(No Model.)

I. G. BETTS.

Gate.

No. 238,081. Patented Feb. 22, 1881.

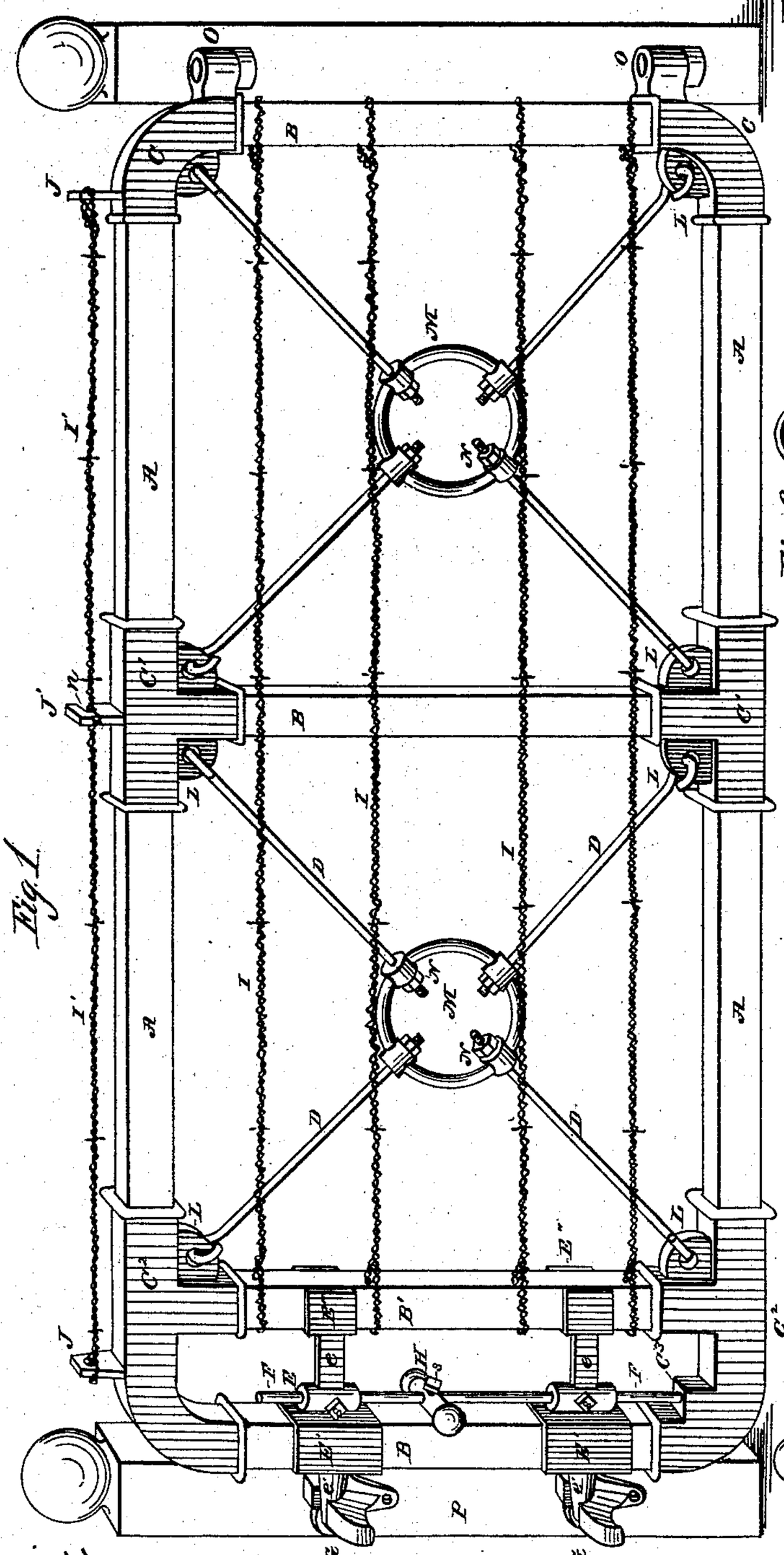

Fig. 1.

