(No Model.)

W. B. WHITTENBERG & A. L. HAWKINS.

GATE.

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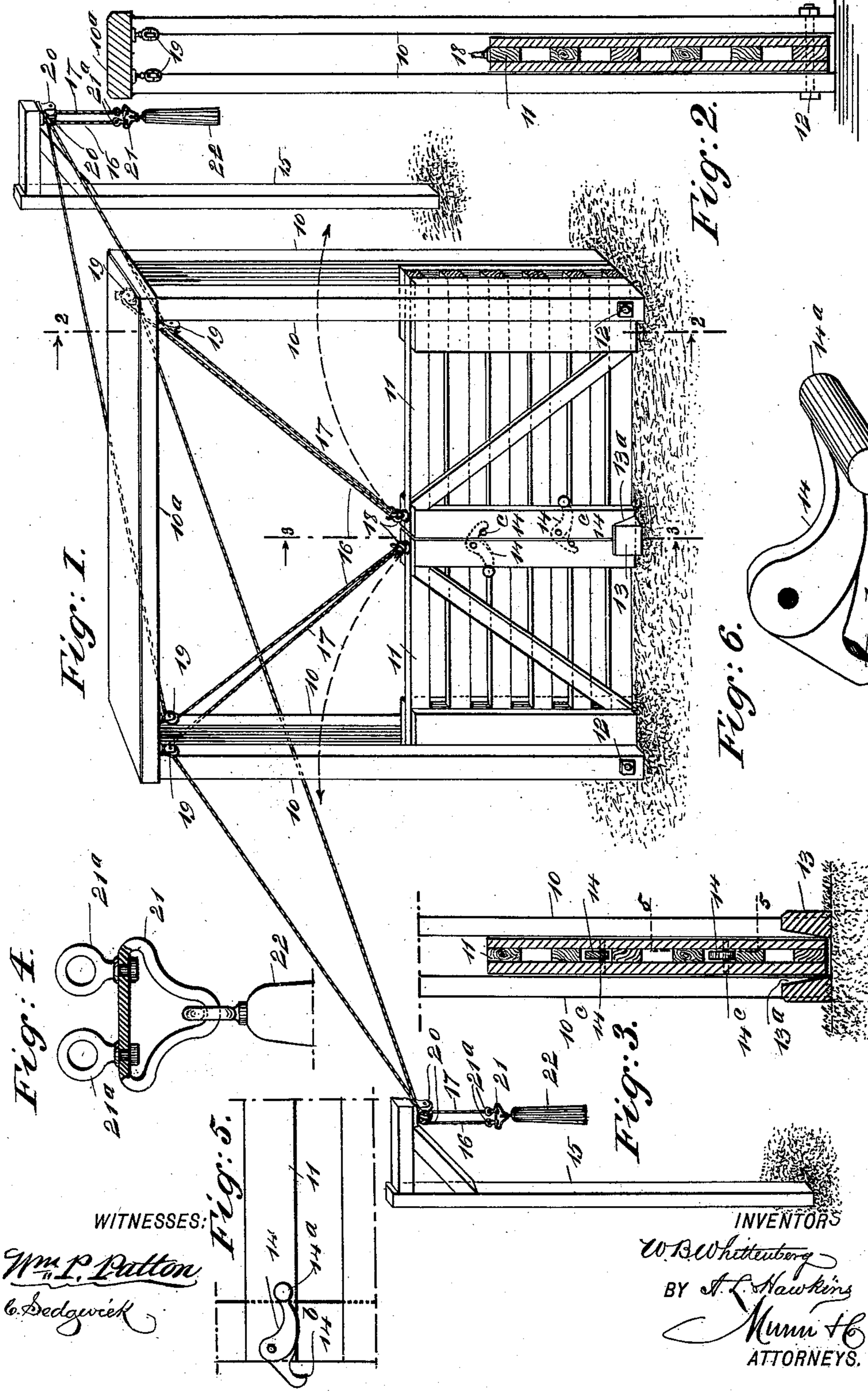

Fig: 1.

Fig: 6.

Fig: 3.

Fig: 4.

Fig: 5.

Fig: 2.

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GATE.

SPECIFICATION forming part of Letters Patent No. 534,129, dated February 12, 1895.

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To all whom it may concern:

Be it known that we, WILLIAM B. WHITTENBERG and AUGUSTUS L. HAWKINS, of Georgetown, in the county of Williamson and State of Texas, have invented certain new and useful Improvements in Gates, of which the following is a full, clear, and exact description.

This invention relates to improvements in gates used to guard thoroughfares on farms, passages into fields and for like purposes, and belongs to a class wherein two similar gates are together employed, and are pivoted to rock on a frame, so as to open a passage through said frame, or close the gate opening as occasion may require.

