

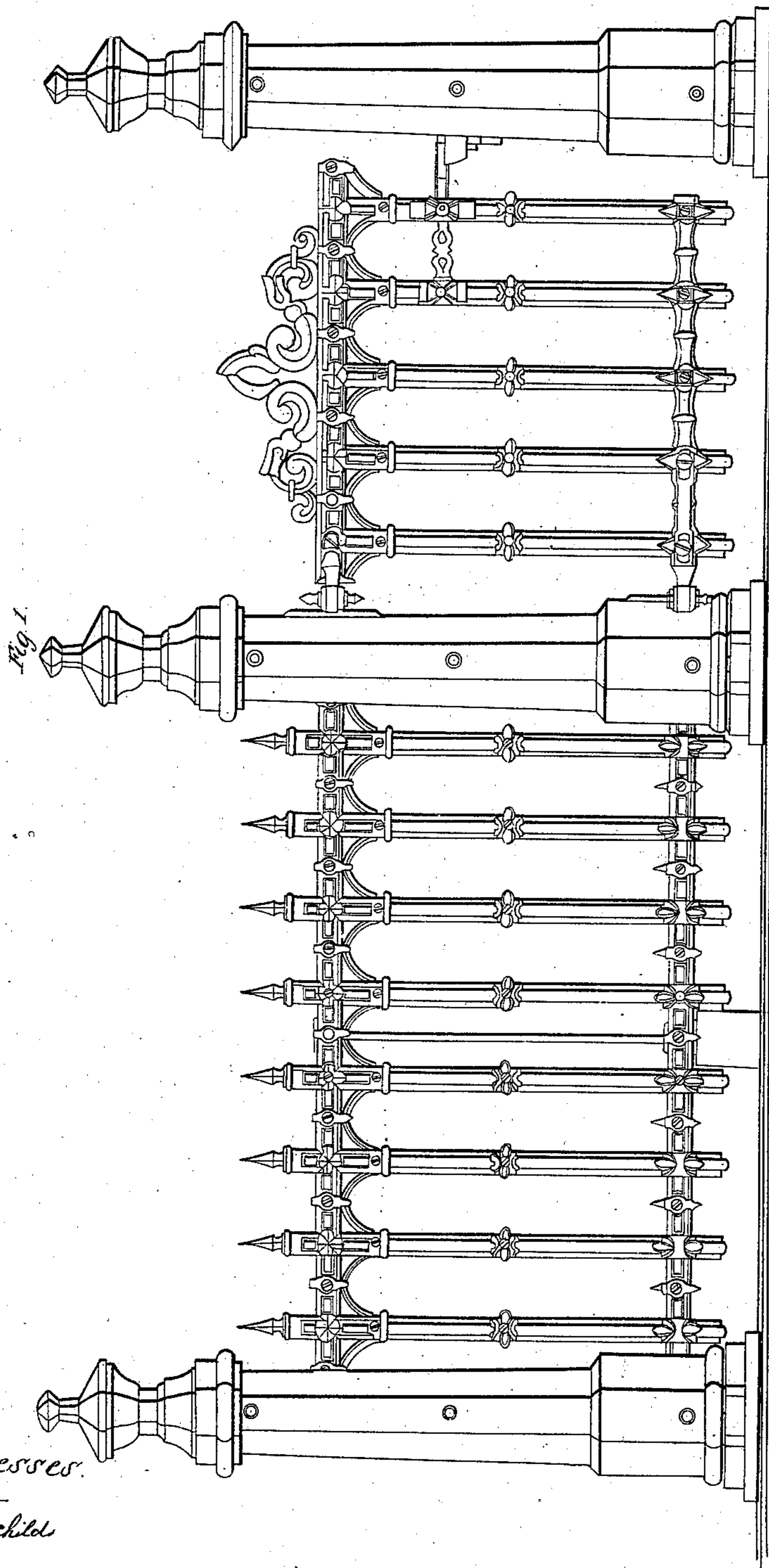
*T. E. King*

*Sheet 1, 2 Sheets*

*Iron Fence.*

*N<sup>o</sup> 55,874.*

*Patented Jun. 26, 1866.*



