

(No Model.)

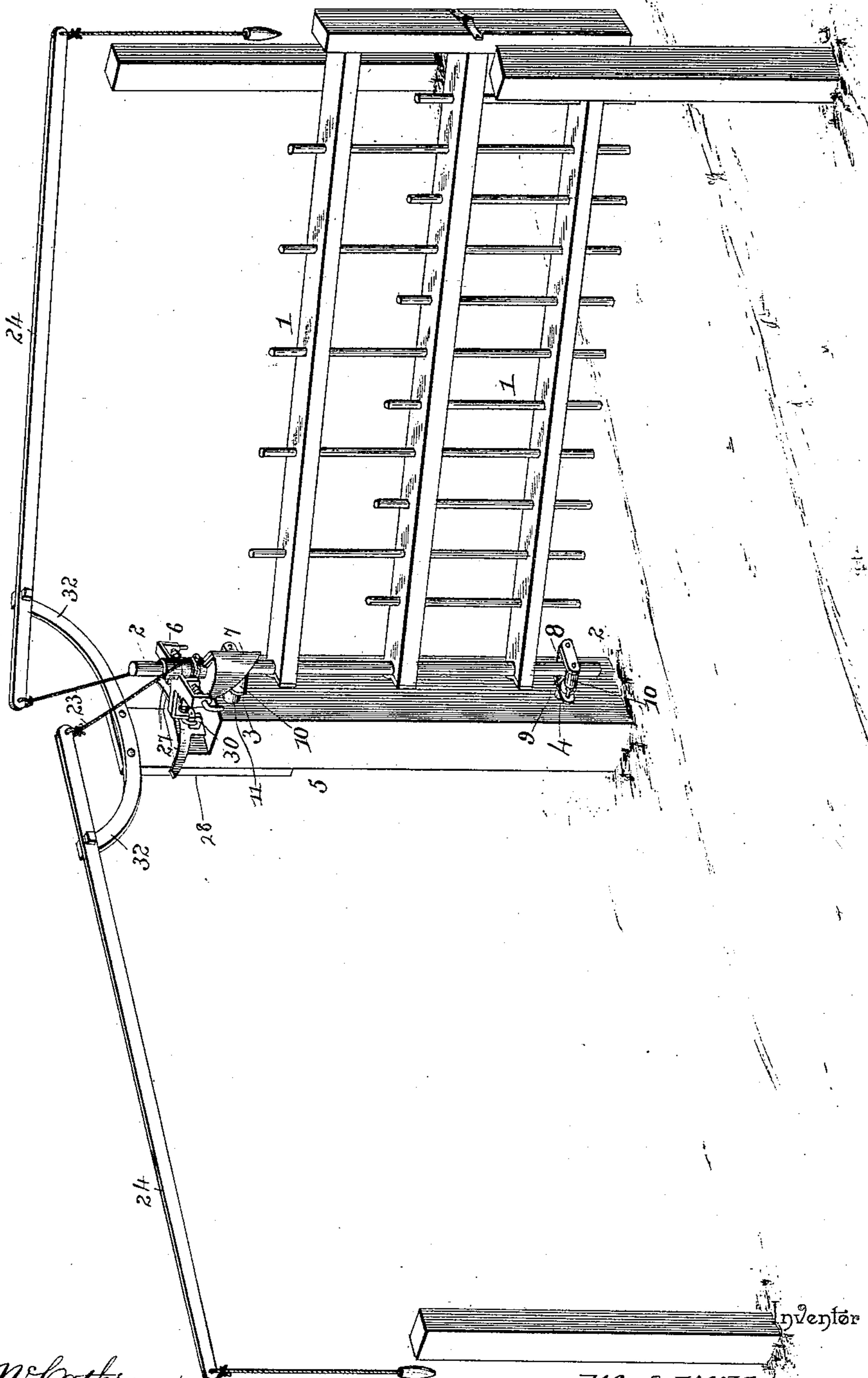
2 Sheets—Sheet 1.

W. A. WILLIAMS.
GATE.

No. 489,621.

Patented Jan. 10, 1893.

FIG. 1.



Witnesses

Jas. H. McLaughlin
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By his Attorneys,

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(No Model.)

2 Sheets—Sheet 2.

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GATE.

