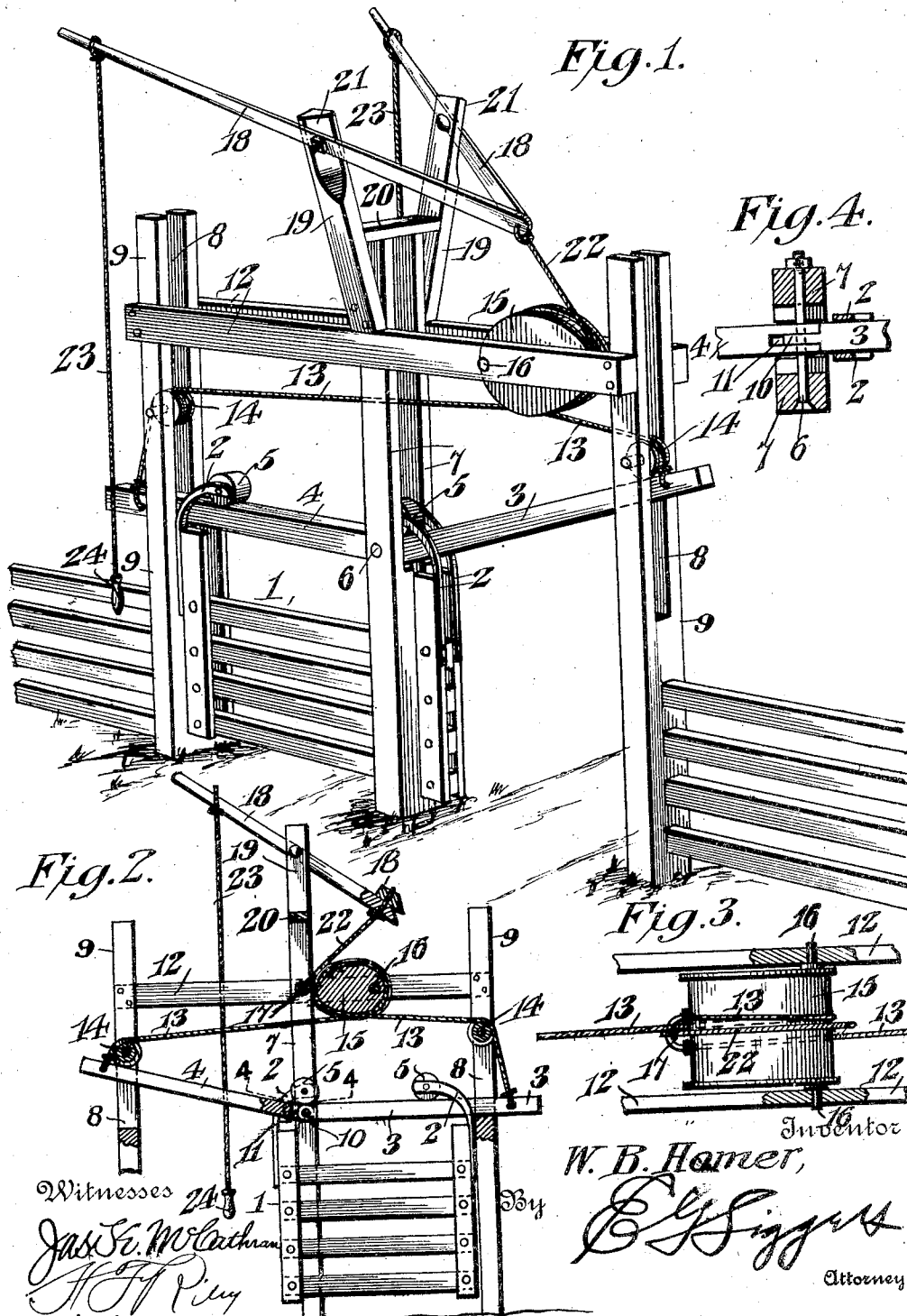


Patented Oct. 26, 1909.

937,997.



UNITED STATES PATENT OFFICE.

WILLIAM B. HOMER, OF SPRINGFIELD, SOUTH DAKOTA.

GATE.

