Dec. 30, 1924. 1,521,371

C. G. HUNTER

METALLIC GATE

Filed Aug. 9, 1922

Fig. 1.

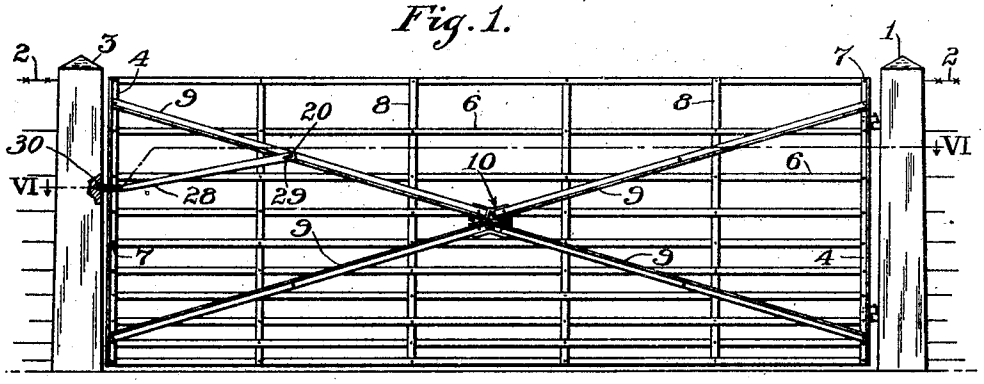


Fig. 2.



Fig. 3.

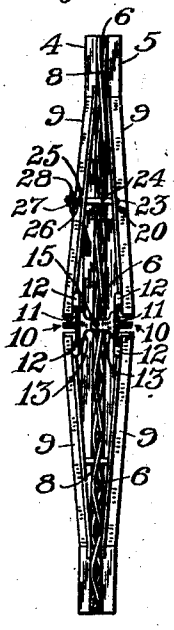


Fig. 4.

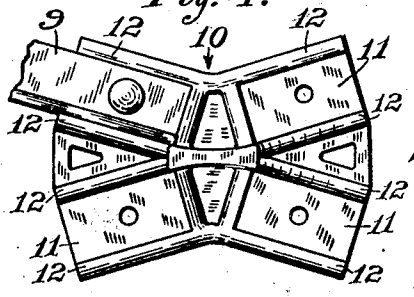


Fig. 5.

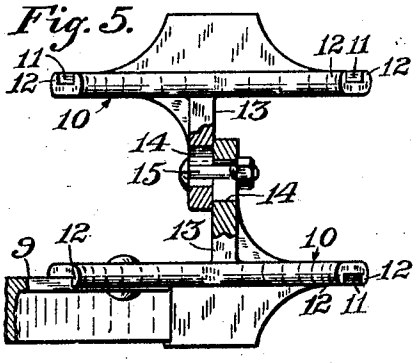


Fig. 6.

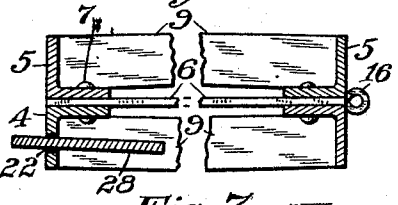


Fig. 7.

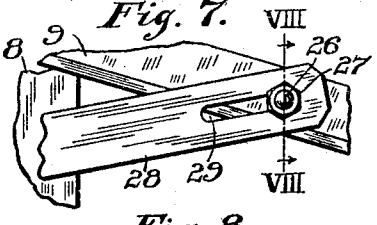


Fig. 8.

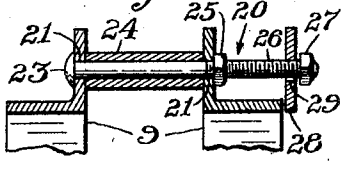
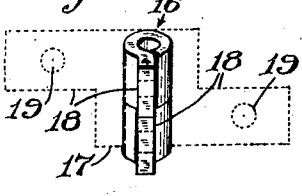


Fig. 9.



