R. W. McPHERRIN.

Fence Post.

No. 202,040. Patented April 2, 1878.

Fig 3

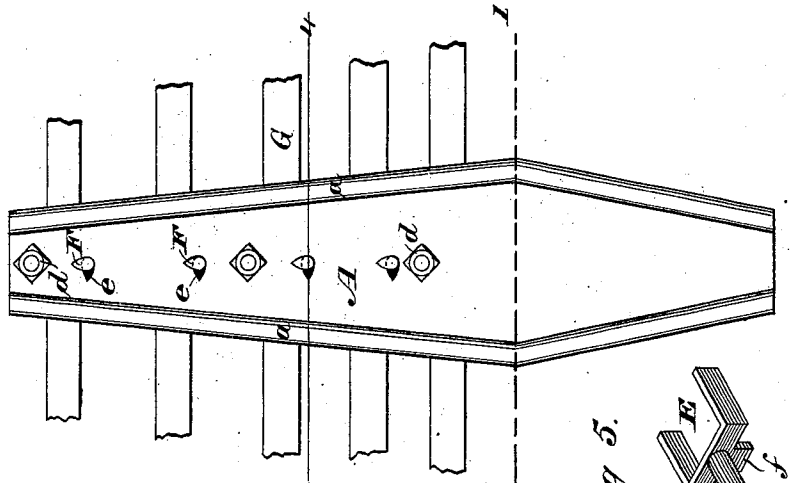


Fig 2

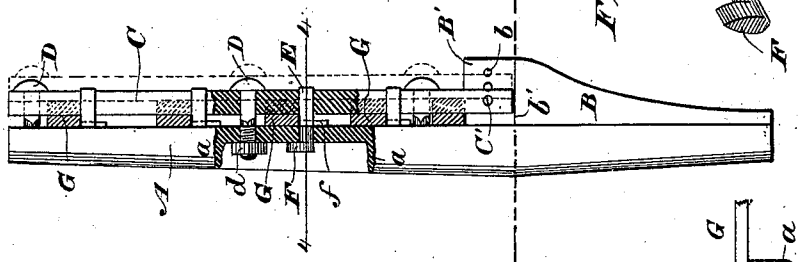


Fig 5.

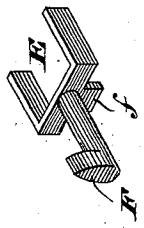


Fig 4

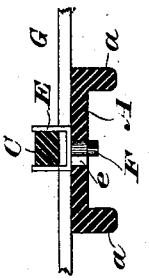
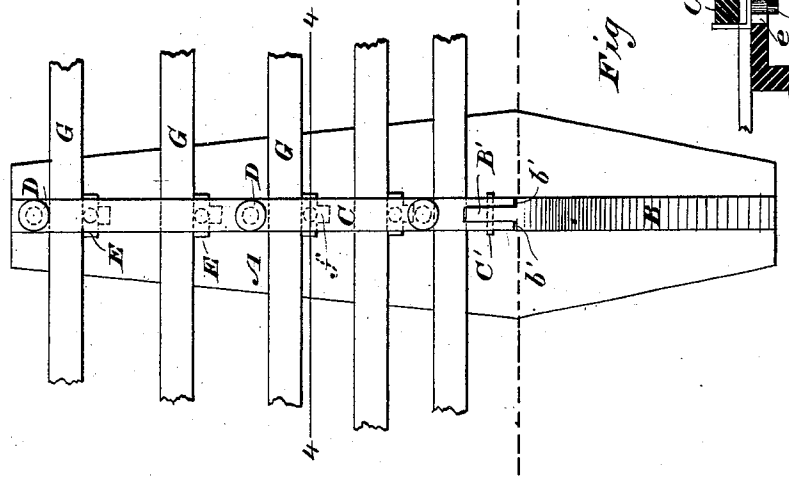


Fig 1.



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ROBERT W. McPHERRIN, OF HECTOR, KANSAS.

IMPROVEMENT IN FENCE-POSTS.

