(No Model.) 2 Sheets—Sheet 1.

T. ROBINSON.

IRON RAILING.

No. 264,765. Patented Sept. 19, 1882.

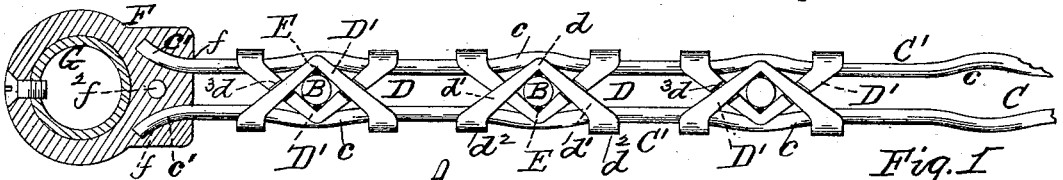

Fig. 1

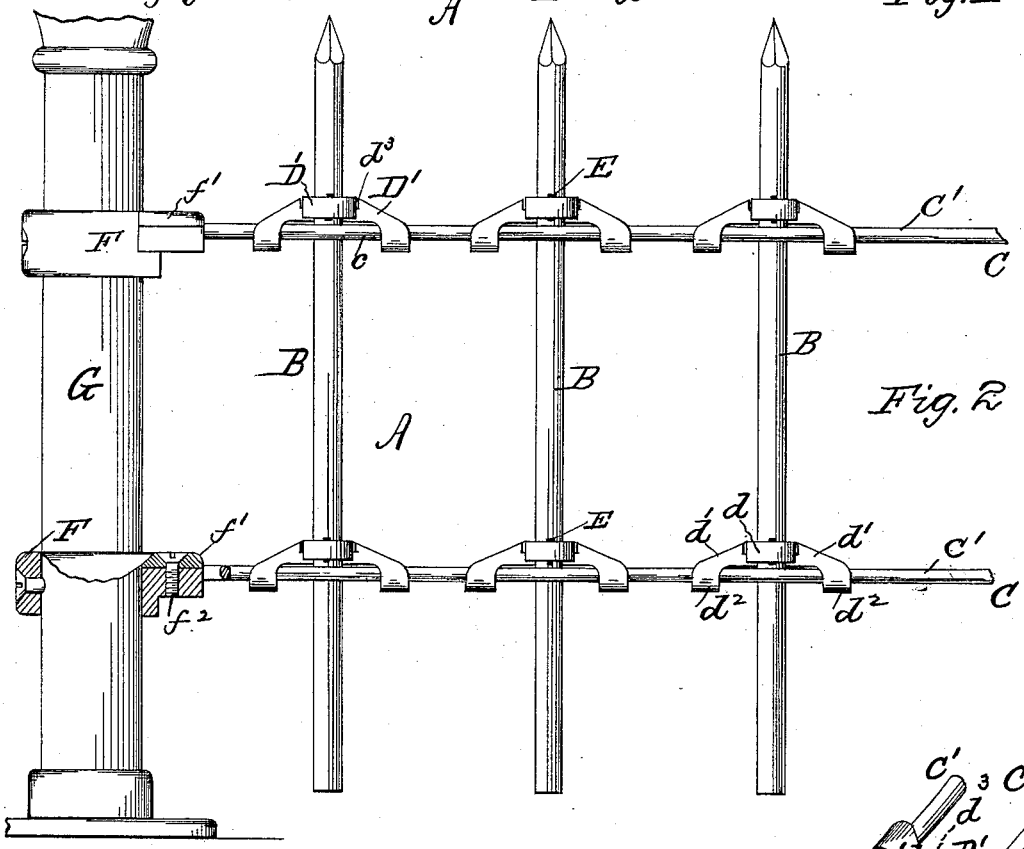

Fig. 2

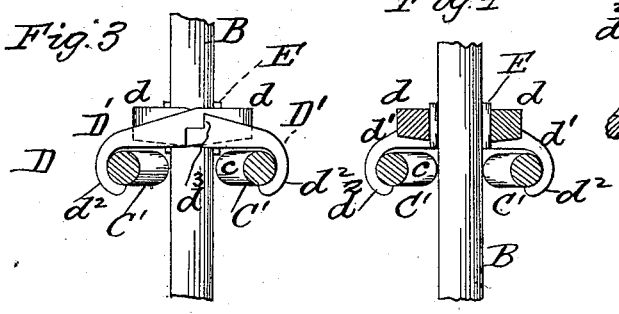

Fig. 3

Fig. 4

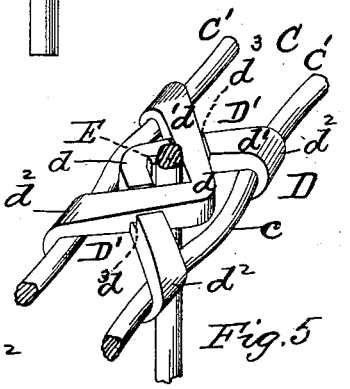

Fig. 5

Witnesses:
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Thomas Robinson
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Attorney

(No Model.) 2 Sheets—Sheet 2.

T. ROBINSON.

IRON RAILING.