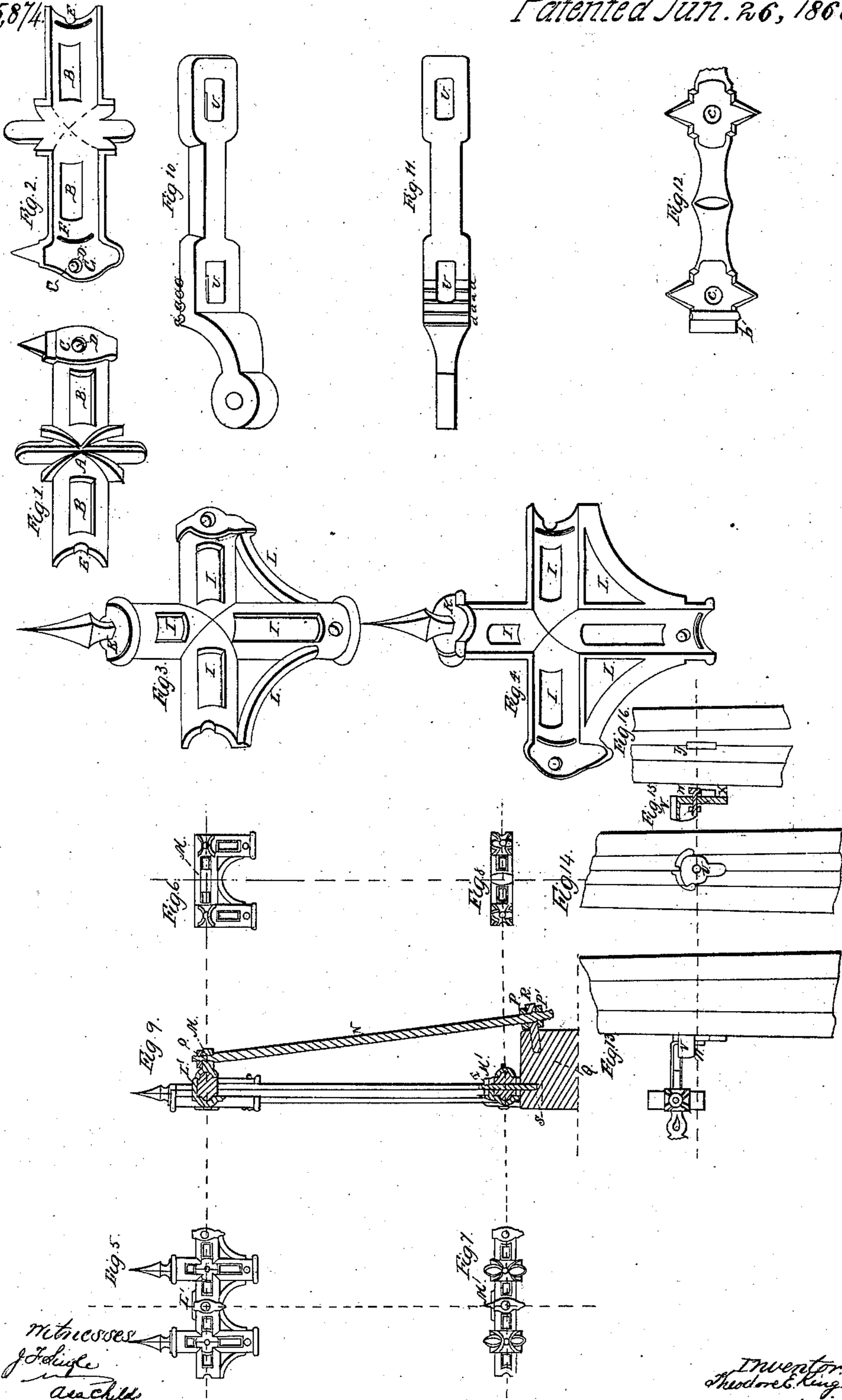
*Witnesses.*  
*J. S. Hingle*  
*A. S. Child*

*Inventor*  
*Theodore E. King*

*T. E. King.*  
*Iron Fence.*

N<sup>o</sup> 55,874.

