2 Sheets—Sheet 1.

W. L. WALKER & B. G. DEVOE.

IRON FENCE.

No. 180,507. Patented Aug. 1, 1876.

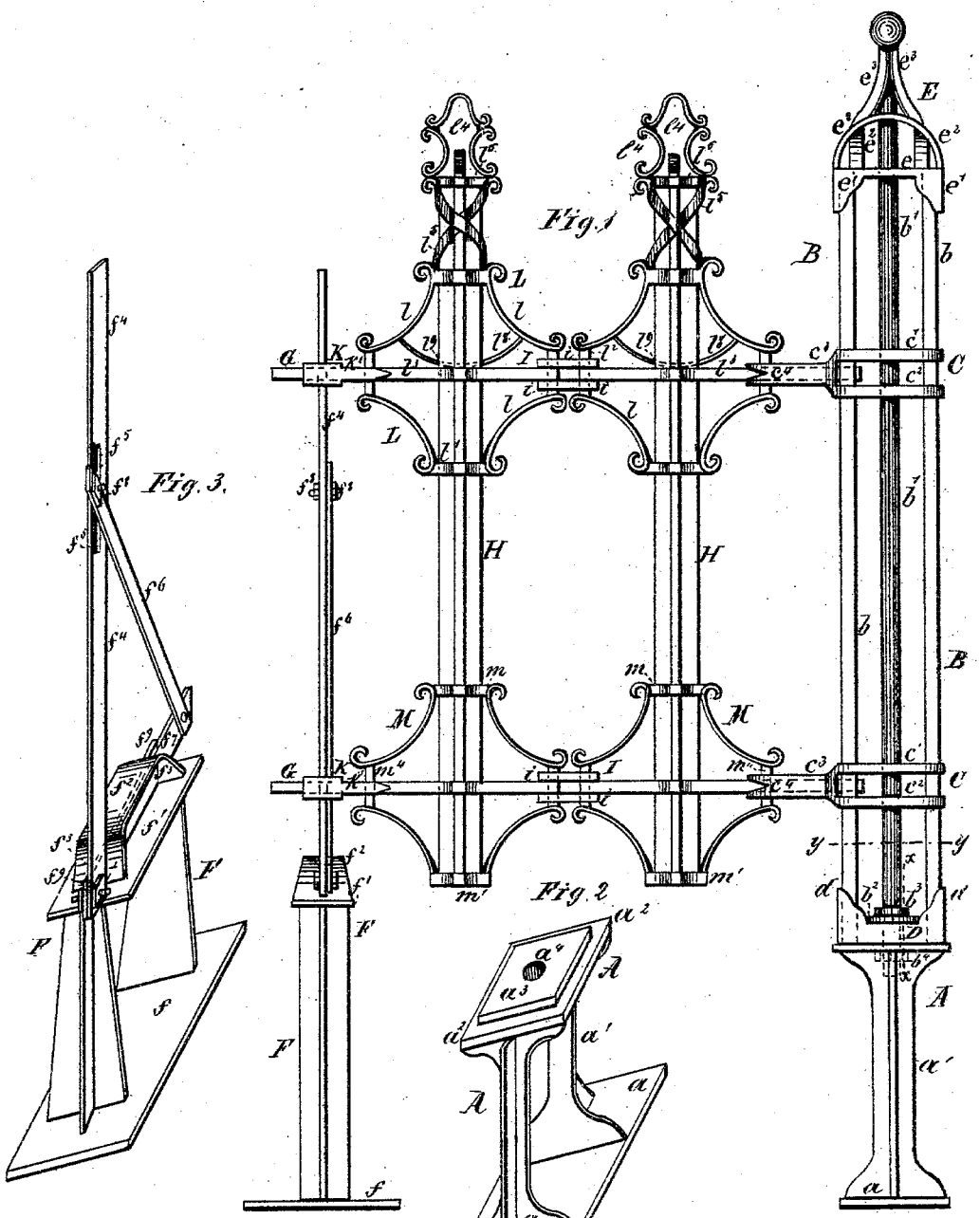

Fig. 1

Fig. 2

Fig. 3.