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UNITED STATES PATENT OFFICE.

CHARLES G. HUNTER, OF LAWRENCE, INDIANA.

METALLIC GATE.

Application filed August 9, 1922. Serial No. 580,661.

To all whom it may concern:

Be it known that I, CHARLES G. HUNTER, a citizen of the United States, residing at Lawrence, in the county of Marion and State of Indiana, have invented a new and useful Metallic Gate, of which the following is a specification, reference being had to the accompanying drawings and to the letters and figures of reference marked thereon.

This invention relates to swinging gates of the well known farm type, and it has reference more particularly to gates which are constructed to be shipped disassembled.

An object of my invention is to provide a solid well braced gate structure, consisting of parts adapted to be bundled compactly for shipment, and designed to be readily and conveniently assembled and hung at its destination.

Another object is to provide improved construction of trussed swinging gates whereby they may be symmetrically made of standard commercial structural steel, such as L angles.

A further object is to provide a construction that may be readily repaired by the replacement of parts, or new parts substituted for such as may have accidentally become damaged or broken.

A still further object is to provide for readjustment of the braces of a swinging gate to secure the maximum rigidity of its frame.

With the above-mentioned and other objects in view, my invention consists in an adjustable centrally secured and opposed plurality of improved brace or strut devices imparting rigidity and stability to a gate frame of novel construction, and the invention consists also further in the novel and simplified construction, parts and combinations, and arrangement of parts, more particularly described in the accompanying claims.

Referring to the drawings, Figure 1 is a side elevation of the improved gate, hung and latched; Fig. 2 is a top plan of the improved gate; Fig. 3 is a transverse central sectional elevation of the gate on an enlarged scale; Fig. 4 is an enlarged front elevation of an improved brace center-piece and a portion of a truss bar thereon; Fig. 5 is a top plan of a pair of brace center-pieces as assembled, partially broken away to show the adjustable connections thereof; Fig. 6 is a sectional view on the line VI—VI in Fig. 1 on an enlarged scale, omitting the central portion of the gate; Fig. 7 is an enlarged side elevation of an improved latch mounting; Fig. 8 is a vertical section of the improved latch mounting on the line VIII—VIII in Fig. 7; and, Fig. 9 is a perspective view of a novel hinge part, the dotted lines showing its contour before being formed.

Similar reference characters throughout the several figures of the drawings refer to similar features or parts.

The improved gate is designed to be mounted or hung in the usual manner by hinges of a pin and eye type, the gate part of which will be explained more in detail hereafter, to a post 1 and latches to a post 2 which form parts of a fence or wall 3, so as to swing in and out, or in one direction only as preferred. The latch and the parts of the hinges are furnished with the gate.

The gate proper comprises two vertical frame bars placed at its opposite ends, each composed of a pair of L angles 4 and 5 which are arranged with the flat face of one leg of angle 4 opposite a like face of the angle 5 between which a series of horizontal bars 6 are secured, preferably spaced in gradually increasing distance apart from the bottom, by means of rivets or bolts 7. The outwardly extending legs of the angles 4 and 5 are set flush with the end of the gate, thus forming a thick edge and providing a clear space towards the center of the gate. A plurality of vertical tie bars 8 spaced apart lengthwise of the gate or woven between the bars 6 and are riveted or bolted thereto. A plurality of truss braces 9 of L angle are provided, eight being necessary, one end of each four respectively being secured on opposite sides of and opposite ends of the vertical frame bars and the other end secured to brace center-pieces 10 mounted centrally and partly on opposite sides of the gate.

The center-piece 10 is made preferably of two similar relatively adjustable parts of malleable iron, the face of which has four recesses 11 formed at the proper angle by a plurality of ribs 12 for eliminating vibration of the braces 9. Extending from the inner face of each part of the center-piece 10 is an ear or strut 13 provided with a slot 14 for adjustably connecting the pair of parts together by means of a bolt 15, one face of the ear 13 being on a central line of the part, thus allowing them to coincide with one part reversed in respect to the other.

