

(No Model.)

2 Sheets—Sheet 1.

T. ROGERS.

IRON FENCE.

No. 293,673.

Patented Feb. 19, 1884.

Fig. 1.

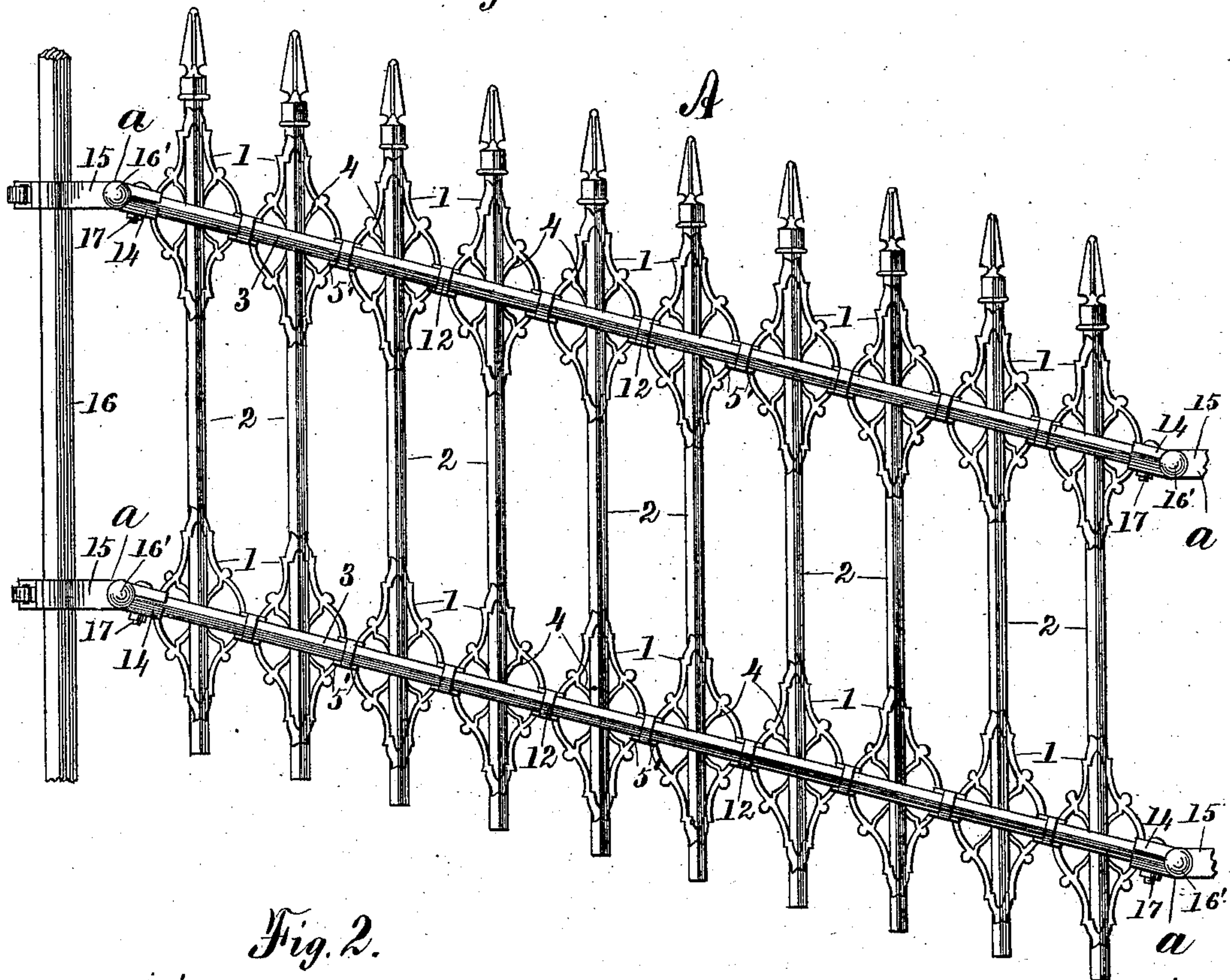
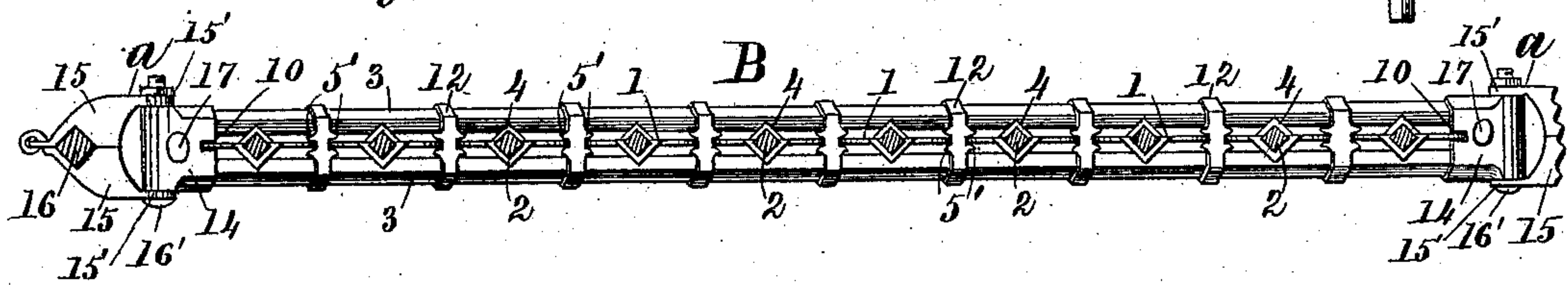