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FIG. 4-

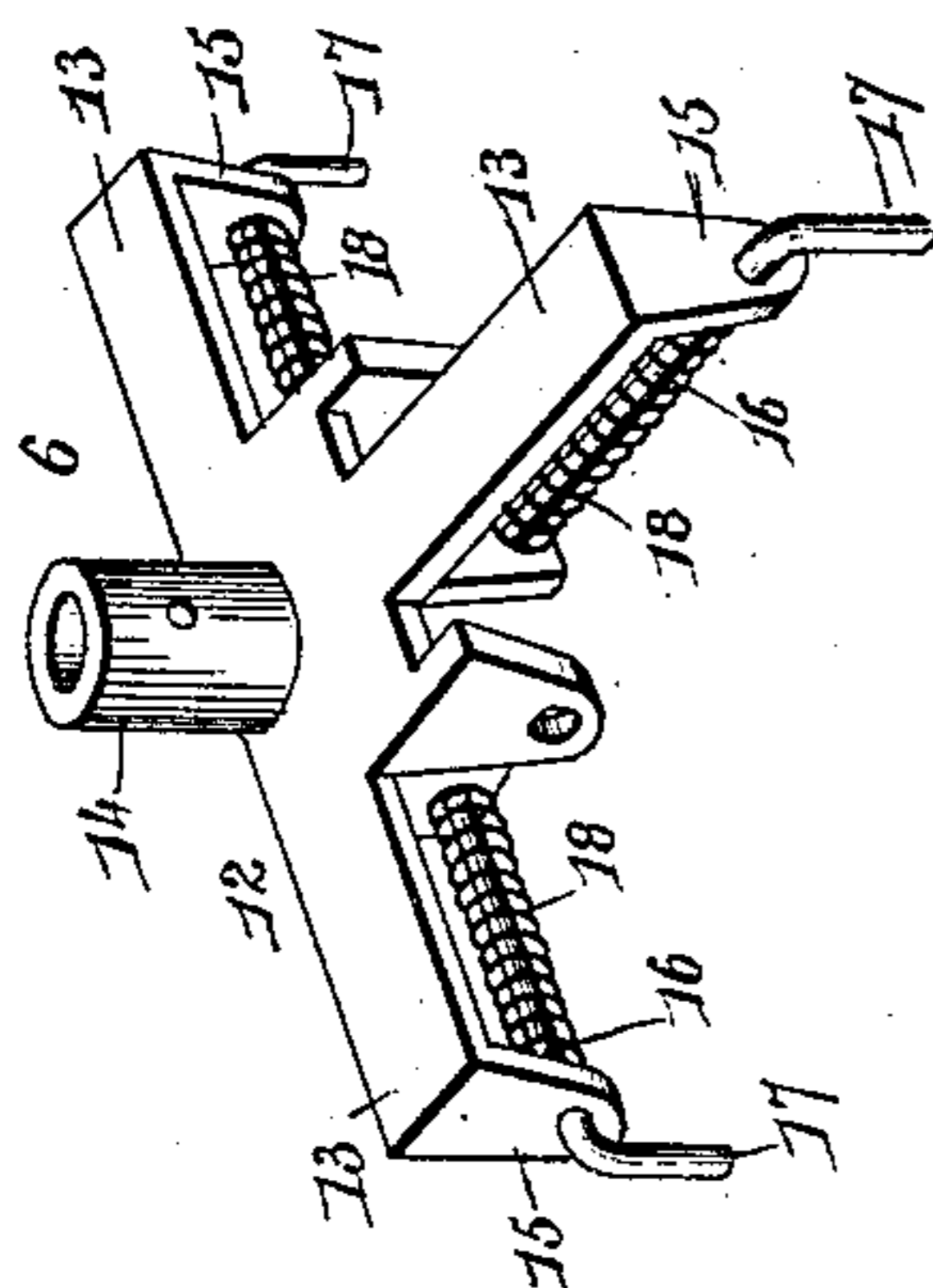