Patented Jun. 26, 1866.



# UNITED STATES PATENT OFFICE.

THEODORE E. KING, OF PAINESVILLE, OHIO.

## IMPROVEMENT IN FENCES.

Specification forming part of Letters Patent No. 55,874, dated June 26, 1866.

*To all whom it may concern:*

Be it known that I, THEODORE E. KING, of Painesville, in the county of Lake and State of Ohio, have invented certain Improvements in Fences for Lawns, Door-Yards, &c.; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, in which—

Figure 1, Plate 1, is a longitudinal elevation of my improved fence, representing a panel and a foot-gate and posts for supporting the same. Figs. 1 and 2, Plate 2, are perspective views, on an enlarged scale, of one of the series of straps or plates employed for stiffening or strengthening the rail, Fig. 1 being the outside, and Fig. 2 the inside, of the same; Figs. 3 and 4, perspective views of a similar plate with a vertical addition to its horizontal construction, and with arched bracing, intended for supporting the picket and bracing the rail, Fig. 3 being the outside, and Fig. 4 the inside; Fig. 5, elevation of plates, cast two in one, and used for covering and strengthening the joining ends of the sections; Fig. 6, elevation of a plate used at the back of the rail opposite the foregoing, and constructed with a projection to receive a bracing-rod. Figs. 7 and 8 are elevations of plates used on the lower rails, Fig. 7 being the front, and Fig. 8 the back. Fig. 9 is a sectional end view of a panel, showing the mode of securing the ends of the sections, as will be explained; Figs. 10 and 11, enlarged views of the adjustable bottom hinge of the gate; Fig. 12, a portion of the plating of the lower rail of the gate, which receives said hinge. Figs. 13, 14, 15, and 16 are details showing the arrangement of the adjustable catch for the latch of the gate, Fig. 15 being a vertical section, the construction and operation of which will be hereinafter explained.

My improvements relate to the class of fences known as "combination" fences, or such as are constructed of wood and iron. Fences of this description have, within the past few years, greatly increased in demand. There are two controlling causes for this: First, the various constructive parts can be made wholly by machinery and put together by hand-labor at manufactories established for the purpose; second, fences of this description can be readily and safely shipped to their destination, and then setup by workmen ordinarily found in vil-

lages and small towns, requiring no foundation or substructure beyond a block of stone under each post and center of each panel.

The improvements herein specified are mainly intended to supersede the clumsy and heavy look, and consequent useless expenditure of lumber, unavoidable in the appearance and construction of wooden fences built after the prevailing mode, referring particularly to those erected for the use of lawns and door-yards. Such fence, when contrasted with the light, airy, and open appearance of its neighbor—the iron fence—loses greatly by comparison. Hence the invention of the combination fence, the iron being employed to strengthen the wood when its bulk is reduced to gain lightness.

The combination fences now in use are, however, not quite free from the defects spoken of.

My improved fence, it is believed, approximates nearer to the light and open character of the iron fence, and certainly with less waste of lumber, than any other yet invented.

The main feature of my improvements consists in the mode employed for strengthening and supporting rails and pickets of light, thin, and slender make by employing a consecutive series of iron straps or plates of peculiar and light construction (as will be explained) cast separate, or several in one piece, and so securing them to the rails and pickets, by overlapping or interlocking, as to render the rails rigid longitudinally, thus preventing any tendency to sag or depress, at the same time counteracting strain in a lateral direction, the picket being also supported vertically. The plates will thus present a continuous ornamental design throughout the whole length of the panel and gate.

This arrangement, it will be seen, does away with the use of the objectionable and expensive bottom board or paneling employed in other combination fences to render them durable, and presents the light, open, and elegant appearance so much desired.

