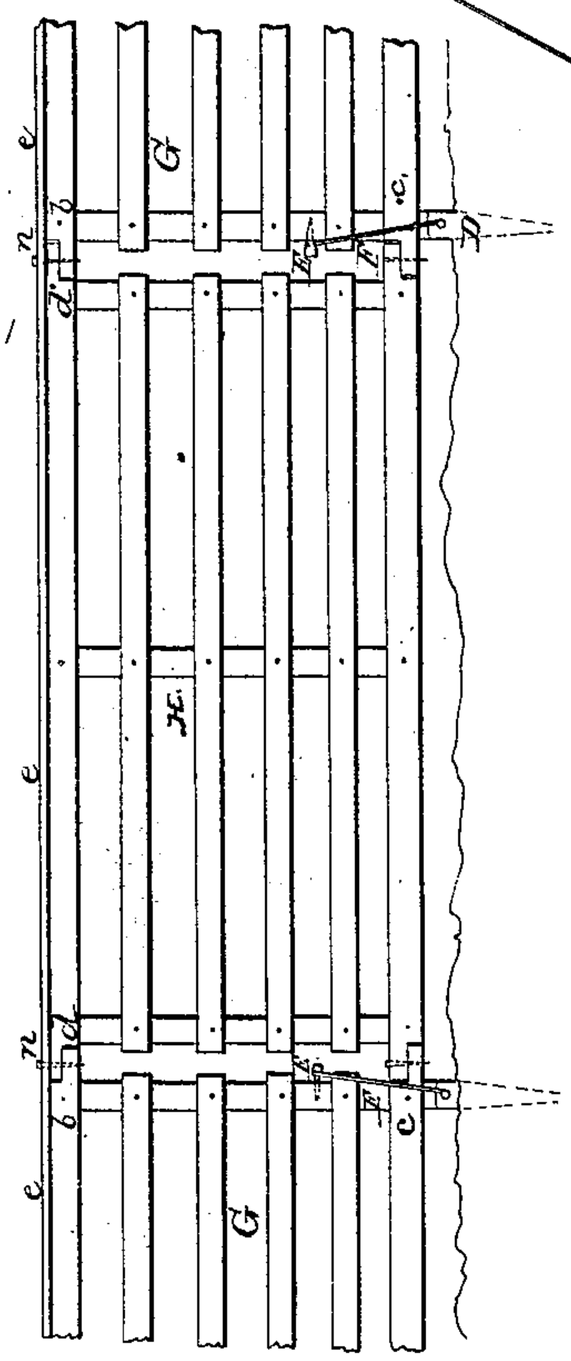

Fig. 5.

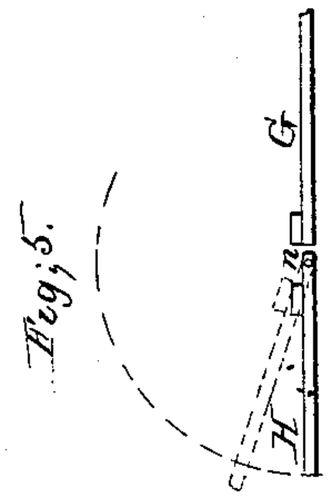

Fig. 6.

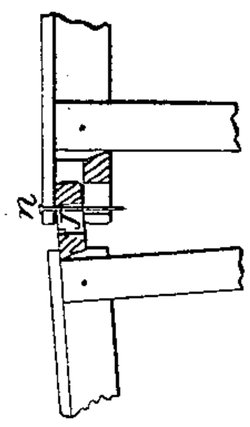

Fig. 7.