The objects of the invention are to provide a novel and superior device of the character indicated, which is adapted for convenient manipulation at points removed from the gates to open and close the same, and furthermore to provide the gates with peculiar and specially constructed latches, that are adapted to support the gates laterally at their meeting edges.

A further object is to furnish the flexible connections used to operate the twin gates, with specially designed swivel connections and counterbalance weights suspended therefrom, whereby the easy and free simultaneous movement of the gates is assured.

To these ends, the invention consists in the construction and combinations of parts, as is hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views shown.

Figure 1 is a perspective view of the improvement arranged for service. Fig. 2 is an enlarged transverse sectional view of the gate and its supporting frame, pulleys being shown on the latter, the section being taken on line 2—2 in Fig. 1. Fig. 3 is an enlarged partly sectional view of the gate, the frame in part, a supporting block for the gate, and gravity latch hooks on the latter, the section being taken on the line 3—3 in Fig. 1. Fig. 4 is an enlarged, detached, partly sectional side view of a novel swivel device and an attached weight shown in part, which details are features of the improvements. Fig. 5 is an enlarged side view of a gate portion, and one of the gravity latches, the direction of the view being indicated by the angular line 5—5 in Fig. 3; and Fig. 6 is an enlarged detached perspective view of one of the pair of novel gravity latches provided for the improved gate.

At a proper point for the location of the improvement upon a roadway that is to be guarded by the twin gate sections, a rectangular frame is transversely erected.

The frame mentioned is designed to afford support for a pair of rectangular gate sections and consists of four similar stanchions 10 that are spaced apart in pairs, so as to permit the free insertion of one gate section between each pair of stanchions, the latter being all maintained upright and in parallel vertical planes, by the cap piece 10^a that is secured by its ends to the tops of the stanchions 10, as indicated in Fig. 1.

The gate sections 11 are rectangular and may be of any suitable style, those shown to illustrate the invention having horizontal spaced rails, held firmly in the usual manner by flat upright end pieces, and diagonal braces that are secured to the opposite sides of the gate rails, as shown in Figs. 1, 2 and 3.

The gate supporting frame is made of a sufficient height to allow wagons and their loads to pass freely through it, and the joint width of the gate sections is so proportioned, that when they are in place and closed so as to bar the passage through the frame, their outer edge portions will be about flush with the outer edges of the frame stanchions 10.

The gate sections 11 are pivoted to the stanchions 10 by the pintle bolts 12 that are inserted through transverse perforations made in the gate sections and stanchions, at the lower outer corners of the two part gate, which when in position between the stanchions and pivoted thereto as stated, will be supported upright with the upright adjacent edges impinged, as indicated in Fig. 1.

At the joined edges of the gate sections 11 a base support 13 for the gates is provided, which is in block form, having a substantially V-shaped groove formed in its upper portion, which groove 13^a is adapted to receive the lower edges of the gates at their lower corners

which are nearest to each other, and by the convergence of the inclined walls of the groove in the block, serve to direct the gates toward a center line and hold their sides in parallel vertical planes, the inner faces of the stanchions co-acting with the grooved block to effect such a result.

Preferably for permanence the base block 13, is embedded in the ground sufficiently to render it stable, the portion that is grooved projecting above the road bed so as to receive the gates as has been explained.

It will be evident that the twin gates must be rocked together upwardly and oppositely when closed, to open a passageway through the frame that supports them.

In order to stiffen the gates at their meeting edges above the base block 13, a pair of peculiarly shaped gravity latches 14 is preferably employed, these each consisting of a metal block curved edgewise as indicated in Figs. 1, 5 and 6, there being a cross bar 14^a formed at one end of the block and an outwardly and downwardly projected catch lip 14^b produced at the opposite end of the same, a pivot hole that is transversely formed in the main part of the latch piece above and near the lip 14^b affording means to pivotally attach a latch piece to each of the gates. The gravity latches are each introduced between the upright bars of the gate half-section that rests in the block 13 when closed, and are thereto pivoted by cross bolts that are firmly inserted in the bars mentioned and loosely pass through the perforations of the latch piece, this disposition of the latches 14 projecting each catch lip 14^b in advance of the upright edge of the gate section it is supported on, so as to freely hook over a transverse keeper bolt 14^c, that is secured at a proper point in the other gate section near its upright edge.

The cross bars 14^a are of sufficient weight to retain them against the edges of the upright gate bars when the catch lips 14^b are downwardly vibrated and then released, the gravity of the longer portions of the latch pieces and their cross bars, serving to normally project the catch lips 14^b, as shown in Figs. 1 and 5.

As the latches 14 are located at proper points between the upper and lower edges of the gate sections 11, and are spaced apart with their lips interlocking with the keeper bolts 14^c when the complete gate is closed, it will be seen that the lateral loose engagement of the gravity latches with the gate bars, will stiffen the gate sections and prevent them from deviating from the vertical plane they occupy when in closed adjustment, an upward and opposite rocking movement of the gate sections being permitted by the latches if both sections are moved together.