Witnesses,
Henri Guillaume
Cha Jacobsen

Inventors,
William L. Walker
Benjamin G. Devoe
per Henry Orth
atty

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

2 Sheets—Sheet 2.

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Fig. 4

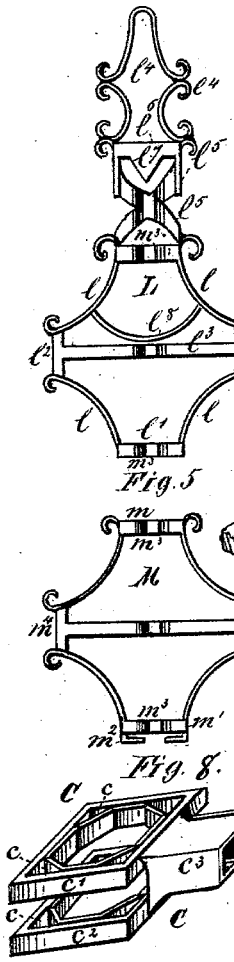


Fig. 7.

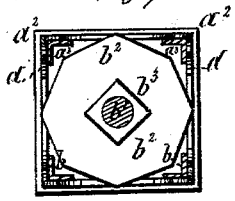


Fig. 9

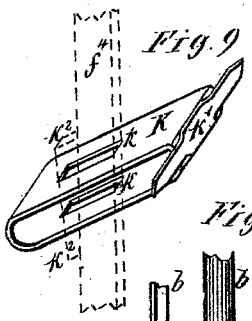


Fig. 6.

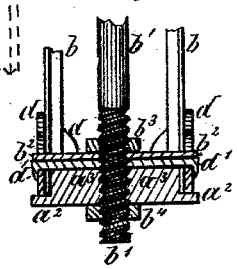


Fig. 5

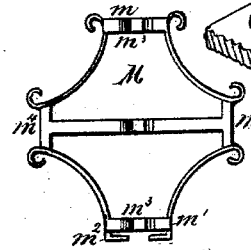


Fig. 8.

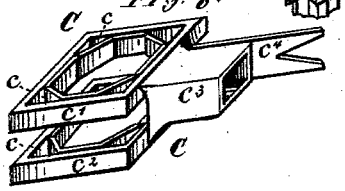
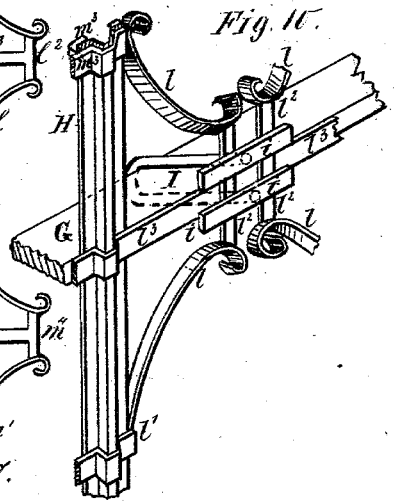


Fig. 10.



Witnesses:
Henri Guillaume
Chas. Goepel

Inventor:
William L. Walker
Benjamin G. Devoe
by Henry Orth
atty

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM L. WALKER AND BENJAMIN G. DEVOE, OF KENTON, OHIO.

IMPROVEMENT IN IRON FENCES.

Specification forming part of Letters Patent No. **180,507**, dated August 1, 1876; application filed December 18, 1875.

To all whom it may concern:

Be it known that we, WILLIAM L. WALKER and BENJAMIN G. DEVOE, both of Kenton, in the county of Hardin and State of Ohio, have invented certain new and useful Improvements in Fences, of which the following is a specification:

Our invention has for its object the construction of ornamental metallic fences, combining strength and durability with lightness, and so arranged as to be adjustable in all their parts without the use of bolts of any kind, and readily put up.

But that our invention may be fully understood we will describe the same in detail by aid of the accompanying drawings, in which—

Figure 1 is a vertical elevation of a panel of fencing constructed according to our invention. Figs. 2 and 3 are perspective views of the corner or post base, and the panel-base and its adjustable post. Figs. 4 and 5 are rear elevation of the ornamental parts. Fig. 6 is a section of the corner-post and base, through line *x x* of Fig. 1. Fig. 7 is a section through line *y y*, Fig. 1. Figs. 8 and 9 are perspective views of the clasping-bands and panel-post clamp, respectively. Fig. 10 is a perspective view, partly in section, showing the manner of clamping the ornamental parts and pickets to the cross-rails.