937,997.

Specification of Letters Patent.

Patented Oct. 26, 1909.

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To all whom it may concern:

Be it known that I, WILLIAM B. HOMER, a citizen of the United States, residing at Springfield, in the county of Bonhomme and State of South Dakota, have invented a new and useful Gate, of which the following is a specification.

The invention relates to improvements in gates.

The object of the present invention is to improve the construction of gates, and to provide a simple, inexpensive and efficient gate, adapted to be readily operated at either side by a person on horse back or within a vehicle without dismounting.

With these and other objects in view, the invention consists in the construction and novel combination of parts hereinafter fully described, illustrated in the accompanying drawing, and pointed out in the claims here-to appended; it being understood that various changes in the form, proportion, size and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawing:—Figure 1 is a perspective view of a gate, constructed in accordance with this invention and shown open. Fig. 2 is a front view, partly in section, showing the gate in its closed position. Fig. 3 is a detail sectional view, illustrating the manner of mounting the eccentrically pivoted roll. Fig. 4 is a detail sectional view, illustrating the manner of pivoting the inner ends of the tiltable track bars.

Like numerals of reference designate corresponding parts in all the figures of the drawing.

1 designates a gate suspended at its ends by hangers 2 from oppositely extending pivoted track bars 3 and 4, adapted to be operated by the means hereinafter described to arrange either of the bars at an inclination for causing the gate to slide in either direction to open or close it.

In the embodiment of the invention illustrated in the accompanying drawing, the gate is composed of horizontal rails and vertical end bars, but it may be constructed in any other desired manner, as will be readily understood.

The hangers 2 consist of curved metallic

rods or bars, arranged in pairs and extending upwardly and inwardly from the outer edges of the end bars of the gate, and projecting above and receiving the track bars between them, and equipped with rollers 5 arranged to run on the track bars. The rollers are mounted on pivots, which pierce the bars or members of the hangers at the upper terminals thereof.

The track bars 3 and 4 are pivoted at their adjacent ends by a horizontal pin 6, or other suitable fastening device between intermediate uprights 7, and their outer portions swing in vertical openings 8 of the end uprights 9. The lower end walls of the vertical guide openings limit the downward movement of the track bars and form supports for the same, when they assume a horizontal position. The pivoted ends of the track bars are overlapped, the inner end 10 of the track bar 3 being reduced and fitted in a bifurcation 11 of the track bar 4.

The intermediate and end uprights are connected at their upper portions by horizontal top bars 12 to form a supporting frame-work, and the outer portions of the track bars 3 and 4 are connected with the outer portions of the ropes 13, or other flexible connections, extending upwardly from the track bars to grooved guide pulleys 14, and inwardly therefrom to an eccentrically pivoted substantially oval oscillatory roll 15, which is mounted between the top bars 12 on a horizontal pivot 16. The guide pulleys 14 are mounted in the vertical openings of the end uprights, and the inner portions of the flexible connections 13 extend around the eccentrically pivoted roll in opposite directions, and are attached to the same by an eye 17, or other suitable fastening device, located diametrically opposite the pivot 16 at the outer end of the major axis of the eccentrically pivoted roll 15. When the gate is open or closed, one of the track bars is arranged in a horizontal position, and the other extends upwardly and outwardly from the pivoted end of the horizontal track bar. To operate the gate, the eccentrically pivoted roll is oscillated to swing its major portion to the opposite side of the pivot 16. This movement lowers the inclined track bar to a horizontal position, and raises the horizontal track bar to an inclined position, causing the gate to slide down the raised

track bar and open or close accordingly as the raised track bar is at the front or back of the gate.

The eccentrically pivoted roll is actuated by a pair of angularly related operating levers 18, fulcrumed at an intermediate point on inclined supporting bars 19, extending upwardly from the top bars 12 at opposite sides of the intermediate uprights and connected with the upper ends thereof by a horizontal brace 20. The inclined supporting bars 19 are provided at their upper ends with outer angularly related faces 21, to which the operating levers 18 are pivoted. The inner ends of the operating levers are fitted together and are connected by a short rope 22, or other flexible connection with the oscillatory roll 15 at the outer end of the major axis thereof by means of the said fastening device 17.