To facilitate the opening and closure of the gate completely, an arrangement of suitably supported flexible strands, such as wire or other ropes is provided, these being extended from the gate sections to two posts 15, the latter being placed along the same side of the road that is guarded by the gate, and at a proper distance from the gate at each side of the same as represented in Fig. 1, said posts each having a lateral arm projected from its upper end, in parallel with the gate cap piece and with each other, to receive and sustain the ropes as will be further explained.

It is desirable to so dispose the gate operating ropes, that they may be readily reached from the ground at either post 15, or by a person in a vehicle that is moved toward the gate in either direction of approach, and by easy manipulation effect the opening or closure of the gate by a simultaneous rocking movement of its twin sections. To this end, two cords or ropes are provided for each gate section, which are indicated by the reference numerals 16, 17. The ropes have one end of each pair attached to a ring eye 18 or like device that is affixed to the top edge of the gate section said ropes are to control, the ring eyes or staples being located near the inner top corners of the gate sections as indicated in Fig. 1. From their points of attachment to the gate section, the cords 16, 17, are respectively extended to engage the sheave blocks 19, that are loosely secured in pairs on the upper part of the supporting frame, either to the cap piece 10^a or the stanchions 10, as may best suit the location of the gate.

One rope 16 for each gate section is projected from the sheave it is supported by, toward one of the posts 15, and is passed over the periphery of one of a pair of bracket supported loose pulleys 20 and thence depends to be attached to a double swivel block 21, that will be further described. The other ropes 17, that are also respectively attached to one of the ring eyes or staples 18, are made to trend toward the other sheave blocks 19 of the pairs that hang from the frame cap piece 10^a, and after engaging the sheaves of said blocks are extended to have a like engagement with the remaining loose pulleys 20 of the two pairs that are pendent from the arms of the posts 16, the pendent end portions of these ropes 17, being secured to the swivel block 21.

As clearly shown in Fig. 4, the swivel blocks are each constructed as follows: A ring frame is furnished which is triangular in shape, and is preferably flattened on the portion which is uppermost in use. The flat top of each ring frame is perforated at points properly separated from each other, and in these perforations, ring eye bolts 21^a are loosely secured, so that the ring eyes in each frame may be independently rotated, thereby affording a double ring swivel block.

The two pendent portions of each pair of ropes 16, 17, are affixed to the swivel eye bolts 21^a so that any improper twist in said ropes will be prevented by the automatic rotation of the eye bolts.

In the lower corner of each of the frames

for the swivel blocks 21, the upper end of a heavy weight 22 is loosely secured by a ring on the latter or by other means, and these weights of about an equal heft, are so proportioned that they will nearly counterbalance the gate sections 11.

It will be seen that the arrangement of the two pairs of ropes 16, 17, as has been explained, serves to extend a pair of said ropes from a gate section, one toward each post 15, or in opposite directions from the sheave blocks on the frame from which said blocks are hung, so that when one of the weights 22 is lowered by a party desiring to open the gate, both gate sections 11 will be simultaneously rocked in the directions indicated by the curved arrows in Fig. 1, and the gate be easily opened, the counterbalancing weights 22 contributing to the ease of movement as they hold the gate sections nearly poised. A reverse movement to close the gate sections is readily produced by a party who has passed toward the other post, or has remained at the one where the weight was depressed to open said gate, the repetition of such a depression by applied draft strain serving to rock the gate sections through the frame and cause them to gently resume the closed condition represented in Fig. 1.

The provision of the two oppositely rocking latch pieces, and their lateral engagement with the parallel gate bars between the latter, effectively stiffens the joint between two gate sections as before mentioned, so that the closed gate is rendered substantial and is adapted to withstand the lateral pressure of the wind, or efforts of animals to press open the gate.

From the foregoing description, it will be apparent that the features of improvement embodied in this gate, render it convenient to operate, strong in all its parts, and reliable as a barrier to the unwarranted passage of persons, or animals along the roadway guarded by said structure.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. The combination with the rocking gate sections of the latches pivoted between their ends thereto, having at their outer ends hook like lips and provided at their opposite ends with cross bar weights, substantially as and for the purpose set forth.

2. The combination with the two gate sections, flexible connections extended from each of such sections and guides for said connections, a ring or frame and swivels joining the two connections with said ring or frame, whereby to permit the automatic relief of any twisting of the separate flexible connections, substantially as set forth.

3. The improved gate herein described composed of the frame, the separate pivoted gate sections, the latches pivoted to said sections and arranged one above the other and between the front and rear faces of the said sections, the flexible connections secured at one end to the said sections and arranged in pairs extending to the opposite sides of the gate, the ring frames and the swivels joining the said pairs of connections to their respective ring frames, all substantially as and for the purpose set forth.

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