The secondary feature of my improvements, is the arrangement for adjusting the plumb of the gate and catch of the latch, the former consisting of a hinge so constructed as to be easily and readily moved in or out at any time the gate requires to be reset, the catch being adjusted up or down to correspond.

The third feature of my said improvements,

is the means adopted for coupling and securing the sections to form the panels.

The following is a description of the construction of the several parts employed in my said improvements:

A, Fig. 1, Plate 2, is a cast-iron strap or plate, convex outward and concave inward, this form fitting the present adopted form of the rail and picket; but of course other forms can be used. It is made as thin and light as will be consistent with the strength required. B B are open spaces cut out from the body, principally to reduce weight of metal. C is its raised portion, through which is a hole, D. On its opposite end is a half-round notch, E.

F F, Fig. 2, are raised edges on the concave side, as seen, formed at the extremities. G is the inside of the raised portion C, Fig. 1, and is sunk below the longitudinal line of the concavity, as shown.

Fig. 3 is another plate, its horizontal portion being constructed substantially like the preceding. The vertical or upright portion is also convex and concave correspondingly, the lower part perforated with a hole, H, and openings I I are cut out, as in the other. It is also provided with a raised edge, J, Fig. 4. The cap K projects back so as to cover the head of the picket, as seen. L L, Fig. 3, are two arched braces uniting the upright with the horizontal portion.

Fig. 5 are two of the last-described plates, cast in one piece, and has a plate, L', on its top projecting back; and Fig. 7, two of the first described, also cast in one piece, and has a similar plate, M'. These projecting plates are intended for covering and securing the joining ends of the sections, as will be explained.

The plates, Figs. 6 and 8, are placed on the back of the sections opposite the plates numbered 5 and 7 respectively. These last-named plates need no particular description, only that plate 6 is provided with a projection, M, having a hole through which the top of the long brace N, hereinafter mentioned, is put.

N, Fig. 9, is the said brace. Its upper end is cut with a thread to receive a nut, O. The lower end is similarly cut, and has two nuts, P and P'. Q is a block of stone set endwise in the ground; it has two bolts leaded into it—R, which is an eyebolt, and S, a straight bolt provided with a thread and a nut, T.

Fig. 10 will show the general construction of the gate-hinge or that portion relating to its adjustable feature. *a a a a* are depressions into which the tooth *b* (shown on a portion of the lower plating of the gate and marked Fig. 12) drops. Said plating has also two screw-holes, *c c*, for the adjusting-screws of the said hinge.

Fig. 11 exhibits the said depressions more fully. U U', Fig. 10, are slots into which the said set-screws pass, as seen in Plate 1.

V, Fig. 13, is the adjustable catch before referred to.

Fig. 15 (the sectional view) shows its con-

structive form. W is a bolt passing through it, and X a stud projecting from its back.

Fig. 16 shows an opening, Y, formed by notching the halves of the post.

I will now explain the method of making up the sections of my said improved fence. Two pieces of pine or other suitable wood, dressed eight feet long, three and one-half inches wide, and one and one-half inch thick, are notched out on their front edges at intervals of six inches from center to center, to receive the pickets. The pickets, which are four feet long and dressed to one and one-half inch square, are then placed in the said notches, the rails being, say, three feet eight inches apart from center to center. The pickets are then temporarily tacked, to hold them in place for the operation of plating. Then, commencing at the extreme right hand of the rail—say the lower one, and at the second picket in from its end—a plate is laid on so that its middle covers the intersection of the picket with the rail. Another plate is then laid on, overlapping the preceding one by its raised part C, Fig. 1, Plate 2, and screwed down firmly through hole D, as seen in Fig. 1, Plate 1. The other plates are put on in like manner until the section is filled, the extreme ends, which enter the posts, being left, so that shorter pieces can be put on when the fence is set up. The joining ends of the sections are also left unplated until then, for the purpose of putting on the double plates, Figs. 5 and 7, when coupling the said sections. In the operation of plating it will be observed that in screwing on the plates the knife-edge projections F F, Fig. 2, cut or bite into the wood, thus giving each plate a firmer hold. The plates of the upper rail are put on in like manner, excepting that there is an additional screw on its lower end, which goes into the picket, as seen. The plating of the gate, if deemed best, can be cast in entire pieces fitting the width. It can also be additionally strengthened by entire plates at the back, the ornamental portion of the front plating corresponding, of course, to the entire ornamental design.