When the gate is at rest, the operating levers are inclined downwardly toward the eccentrically pivoted roll, and the upper attaching end of the flexible connection 22 is located substantially in the vertical plane of the horizontal pivot 16 of the roll 15. When the outer arm of either operating lever is swung downward, the eccentrically pivoted roll will be partially rotated, and its momentum will carry it over the vertical center to the opposite side of the pivot 16, which will reverse the pivoted track bars and cause the gate to slide, as heretofore described. In practice the eccentrically pivoted roll will have sufficient weight to cause it to complete its movement after it has passed the dead center, so that the weight of the gate will not interfere with the operation of the roll. The outer arms of the operating levers are equipped with pendent operating ropes 23, having suitable handles or grips 24 at their lower ends. The operating ropes are adapted to be grasped either by a person on the ground, or on horse back, or within a vehicle, and the gate may be opened or closed at either side of it without dismounting.

In practice the operating levers will extend outward a sufficient distance from the gate to admit of the operation thereof without the head of a horse coming in contact with the gate.

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

1. The combination with oppositely extending track bars pivoted at their inner ends, a gate provided with hangers slidably arranged on the track bars, an eccentrically pivoted roll located above the track bars, flexible connections extending from the track bars to the eccentrically pivoted roll and reversely arranged on the latter, whereby when the roll is oscillated one of the track bars will be raised and the other lowered, and

operating mechanism connected with the roll for swinging the same in opposite directions.

2. The combination of oppositely extending track bars pivoted at their inner ends, a gate slidably suspended from the track bars, an oscillatory eccentrically pivoted roll located in a plane above the track bars at a point between the outer ends thereof, guiding means located above the outer portions of the track bars, flexible connections attached to the outer portions of the track bars and extending upward therefrom to the guiding means and inwardly to the eccentrically pivoted roll and reversely arranged on the latter, said flexible connections normally permitting one of the track bars to assume a horizontal position and supporting the other track bar in an upwardly inclined position, and operating mechanism connected with the eccentrically pivoted roll for oscillating the latter to reverse the positions of the track bars.

3. The combination with oppositely extending pivoted track bars, a gate suspended from the track bars, an eccentrically pivoted oscillatory roll located above the track bars, flexible connections reversely arranged on the said roll and extending therefrom to the outer portions of the track bars and connected with the latter, operating levers extending to points above the said roll, and means for connecting the operating levers with the roll, whereby the latter will be reversed when the operating levers are oscillated.

4. The combination with oppositely extending pivoted track bars, of a gate slidably suspended therefrom, guide pulleys located above the outer portions of the track bars, an eccentrically pivoted roll arranged at an intermediate point between the guide pulleys, flexible connections arranged on the roll and extending outwardly therefrom over the guide pulleys and downwardly to the track bars and connected therewith, diverging operating levers pivoted at an intermediate point and extending to points above the pivot of the said roll, and a flexible connection extending from the inner ends of the operating levers to the pivoted roll.

5. The combination of a frame-work including intermediate and end uprights, the end uprights being provided with vertical guide openings, outwardly extending track bars pivoted between the intermediate uprights and operable in the guide openings of the end uprights, guide pulleys mounted in the said vertical openings above the outer portions of the pivoted track bars, an eccentrically pivoted roll located at a point between the end uprights, flexible connections reversely arranged on the roll and extending therefrom over the guide pulleys to the outer portions of the track bars, angularly related

levers fulcrumed at an intermediate point on the frame-work and having inner contiguous ends, and a flexible connection extending from the inner ends of the operating levers
5 to the eccentrically pivoted roll.

6. The combination with outwardly extending track bars pivoted at their inner ends, an eccentrically pivoted substantially oval roll, flexible connections reversely arranged on the roll and extending therefrom
10 to the outer portions of the track bars, and operating means connected with the eccen-

trically pivoted roll at the outer end of the major axis of the same for oscillating the same to swing the roll from one side of the
15 pivot to the other.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses:

WILLIAM B. HOMER.

Witnesses:

CHAS. HILL,
VINTA R. NASH.