

(No Model.)

2 Sheets—Sheet 1.

W. E. WIELAND.
GATE.

No. 513,355.

Patented Jan. 23, 1894.

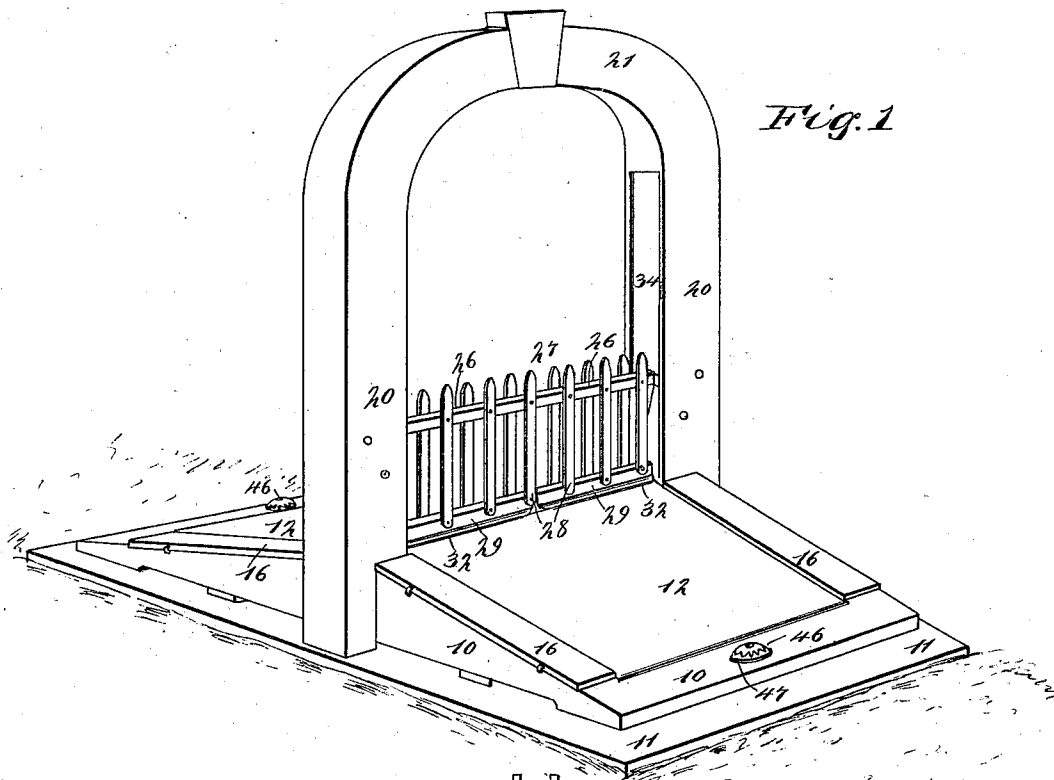


Fig. 1

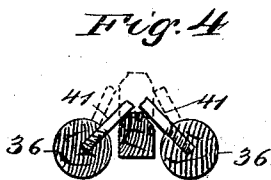


Fig. 4

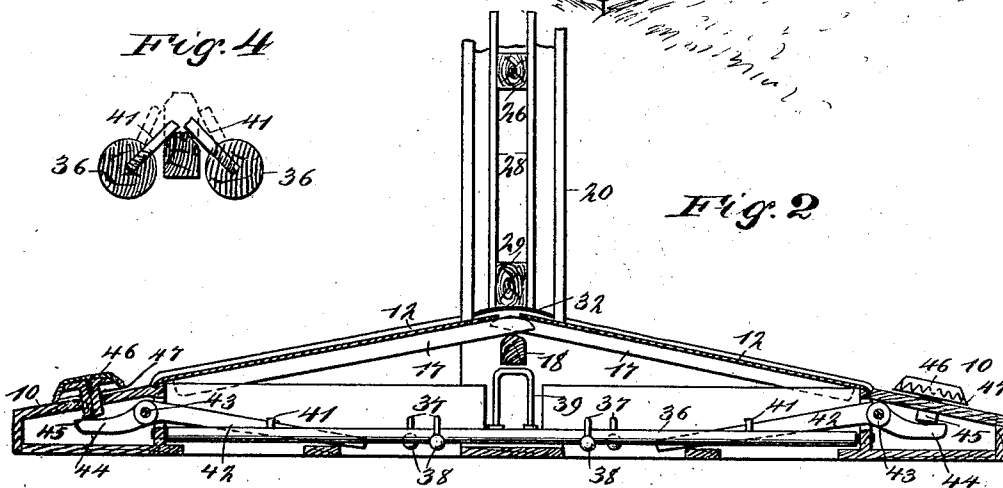


