

G. B. BRACE.
GATE.

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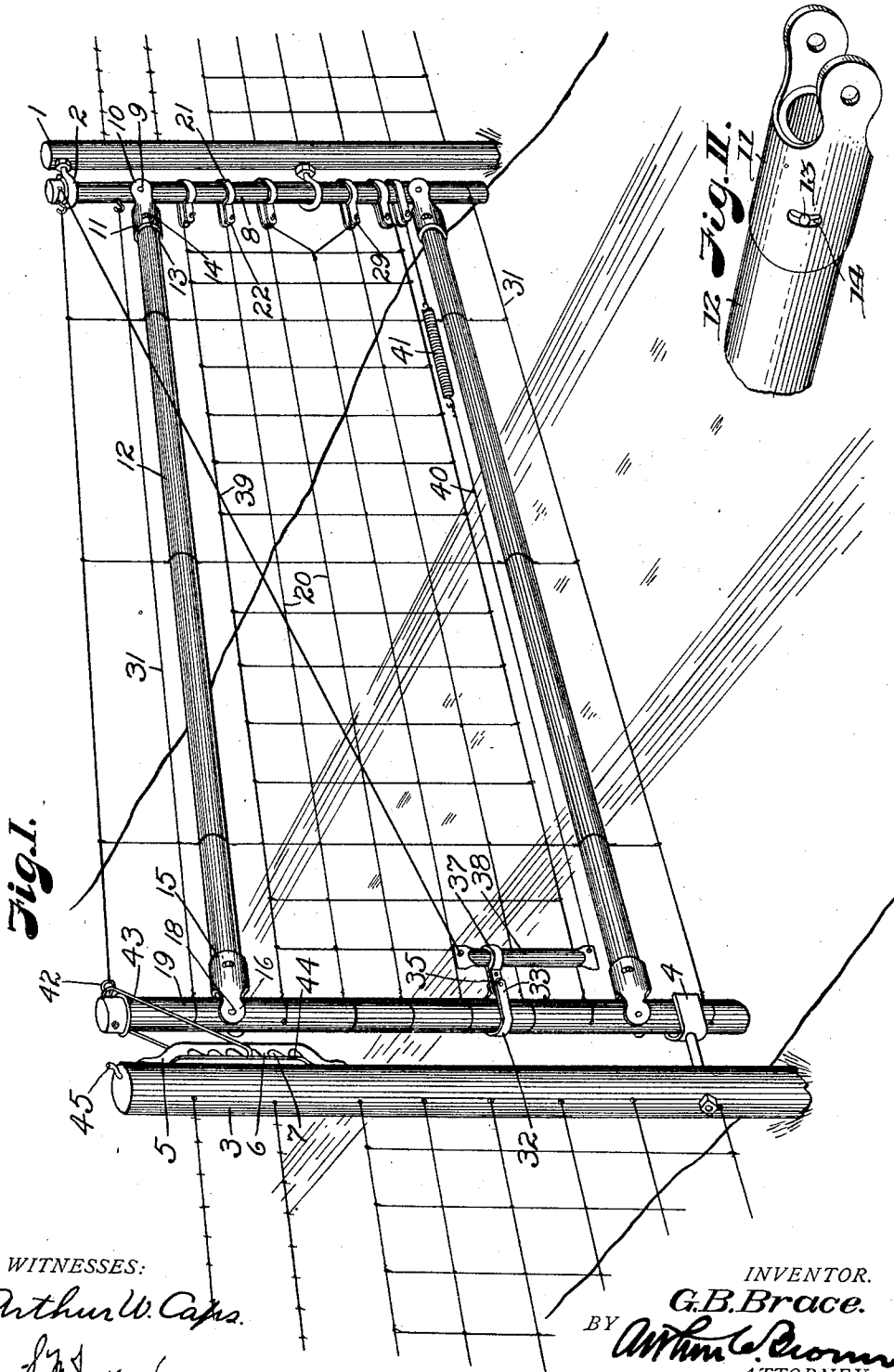


Fig. 1.

Fig. 2.

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GATE.

1,055,866.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE B. BRACE, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Gates; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

My invention relates to gates, and has for its principal object to provide a gate which is automatically adjustable on its mounting in order that it may rise out of the way of a deposit of snow, or other substances, which may accumulate therebeneath, and which comprises means whereby the free end is automatically lifted when the gate is unlatched, to facilitate the swinging travel.