No. 264,765. Patented Sept. 19, 1882.

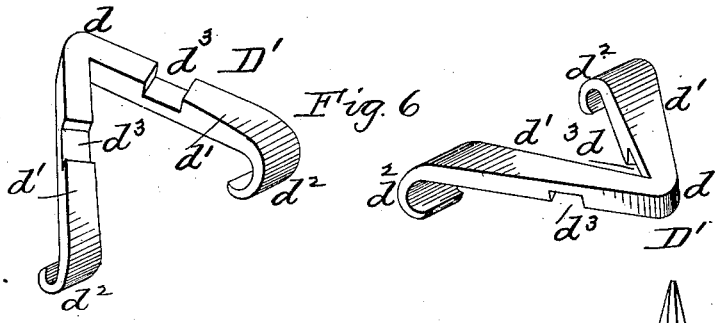

Fig. 6

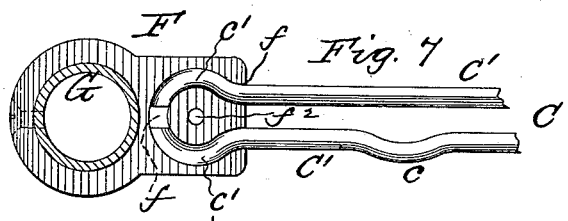

Fig. 7

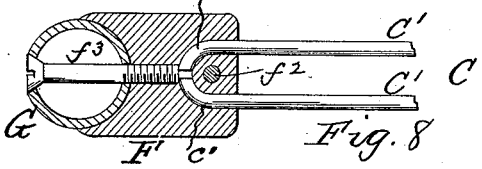

Fig. 8

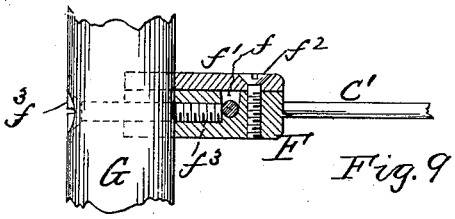

Fig. 9

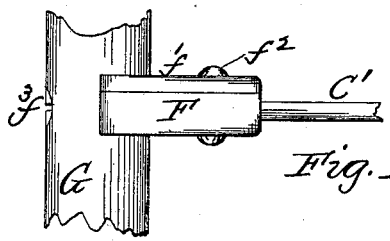

Fig. 10

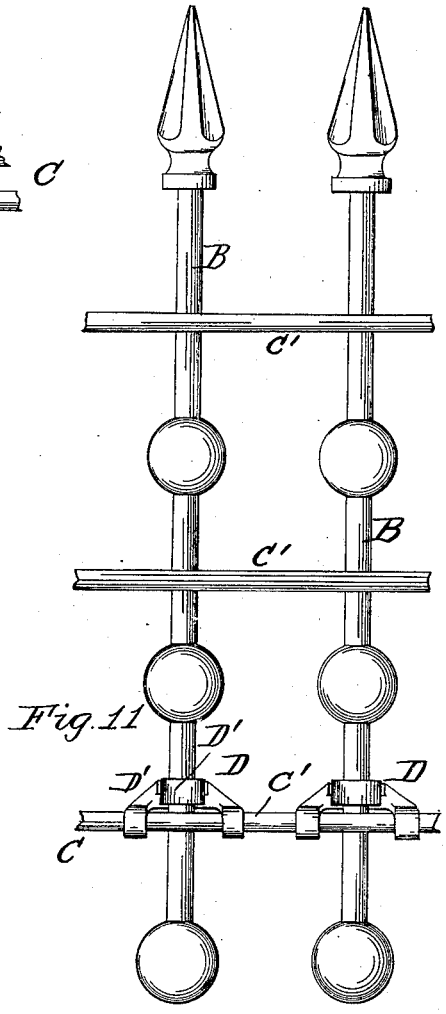

Fig. 11

Witnesses:
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Inventor,
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By S. J. VanStavoren
Attorney

UNITED STATES PATENT OFFICE.