Fig. 2

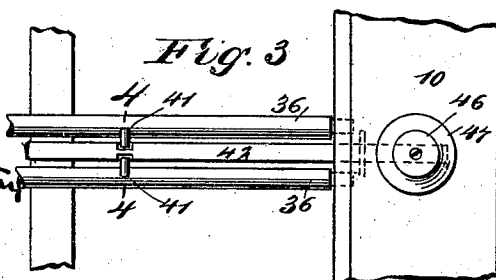


Fig. 3

WITNESSES:

J. a. Bergstrom
C. Bodgwick

INVENTOR

W. E. Wieland
BY Munn & Co
ATTORNEYS.

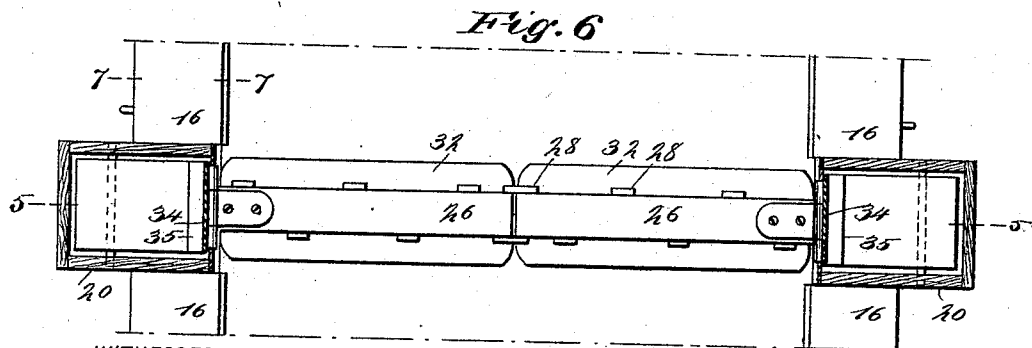
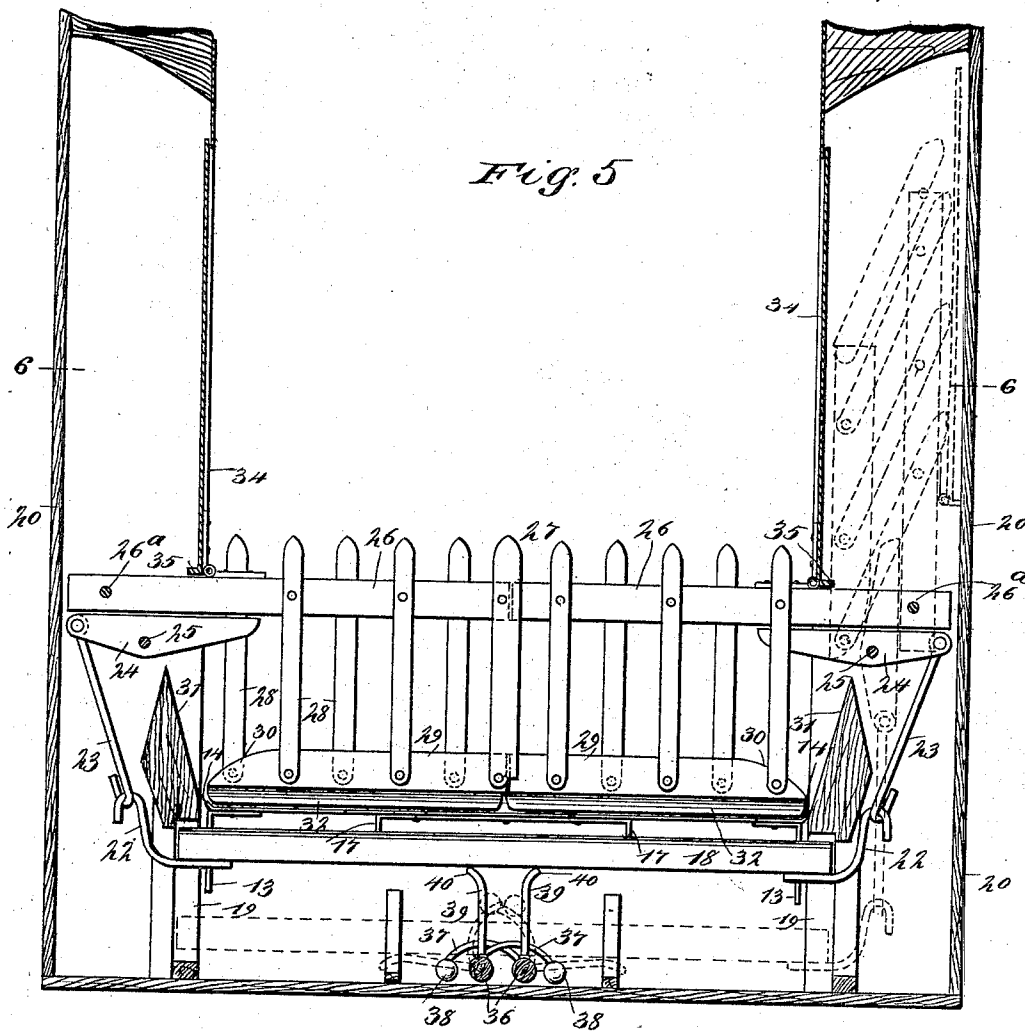
(No Model.)