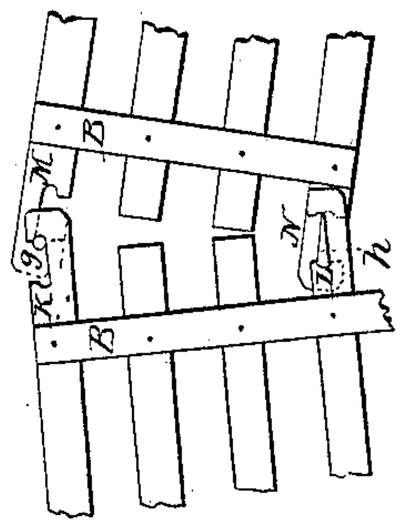

Fig. 8.

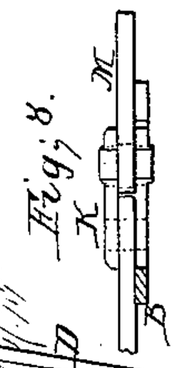

Fig. 9.

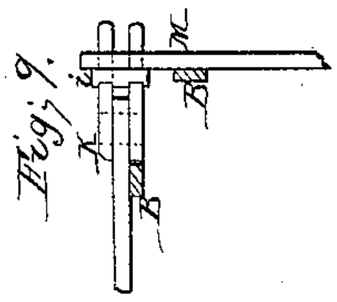

Fig. 10.

UNITED STATES PATENT OFFICE.

RENSSELAER MERRILL, OF ELMIRA, NEW YORK.

DEVICE FOR CONNECTING THE PANELS OF FIELD-FENCES.

Specification of Letters Patent No. 19,434, dated February 23, 1858.

To all whom it may concern:

Be it known that I, RENSSELAER MERRILL, of Elmira, in the county of Chemung and State of New York, have invented a new and Improved Mode of Constructing Field and Portable Fences; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, and to the letters of reference marked thereon.

To enable others to make and use my invention I will describe its arrangement and construction.

I construct my fence in separate panels, each of which is composed of any required number of horizontal rails, for which I usually use inch boards, with an upright piece, or batten, at each end, and one in the middle, which are nailed to the rails. The top and bottom rails of each panel are made to project about six inches past the end pieces. The uprights at the end of each alternate panel are also made to project below the bottom rail about the same distance, and are fitted with a tenon for entering a foot-piece, or horizontal cross-strip A, Figure 1, B being a portion of the upright, and C C the rails. An auger hole, or square or dovetail mortise may be used, as taste or convenience may suggest. These foot-pieces form the foundation of the fence, and may be laid in trenches dug in the ground and covered, but I prefer to lay them on the surface and drive a stake, D D, close to each end. I then drive a stout nail or spike, *a a*, through the stake and into the end of the piece A. At about $2\frac{1}{2}$ or 3 feet above the ground I bore a small hole and drive into it a key formed of a piece of wood or iron rod flattened at one end, and having a hole punched in it, of the form shown at E. I then take a wire of about one quarter inch diameter and wind it around the head of one of the spikes, *a a*, which I have left to project slightly for that purpose, pass the other end through the hole in the key, E, and down to the spike at the other stake, where I secure it in like manner. Then, having set my panel perpendicular, I turn the key E with a wrench, or the claw of a hammer, until the wire is drawn to a considerable degree of tension. For this purpose a cast iron pin, square at the outer end, with a knob or projection on its side for hitching the wire upon may be used with the same effect, the square part allowing it to be turned by the wrench. This forms a strong and simple tension brace; one which can be put on or taken off in very little time, and is not liable to break or become destroyed. If the key is inclined to turn back, and not hold, a slight blow of the hammer secures it, as its flattened and wedge-like form makes it hold securely if driven tightly. This mode of tightening the braces is peculiarly adapted to our variable temperature, as the tightening key yields slightly, if only from the relaxation of the fibers of the wood, and prevents the wires breaking from contraction in cold weather. If found relaxed on the return of warm weather, a very little labor will tighten them up again. If the foot-piece is buried in a trench the stakes will not be required, and the braces should be attached directly to the ends; and even for a temporary fence on level ground the stakes may be dispensed with. This method of bracing is also readily adjustable to inclinations of the surface, so that when setting a fence on a side hill the foot piece may lie on the surface and the panel be set erect by merely sliding it along the wire brace before tightening, as shown at Fig. 2. Or, if preferred, the foot-piece may be set level by laying one end on the ground and supporting the other on a larger stake, D, Fig. 3, left projecting above the surface.

