

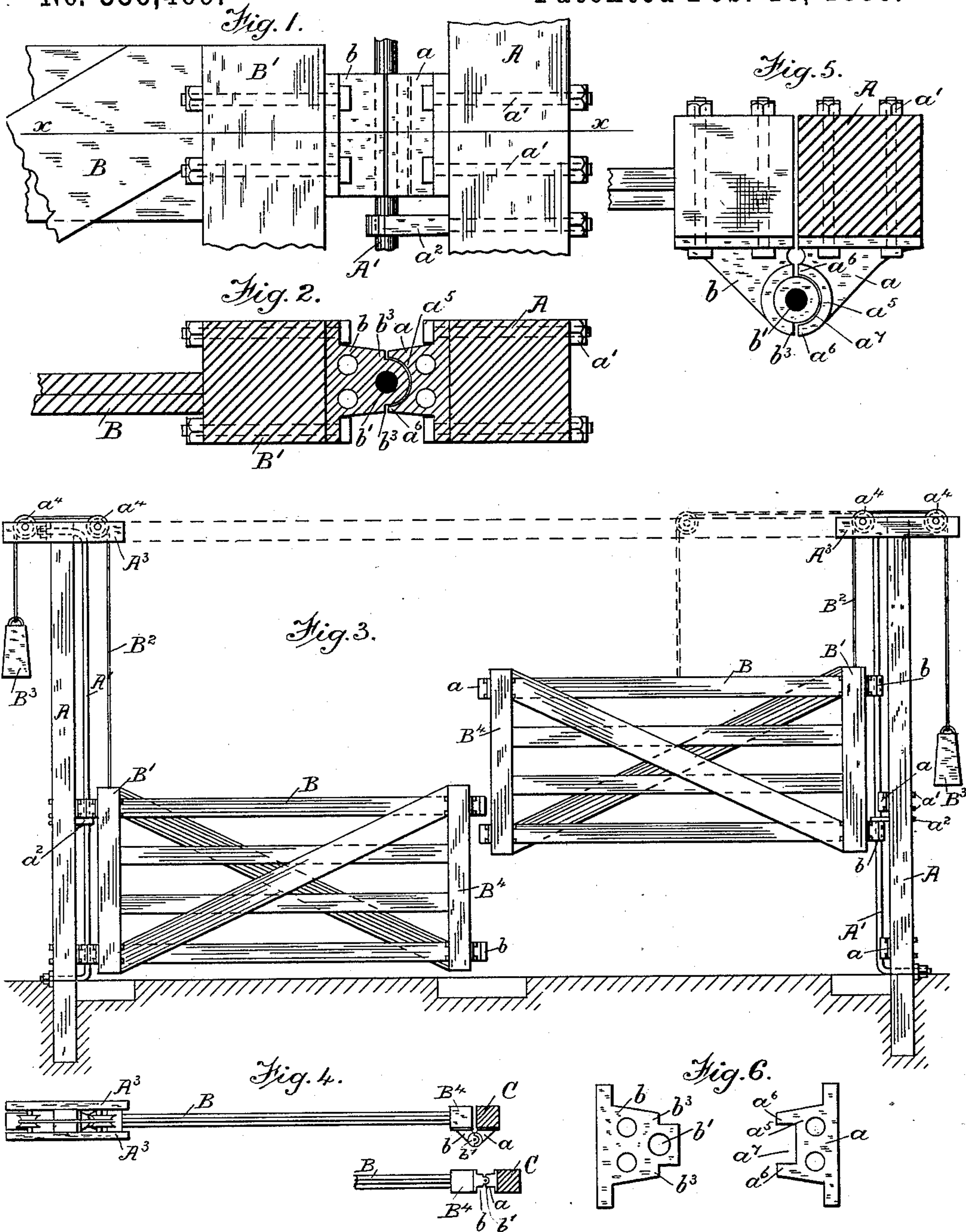
(No Model.)

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GATE HINGE.

No. 336,469.

Patented Feb. 16, 1886.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

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## GATE-HINGE.

SPECIFICATION forming part of Letters Patent No. 336,469, dated February 16, 1886.

Application filed October 13, 1885. Serial No. 179,801. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES BORNARTH, a citizen of the United States, and a resident of Shakopee, in the county of Scott and State of Minnesota, have invented certain new and useful Improvements in Gate-Hinges, of which the following is a description.

The invention consists in certain novel elements and combinations of elements in the supporting mechanism of a gate or of a door, whereby such gate or door is made movable upon its hinge-rod, either in a vertical or in a horizontal plane, and whereby when closed the same is locked against movement in a horizontal plane.

It consists, also, in the combination, with a locking-hinge of the character described, of novel locking appliances upon the latching or meeting extremity of the gate and upon its latching-post, or upon each of two oppositely-hinged gates.

In the drawings, Figure 1 is a view in side elevation of a portion of a gate and its hinge-post, showing my improved means for hinging and locking applied thereto, the gate being in its hinged and locked position. Fig. 2 is a horizontal section on the line  $xx$  of Fig. 1. Fig. 3 is a view in side elevation of a double gate and its posts, one of the gates being elevated and unlocked and in position to be swung in a horizontal plane upon its hinge-rod. Fig. 4 is a top plan view showing the improvements as applied to a single gate and its latch-post, and showing also half-hinges as applied to the face instead of to the end of the gate and of the part to which it is latched. Fig. 5 is a plan view showing, upon an enlarged scale, the modified form of half-hinges which is represented in Fig. 4. Fig. 6 is a plan view of another modification, in which the central meeting portions of the two hinge-sections are of angular form.