W. E. WIELAND.
GATE.

2 Sheets—Sheet 2.

No. 513,355.

Patented Jan. 23, 1894.

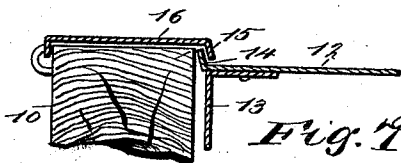


WITNESSES:

J. a. Bergstrom
to Sedgwick

INVENTOR

W. E. Wieland
BY
Kunn & Co.
ATTORNEYS.



UNITED STATES PATENT OFFICE.

WILLIAM E. WIELAND, OF LOS PINOS, COLORADO.

GATE.

SPECIFICATION forming part of Letters Patent No. 513,355, dated January 23, 1894.

Application filed June 28, 1893. Serial No. 479,044. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. WIELAND, of Los Pinos, in the county of La Plata and State of Colorado, have invented a new and Improved Gate, of which the following is a full, clear, and exact description.

My invention relates to improvements in gates; and the object of my invention is to produce a self-closing gate which is also automatically opened by approaching it, which is provided with a lock adapted to prevent it from being opened, except when a certain part of the mechanism is touched; which is constructed without springs and in a very durable manner, which has provision for excluding snow or rain from the operating mechanism, and which has no posts resting in the ground likely therefore to rock and sag.

To these ends my invention consists of certain features of construction and combinations of parts, as will be 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.

Figure 1 is a perspective view of the gate embodying my invention, the gate being shown in a closed position. Fig. 2 is a broken vertical longitudinal section of the same. Fig. 3 is a broken plan view of the mechanism for releasing the gate lock. Fig. 4 is a cross section on the line 4—4 in Fig. 3. Fig. 5 is a broken vertical cross section on the line 5—5 in Fig. 6. Fig. 6 is a sectional plan on the line 6—6 in Fig. 5; and Fig. 7 is an enlarged detail sectional view of one edge of one of the tilting platforms and the lever which overlaps the platform to render it water tight.

The gate and its mechanism are provided with a suitable frame 10, of a generally rectangular shape and tapered from the center toward the ends, and this rests upon a suitable support or foundation 11. Hung in the frame are tilting platforms 12 which are inclined, as shown clearly in Fig. 2, and the outer edges of which fit snugly on the outer portion of the frame on which outer edges they swing, as hereinafter described. Each platform has depending side flanges 13 and upturned side edges 14, see Fig. 7, the latter being overlapped by the flanges 15 of the

swinging plates 16, which are secured to the sides of the frame 10, and this arrangement excludes water from that portion of the mechanism which lies beneath the platforms. The plates are made to swing to facilitate the placing of the mechanism in position or the removing of it when necessary.

