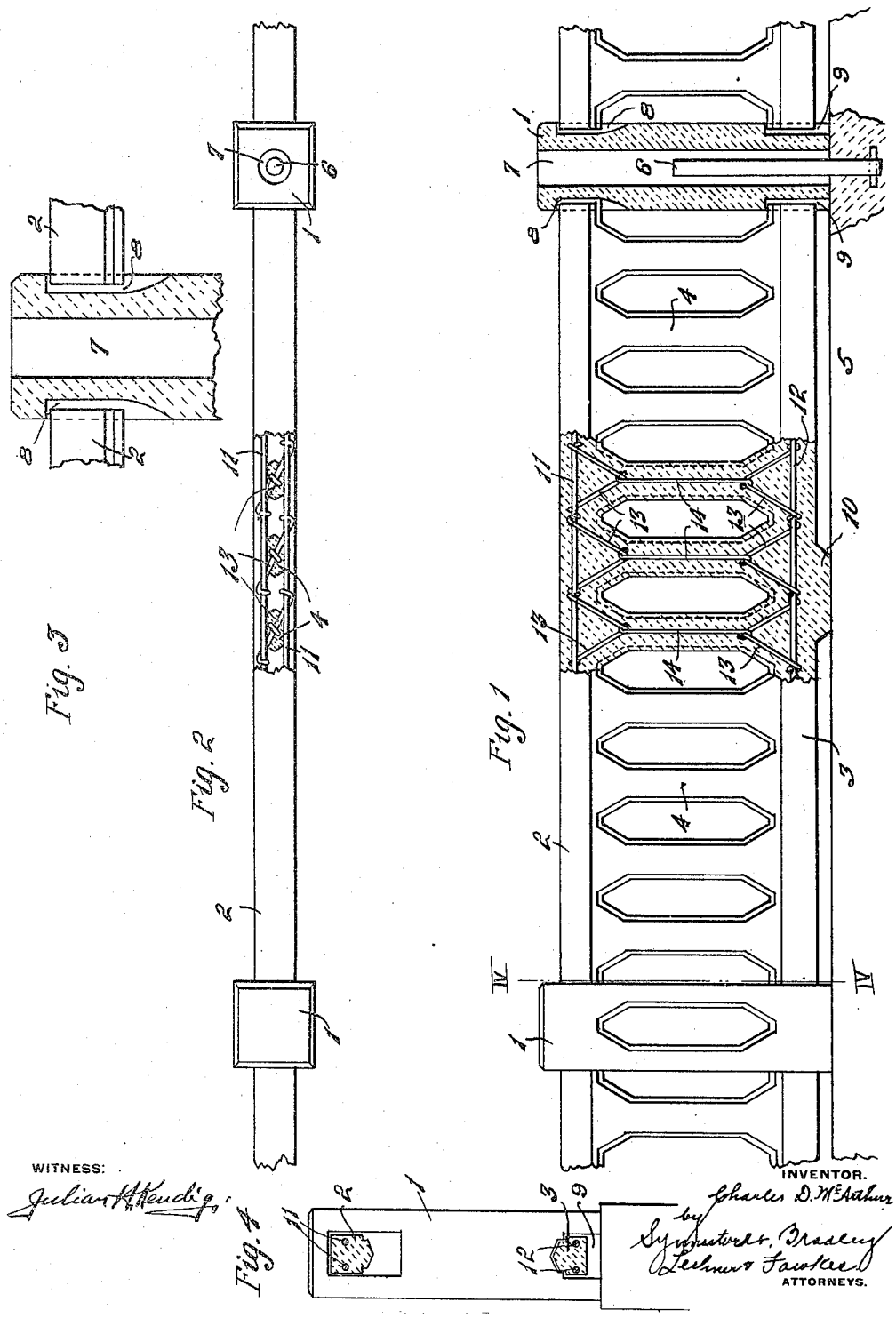
C. D. McARTHUR.

CONCRETE FENCE.

APPLICATION FILED DEC. 14, 1915.

1,293,138.

Patented Feb. 4, 1919.



WITNESS:

Julian H. Kendig.

INVENTOR.

Charles D. McArthur

by Synnestvedt, Bradley, Lechner & Fawkes

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES D. McARTHUR, OF PITTSBURGH, PENNSYLVANIA, ASSIGNOR TO BLAW STEEL CONSTRUCTION COMPANY, OF HOBOKEN, PENNSYLVANIA, A CORPORATION OF NEW JERSEY.

CONCRETE FENCE.

1,293,138. Specification of Letters Patent. Patented Feb. 4, 1919.

Application filed December 14, 1915. Serial No. 66,721.

To all whom it may concern:

Be it known that I, CHARLES D. McARTHUR, a citizen of the United States, residing at Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Concrete Fences, of which the following is a specification.

The invention relates to fences constructed of concrete, and has for its primary objects; the provision of a fence which shall be durable and of relatively low cost; the provision of a fence in which the posts and intermediate sections can be independently cast and conveniently assembled after the concrete has set; and the provision of a fence in which the danger of cracking due to expansion and contraction is avoided and in which the sections intermediate the posts are adequately and inexpensively reinforced. One embodiment of the invention is illustrated in the accompanying drawings, wherein—

Figure 1 is a side elevation, partly in section, of the fence, Fig. 2 is a plan view, also partially in section, of the fence, Fig. 3 is an enlarged section at the juncture between the upper rails of the fence and the post, and Fig. 4 is a vertical section on the line IV—IV of Fig. 1.