Fig. 2.



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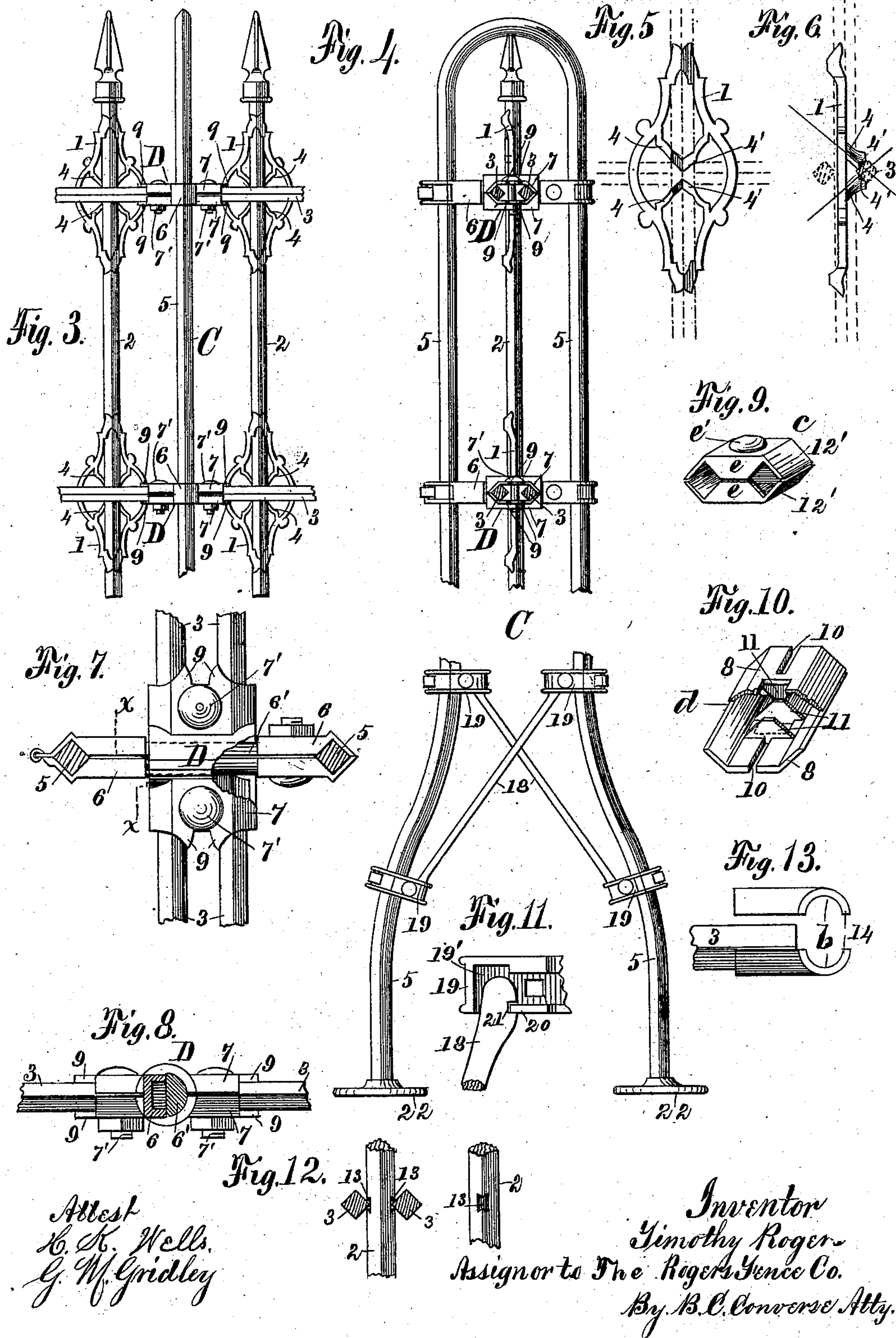
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2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