Specification forming part of Letters Patent No. **202,040**, dated April 2, 1878; application filed February 6, 1878.

To all whom it may concern:

Be it known that I, ROBERT W. McPHERRIN, of Hector, in the county of Johnson and State of Kansas, have invented certain new and useful Improvements in Fence-Posts and Fences, of which the following is a specification:

My invention relates to improvements in a fence of that class in which metallic posts and detachably-secured rails are used.

My objects are so to construct such posts as to combine strength and durability with comparative lightness and economy of metal, to facilitate the securing of the rails to and their removal from the posts, and to adapt the posts and their attachments for use in connection with rails or boards of different thicknesses.

My improvements consist in certain peculiar constructions of parts, and in novel combinations of devices, which will hereinafter first fully be described, and then specifically designated by the claims.

In the accompanying drawings, which are sufficiently full to show my invention, all my improvements are represented. Obviously, however, some of them might be used without the others, and in fences differing in some respects from that therein shown and hereinafter described.

Figure 1 is a front elevation. Fig. 2 is an edge elevation, or a view at right angles to Fig. 1, partly in section. The dotted lines show the lapping boards or rails and the adjustment of the attachments of the end posts of a panel to secure the boards in place. Fig. 3 is a rear elevation. Fig. 4 is a section on the lines 4 4 of Figs. 1, 2, and 3; and Fig. 5 is a view in perspective of one of the yokes for supporting the rails and receiving the clamp and brace-bar.

Each of the metallic fence-posts A is preferably made of cast-iron, (though wrought-iron may be used,) and shaped as shown in the drawings—that is, of a somewhat coffin form in outline. The post is rigidly formed, straight on its front or face from top to bottom, and, when in place, projects above the ground the full height of the fence. It is made strongest at or about the ground-line represented by the dotted line 1 1, and is formed with the commonly-employed edge ribs or flanges *a a* for its entire length, to give strength and rigidity and admit of the body and greater portion of the post between the ribs being made thin, thus combining strength with but little weight and a small amount of metal, as usual. The post tapers or decreases in width and thickness from the wide portion or ground-line in both directions, thus still further lightening it without weakening it at the point of greatest strain. The upper part of the face or front of the post is straight and smooth-surfaced, and a strong central rib or tapering projecting portion, B, formed with, or it may be made separately and strongly secured to, the post, extends from the bottom of the post about to or slightly above the ground-line and widest part of the post, where it terminates, so as to form a wide shoulder or offset, B′, to the post. This rib adds considerable strength to the post where it is subjected to the greatest strain, and it is provided with a series of holes, *b*, in line near its top, for a purpose presently to be explained. The upper end or shoulder of this strengthening-rib is preferably reduced in thickness, and side shoulders *b′ b′* formed about at, or, for additional security, preferably slightly above, the ground-line.

A brace-bar and rail-clamp, C, which is, by preference, made of wrought-iron, although other material may be employed, but less advantageously, is pin-jointed or connected with the strengthening-rib B by a metal pin, C′, passing through the lower end of the clamping bar and brace and one of the holes of the rib. This brace-bar and clamp, so jointed to the post-strengthening rib, is provided with holes to receive headed bolts D, which are threaded at their ends to receive the securing and adjusting nuts *d*; or other adjustable fastening devices may be used instead of the clamping-bolts and nuts.

Each post A is provided with a series of oblong slots, *e*, arranged in the longitudinal central line of the post, to receive the shanks of detachable rail-supporters. These supporters are formed each with a shank having a suitable key-head or locking-lug, F, corresponding in shape with the holes *e* in the post, and each has a fork or yoke, E, secured upon or

formed with the shank, to embrace the clamping-bar C. A short bearing-lip or teat, *f*, projecting at a right angle to the shank, and in a direction opposite to that in which the lug F projects, is formed with the yoke, as clearly shown in the enlarged view, Fig. 5. When the shank of the rail-supporter is passed through the slot in the post, and then given a quarter-turn to bring it to the position shown, the vertical movement of the supporting-yoke is prevented by the bearing of the lip *f* on the front of the post and the bearing of the lug F on its back, while turning of the supporting-yoke is prevented by the brace-bar, which fits between its arms or forks when in place.