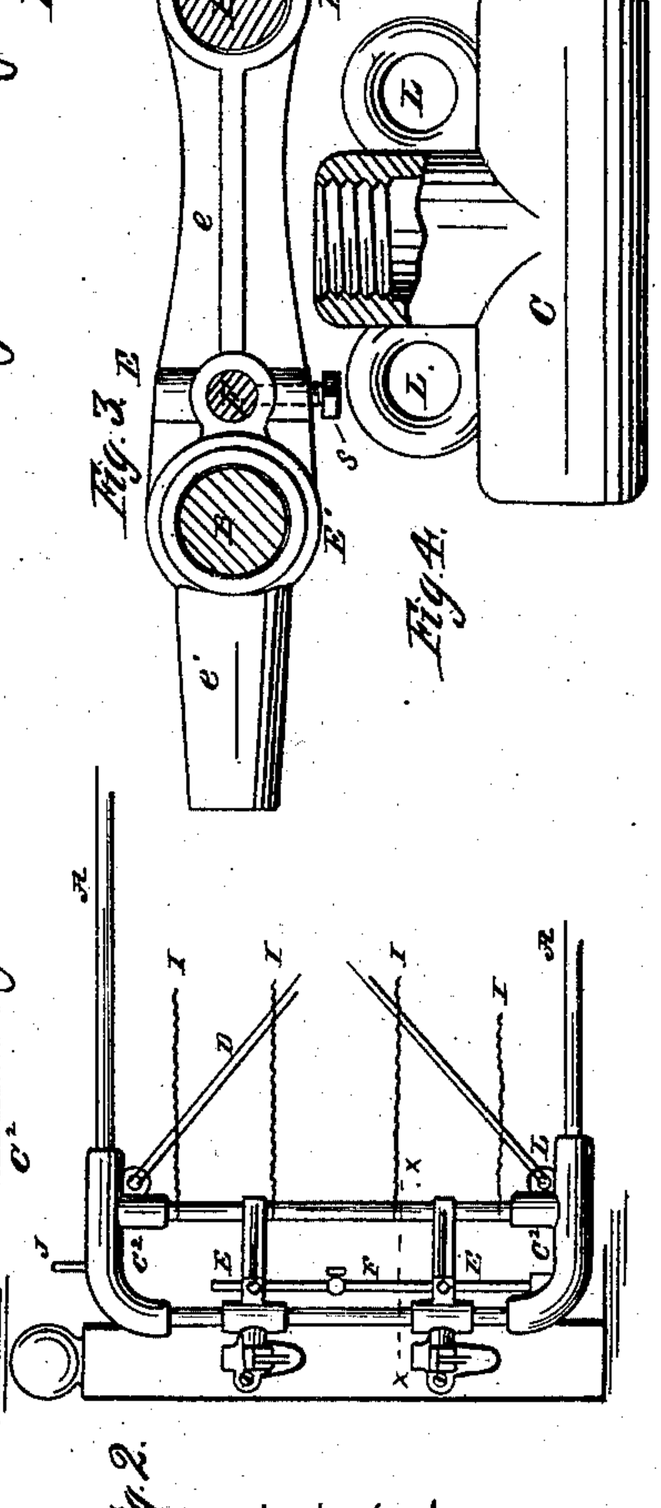

Fig. 2.

Fig. 3.

Fig. 4.