The fence is designed so that it can be cast in sections and subsequently assembled, the posts, which are preferably placed at intervals of about ten feet, being cast separately from the intermediate sections, and any suitable type of forms or molds being employed. The arrangement is preferably such that the intermediate sections of the fence interlock with the posts and are held in upright position thereby, but without the weight of the intermediate sections being supported by the posts, the sections being supported near their central portions. Lost motion is also provided between the ends of the sections and the posts in order to take care of the changes in length of the sections due to changes in temperature. The contour and ornamentation of the parts of the fence may be very considerably changed to meet requirements, the design shown being preferred because of its simplicity and ease of construction.

Referring to the drawings, 1, 1 are the posts between which are what may be termed the intermediate sections, consisting of top and bottom rails 2 and 3, respectively, and intermediate panels 4. The fence is shown as supported upon a stone or concrete base 5 from which the anchor bolts 6 project upwardly. The posts are preferably hollow having the openings 7 therethrough of such size that the posts can be adjusted laterally with respect to the anchor bolts and during the assembling operation, the space around the bolts being filled in with cement or concrete after the fence is assembled.

The posts are provided on their opposite sides with the sockets 8 and 9 into which the ends of the rails 2 and 3 fit. The lower sides of these sockets are cut away as indicated in Figs. 1 and 3, to provide for drainage and so as to prevent the weight of the intermediate sections from being supported upon the posts. The clearance between the ends of the rails and the inner walls of the sockets is such that under the varying conditions of temperature the ends of the rails will never come in contact with the inner walls of the sockets. With a ten-foot intermediate section a clearance of a half inch is sufficient. The looseness of the posts upon the anchor bolts 6 permits of the ready interlocking of the sockets and rails, and the posts are held rigidly in position after the assembling operation by the cement or concrete which is supplied to the interior of the posts.

The intermediate sections are preferably supported at their centers by means of the downwardly projecting extensions 10. These extensions take the entire weight of the intermediate sections and each half of each section expands and contracts from this point as a center, and there is no resistance to this expansion and contraction since the ends of the rails 2 and 3 are loose in the sockets 8 and 9 of the posts. There is no sliding of concrete upon concrete and no tendency to crack the posts or the rails.

The center sections are reinforced with metal rods and bars as illustrated in Figs. 1 and 2. The upper rail 2 carries a pair of longitudinally extending parallel reinforcing rods 11 while the lower rail 3 carries a similar pair of rods 12. Extending between each pair of rods are the V-shaped connecting bars 13. These connecting bars above and

below, are connected by the vertical tie rods 14 (Fig. 1) lying in the panels 4. This gives a reinforcing which is relatively cheap and of great strength in proportion to its weight. The various parts of the reinforcing are secured together by bending the ends of the rods as illustrated in the drawings, and by welding at these points when additional security is desired.

What I claim is:

1. In a fence, spaced post anchoring means, posts mounted so that they may be shifted laterally with respect to the anchoring means during the assembling operation, and intermediate concrete sections having their ends interlocking with the posts but with their weight supported intermediate their ends and independent of the posts, and means for securing the posts permanently to the anchoring means.

2. In a fence, spaced concrete posts, intermediate unitary concrete sections having their ends interlocking with the posts but spaced away therefrom to provide for endwise expansion, means adjacent the central portions of the sections supporting the sections independent of the posts, and reinforcing for the sections.

3. In a fence, spaced concrete posts, intermediate concrete sections having their ends interlocking with the posts but spaced away therefrom to provide for endwise expansion, concrete base means beneath the central portions of the sections for engaging and supporting the sections, and reinforcing for the sections, the ends of the sections being substantially unsupported by the posts.

4. In a fence, spaced concrete posts having rail receiving sockets open at their lower sides to permit drainage, intermediate concrete rail sections having their ends lying in said sockets but out of contact therewith at their ends and on their lower sides, and base means intermediate the ends of the rails and beneath such rails for carrying the weight of the rails.

5. In a fence, the combination with a concrete supporting base having spaced post anchoring means, of an intermediate concrete section provided with a dependent integral distance member directly spacing said section from said base and having integral end portions, posts mounted on said base so that either may be shifted toward said section relatively of said anchoring means and provided with sockets for said end portions adapted to prevent sidewise displacement of said section, said distance member positioned intermediate the posts and supporting the weight of said section, and means for fixedly associating a post with its anchoring means.

6. In a fence, the combination with a concrete supporting base having spaced post anchoring means, of an intermediate concrete section provided with a dependent integral distance member directly spacing said section from said base and having integral end portions, posts mounted on said base so that either may be shifted toward said section relatively of said anchoring means and provided with sockets for said end portions adapted to prevent sidewise displacement of said section, said distance member positioned intermediate the posts and supporting the weight of said section, and means for fixedly associating a post with its anchoring means, said sockets closed at their tops and open at their lower sides, substantially as described.

CHARLES D. McARTHUR.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."