TIMOTHY ROGERS, OF SPRINGFIELD, OHIO, ASSIGNOR TO THE ROGERS
FENCE COMPANY, OF SAME PLACE.

IRON FENCE.

SPECIFICATION forming part of Letters Patent No. 293,673, dated February 19, 1884.

Application filed March 24, 1883. (No model.)

To all whom it may concern:

Be it known that I, TIMOTHY ROGERS, a citizen of the United States, residing at Springfield, in the county of Clarke and State of Ohio, have invented certain new and useful Improvements in Iron Fences; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to improvements in iron fences.

My invention relates to that class of iron fences in which a double rail is employed and the pickets are pivoted between them. The pickets are provided with means to prevent vertical displacement, and are pivoted in such manner as to allow of an entire panel of fence being readily adjusted by a single movement.

The object of my invention is to provide a ready adjustment of an entire panel of fence at a time, after it has been put together, thereby dispensing with the slow process of adjusting it to grade in separate pieces while putting it up. To accomplish this, I construct my fence in entire panels at the shop, ready to be set up, connecting the members of the same so that each one may be allowed to assume its relative position with respect to the others, when adjusted, by simply inclining the rails. I connect the rails together, also, between the pickets with a clip-band, which will form an exterior bearing for the circular portion of the ornament during the operation of adjustment, the frame-bars of the ornament being kept in the central longitudinal line between the rails by prongs or sprockets extending from the edges of the clip-band on either side of the inserted frame-bar of the ornament. By this mode of construction any lateral movement of the picket or its ornament is prevented, and each of the members of the fence is retained in its position relative to the others.

Another object of my invention is to provide the various connections of rails and posts with ready means for conforming to the move-

ments of the fence panel, as a whole, in adjusting it to grade.

Another object of my invention is to provide for the support of the fence by a line-post extending across the fence-line and supported equally from both sides, and having the rails of the panels connected with this post by a cross-tie plate, which connects the uprights of the post together and supports them, and at the same time clamps the rail-ends where they connect with the post. The rail and post connections are all made flexible, including the connection with the terminal post, to provide for the adjustment of the fence-panel.

Two sets of drawings accompany this specification—Sheet 1, with Figures 1 and 2; and Sheet 2, with Figs. 3 to 13, inclusive.

In the drawings, Fig. 1 is a side elevation of an entire fence-panel adjusted to an inclined grade, and having my improvements applied thereto. Fig. 2 is a top view of the same with the picket-heads removed. Fig. 3 is a view of a line-post (above the ground-line) with a picket on either side of the same. Fig. 4 is a side view of a line-post and its connections with one of the pickets. The post is shown broken apart near the ground-line. Figs. 5 and 6 are front and side views of the ornament, the picket-rod and rails being shown in dotted lines. Fig. 7 is a top view of the cross-tie-plate connection of the line-post. Fig. 8 is a vertical section of the same through line *x*, Fig. 7, looking from left to right. Fig. 9 is a view of a detachable clip-band, which is used to replace one of the fixed clip-bands when broken. Fig. 10 is an inside view of a rail-connection or splicing-band. Fig. 11 is an enlarged view of the end of one of the cross-braces of the post, with an interior view of one section of the clamp-plate in which it is inserted and by which it is attached to the post. Fig. 12 is a detail view of the picket-rods and rails. Fig. 13 is a side view of a section, 14, of the flexible connection or coupling *a*.