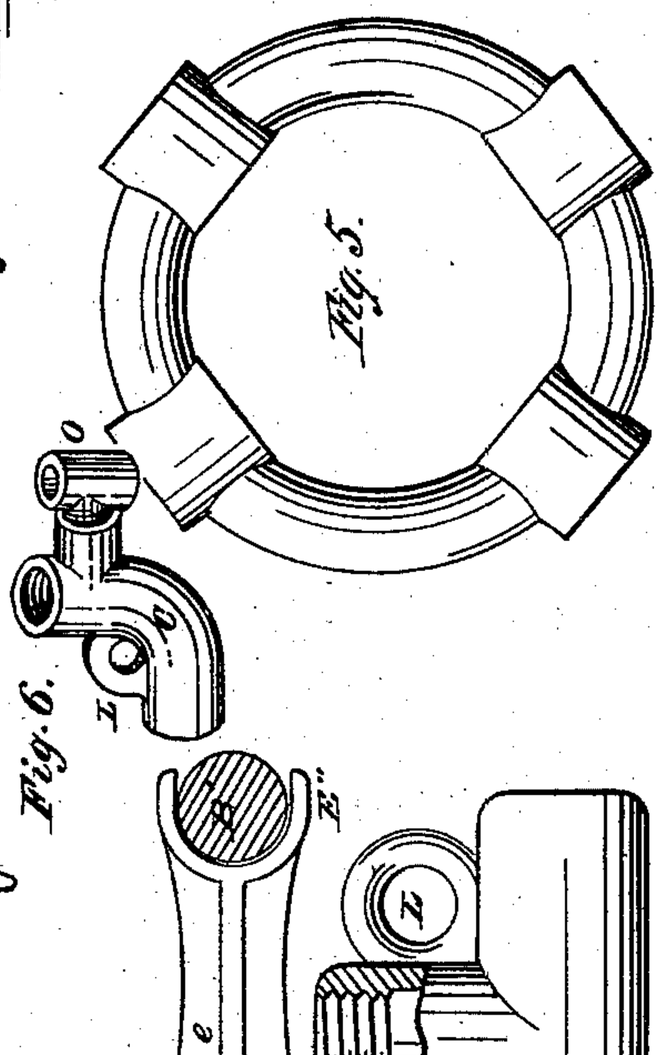

Fig. 5.

Fig. 6.

WITNESSES—

F. B. Townsend.

W. C. Adams.

INVENTOR.

Ira G. Betts

per W. E. Dayton

Attorney.

UNITED STATES PATENT OFFICE.

IRA G. BETTS, OF CHICAGO, ILLINOIS.

GATE.

SPECIFICATION forming part of Letters Patent No. 238,081, dated February 22, 1881.

Application filed June 8, 1880. (No model.)

To all whom it may concern:

Be it known that I, IRA G. BETTS, of Chicago, State of Illinois, have invented certain new and useful Improvements in Fence-Gates; and I hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a class of gates which have as their distinctive feature metallic angle-couplings for the junction of the upright and horizontal rails; and it consists in the novel features of construction hereinafter described, and pointed out in the claims.

In the drawings, Figure 1 is a perspective view of a double or two-panel gate having wooden rails, and containing other of my improvements, said gate being provided with supplemental barbed-wire rails, and being mounted on posts, as the same appears in use. Fig. 2 is a fragmentary view of a gate containing certain of the novel devices shown in Fig. 1, in connection with tubular iron or round wooden rails. Fig. 3 is a horizontal section, enlarged, of the vertical rails through, say, *x x* of Fig. 2, showing the casting that forms the latch in top view. Fig. 4 is an enlarged representation of the T-coupling designed for the middle connections, as the same is made for a double-paneled tubular-iron-rail gate. Fig. 5 shows the center ring by which the diagonal braces are connected. No novelty is claimed in this connecting-ring, the same having been employed, in its essential features, in the gate of this class patented to J. W. Thompson in Patent No. 72,120, 1867. Fig. 6 shows a novel hinge-coupling detached.

A A represent the horizontal rails, and B and B′ the vertical rails, of the gate.

C, C′, and C^2 are metallic couplings, which form the junctions of the rails and afford connection for the diagonal braces D.

E is a special latch-casting, fitted to slide up and down on the outer rails, B and B′.

F is a rod which connects two latches, one above the other, at a suitable distance apart to properly support both the top and bottom of the gate when engaged with the catches G on the post P.

H is a handle on the rod F, by which the latches may be simultaneously lifted.

I and I′ are barbed wires, horizontally applied to the gate-frame, the top wire, I′, being supported above the top rail by means of the studs J and J′, cast on the upper couplings.

The outer couplings, C and C^2, at the angles of the gate, may be either curved, as shown, or angular. If the rails are of wood, said rails are preferably square, as indicated in Fig. 1. They are deeply inserted in the couplings, which are socketed to receive them tightly. The couplings may be riveted to the rails, but the strength of the gate having wooden rails will be derived mainly from the diagonal braces D, if employed. These braces consist of iron rods, and connect the couplings, as shown. For the attachment of the braces D the several couplings are provided at their entering angles with the eyes L, into which the brace-rods D are hooked. The inner ends of the rods D enter a ring, M, or pass through lugs on the back of any suitable center piece, and are tightened in the usual manner by means of the threaded nuts N. When the rails A and B are of iron, as of gas-tubing, the couplings and tubes are preferably threaded and joined in the usual manner of gas-pipe structures.