A novel female hinge part 16, preferably made of flat steel equal to the bar 6 in thickness, punched in a Z contour, is provided by forming a body portion 17 into an eye, and leg portions 18 formed in the same operation, flat one with the other, allowing a greater weight and strength of metal to be employed where the mounting space is restricted, than in that of the conventional hinge. One or more holes 19 are provided in each of the leg portions 18 to receive securing bolts, whereby the hinge parts are strongly secured between the angle bars 4 and 5.

A novel latch guide 20 is provided by means of holes 21 in the braces 9 located at a point higher than a latch slot 22 made in the L angles 4 and 5, the holes having a bolt 23 therein clamping a spacer 24 between the braces 9 with a nut 25. The bolt has a guide projection 26 thereon provided with a nut 27. A latch bar 28 has a slot 29 with the projection 26 therein and gravity causes the latch to engage a keeper 30 on the post 3 automatically.

The various parts may be cheaply made on a quantity production basis and by a set of jigs made uniform and interchangeable, especially the latch and hinge holes in the angle 5 would be punched in all as there would be no objection to these, should they not be utilized. Made in the manner described a complete set of parts of a gate may be bundled or crated as a compact unit and set up at the location where it is to hang by anyone without expert assistance. When assembling, two of the L angles 4 and 5 are bolted together at each end with two of the bars 6 separating them, and two other L angles 4 and 5 are likewise secured to the opposite ends of the bars 6, thus forming a frame. The remaining bars 6 may then be attached and the bars 8 added. Each part of the center-piece 10 has an equal number of braces 9 secured in the recesses 11, forming a pair of spiders which are attached on opposite sides of the gate by riveting the outer ends of the braces 9 to the L angles 4 and 5, and by separating outwardly until the braces are under tension and locked with the bolt 15, a compact rigid gate thus being secured, and after adding the hinges and the latch guide 20 and the latch assembly the gate is completed and ready to hang.

In practical use the gate will be easily operated, being light of weight yet strong in the necessary directions and of a pleasing appearance, and being composed of relatively short bars when packed for shipment are not likely to become damaged by bending. Should a part become accidently damaged, the gate may be easily and cheaply repaired by supplying a new part at small expense.

Having thus described my invention, what I claim as new is:

1. In a sectional metallic gate, the combination of a hinge frame comprising a pair of L angles arranged apart to receive horizontal bars and hinge mountings, horizontal bottom and top and intermediate bars and hinge mountings of equal thickness secured between and to the L angles, a similar frame arranged likewise at the ends of all the horizontal bars and secured thereto, composite trusses comprising a pair of opposed center-piece parts having radial recesses and also struts fixed thereto respectively, a bolt securing said struts together, and diagonal braces secured in said recesses respectively and also secured to the L angles of said frames; and vertical tie bars woven between the intermediate bars and secured each to the bottom and the top horizontal bars, each tie bar being secured also to each of the intermediate tie bars.

2. In a gate, the combination of a hinge frame comprising a pair of L angles arranged apart to receive horizontal bars and hinge mountings, horizontal bars and hinge mountings, of equal thickness, secured between and to the L angles, a similar frame arranged likewise at the opposite ends of the horizontal bars, composite trusses comprising a pair of opposed center-piece parts having arms provided with radial ribbed recesses and having also struts attached thereto, a bolt securing the struts adjustably together, and diagonal braces secured in the ribbed recesses of the arms, and also attached to the L angles, vertical bars woven between and secured to the horizontal bars, a latch guide supported by the diagonal braces comprising a spacer between said braces, a bolt securing said spacer in place and a gravity-impelled latch-bar mounted slidably on said bolt.

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

CHARLES G. HUNTER.

Witnesses:
E. T. SILVIUS,
J. A. SCHUMACHER.