

(No Model.)

R. BLACK & J. STRACHAN.

FENCE.

No. 339,368.

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Fig. 1.

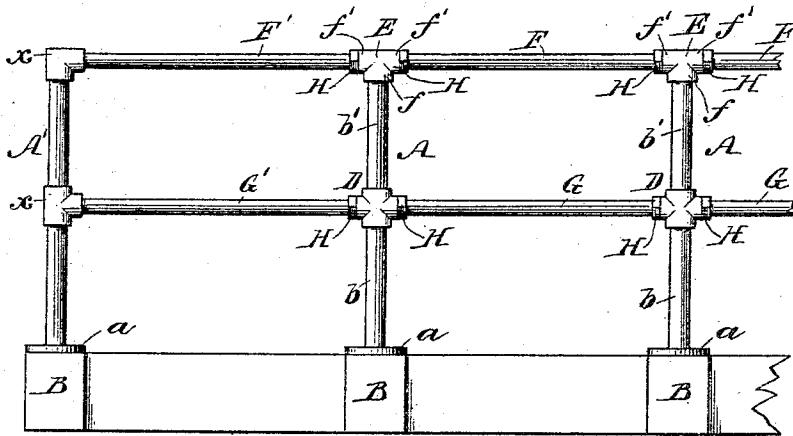
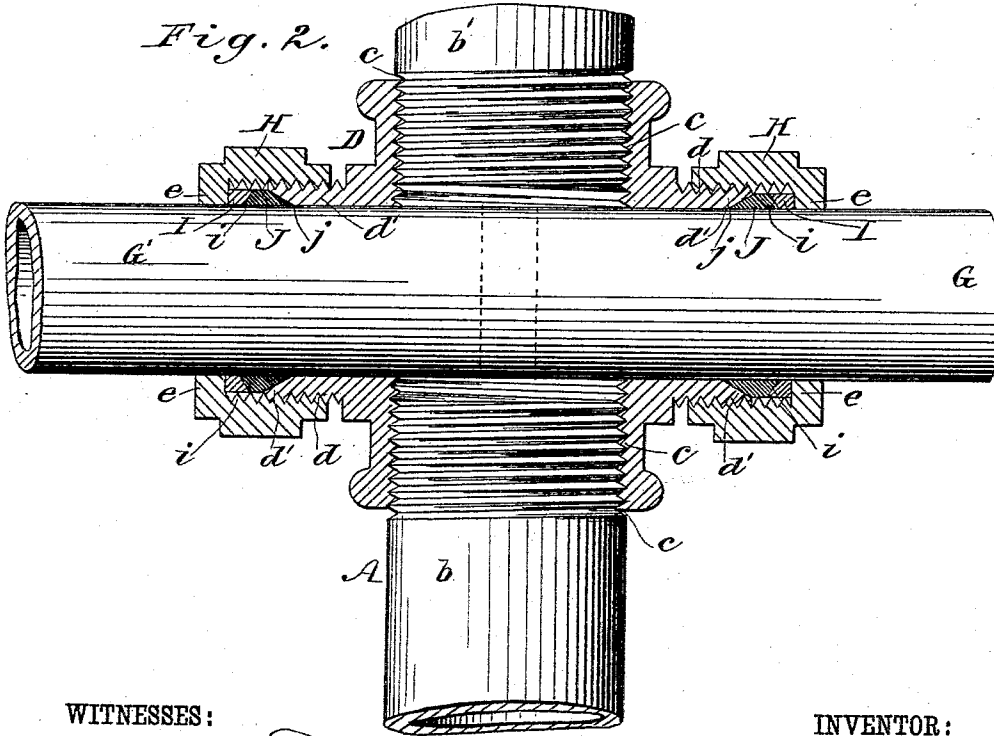


Fig. 2.



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FENCE.

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Application filed September 10, 1885. Serial No. 176,749. (No model.)

To all whom it may concern:

Be it known that we, ROBERT BLACK and JOHN STRACHAN, both of the city, county, and State of New York, have invented a new and Improved Fence, of which the following is a full, clear, and exact description.

Our invention relates to a fence made of tubular iron, and designed more especially for use on elevated-railway bridges, and other structures where the foundation of the fence is subjected to motion and jar from passing trains or vehicles.

The object of the invention is to provide a tubular-iron fence that will not be materially effected by any ordinary movement or jar of its support or foundation, will accommodate the expansion and contraction of the metal, and will be comparatively cheap to construct.