FIG. 3-

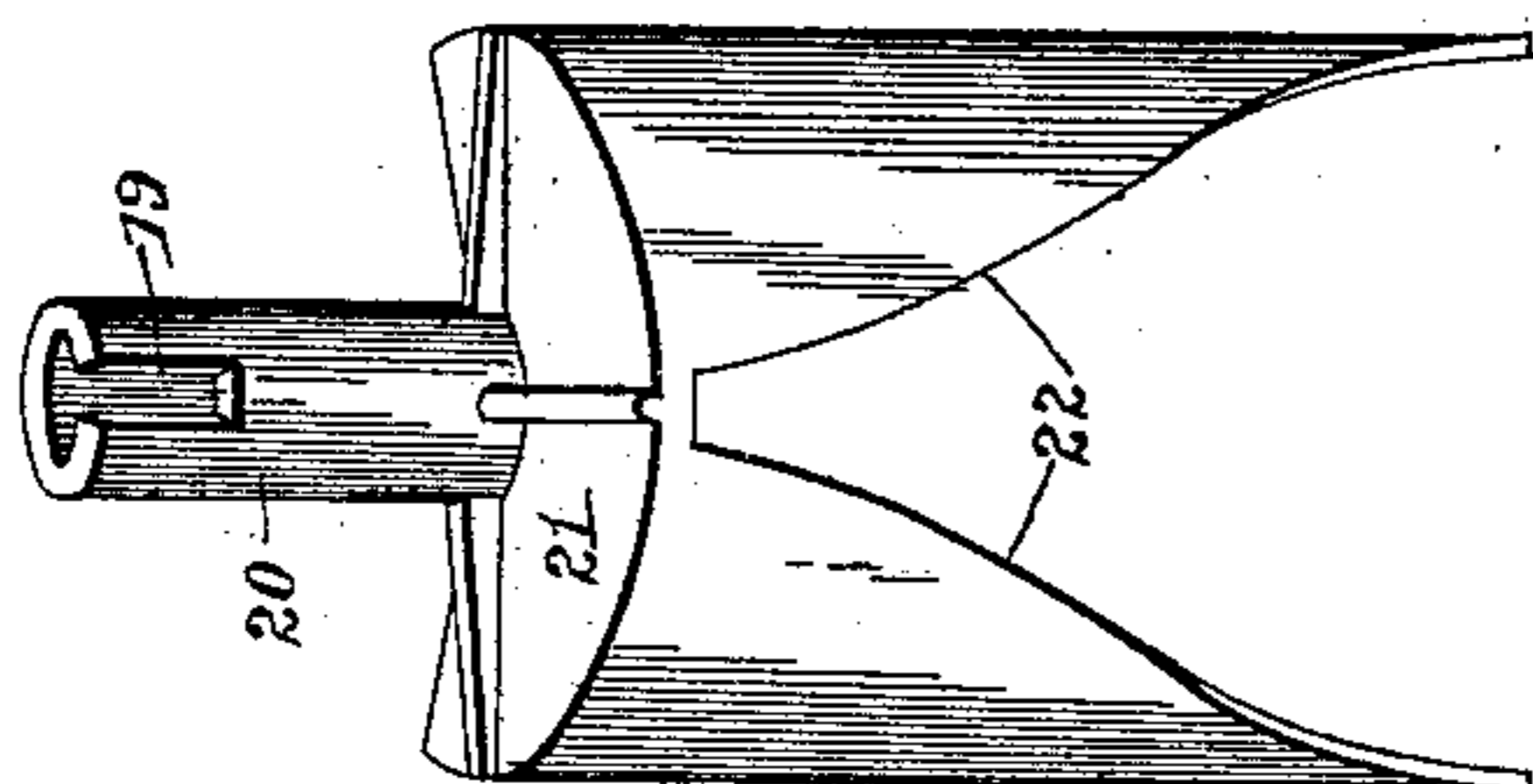


FIG. 5-