In the construction of this fence the line-rails are square, and are placed a sufficient distance apart to receive the pickets between them. These latter are notched upon their op-

posite angles, which notches engage with the inner angles of the rails. The notches in the pickets are for the purpose of allowing the rails to move radially therein in adjusting the panel to grade, as well as to prevent the vertical displacement of the picket. As the angles of the rails are presented to the picket, and engage with the notches in the latter, upon both sides, the pivotal connection of the two is rendered much more complete, and the adjustment is more readily made of the several members of the fence to grade. In the inclination given to the rails, as shown in Fig. 1, the circular frame of the ornament 1 to each of the pickets bears against the clip 12, between the two sprockets or prongs 5', as the latter is moved upon the ornament-frame by the inclination of the rails.

To provide for any possible degree of inclination given the fence-panel, a swiveled or pivotal connection is made with the terminal and line posts. This consists, in the former, of a flexible coupling, *a*, one section of which is connected with the post-picket 16, by a hinged clamp, 15, and the other section is hinged or pivoted to said clamp by a bolt, 16', extending through a pair of ears, 15', on the inner ends of the two pieces which form the part 15 of the coupling *a*, and through the hole in 14, pivoted between them. This latter section, 14, is in two separable parts, divided horizontally, and the upper and under halves are secured together by a vertical bolt, 17, extending centrally through it between the rail ends 3, as seen in Figs. 1 and 2. The pivotal connection of this piece allows the rails 3 to be inclined to any required degree, irrespective of the position of the post-picket 16. The ears 15', extending from section 15, leave a sufficient space for the insertion of the section 14 between them, and to allow of an upward or a downward inclination of the fence-panel, as seen at the two opposite ends of the latter in Fig. 1. Section 14 is in two (upper and lower) parts, which, when united, form a hole, *b*, for the transverse bolt 16', which connects the sections of the coupling *a*. As these connections are all held together by bolts they can be easily disconnected, to facilitate repairs.

The separable clip-band *c* (seen in perspective in Fig. 9) is specially designed to be used in case one of the clip-bands seen in the panel, Figs. 1 and 2, should become broken, as it can be applied easily without the necessity of disturbing any of the other members of the fence, requiring only the removal of the broken band and its substitution therefor. This band is in two (upper and lower) sections, 12', and is divided horizontally. Each section is made to embrace one-half the rails, and to prevent any movement of the latter in clamping it on, an inwardly-extending flange, *e*, at right angles with its top and under surfaces at each end, separates the two rail-sections. These flanges almost meet in the middle, leaving a square hole upon either side, through which

the rails extend. A bolt, *e'*, secures the two halves together. In case the ends of the rails should at any time meet in the line of the panel between the posts, they are connected by a plain clip-band, *d*, which is also in two (upper and lower) sections similar to the band *c*. Instead, however, of having the end flanges extending between the rails, two triangular lugs, 11, extend inward from both of the sections, on either side of the bolt-hole in the center. These serve to keep the rail-sections in position when the piece is bolted together in the same manner as the two sections of *c*.

To provide for the ornament-frame, slots 10 are cut longitudinally and vertically in the ends of each of the two sections 8, into which the frame-bars of the ornaments extend, and in which they move in case the rail is inclined, as before stated. The ornaments have loops or lugs 4, extending diagonally toward the inner sides of the rear rail, converging toward the center of this rail, and having their points 4' beveled upon either side, and also upon the rear side, to fit the inclined sides of the rail upon which they rest. This construction is given to allow of the angle of the rail being the pivotal center of the picket, and allowing the ornament to pivot also as near as possible to this center, thereby making the operation of adjusting the entire panel much easier than could be done if the rails were flat or T-shape, with plane upper and under surfaces, which necessarily separate the bearings of the ornament very much farther from the pivotal center.

In the adjustment of the fence-panel the points of the lugs or loops 4 of the ornament are exactly centered with the engaging rail and picket-rod, as seen in cross-lines, Fig. 6, and dotted lines, Figs. 5 and 6, allowing the panel to be adjusted by the hands, by setting it upon the ground upright, grasping the end picket at the top and pushing (in line with the rails) in the direction toward which the inclination is desired to be given.