A is the corner-post base, consisting of a base-plate, *a*, uprights a^1, and top plate a^2. This top plate has an offset, a^3, to receive at its corners the angle-irons of the post, and is also provided with a central circular opening or aperture, a^4, through which passes the holding or connecting rod of such post, as hereinafter fully described.

Instead of the offset, the top plate a^2 may be provided with, or have formed thereon, vertical angular projections or lugs, upon which are fitted, or against which rest, the angle-irons of the post.

B is the post, composed of four, more or less, angle-irons, *b*, which are set onto the corners of the top plate of the base A, with the offset or the corner thereof fitting their inner angles. These angle-irons are held in position on the base, first, by a clasping band, D, which is provided with rectangular vertical projections *d*, into which the angle-irons *b* are fitted, and when in position the band D is driven down over the angle-irons onto the top plate a^3 of the base, thus holding the angle-irons securely in position against the offset of such plate a^3. The angle-irons are further secured together and to the top plate a^3 by a central connecting-rod, b^1, which extends the whole length of the post, passing through the aperture a^4 of the top plate a^3, and projects some distance below such top plate. This lower end of the rod b^1 is screw-threaded, and provided with a screw-nut, b^3, or a collar may be formed on the rod where the screw-thread commences, if preferred; and when the angle-irons are in position on the base an octagonal plate, d', is laid on the base, four corners of which project into the inner angles of the irons *b*, while the other four corners form downwardly-projecting clamps, which clasp the band D between each two posts or irons *b*, as shown by Fig. 7, a second plate or washer of similar construction being laid on top of the clamping-plate d'. The four angles of this plate b^2 also fit into the inner angles of the post-irons *b*, while the other four rest on top of the grasping or clamping lugs of the plate d', so that when the connecting-rod b^1 is in the position in the plate a^3, the screw nut or collar b^3 will rest on the upper face of the plate b^2, and when such rod is made fast underneath the base by means of the screw-nut b^4, Figs. 1 and 7, the angle-irons, clamping-band, and base are firmly connected together, while the plates d' b^1 prevent the band D from becoming displaced by any cause.

The upper end of the connecting-rod carries a cap, E, which may be formed on such rod; or this end of it may also be screw-threaded, and the cap E screwed thereto, if preferred. This cap has a base or covering plate, *e*, the corners of which are provided with rectangular downwardly-projecting ears or clamps e^1, into which, when the angle-irons are in position, their corners are made to fit by driving the cap over them. This cap E is connected to the rod b^1 by means of braces e^1 e^2, and a ball or other ornamental device. The angle-irons b^1 are further secured by means of clasping-bands C, one to each cross-rail, and are composed of a double band, c^1 c^2, connected together by a box or

casing, c^3, to receive the end of the cross-rail or stringer G, which is clasped or clamped in the desired position by means of a grasping-lug, c^4, affixed to or formed on the box c^3 of the clasping-band C, as shown by Figs. 1 and 8. These bands have inside corner-braces, forming suitable apertures *c*, through which pass the angle-irons *b*. These apertures may be formed in a variety of ways—as, for instance, a band may be inserted and connected to the outer band between its corners, the angles of such inner band being made obtuse to form triangular apertures for the passage of the irons *b*, or a circular band may be inserted, the configuration of which would form the required apertures when placed inside of and connected to the square outside band; or these apertures may be formed in any other suitable manner.

The bands are clamped to the post-irons *b*, and hold the latter rigidly in position by inserting wedges of suitable shape into the apertures *c*, between the angle-irons *b* and the corner-braces; hence it is essential that such corner-braces should be provided, as by these means the panels of fencing may be adjusted vertically on the post B.

It will be understood that the bands C are wedged in position before the parts are made fast together by the central rod and cap.

It is obvious that with this construction and arrangement of the post and base a light substantial post can be made, adapted to receive any ornamentation which the taste of the manufacturer may suggest, and there being no bolts, rivets, or similar fastening devices employed, the post may be erected by any ordinary laborer. The bands C are further adapted to carry the hinges and the latch of the gate, which may be formed thereon, and thus make the gate and panels of the fence adjustable together in a vertical line on the posts; or separate bands or half-bands may be employed for this purpose, if desired.