The grooved half-hinges  $a$ —two or more in number—are secured to the gate-post  $A$  by through-bolts  $a'$  or by other suitable means. A hinge-rod,  $A'$ , preferably extending through the post  $A$ , is secured to such post at a point below the lowermost hinge and at a point above the topmost hinge, and this rod will be steadied and braced by an eyebolt,  $a^2$ , through which it extends, and which, being secured within

the post, constitutes a support for the gate. The half-hinges  $b$ , having by their passage  $b'$  first been sleeved upon the hinge-rod, will be made fast to the gate  $B$ , and a suitable line,  $B^2$ , of rope or chain, attached to the upright  $B'$  of the gate, will be passed over pulleys  $a^4$ , which have their bearings upon one or more arms or cross-pieces,  $A^3$ , upon the post  $A$ , and will be connected to a counter-weight,  $B^3$ .

It will be seen that the shoulders  $b^3$  of the half-hinge  $b$  upon the gate abut squarely against the flat ends  $a^6$  of the jaws  $a^5$  of the half-hinge  $a$ , and thus prevent horizontal movement of the gate, and it will be apparent that the function of these parts is unaffected by the configuration of the groove  $a^7$  and the corresponding projection upon the part  $b$ , so that it is immaterial whether these parts be curved, as in Fig. 2 and in Figs. 4 and 5, angular, as in Fig. 6, or of some other form.

Upon the meeting faces of the uprights  $B^4$  of the gates, as in Fig. 3, or upon such upright and its latch-post  $C$ , as in Fig. 4, will be secured similar half-hinges,  $a$  and  $b$ , which as thus attached will constitute locking appliances, and these will act in conjunction to lock the gate or gates in position at the outer or unhinged extremity of the same.

From the foregoing it will be understood that so long as the two half-hinges are in contact the gate will be immovably locked at each extremity thereof, and that it must be elevated bodily until the half-hinge  $b$  is above the plane of the upper extremity of the coincident half-hinge  $a$  before it can be moved horizontally upon its hinge-rod or pivotal bearing  $A'$ .

It will be apparent that the elevating-line, instead of being connected to the hinge end of the gate, as already described, might be applied at the center thereof, running in anti-friction rollers upon a cross-beam resting upon the two opposite posts of the gateway, as represented in dotted lines in Fig. 3. I do not, however, limit myself to lines and counter-weights as means for elevating the gate, as any other well-known means may be employed.

Under the construction represented in Fig. 3 the gate may be elevated until its lower hinge is brought into contact with the bolt  $a^2$ , which is preferably contiguous to the upper hinge-sections, thus enabling the gate to be



readily opened when heavy snows or other obstacles obstruct its movement in its lower position.

Any suitable locking device may be applied to prevent the gate from being raised and thrown open by unauthorized persons.

It is obvious that the groove or recess might be provided in the half-hinge upon the gate outside the perforation therein, and that the projection might be formed upon the half-hinge of the post without affecting the principle of the operation.

Having described my invention, I claim—

1. The combination, with a gate-post which is provided with a hinge-rod and with recessed half-hinges, of a gate which is provided with corresponding half-hinges, each of which has a perforation which receives the hinge-rod and a projection which engages the recessed half-hinge upon the gate-post, the half-hinges having coincident flat bearings, whereby when any portion of such half-hinges are in the same horizontal plane the gate is locked against rotary movement upon its hinge-rod.

2. The combination of a gate-post which is provided with recessed half-hinges, with an elevatable gate which has projecting half-hinges which are sleeved upon a vertical hinge-rod, the projections engaging the recesses continuously from top to bottom thereof, whereby the gate is locked against movement in a horizontal plane whenever any portion of one of the half-hinges is opposite to any portion of another half-hinge.

3. A perpendicularly-elevatable gate which

upon each end is provided with locking half-hinges, in combination with gate posts or uprights opposite the ends of such gate, which are provided with corresponding locking half-hinges, as described, whereby when the gate has been lowered perpendicularly into its closed position it is at each end locked against movement in a horizontal plane.

4. The combination of a gate-post which is provided with a hinge-rod and with recessed locking half-hinges which have flat bearing-surfaces, a gate post or upright which is unprovided with a hinge-rod and is provided with recessed locking half-hinges which have flat bearing-surfaces, and a perpendicularly-adjustable gate which upon each end has locking half-hinges which are provided with projections and with flat bearing-surfaces which correspond with the recessed and flat surfaces of the locking half-hinges upon the gate posts or uprights, whereby when the gate is in its closed position it is at each end locked against movement in a horizontal plane.

5. The combination, with a gate-post which is provided with a vertical hinge-rod and with recessed locking projections, of a gate which is provided with perforated locking projections which are sleeved upon the hinge-rod and which are insertible in a vertical plane within the recessed projections upon the gate-post.

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Witnesses:

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