THOMAS ROBINSON, OF PHILADELPHIA, PENNSYLVANIA.

IRON RAILING.

SPECIFICATION forming part of Letters Patent No. 264,765, dated September 19, 1882.

Application filed May 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS ROBINSON, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Iron Railing, of which the following is a specification, reference being had therein to the accompanying drawings, wherein—

Figure 1 is a plan of a section of my improved railing with supporting-post, the latter being sectioned through one of the coupling-sleeves. Fig. 2 is an elevation of the same, partly sectional. Fig. 3 is an end elevation, illustrating the clamp or coupling for the line-rods and uprights. Fig. 4 is a transverse vertical section thereof. Fig. 5 is a perspective of the same. Fig. 6 is a perspective showing the two parts forming the clamp or coupling for the uprights and line-bars. Figs. 7 and 8 are respectively a plan and horizontal section of a post-sleeve with different forms of bent end line-rods attached thereto, the latter figure also showing a modified form of post-sleeve. Fig. 9 is an elevation, partly sectional, of Fig. 8. Fig. 10 is an elevation of same, showing top plate riveted to post-sleeve; and Fig. 11 is an elevation illustrating the manner of making the railing embodying my invention.

My invention has relation to that class of iron railings composed of line or horizontal bars and uprights or vertical rods, and has for its object to provide a railing of great durability, which can be readily and cheaply constructed.

My invention has for its further object to secure the railing to its supporting-posts so that it cannot work loose in the post-sockets or be longitudinally withdrawn therefrom except by disconnecting the coupling devices which secure the railing to the posts.

My invention accordingly consists of a railing each upright of which is coupled or connected to the line-rods by means of two overlapping or interlocking clamps.

My invention further consists of a railing the line-rods of which have their ends bent at an angle thereto and fit into correspondingly-shaped recesses or sockets in the sleeves of the supporting-posts. Said ends are held in said sockets by plates or covers riveted or screwed to said sleeves.

Referring to the accompanying drawings, A represents a panel of a railing composed of uprights B and line-rods C. The latter are formed by placing two parallel rods, C′ C′, at a distance from each other in the same plane, and between which the uprights B pass, as shown. D D represent couplings, consisting of two clamps or claws, D′ D′, for securing said uprights to the line-rods. Each said clamp is substantially of a triangular form in outline, having a bend, *d*, formed by the junctions of the sides *d′ d′* and curved or bent ends d^2 d^2. A pair of said clamps is employed for each coupler connecting each upright to each row of line-rods. The clamps align with each other, the bends *d d* overlapping one another between the line-rods to form an opening, d^4, and the ends d^2 d^2 engage with or embrace opposite line-rods, so that when an upright, D, is passed between the line-rods and inserted in opening d^4, and a nail or wedge, E, driven down between the upright and the clamps, the latter are moved upon each other, and thereby draw the line-rods together until they impinge with the upright. Said parts are thereby securely held together. The tighter said wedge is driven the greater the frictional engagement between said parts and the more firmly they are held together.

The line-rods C′ C′ are crimped at the points along their length where the clamps D′ are to be placed thereon. Such crimps are shown at *c*. They are of such length that they extend between the ends d^2 d^2 of the clamps, as indicated. The use of the crimped line-rods not only provides a stronger connection between the clamps, uprights, and line-rods, but also effectually prevents any longitudinal movement of the line-rods, and practically avoids accidental displacement of the clamp-coupling.

I have shown and described the line-rods C′ C′ with crimps *c c*, and prefer to so arrange them; but, if desired, the crimps may be dispensed with, leaving said line-rods straight throughout. The clamps, when applied to such straight line-rods and properly secured in position thereon, hold the uprights and line-rods as firmly together as if such rods were crimped.