By this arrangement and construction of bands, or bands and half-bands, the gate and panels may be adjusted vertically on the posts, as already stated, or the gate may be so adjusted independently of the panels by using separate bands. All the parts are, by preference, made of malleable iron, except the base, which is of cast-iron, though, if desired, the angle-irons and cap may also be cast, as well as the bands C. In that case the grasping-lug c^4 is made of malleable iron, and permanently affixed to the box c^3 in any preferred manner. F is the panel base and post supporting the different sections or panels of the fence, and consists of a base-plate, f, and a top plate, f^1, which has formed thereon, or otherwise secured thereto, an adjusting cap or box, f^2, made, by preference, of a front and back upright plates and top plate, as shown by Figs. 1 and 3. Both the upright plates are provided with a slot, f^3, for the passage of the horizontal arm of the angular wrought-iron post f^4, which has a longitudinal slot formed therein near its upper extremity. A brace, f^6, is connected, in any convenient or preferred manner, to the extremity of the horizontal arm f^7 of the post f^4, which arm projects some distance in rear of the adjusting-cap. The upper end of the brace f^6 is connected to the post f^4 by means of a bolt and nut, f^8, or a set-screw passing through said brace and the slot f^5. The base and cap are of cast-iron, while the brace and post are, preferably, made of wrought-iron.

It will be seen that by this construction of the base it not only affords considerable bearing-surface to the angular or horizontal portion of the post, hence to such post, but also affords ready means to adjust or line the fence by moving the post, hence the panel, either backward or forward, as required, and when in position the arm f^7 is made fast in the slots by means of wedges, or a wedge or set-screw, f^9, being driven between such arm and the upper end of the slot in the adjusting-cap. By means of the slot f^5 the post may be inclined forward or backward when necessary, to plumb the fence, either when it is in process of erection, or when any of the panels assume an inclined position by reason of the sagging of the base. The position of the base F in the ground is such as to leave the adjusting-cap f^2 projecting above it, so that the fence may be adjusted at all times without necessitating a change in the base. G is the cross-rail or stringer, and H are the pickets, formed solid and in the shape of a T in cross-section. They are secured to the cross-rail by means of the ornamental parts L M, and the clamps I K, and the grasping-lug c^4 on the clasping-bands C, as we will now describe.

The upper ornament L consists of four segmental arms, *l*, the two lower ones being connected together by a horizontal brace, l^1, shaped to fit over the picket H, and they are, by vertical braces l^2, connected to the two upper segmental arms *l*, and the central horizontal braces l^3 connect together the vertical braces l^2.

These horizontal braces l^3 are also shaped to fit over the pickets H. The two upper segmental arms *l* are connected to a cap, l^4, by means of the crossed bands l^5, or in any other suitable manner. This cap l^4 has a plate, l^6, which rests on top of the picket when the latter is inserted in the ornament, and this plate is formed with a central downwardly-projecting grasping-lug, l^7, for holding a straight picket, when it is desired to use such, by simply striking the lug with a hammer, and thus clamping the cap and ornament to the picket. The two upper segments are further connected together by a transverse segmental adjusting-brace, l^8, which is recessed at l^9 to fit over the back of the picket H, to partly secure it to the ornament. This segment rests on the cross-rail G when in position thereon with its picket, and serves not only as a support for such ornament and picket, but also for adjusting the latter to the surface of the ground, as it is evi-

dent that any inclination may be given to the pickets and ornaments in either direction when it is required, or when the fence is upon an incline, thus insuring a vertical position to such pickets and ornaments, no matter what the grade may be, and for this purpose the vertical braces l^2 are made sufficiently long to admit of this inclination.

The lower ornament M is substantially like the upper one, excepting the cap-piece, instead of which the two upper segments are connected together by a horizontal brace, *m*, and the lower horizontal brace is provided with lateral projections m^2, forming stirrups for supporting the picket H, which, when inserted in the two ornaments, rests thereon. The horizontal braces l^1 m^1 m^2, as well as the cross-bands l^5, at the point where the latter connect with the segmental arms *l*, are provided on their rear faces with grasping lugs m^3, which project over the rear face of the picket and clamp the latter to the ornament.

The ornaments, with their respective pickets, are securely clamped to the cross-rails by means of the clamp I, which is of U shape, open in front to fit over the cross-rail, its arms being provided with horizontal bars or clamps *i*, which clamp the vertical braces of the ornaments, as shown by Figs. 1 and 10, and hold them securely together with their respective pickets on the cross-rail G. This clamp may be further tightened by inserting a wedge between it and the cross-rail, though this will not be found necessary when the clamps are properly made. This clamp is, by preference, made of malleable iron.