Thus much of the work and the ornaments on the middle line of the pickets, as seen in the front elevation, Plate 1, can be accomplished at the factory, the sections being made up in varying lengths, so as to meet any contingency that may arise from the space of the ground to be fenced.

In putting up the fence it will be noticed that the ends of the sections are supported through apertures in the sides of the posts, the posts being in halves and the part designed to receive the ends of the sections notched out to fit the form of the rail, whatever it may be. Previous to being put through, however, the short pieces of plating are put on. The middle of the sections is now ready for the plating. The ends, as will be observed, abut against each other. The double plate, Fig. 5, is then secured in its place, its projecting

plate L' covering the join, as seen. The double plate, Fig. 7, is then secured in like manner, its projecting plate M' covering the join, as shown. The back plates, 6 and 8, are put in their respective places and secured by bolts passed through the front plates. One of these bolts is shown in the upper part of Fig. 9. The screw-bolt S, Fig. 9, it will be seen, comes between the abutting ends of the lower rail and through the projecting plate M', and is secured by the nut T, a plate being interposed between said rail and top of the stone, as seen in Fig. 9. The brace N, with the nut P at its bottom, screwed on, is put through the eyebolt R, its upper part passed through the projecting plate M of the back plate, Fig. 6, and the nut O put on and screwed tight. After the panel is made plumb the nuts P and P' are screwed tight to the said eyebolt. It will be seen that if at any time the panel gets out of line it can be adjusted very readily by lowering or raising the said nuts.

The mode of adjusting the gate is sufficiently obvious, as it is only necessary to loosen the screws and shift the hinge until the gate hangs level. The mode of adjusting the catch is also obvious, the screw-bolt W, Fig. 15, being loosened for the purpose.

I am aware that it is not new to employ plates of iron or other metal to stiffen or strengthen forms of wood which would be otherwise weak from their slender construction, nor do I deem it new to use angular plates or straps of metal to brace or support the intersection of two pieces of wood. But I am not aware that plates of the particular construction I have herein described, or their equivalent, and used in series by overlapping or interlocking each other consecutively, have ever

been used for the purpose I employ them, in strengthening wooden fences of light construction.

What I claim, therefore, and desire to secure by Letters Patent, is—

1. The plate A, constructed as shown in Figs. 1 and 2, and herein particularly specified, and used in series by overlapping or interlocking each other consecutively, for the purpose set forth.

2. The plate as shown in Figs. 3 and 4, and constructed as specified, the same consisting of the addition to the foregoing plate of a vertical or upright part and arched braces L L, and used in series in like manner, as and for the purposes specified.

3. The manner of plating or strapping the couplings of the sections and covering their abutting ends, together with the mode of adjusting and bracing the panels by means of the combined parts herein described, viz: plates, Figs. 5, 6, 7, and 8, projecting plates L', M', and M, nuts O and T, and bolts R and S, arranged and operating as herein set forth.

4. The adjustable hinge constructed with the depressions *a a a a* and slots U U, substantially as shown in Figs. 10 and 11, in combination with the tooth *b* and screw-holes *c c* of the lower plating of the gate, as herein described and for the purpose specified.

5. The adjustable catch, as shown in Figs. 14 and 15, provided with the screw-bolt W and projecting stud X, in combination with the opening Y of the post, and constructed and arranged as and for the purpose set forth.

THEODORE E. KING.

Witnesses:

J. F. SINGLE,  
ASA CHILDS.