The platforms 12 are provided with strengthening ribs 17 which project beyond the inner edges of the platforms and overlap, as shown in Fig. 2, these ribs resting upon a cross bar 18 which supports the inner ends of the platforms in raised position, as shown in Figs. 2 and 5. The ends of the cross bar slide in vertical ways 19 in the inner sides of the posts 20 which project upward from the frame 10 and which are preferably connected at the top by an arch 21, although this may be dispensed with if desired.

To the ends of the cross bar 18 are secured outwardly and upwardly extending hooks 22 which project into the post 20, these being hollow, and the hooks connect with other depending hooks 23 on the outer ends of the levers 24 which are fulcrumed in the posts, as shown at 25 in Fig. 5, and which when the gates are closed lie in a horizontal position. The levers 24 rest against the under side of the upper rails 26 of the gate 27, which is in two parts, separable in the center, as shown in Fig. 5, and to the upper rail are pivoted the slats or pickets 28 of the gate, these having their lower ends pivoted to the lower rails of the gate, and the latter are inclined on their upper edges and outer ends, as shown at 30, which inclined portions are adapted to engage the inclines 31 in the posts 20, and this arrangement facilitates the self-closing of the gate, as the inclines 30 slide easily down the inclines 31 and the two gate sections will, of their own weight, swing out into a closed and horizontal position, as shown in Figs. 1 and 5. The gates are hinged at their outer ends, the upper rails being pivoted in the posts, as shown at 26^a in Fig. 5.

To the under side of the rails 29 of the gate are secured curved weather strips 32, the curvature being in cross section as shown in Fig. 2; and these strips overlap the inner edges of the platforms 12, so as to prevent water from running between the platforms.

On the top of the rails 26 and near the in-

ner sides of the posts 20 are plates 34 which are hinged to the rails and which have on their back sides flanges 35, adapted to rest upon the rails so as to hold the plates in a vertical position. These plates are arranged to close the open inner edges of the posts when the gates are closed, so as to give a finish to the posts and exclude snow and water from them. When the gates are raised, the plates 34 are carried back against the outer walls of the posts and the hinge connection between the plates and the rails 26 permits the plates to lie against the post backs with the rails parallel with them. When either of the platforms 12 is depressed, the cross bar 18 is forced downward, thus carrying down the outer ends of the levers 24 and swinging the levers into a vertical position and the levers, when thus actuated, lift the gate sections and swing them into the posts 20, as shown by dotted lines at the right-hand in Fig. 5, the pivotal connection between the two rails of the gate sections permitting the rails to swing into a parallel position within the posts.

Under many circumstances, it is not necessary to provide means for locking the gate in a closed position, but it frequently is so desirable that the mechanism described below is employed for the purpose.

Extending beneath the platforms, at right angles to the cross bar 18, are parallel shafts 36, which are journaled in suitable supports and are provided with curved arms 37 having weights 38 at their outer ends, the arms of one shaft extending preferably across the opposite shaft, and the weight of these arms is such as to normally turn the shafts so as to raise the braces 39 on the shafts into a vertical position. These braces 39 are arranged beneath the cross bar 18 and they are preferably curved outward slightly, at their upper ends, as shown in Fig. 5. It will be seen that when these braces are in a vertical position, the cross bar 18 will rest upon their outer ends and the cross bar cannot be depressed. The shafts 36 are also provided, near their opposite ends, with inwardly-extending arms or lugs 41, which engage tilting levers 42 arranged beneath the lower and outer edges of the platforms 12, the levers being fulcrumed in the frame 10, as shown at 43, and extending normally beneath the lugs 41. The outer ends 44 of the levers 42 extend beneath shanks 45 of the tripping plates 46, which are arranged at opposite ends of the frame 10 and preferably opposite the central portion of the platforms; that is, of the roadway through the gate, and the plates are preferably provided with flexible packing strips 47 which lie upon the frame 10 and prevent water from running through the holes in which the shanks 45 play. When pressure is applied to either of the tripping plates 46, it depresses the plate and the shank 45 tilts the lever 42 and causes the inner end of said lever to swing upward against the lugs 41 of the shafts 36, and this

causes the braces 39 to swing apart slightly and, as soon as pressure is applied to either platform 12, the weight on the platform pushes down the cross bar 18, and the braces as they diverge slightly, do not seriously interfere with the downward movement but swing themselves into a horizontal position, as shown by dotted lines in Fig. 5.