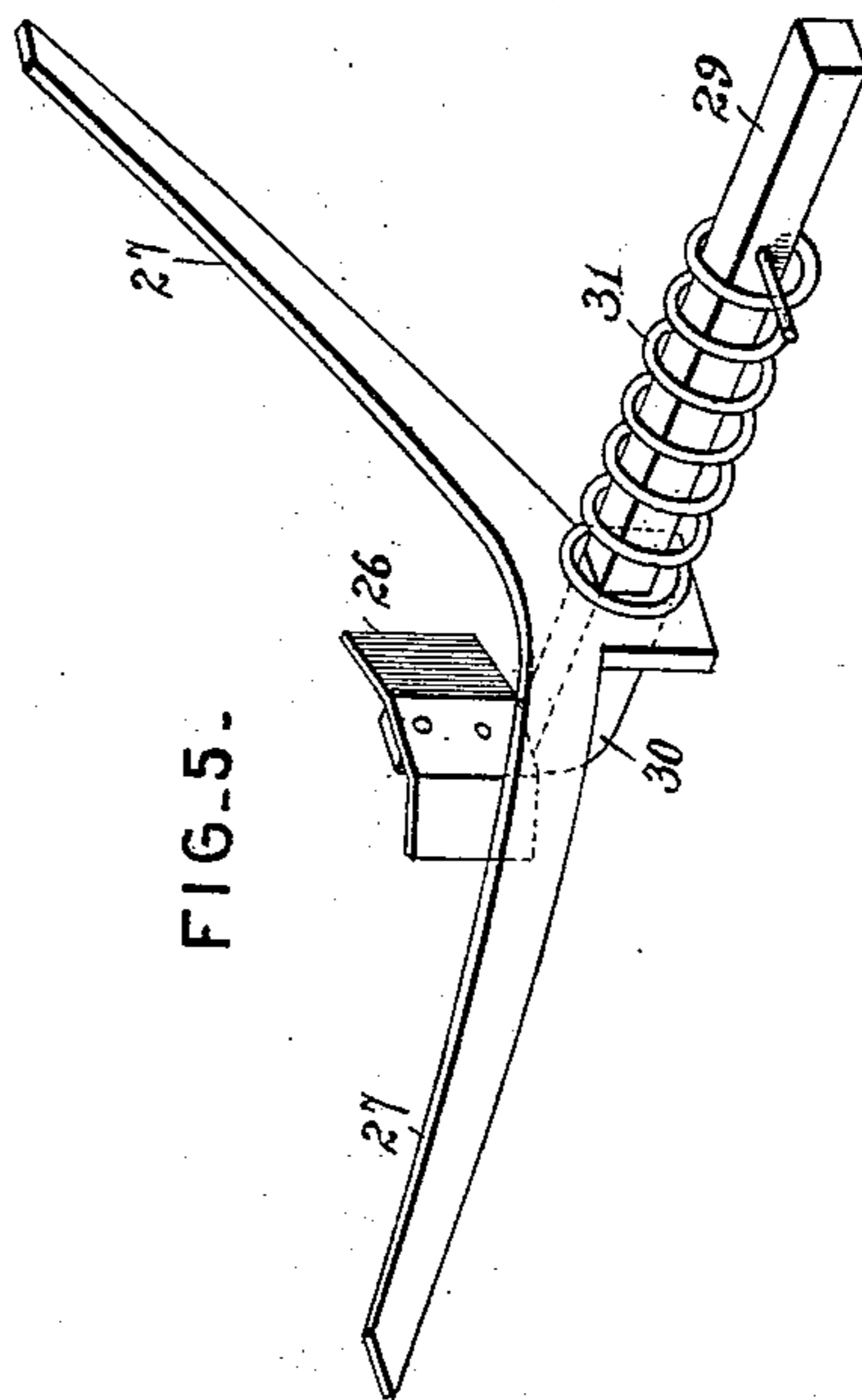
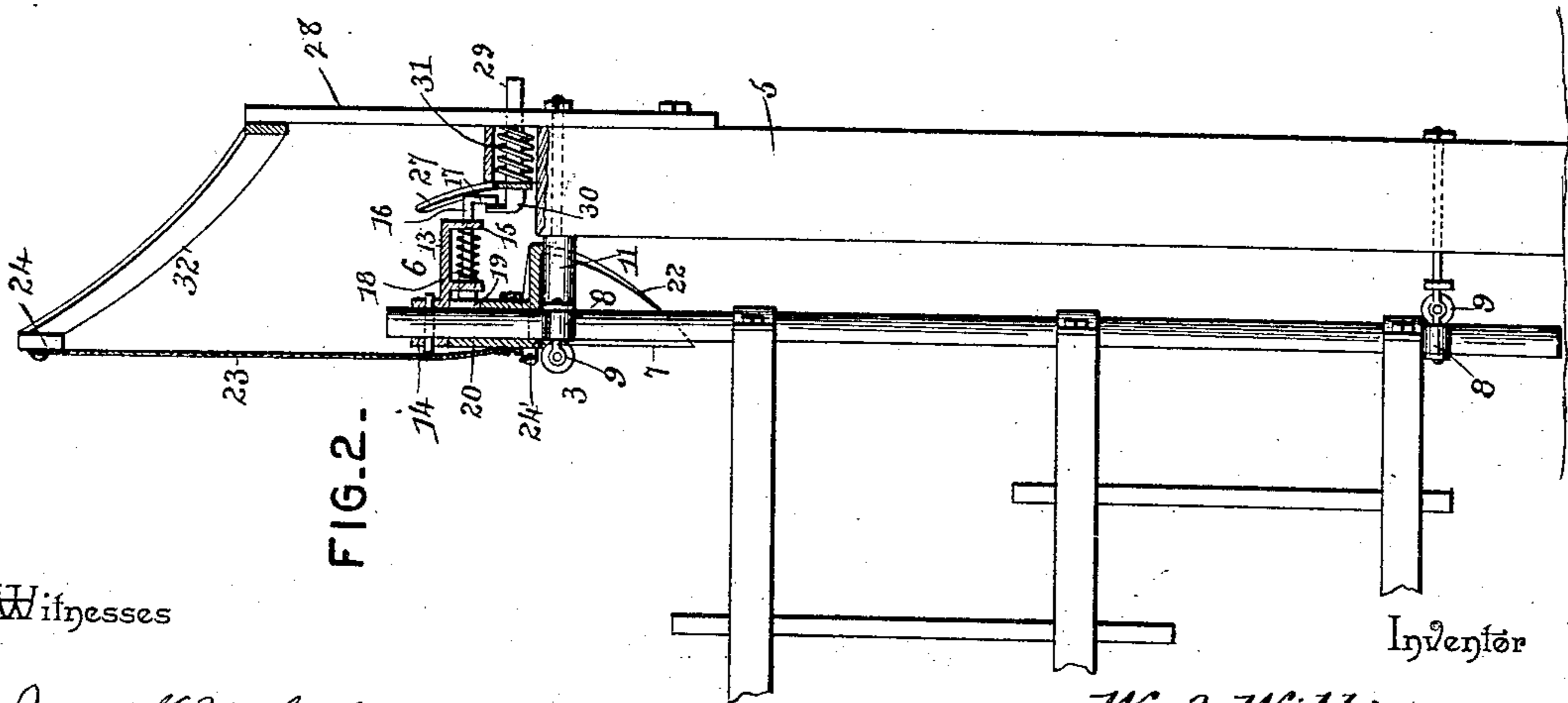