The cross-tie D, which connects the line-post C with the rails, in the line of the latter, is pivoted in the middle upon the horizontal cross-piece 6, which allows of the adjustment being made upon the post. It consists of the pieces 7, which are horizontally divided, as shown in the view, Fig. 8, the upper and lower sections being alike, and held together by vertical bolts (with nuts) 7' on either side of the cross-piece 6, which is clamped to the uprights 5 of the line-post, on each side of the line-piece 7. The cross-piece 6 is also in two sections, divided vertically, being hinged to one of the uprights 5, and secured to the other by a bolt. It is cylindrical (when fastened together) in the middle portion, which extends through plates 7. These have grooves in them across the center, similar to those in section 14, which form a hole for the cylindrical portion 6', as seen, where the top section of plate 7 is broken out in Fig. 7. This al-

lows of the plates 7 and the connecting-rails to pivot thereon in adjusting to grade. At each end of the plates 7, above and below, are notches 9, between the rails, which correspond with and are in line with the notches (seen in the view Fig. 1) in the clip-band 12, formed by the sprockets or prongs 5', to admit the circular bars of the ornament-frames 1, and to allow them to move therein during the operation of adjustment. The line-post is a single bar of iron, bent in the center to form the top, its two uprights, 5, being perpendicular, and bent outward and downward to form the base. Between them, and below the ground-line, (where the post C is broken,) are fastened the cross-braces 18. These have their opposite ends fastened to the upright upon either side, crossing each other in the central vertical line of the post. The two upper ends are fastened at the point where the uprights diverge, as they extend downward, and the two lower ends are fastened to the uprights about a foot below them. The fastening-clamp 19 is shown in detail, Fig. 11, and consists of two plates hinged at the outer end and bolted together at the inner or opposite end, and having a cavity, 19', within the inner end to admit the end of the brace 18, and to allow of its adjustment therein. The hole 19' is large enough to allow some movement of the end of the brace. The end of the latter is provided with a notch, 21, which engages with a flange, 20, on the inner edge of the clamp, and prevents the pieces from becoming detached when the clamp is bolted together.

By securing the clamps at the lower ends of the braces and loosening the upper ones, the latter can be pushed downward toward the former, thus forcing the uprights apart and widening the space between their foot-pieces, and by extending the clamps higher upon the post-uprights the opposite will be the result. This mode of bracing the post not only adds greatly to its strength, but also aids in the adjustment of the uprights to a perpendicular when they may be inclined.

A foot, of disk-shape, 22, is attached to the lower ends of the uprights, which may be either riveted upon the uprights or otherwise secured thereon.

I am aware that picket-ornaments having their frame-bars bearing upon the flanges above and below the rail have been used, and I do not claim these as any part of my invention. Such a mode of securing the picket and rail has been applied to punched-rail fences; but I am not aware that a picket-ornament interposed between the two rail-sections of a double-rail fence, the rails of which are square in their cross-section, and having its bearings upon the inner sides of the rear rail on opposite sides of the angle of the same, has been before used.

I therefore claim as my invention—

1. In an iron fence having double-rail sections, as described, pickets between said rail-

sections, and notched clip-bands between the pickets, for securing the rails and pickets together, the combination, with said pickets, rails, and bands, of the ornament-frames having their concentric bars extending in the central line between the rails, and engaging with the notches in said clip-bands, which operate as guides to keep the ornaments in line between the rails, and to retain the pickets upon their pivotal centers during the operation of adjustment, substantially as set forth.

2. In an iron fence having double rails square in their cross-section, and the intermediate picket-rod pivotally centered upon the inner angles of said rails, and adapted for adjustment thereto, as described, the combination therewith of an ornament having its frame-bars between the rail-sections concentric to said pivotal center, and a clip-band notched in either side at the center, with which said frame-bars engage, and which operates as a guide for the same in adjusting the fence-panel, as set forth.

3. In a double-rail iron-fence, with its rails square in their cross-section, and having pickets of the same form between the rail-sections, and pivotally engaged therewith, the ornament-frames having the central converging loop-bars extending to the angle and inner sides of the rear rail-section, and adapted to facilitate the adjustment of the picket, by having the points of the loop-bars beveled downward and inward to fit the inclined sides of the rail on either side of the angle of the same, substantially as set forth.