The pressure on the plate 46 and platform 12, may be made with the foot, when the person opening the gate is on foot, or if a team is to be driven through the gate, the horse may be made to step upon the tripping plate or one of the wagon wheels may be brought into contact therewith. The next step of the horse after stepping on the plate 46 is upon the platform 12, so that the latter is depressed before the shafts 36 have time to swing the braces 39 back into a vertical position.

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

1. In a gate, the combination with the vertically swinging and folding gate section pivoted at its upper outer end to a post, of a depressible platform forming an approach to the gate, a vertically movable cross bar arranged beneath the free end of the platform, and a lever mechanism connected with the cross bar and the post and engaging with the gate section on the inner side of the pivot, whereby the depression of the platform raises the gate section, substantially as described.

2. The combination with the vertically swinging and folding gate sections, each provided with an upper rail the outer end of which is pivoted to a post, of the tilting platforms, forming the approach to the gate, a depressible cross bar arranged beneath the free ends of the platforms, and moved by the depression thereof, pivoted levers each of which is provided at one end with means for connecting it to the cross bar, the other ends engaging the upper rail on the inner side of the pivot, said levers being arranged to raise the gate when the platform is depressed, substantially as set forth.

3. The combination, of the hollow posts, the vertically swinging and folding gate sections pivoted in the posts and adapted to swing into them, the depressible platforms forming the approach to the gate, the cross bar extending beneath the free edges of the platforms, levers fulcrumed in the posts and arranged to raise the gates, and operative connections between the levers and the cross bar, substantially as described.

4. The combination of the hollow post, the vertically swinging gate section pivoted therein, and the finish plate hinged to the upper rail of the gate section and adapted to close the opening in the post, substantially as described.

5. The combination, with the hollow post and the inclined faced block therein, of the vertically swinging and folding gate section pivoted in the post, the gate section having

rails adapted to fold together, the lower rail having an inclined end to abut on the inclined face of the block, substantially as described.

5 6. The combination with the depressible platform, and the mechanism operated thereby, of the supporting frame, the upwardly projecting flanges on the platform, and the plates having flanges projecting downward to overlap the top flanges of the platform, said plates being hinged to the frame to facilitate the placing of said mechanism in position or its removal, substantially as described.

7. The combination with the vertically swinging gate sections, the tilting platforms meeting between the gate sections and adapted to operate the same and the weather strips curved to conform to the meeting edges of the platform, and secured to the bottom of the gate sections, said weather strips being adapted to overlap the meeting edges of the platforms, substantially as described.

8. The combination with the depressible platforms, and the movable cross bar, arranged below the meeting ends of the said platforms and adapted to support them, of braces arranged on shafts journaled at right angles to the cross bar, the free ends of said braces being adapted to swing upward to support the cross bar in a raised position, depress-

sible tripping plates mounted near the platforms, and mechanism for moving the braces by the depression of the tripping plates, substantially as described.

9. The combination, with the depressible platforms and the vertically movable cross bar which supports them, of the weighted shafts journaled at right angles to the cross bar, braces on the shafts adapted to swing beneath and support the cross bar, depressible tripping plates near the platforms, and levers operated by the plates and arranged to turn the shafts against the tension of their weights, substantially as described.

10. The combination, with the depressible platforms and the vertically movable cross bar which supports them, of the weighted shafts journaled beneath the cross bar and provided with upwardly-extending braces to support the cross bar, lugs on the shafts, tilting levers arranged in engagement with the lugs to turn the shafts against the weights, and tripping plates mounted near the platforms and adapted, when depressed, to tilt the levers, substantially as described.

WILLIAM E. WIELAND.

Witnesses:

J. P. AIRY,
C. C. EDDY.