Every alternate panel is secured by a foot-piece and braces at each end as shown in the elevation, G G, Fig. 1, while the intermediate ones are hung as follows: The longer or projecting rails, *b b* and *c c* of the permanent panels, are halved away at their upper sides, and the projecting rails on the movable panel, H, are halved to correspond, as at *d d*. The cap *e* is laid on so as to project as far as the rails, *b b*, and therefore forms a species of hinge-joint, a small pin or nail, *n n*, being dropped into a hole bored vertically through each. This forms a straight fence and a substantial one, and has the important advantage of affording a gate at every alternate panel, as, by merely withdrawing the two pins, at either end the panel swings in either direction as shown at Fig. 5. This will be found a great convenience to the farmer, enabling him to dispense with permanent gates, the construction of which, and keeping in repair, is always attended with considerable ex-

pense, and which cannot be located to suit the convenience of every occasion, when the utmost care is used. Corners are turned at any angle by this arrangement without any additional parts. When the ground is undulating the holes for the pins *p* are made in the form of slots as at I, J, Fig. 6, which admits of one panel assuming a considerable angle of inclination above or below the other. The rails, *b* and *c*, which form the connections, should, for a strong fence, be of two inch stuff, but when it is desired to economize by using inch boards it can be done and form perhaps as good a fence, although not as elegant a one, as follows: After forming the panels nail short pieces of board on each side of the top and bottom boards on the stationary panels, letting them project seven or eight inches past the end of the rails. Then with an inch and a half auger bore two holes through these cleats 5 or 6 inches apart. Then saw from the top to the center of each hole, and, with a chisel, split out the wood between the two, when a notch or recess is formed, having a hook at each end as K, L, Fig. 7. The movable panel has a corresponding notch formed from the under side of each projecting end, M, N, by placing which together, as the fence is set up, and inserting a wooden pin or key, *f*, Figs. 7 and 8, the parts are firmly bound together, the pin locking in the hooks of the notches and preventing the panels from being separated, either by raising or drawing out. This plan has decided advantages on uneven ground. The slots or recesses being 6 inches (or more if required) in length allow of considerable variation to the inclination of the different panels by drawing out one till it will receive only a round pin as at *g*, Fig. 7, and contracting the other till the opening presented takes the broad wedge-shaped key, *h*. This forms a very strong fastening, as each connection is securely locked by the pin, which receives a great deal of the strain to which the fence is subjected, whether it is lateral, vertical, or otherwise. Right angles are formed by laying the locking recesses across each other and inserting a key, *i*, Fig. 9.

This method of fencing is well adapted to constructing cheap temporary fences for the farmer, of slabs, poles, or such other cheap material as may be most readily obtained. A slab fence is made by using two pieces longitudinally as rails, and nailing on other pieces vertically in the form of pickets. The ends of the horizontal slabs may be halved together and secured by nailing on a cleat instead of a pin. Elegant picket and garden fences may be made in this manner by using suitable material; or wire may be strained in the panels and make a good and durable fence and one not likely to be injured by cattle, as the wooden frame work warns them, on approaching, of the presence of a fence. It is extremely light and portable, and can be taken up, loaded, and re-set with very little labor.

I do not claim simply hinging one panel to another, as that has before been done, but

I claim—

The combination and arrangement of the alternate anchored or fixed panels, G, with the movable panels, H, when the same are connected by means of the hooked or recessed locking joints and keys, Figs. 7 and 8, in the manner and for the purpose set forth.

RENSSELAER MERRILL.

Witnesses:

J. FRASER,

S. I. ALLIS.