The invention consists, principally, in securing the horizontal bars or rails in the posts by means of screw-caps applied to couplings through which the rails pass, clasp-rings of soft metal being used in the caps to grasp and hold the rails.

The invention also consists in the employment of a loose ring in the caps to act in conjunction with the clasp-ring of soft metal, so the caps may be turned without marring or displacing the clasp-ring.

The invention finally consists of the construction, arrangement, and combination of parts, all as hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a side elevation of a part of a fence made in accordance with our invention upon the ties or cross-pieces of an elevated railway or bridge, and Fig. 2 is an enlarged sectional elevation showing one of the couplings and screw-caps in section and a post and rail in side view.

The posts A A' are of tubular iron, and are formed or provided with a flat base, *a*, by which they are secured upon the cross beams or ties B B of a bridge, elevated railway, or other structure. The post A' is at one end of the fence, and is provided with ordinary internally-screw-threaded couplings, *x x*, to receive the end rails or tubes, F' G', of the fence, which rails are externally screw-threaded at one end

to enter the couplings *x x*. The posts A are by preference made in two parts—the lower part, *b*, and upper part, *b'*. These are joined together by the coupling D, in which they are screwed, as shown in Fig. 2. Upon the upper end of each of the posts A is secured a T-coupling, E, to receive and hold the horizontal tubes F F', that form the upper rail of the fence. The couplings D are four-way couplings to receive the parts *b b'* of the posts, and to receive and hold the tubes G G', composing the lower horizontal rail of the fence. The ports *c c* of the coupling D are plain internally-screw-threaded ports, while the ports *d d* are screw-threaded upon their outer surfaces to receive the screw-caps H H. The caps H are formed with an internal flange, *e*, that fits the diameter of the tubes G, and in the caps against the flanges *e* are placed the metal rings I. These rings are beveled upon their inner edge, as shown at *i*. The outer ends of the ports *d* of the coupling D are beveled, as shown at *d'*, opposite to the bevel of the rings I, so that wedging-spaces are formed between the ports *d* and the rings I to receive the holding or clasp rings J, of soft metal, and force them to grasp the pipes and hold them firmly in place and prevent them from lateral and up-and-down movement in the couplings. The ports *f* of the upper couplings, E, are plain internally-screw-threaded ports, while the ports *f'* are exactly like the ports *d* of the lower couplings and provided with caps H and rings I J, the same as the lower coupling, and need not be further described.

In forming the fence none of the rails or tubes will be screw-threaded but the end tubes, F' G'. The other tubes will be plain at the ends and simply passed through or inserted into the couplings E D. Then the strips or rings of lead or other metal, J, will be wrapped around the tubes and the caps H placed upon them and screwed upon the ports *d f'*, which will compress the metal strips J between the beveled edges *i j* and cause them to grasp the tubes and hold them firm and secure. The rings I might be dispensed with, but their use is advantageous, as they prevent the caps from turning against the strips J, which would be liable to mar the rings and cause them to turn upon the tubes, and prevent a good and secure point being formed.

Where the ends of two pipes are to be joined in a post, A, a short space will be left between them, as indicated in dotted lines in Fig. 2, so that plenty of space will be furnished for the expansion and contraction of the tubes.

In contracting and expanding the tubes simply slide in the ports of the couplings, so there is no strain whatever upon the posts, and while the couplings permit this movement of the tubes they hold the tubes firmly from side and up-and-down movement and prevent rolling, and the fence is comparatively flexible, so the jar and movement of its foundation will not materially injure it; and this fence is not of necessity made of tubes all of the same length, as the tubes may be passed through the couplings from post to post, and no fitting of the tubes is required, which saves much labor and expense.

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

1. A fence composed of the metal posts A, provided with the couplings E, screwed upon the upper ends of the posts, and the horizontal rails held in the couplings at right angles to the posts, in combination with the screw-caps H and beveled rings J, placed upon the rails, the ends of the coupling being beveled, substantially as and for the purposes set forth.

2. The metal post A, composed of the upper and lower posts, *b b'*, joined by the coupling D, formed with the externally-screw-threaded ports and beveled ports *d*, in combination with the tubes G, cap H, and clasp-ring J, placed in the caps H, substantially as and for the purposes set forth.

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Witnesses:

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