4. In a double-rail iron-fence panel having the picket and its ornament pivoted between the rail-sections, the combination, with the rails and ornament-bars, of a clip-band provided with sprockets, between which said ornament-bars are allowed to move in adjusting the fence-panel, substantially as set forth.

5. A flexible connection for the attachment of the rails of an iron fence to the line or terminal post thereof, having that part attached to the rails pivoted to the section attached to the post, to allow it to conform to the adjustment of said rails when inclined either upward or downward, substantially as set forth.

6. In a double-rail-fence panel for an iron fence, the flexible clamp-connections *a*, for attaching the rail ends of the panel to the terminal post, consisting of the hinged section 15, having the ears 15', extending therefrom, and the section 14, (attached to the ends of the rails of the panel,) pivoted between said ears by a bolt, 16', extending through the hole *b*, and having its upper and lower halves clamped to the rail ends 3 by a vertical bolt, 17, extending through them between the rails, substantially as set forth.

7. A clip-band for clamping the rail-sections together in a double-rail iron fence, having sprockets projecting therefrom at the middle of its sides, to form a cleft or notch between

them, to adapt it for the engagement therewith of the circular frame-bars of the ornament of a picket pivoted between said rail-sections in the central longitudinal line thereof, as set forth.

8. A cross-tie connection for a line-post for adjustable iron fences, having the section which incloses the rail ends horizontally divisible and pivoted upon the transverse section which connects the two uprights of the post, said transverse section being cylindrical in the middle part, to provide for the adjustment of the fence to grade, substantially as set forth.

9. The combination, with the line-post, having uprights 5 and section 6 attached to and connecting said uprights, of the two-part section 7, pivoted upon said section 6 and adapted to operate in connection therewith in the adjustment of the fence to grade, substantially as set forth.

10. In an adjustable iron fence having a two-part section connecting the rail ends to the post, the combination, with said two-part section, of the transverse cross-piece having a cylindrical middle part adapted to pivot said section, and vertical bolts extending through the latter on either side of said cross-piece, for securing the section and rail ends together.

11. A cross-tie plate for the line-post of an iron fence, having a fixed part extending transversely across the fence-line, and connecting the uprights of the post, and having a movable part extending across said fixed part, inclosing the connecting rail ends, and centrally pivoted upon the fixed part, to allow of the adjustment to grade of the connecting fence-panels, as set forth.

12. The combination, in a double-rail fence, of the cross-tie plate attached to the line-post, and provided at either end with notches to adapt it to engage with the frame of the ornament, and to allow of the adjustment of the latter therein, as set forth.

13. In a double-rail iron fence having pickets and their ornament-frames pivotally centered between the rail-sections, the separable splicing-band, horizontally divided, and having the triangular divisions upon the inside of

the two sections, and the slots in its ends, to adapt it for coupling the rails, and allowing of the adjustment of the engaging picket, substantially as set forth.

14. In a line-post for a double-rail iron fence, the two bent uprights 5, having the arched or bent top, and extending perpendicularly from thence to the ground-line, from which they diverge in a curved line outward, and then extend downward, terminating in flat disk-shaped feet 22, and having their uprights connected at the rail-line by cross-tie plates, and below the ground-line by the cross-braces and their adjustable clamping attachments, as and for the purpose set forth.

15. In a line-post for a double-rail fence, the cross-braces having their alternate ends secured to the two uprights of the same by the clamp-plates, and adapted for adjustment upon said uprights, substantially as and for the purpose hereinbefore set forth.

16. In an iron fence having double-rail sections, and adapted for adjustment, as described, the line-post C, having the cross-tie connections D for coupling the ends of the rails together, and allowing their adjustment therewith, and the continuous-rail bar forming the two perpendicular uprights and the base of the same in a single piece, and having the cross-braces 18, and the clamp-plates 19, by which their ends are secured to the uprights of the post, below the ground-line, and by which said braces are made adjustable, all arranged substantially as set forth.

17. A two-part clamp-plate for securing a brace to a line-post, provided with a cavity for the insertion of the end of the brace, and a flange at the lower edge of said cavity, in combination with a brace having a notch in one side of the end, engaging with said flange, and adapted to be adjusted by the movement of the clamp-plate upon the rod of the upright, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

TIMOTHY ROGERS.

Witnesses:

B. C. CONVERSE,
G. M. GRIDLEY.