In operation, the posts having been placed in the ground at suitable distances apart, and the clamp-bars and braces C having been connected by the pins to the offset B′ of the strengthening-ribs B, and swung inward at top, or adjusted so as to bring it between the embracing-arms of the previously-attached yokes, one of the fastening-bolts (say, the top one) is sufficiently tightened to hold the brace-bar in the yokes and still admit of the ready adjustment of the boards or rails G between the brace-bar and post. The boards are then placed in position so as to rest at their lower edges, all except the bottom one, upon the supporting-yokes. The bottom rail rests upon the top or shoulder B′ of the strengthening-rib B. The posts at the adjoining ends of the panels, or where the boards lap, have their clamps secured in holes in the strengthening-ribs suitably to leave the space between the clamp-bars and posts at least twice as great as that required to be left between the posts and clamps intermediate the ends of the rails, (see Fig. 2,) the screw-bolts being, of course, made long enough for the purpose. When all the boards are adjusted in place the nuts are screwed up tight, to firmly clamp the boards, and at the same time brace the post by the connection between its strongest part or lower centrally-ribbed portion and the upper part by the bar C. The tensile strength and toughness of the wrought-iron bar are thus utilized, to lessen strain on and prevent breaking of the cast-iron post at or above the ground-line.

The holes *b* in the strengthening-rib are usually made one inch or slightly less than an inch apart, and the first one is at such a distance from the face of the post as to bring the inner side of the brace about, or a little less than, an inch from the face of the post, as inch stuff is most commonly used for fencing for fields, pens, &c. The holes may be arranged at different distances, to accommodate other thicknesses of material.

By the employment of the perforated shoulders or strengthening-ribs it will be seen that in adjusting the posts and attachments for receiving the boards I am enabled to set the brace-pins in the two-inch holes and adjust the braces to readily admit of the slipping into place of the boards, and so that when the boards (or the three upper ones, if a tight fence for small stock is not needed) are in place the pins can be removed and set up to adjust the clamp-braces, so that when clamped tight by the bolts and nuts they slightly indent or compress the boards and brace the posts from the bottom.

If it is desired to remove one or two rails from the bottom of the fence, it is not necessary to interfere with those above, for by slightly loosening the bolts the lower rails can be removed. All the posts and attachments being alike, the parts are interchangeable.

I am aware that iron fence-posts have heretofore been made, and that such posts have been ribbed or corrugated to strengthen them, and therefore do not claim an iron post; nor do I broadly claim such a post strengthened by ribs, nor every way of bracing such posts. I am also aware that it is not new to detachably secure the rails to an iron post, and make no claim, broadly, to the combination with a post of boards and detachable fastenings.

I claim as of my own invention—

1. The iron fence-post having the central strengthening-rib on the lower part of its front or face, extending from below the ground-line to or above said line, and terminating in the wide shoulder or offset provided with the series of holes near its top, substantially as and for the purpose set forth.

2. The combination, substantially as hereinbefore set forth, of the post, the strengthening-rib, terminating in the offset, the brace-bar and board-clamp, adjustably connected to the strengthening-rib offset, and the securing-bolts.

3. The combination, substantially as hereinbefore set forth, of the post, the adjustable clamping-bar, and the detachable rail-supporting yokes, between the arms of which the clamping-bar fits.

4. The rail-supporting yoke, constructed as described, with the lug F and the lip *f*, for the purpose specified.

5. The combination, substantially as hereinbefore set forth, of the posts, shouldered at their lower parts, the pin-jointed adjustable clamp-bars and braces, the detachable rail-supporters, and the rails secured between the posts and the clamp-bars and braces, and resting upon said shoulders and supporters.

In testimony whereof I have hereunto subscribed my name.

ROBERT W. McPHERRIN.

Witnesses:

WM. J. PEYTON,

GEO. W. BRECK.