FIG. 2-



Witnesses

Jas. H. McArthur
N. F. Riley

By his Attorneys,

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UNITED STATES PATENT OFFICE.

WILLIAM A. WILLIAMS, OF NEW HARMONY, INDIANA, ASSIGNOR OF ONE-HALF TO JOHN T. WILLIAMS, OF SAME PLACE.

GATE.

SPECIFICATION forming part of Letters Patent No. 489,621, dated January 10, 1893.

Application filed September 17, 1892. Serial No. 446,171. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. WILLIAMS, a citizen of the United States, residing at New Harmony, in the county of Posey and State of Indiana, 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 swinging gates, and to provide one which may be readily operated, and which will always swing away from the person opening the gate.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended.

In the drawings—Figure 1 is a perspective view of a gate constructed in accordance with this invention. Fig. 2 is a vertical sectional view. Fig. 3 is a detail perspective view of the actuating cam. Fig. 4 is a similar view of the catches. Fig. 5 is a detail perspective view of the catch releasing device.

Like numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a gate provided with a continuous pintle rod 2 which is hinged in eyes 3 and 4 of a hinge post 5, and which is extended above and below the gate and has mounted on its upper portion a latch 6 and actuating cams 7. The eyes 3 and 4 consist of stems extending from the post 5 frames at the outer ends of the stems and side and end rollers 8, 9 and 10 which enable the gate to be lifted in opening and closing without friction. The end roller 9 of the lower eye is arranged at the inner end thereof, while that of the upper eye is arranged at the outer end; and the stem of the upper eye 3 carries a roller 11. The latch is fixed to the pintle rod near the upper end thereof and consists of a T-shaped casing 12 having arms 13 of equal length arranged at right angles to one another; and the said casing is provided with an upwardly extending sleeve 14 which is secured to the pintle rod. The arms 13 are provided at their ends with depending lugs 15 in which are

mounted bolts 16 which have their outer ends 17 bent downward, and have spiral springs 18 disposed on them and arranged between the lugs and adapted to force the bolts inward to engage a notch 19 of a sleeve 20. The sleeve 20 is formed integral with a segment disk 21; and the actuating cams 7 are curved in a horizontal section and are formed integral with and depend from the curved edges of the segment 21. The cams 7 have their adjacent edges 22 inclined, and are adapted to engage the roller 11 which is disposed on the stem of the upper eye.