The couplings C^2 are of special form, being provided with two vertical openings or branches for the admission of the parallel vertical rails B and B′. Hinge-couplings C, having the eyes O cast solid with couplings, may be employed; but I have shown in Fig. 6 the eye O threaded into the rear face of the coupling, whereby the gate may be adjusted within moderate limits. This will be done by first lifting the gate from its hinges and then running either eye out or in a half-turn or more to lift or lower the outer end of the gate, as may be desired. The principal object of the extra vertical rail B′, parallel to and near the outer rail, B, is to afford a proper support to the latch-piece E. For this purpose these rails should be about six inches apart. Said latch-piece has a deep eye, E′, fitted to freely slide on the rail B, an arm, *e*, extending to the inner rail, B′, and either an open or closed eye, E″, to partially or wholly embrace said inner rail. An outer projection, *e′*, on the casting E, of suitable form, drops in the notch of the curved catch G to hold the gate. The marginal rails B and B′ obviously give broad support to the

latch, and serve to hold the projection *e'* in proper position, admitting provision for the utmost freedom of movement of the latch upon the rails without giving too much lateral play thereto.

It being desirable to support the gate firmly at both the top and bottom, two latch-pieces, E, are provided, one near the top and the other near the bottom of the rails B and B'. In order to operate both latches simultaneously and by one hand a rod, F, connects the two. This rod passes through the shanks of the latches E, between the rails B and B', preferably near the former, as shown. A handle, H, is fastened to the rod F at a convenient point. I prefer to secure the latches and handle to the rod F by set-screws *s*, whereby their positions may be changed, if desired, and to extend the rod F to strike the lower coupling, C^2, to limit its downward movement, and thereby control the latch or latches carried by said rod, irrespective of the keeper. The horizontal ledge C^3, on said lower casting, C^2, is provided for the end of the rod to strike against.

It is intended that the latches shall fall by their own weight, and to this end the bearing-surfaces thereof on the rails B and B' are broad, and the rod F has broad support within them to hold them firmly in line with each other. Any suitable spring may, however, be applied to throw down the latches, as a coiled spring embracing the outer rail, B, above the upper latch, and having bearing against the upper coupling, C^2.

By means of the set-screws *s*, adjustably securing the latches to the rod F, and extended to strike upon a fixed part, C^3, of the gate, the latches may be always set in position to rise on the curved catches G, notwithstanding the gate may have sagged.

Obviously the latch or latches may be pivoted to the inner rail, B', the opening for the outer rail and for the rod F being broadened to permit a swinging movement of the latch. A threaded nut working on the rod F below the latch, and another above the latch, will secure in that case the required adjustment and positive connection attained by the set-screws *s*, as shown.

While a gate having wooden rails is shown in the main figure of the drawings, equal utility in the novel features described is found in a structure of tubular iron. In such a structure the special castings C^2 and E combine, with the definite sizes of tubes used for the rails B and B', to give accuracy and freedom of working without any specially careful finishing of the castings, so that the gate constructed of tubular iron in the manner set forth is cheap, light, and strong, and is found to be specially suited to use in connection with barb-fence.

In applying barbed wire to the gate the panel-wires are secured in any suitable manner to the upright rails shown. I make special provision, however, for a top rail, I', by casting on the extreme couplings C and C^2 the studs J, and drilling them to receive the ends of the wire. The central coupling, when present, is provided with a stud, J', cast with a deep notch, *n*, on one side, into which the main wire I' enters laterally, and in which it is fastened by tying it in place with a wire passed around the stud, as indicated.

Having thus described my invention, I claim—

1. In combination with the two vertical rails B and B', at the outer margin of the gate, the sliding latch E, constructed to embrace the outer rail, B, and extended to receive support from the rail B', substantially as described.

2. In combination with the two vertical rails B and B' at the outer margin of the gate, the latch E, constructed to embrace the outer rail, B, and to wholly or partially embrace the rail B', and fitted to slide up and down on both said rails, as described.

3. The combination, with the two latches, arranged as described, of a rod, F, fitted to slide through the latches, and set-screws *s*, whereby the position of the latches upon the rod may be varied at pleasure, substantially as described.

4. In combination with the gate latch or latches E, the rod F, extended or arranged to strike upon a fixed part of the gate, as shown, and adjustably secured to the latch or latches, whereby the elevation of the latter relative to the gate and the catch G may be varied at pleasure.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

IRA G. BETTS.

Witnesses:
M. E. DAYTON,
JESSE COX, Jr.