If desired, the clamps D′ may be formed with recesses or rabbets d^3 d^3, or otherwise suitably fastened, so that when the clamps overlap they also interlock with each other, as illus-

trated. But such interlocking is not essential for the production of a rigid coupling of the uprights to the line-rods; but I deem the interlocking construction of the clamps a preferable one, owing to the neatness of design that may be provided therefor, and to the fact that the top surfaces of the clamps are flush with each other when coupled together. The line-rods C′ C′ have bent or flaring ends c' c', which are designed to fit into recesses or slots f in sleeves F. The shape of said slots corresponds to the outline of said bent ends, and the latter are held in the former by a cap or plate, f', screwed or riveted at f^2 to said sleeve. Such construction not only provides a cheap and ready means for coupling the line-rods to their supporting-posts G, but also absolutely prevents the ends c' c' working loose in the sleeve slots or sockets. Hence said ends cannot be drawn out therefrom or moved in any direction therein except the plate or cap f' be first removed.

The sleeve F may be cast integrally with post G, or if the latter be a gas-pipe post the sleeve may be formed with a ring and screwed or riveted to the gas-pipe, as shown; or said ring may be dispensed with, in which case the sleeve will then consist of a lug only, which may be connected to the pipe or post by a screw, f^3, or other suitable fastening, as indicated in Figs. 8 and 9. As shown, the screw f^3 bears against the bent ends of the line-rods C′ C′ to form additional means for more rigidly fastening said ends in said sleeve.

The clamps D′ may be ornamented and configured in any desirable or suitable manner, as fancy or taste may suggest and practical requirements dictate. So, too, the ends c' c' of line-rods may be bent inwardly, as shown in Fig. 8, or crimped, as shown in Fig. 7; but in all cases, whatever may be the form or outline of said bent ends, a correspondingly-shaped recess or socket is formed in the post sleeve or lug for the reception of said ends.

The uprights B may consist of plain wrought-iron bars, as shown in Fig. 2, or they may have picket and other ornaments applied thereto in any suitable manner, or cast or formed integrally therewith.

If the ornaments are made separate from and attached to the uprights, the former may be affixed to the latter before they are joined to the line-rods, for the reason that in setting up or making the panels the uprights are placed between the line-rods before the clamps are put in position to secure said parts together, as plainly shown in Fig. 11, wherein the two lower line-rods are represented as being clamped together, while those above have not yet undergone that operation.

I have shown and described the wedge or nail E as being used to tighten up the clamps D′ D′; but said wedge may be dispensed with, and the inner sides or angles of the bends d may be inclined or have a stud formed thereon, so that when the clamps are coupled together and pressed or driven into a horizontal position said studs or inclines, contacting with the uprights B, will draw the clamps D′ and line-rods C′ C′ together, as above described.

What I claim is—

1. A railing composed of two or more series of line-rods in pairs, and uprights wherein the latter are placed between the former and connected thereto by means of couplings consisting of two clamps, each clamp of a coupling engaging at one end with the upright and at the other end with one of the line-rods, substantially as shown and described.

2. The combination of line-rods C′ C′, uprights B B, the couplings D, consisting of two clamps, D′ D′, each of which has a bend, d, for engagement with the uprights, and bent extremities d^2 d^2, each of which connects with opposite line-rods, substantially as shown and described.

3. The clamp D′, having bend d, sides d' d', with rabbets or slots d^3 d^3, and bent ends d^2 d^2, substantially as shown and described.

4. In combination with line-rods C′ C′, having bent ends c' c', the sleeve or lug F, with recesses or slots f, corresponding in form to the outline of bent ends c' c', and the plate or cap f', suitably secured to said sleeve, substantially as shown and described.

5. The combination of line-rods C′ C′, uprights B B, and the overlapping and interlocking clamps D′ D′, substantially as shown and described.

6. The panel A, composed of crimped line-rods C′ C′, with bent ends c' c', uprights B B, clamps D′ D′, and wedges or keys E, substantially as shown and described.

7. The panel A, composed of line-rods C′ C′, with bent ends c' c', uprights B B, and overlapping and interlocking clamps D′ D′, substantially as shown and described.

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

THOMAS ROBINSON.

Witnesses:

CHAS. F. VAN HORN,

S. J. VAN STAVOREN.