The casting which has the actuating cam is loosely mounted on the pintle rod beneath the latch, and the recess 19 of the sleeve is engaged by one of the bolts or catches of the latch, whereby the cam casting is held rigid with the latch, and the pintle rod of the gate. It is connected by a rope 23 with the inner end of operating levers 24; and in depressing the outer end of an operating lever, the cams are lifted and turned, the gate is lifted, and while elevated the lower inclined edge 22 of one of the cams 7 is arranged directly above the roller 11 of the stem of the upper eye whereby the gate in falling from its elevated position is caused to swing on its hinges by means of the cam riding on the roller 11. The rope is secured intermediate of its ends to a lug of the cam casting, and is oppositely wound around the sleeve so as to produce a turning of the cam casting when the gate is lifted.

When the gate is completing its swing and is nearly opened or closed, the depending end 17 of the catch or bolt which has been in engagement with the recess 19 of the sleeve of the cam casting, is guided by diverging arms 27 into engagement with a curved plate 29 of a latch retracting device consisting of a spring actuated bar 29 having an upturned end 30, to which is secured the said curved plate, and the spring 31 of the latch retracting device is stronger than the spring of the latch or bolt, whereby as the cam casting ceases to move the latch or bolt will be retracted, to allow the cam casting to turn on the pintle rod. The divergent guide arms are formed integral with a securing plate 28 which is fastened to the upright or post 5 and the latter is provided at

its upper end with diverging arms 32 on which the operating levers are fulcrumed.

What I claim is—

1. The combination of a post, a gate hinged thereto, a roller arranged near the upper end of the post, a cam casting loosely mounted on the upper end of the gate and arranged to engage the roller, a latch fixed to the gate and adapted to engage the cam casting to secure the same rigidly with the gate, operating levers, and a rope oppositely wound around the cam casting and connected to the operating levers, substantially as described.

2. The combination of a post, eyes arranged on the post and provided with rollers, the upper eye having a roller 11 on its stem, a gate provided with a pintle rod arranged in said eyes, a latch fixed to the upper end of the pintle rod, a cam casting loosely mounted on the pintle rod and arranged to ride on the roller 11 and to be engaged by the latch, operating levers, and a rope oppositely wound on the cam casting and connected with the operating levers, substantially as described.

3. The combination of a post provided with eyes, a roller arranged on the upper eye, a gate having a pintle rod arranged in said eyes, a latch fixed on the pintle rod, a cam casting comprising a segment, a sleeve loosely mounted on the pintle rod and adapted to be engaged by the latch and depending cams arranged to engage the roller 11, and operating levers connected with the castings, substantially as described.

4. The combination of a post provided with eyes, a roller arranged at the upper eye, a gate having a pintle rod arranged in said eyes, a latch fixed on the pintle rod and having spring actuated bolts, a cam casting provided with a sleeve loosely mounted on the pintle rod and provided with a recess adapted to be engaged by the spring actuated bolts, said casting having oppositely disposed cams arranged to engage said roller, and operating

rollers connected with the casting, substantially as described.

5. The combination of a post provided with eyes, a roller arranged at the upper eye, a swinging gate, a latch fixed to the pintle of the gate and comprising a T-shaped casting and the spring actuated bolts mounted on the arms of the casting and arranged at right angles to one another, the cam casting arranged to engage said roller and provided with a sleeve loosely mounted on the pintle and having a recess to be engaged by the bolts, and operating levers connected with the castings, substantially as described.

6. The combination of a post, a swinging gate hinged thereto and having a pintle rod, a roller arranged on the post near the upper end of the gate, a latch fixed to the pintle rod and provided with the spring actuated bolt arranged at right angles to one another, the cam casting having the sleeve loosely mounted on the pintle rod and provided with a recess adapted to be engaged by the bolt, and a releasing device having a spring actuated rod arranged to engage the catches or bolts of the latch to withdraw the same from engagement with the sleeve, substantially as described.

7. In a gate, the combination of the cam casting provided with a sleeve, a latch having spring actuated bolts adapted to engage the sleeve and having downwardly bent ends, and the releasing device comprising the divergent guide arms, the spring actuated bar having an upturned end, and a curved plate secured to the upturned end, substantially as and for the purpose described.

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

WILLIAM A. WILLIAMS.

Witnesses:

J. T. WILLIAMS,
H. T. SCHNEE.