K is another clamp, consisting of a U-shaped body or box, having its upper or lower sides slotted, as shown by Fig. 9, to receive the upright or post f^4, secured to the panel-base F, as described. This clamp serves to connect two panels of a fence and their respective end ornaments together by means of one or more transverse projecting grasping-lugs, *k'*, which grasp the vertical braces l^2 m^4 of the ornaments. The box should be sufficiently wide to receive the ends of the two cross-rails secured therein, as well as the post f^4 and the ornament, by means of a wedge, K^2, driven between the end of the slots *k* and the post f^4, the two slots being of sufficient length for the purpose, and by these means the sections are firmly and securely united together; and, lastly, the cross-rails, ornaments, and picket are held in position on the corner-post by means of the duplex clamping-bands C, provided with the box c^3, into which the ends of the cross-rails G are inserted, as shown by Fig. 1. This box or casing c^3 has formed thereon or affixed thereto a grasping-lug, c^4, adapted to hold and clamp the vertical braces l^2 m^4 of the ornaments to the cross-rail, the lug c^4 being, by preference, forked, so that its two forks may be driven over and under the cross-rail.

It will be seen from the foregoing description that the panels are adjustable vertically by means of the clasping-bands C and the panel-post clamp K, while at the same time the panels may be adjusted by moving them backward or forward on the panel-base, or by inclining them in such directions by means of the brace and slotted base-post, and, finally, by adjusting the panels to any grade of surface.

The ornaments L M and clamps I K are, by preference, made of malleable iron, though wrought or cast iron may be employed, if preferred. It is essential, however, that the ornamental parts L M, or at least the upper one, should be provided with a segmental rear brace, l^8, for the purpose of adjusting the pickets and ornaments to the surface of the ground upon which the fence is to be erected. The clamping and supporting bands C, when employed on posts B as gate-posts, have the hinge-pintles for such gate formed thereon, thus obviating the necessity of providing for such separately.

From the above description it will be seen that no bolts or rivets are employed in any of the parts constituting the fence, and all such parts being made readily adjustable, any one can put up the fence or adjust it, if required, after it is in position.

Having now described our invention, what we claim, and desire to secure by Letters Patent, is—

1. The base A, the top plate of which is provided with an offset, in combination with the angle-irons *b*, band D, plates d' b^2, the connecting-rod b^1, the cap E, and nut b^4, all constructed to operate substantially as and for the purpose specified.

2. The combination, with the angle-irons of the end post B and the cross-rails G, of the bands C, consisting of parts c^1 c^2, connected together by a casing or box, c^3, provided with the grasping-lugs c^4, said bands having inner corner-braces, forming slots to receive the fastening-wedges, all constructed to operate substantially as described.

3. The base F, consisting of a base-plate, *f*, top plate f^1, and a slotted adjusting-cap, f^2, in combination with the slotted upright or post f^4, the horizontal arm f^7, and the adjustable brace f^6, and a wedge or key, f^9, all constructed to operate substantially as described, for the purpose specified.

4. The ornamental part L, provided with a recessed segmental adjusting-brace, l^3, substantially as described, in combination with a picket, and a cross-rail or stringer of a fence, for the purpose of supporting said ornament and picket upon the cross-rail, and for adjusting them to any surface of ground, substantially as set forth.

5. The ornamental part L and cap l^4, the grasping-lug l^6, and the recessed segmental brace l^3, in combination with a picket and cross-rail or stringer of a fence, all constructed to operate substantially as described, for the purpose specified.

6. The ornamental part M, having grasping-

lugs m^3, and the supporting-stirrups m^2, to support and grasp the picket H, in combination with said picket and a cross-rail, substantially as described.

7. In a metallic fence, the combination, with the clamp K, consisting of a slotted casing having laterally-projecting clamping-lugs k', of the cross-rail, panel-post, and ornaments, substantially as described, for the purpose set forth.

8. In a metallic fence, the combination, with the clamping device I, consisting of the U-shaped arms provided with laterally-projecting grasping-lugs i, of the cross-rail, picket, and ornaments, substantially as described, for the purpose set forth.

In witness that we claim the foregoing we have hereunto set our hands this 23d day of November, 1875.

WILLIAM L. WALKER.
BENJAMIN G. DEVOE.

Witnesses:
FRANK S. AULL,
H. C. BOLMAR.