It is a further object of my invention to provide a gate wherein the frame parts may swivel laterally on each other to obviate straining of such parts.

Further objects of the invention are disclosed in the following specification, and are illustrated in the accompanying drawings, wherein:—

Figure I is a perspective view of a gate constructed according to my invention, shown in closed position. Fig. II is a perspective view of the swivel coupling for connecting the stiles and struts of the gate frame.

Referring more in detail to the parts:— 1 designates a gate post which is preferably tubular and has eye-bolts 2 mounted thereon for carrying a gate. Opposite the post is a similar post 3, having a laterally disposed U-shaped bracket 4 near the bottom, and a latch keeper 5 at its upper end provided with downwardly directed teeth 6 for forming the inclined notches 7. Revolvably mounted in the eye-bolts 2 on post 1, is a stile 8, which is adapted for vertical as well as revoluble movement in its mounting. Pivottally mounted on cross pins 9 on the stile 8 are the ears 10 of the swivel couplings 11. Revolvably mounted in the couplings 11 are the struts 12, the inclosed ends of which have pins 13 projected through

slots 14 in the couplings 11, to permit limited rotary movement of the struts, while anchoring same against longitudinal displacement. On the outer ends of the struts 12 are couplings 15 similar to those just described, the ears 16 being pivotally mounted on pins 18 on the outer stile 19.

Attached permanently to one of the stiles are the frame wires 20, which connect with ratchet members on the opposite stile; such ratchet members comprising the clamps 21 which encircle the stile and have lips 22 through which bolts 29 are projected and revolvably mounted, said bolts having the ends of the frame wires 20 secured thereto, so that when the bolts are turned the ends of the wires may be wound thereon to tighten same. I also prefer to connect the stiles by a wire 31 below the bottom strut.

On the outer stile 19, below the horizontal center of the frame, is a clamp 32 having lips 33 connected by a bolt 35, in order that the clamp body may be tightened on the stile in an adjusted position, the arms preferably being offset to extend at one side of the body wires 20. Pivottally mounted on the bolt 35 of the clamp lips 33, are the arms 36 of a clamp 37, which carries an equalizer bar 38. Connecting one end of bar 38 with the inner stile 8 is a member 39, preferably of wire, by which the outer end of the gate is supported, and connecting the opposite end of the bar with the stile 8 is a member 40, also preferably of wire and comprising spring 41, whereby the equalizer bar is rocked when the outer end of the gate is freed, to lift said outer end by tension on the wire 39. The connecting wires are preferably connected with the stile by ratchets similar to those for the body wires, in order that the connections may be tightened and the tension of the spring adjusted, the ratchets for said equalizer wires being offset as is the clamp 32.

On the free stile 19 is a stop 42, and slidable within the keeper 6 is a latch 43 which is adapted for application to the free stile to hold the gate against the tension of the spring 41, when the lower end of the latch is held in one of the notches 7. I prefer to place a latch spring 44 on the keeper, for covering the mouths of the notches, in order to hold the latch 43 in place, and I also prefer to place a lip 45 on the post 3 for the

purpose of holding the latch out of the way of the gate when the latter is open.

Presuming the parts to be assembled as described, and free of the latches, the outer end of the gate is supported by the wire 39 which is connected with the inner stile, the gate being inclined upwardly toward the outer end at an angle governed by the relative strength of the spring 41 and weight of the gate, the spring pulling the equalizer bar back and lifting the outer end of the gate by its pull on the carrying wire 39, until the weight of the gate balances the tension of the spring. To close the gate, pressure is exerted on the outer end, causing the struts to pivot on the stiles and causing the wire 39 to pull on the equalizer and rock same against the tension of spring 41. When the gate is closed its lower end is held by the bracket 4 and its upper end is held down and closed by the latch 43. To open the gate, the latch 43 is removed from the top of the outer stile. The spring 41 then acts automatically to rock the equalizer bar and lift the outer end of the gate by pulling outwardly on the wire 39. The gate may then be swung open on its pivotal mounting, and may pass over any small obstruction that would otherwise bar its movement, or it may be held in its lifted position to allow small stock to pass under its outer end while preventing the passage of larger animals.

The height to which the outer end of the gate is to be raised can be determined by vertical adjustment of the equalizer bar on the outer stile, and any variation in the spring can be offset by a like vertical adjustment of the bar in its clamp, to maintain a balance between the weight of the gate and tension of the spring.

It is apparent that by providing the swiveling members 11 and 15, the gate is afforded limited twisting movement without danger of injury to the parts, thereby enabling the gate to be constructed of material which it would otherwise be inadvisable to use.

In assembling the mesh body of the gate, the horizontal wires are attached permanently to the free stile ends, and opposite ends connecting with the ratchet bolts, so that the gate frame may be tensioned and tightened when necessary by adjusting the bar 38 longitudinally within the clamp. The lift of the gate may be varied, or the same adjustment may be secured by adjusting the clamp 32 on its stile.

Having thus described my invention, what I claim as new therein and desire to secure by Letters-Patent is:—

1. In a gate, a supporting stile, struts pivotally mounted on said supporting stile and carrying a free stile on their outer ends, a clamp carried by said free stile, an equalizer bar adjustably mounted in said clamp, and

connecting members running from the ends of said bar to the supporting end of said gate, one of the connecting members being yieldable for the purpose set forth.

2. In a gate, a supporting stile, struts pivotally mounted on said supporting stile and carrying a free stile on their outer ends, a clamp carried by said free stile, an equalizer bar slidably mounted in said clamp to afford variation of the proportionate lengths of its lever arms, and connecting members running from the ends of said bar to the supporting end of said gate, one of the connecting members being yieldable for the purpose set forth.

3. In a gate, stiles, struts pivotally mounted on said stiles, a clamp adjustably mounted on one of the stiles, a bar pivoted on said clamp, means connecting one end of the bar with the opposite stile and means connecting the other end of said bar with said opposite stile and comprising a spring, for the purpose set forth.

4. In a gate, stiles, struts pivotally mounted on said stiles, a bar adjustably mounted on one of the stiles and adapted for pivotal movement, means connecting one end of the bar with the opposite stile and means connecting the other end of said bar with said opposite stile and comprising a spring, for the purpose set forth.

5. In a gate, stiles, struts pivotally mounted on said stiles and adapted for limited lateral movement thereon, a clamp on one of the stiles, a bar pivoted on said clamp, means connecting one end of the bar with the opposite stile, and means connecting the other end of said bar with said opposite stile and comprising a spring, for the purpose set forth.

6. A gate comprising, in combination with suitable posts, a stile pivotally mounted on one of the posts and adapted for vertical movement in its mounting, a free stile, and struts pivotally connected with each of the stiles and adapted for limited rotary movement relative thereto.

7. A gate comprising stiles, couplings pivotally mounted on the stiles and provided with slots, and struts revolubly mounted in said couplings and having pins projected into said slots, whereby the stiles are adapted for vertical and lateral movement, relative to each other.

8. A gate comprising a supporting stile, struts pivotally mounted on the supporting stile, a stile on the outer ends of said struts, a bar adjustably mounted on said stile and adapted for pivotal movement; a wire, having a spring section, connecting the lower end of the supporting stile and the lower end of said bar, and a supporting wire connecting the upper end of the bar and the upper end of the supporting stile.

9. A gate comprising a supporting stile, 130

struts pivotally mounted on the supporting stile, a stile on the outer ends of said struts, a bar pivoted on said outer stile and forming long and short arms, a wire and spring connecting the long arm of said bar and the lower end of the supporting stile, and a supporting wire connecting the short arm of the bar with the upper end of the supporting stile.

- 10 10. A gate comprising a supporting stile, struts pivotally mounted on the supporting stile, a stile on the outer ends of said struts, an equalizer bar, means for carrying said bar on the outer stile and affording pivotal movement thereof from a center located between the bar body and said stile, and connecting members running from the ends of the bar to the opposite ends of the gate, one

of said members including a spring, for the purpose set forth.

11. A gate comprising a supporting stile, struts pivotally mounted on the supporting stile, a stile on the outer ends of said struts, a clamp on said outer stile below the center of the gate, a bar having a clamp near its upper end pivoted at its rear side to said stile clamp, a wire and spring connecting the lower end of the bar with the supporting stile, and a wire connecting the upper end of the bar with the supporting stile.

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

GEORGE B. BRACE.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."