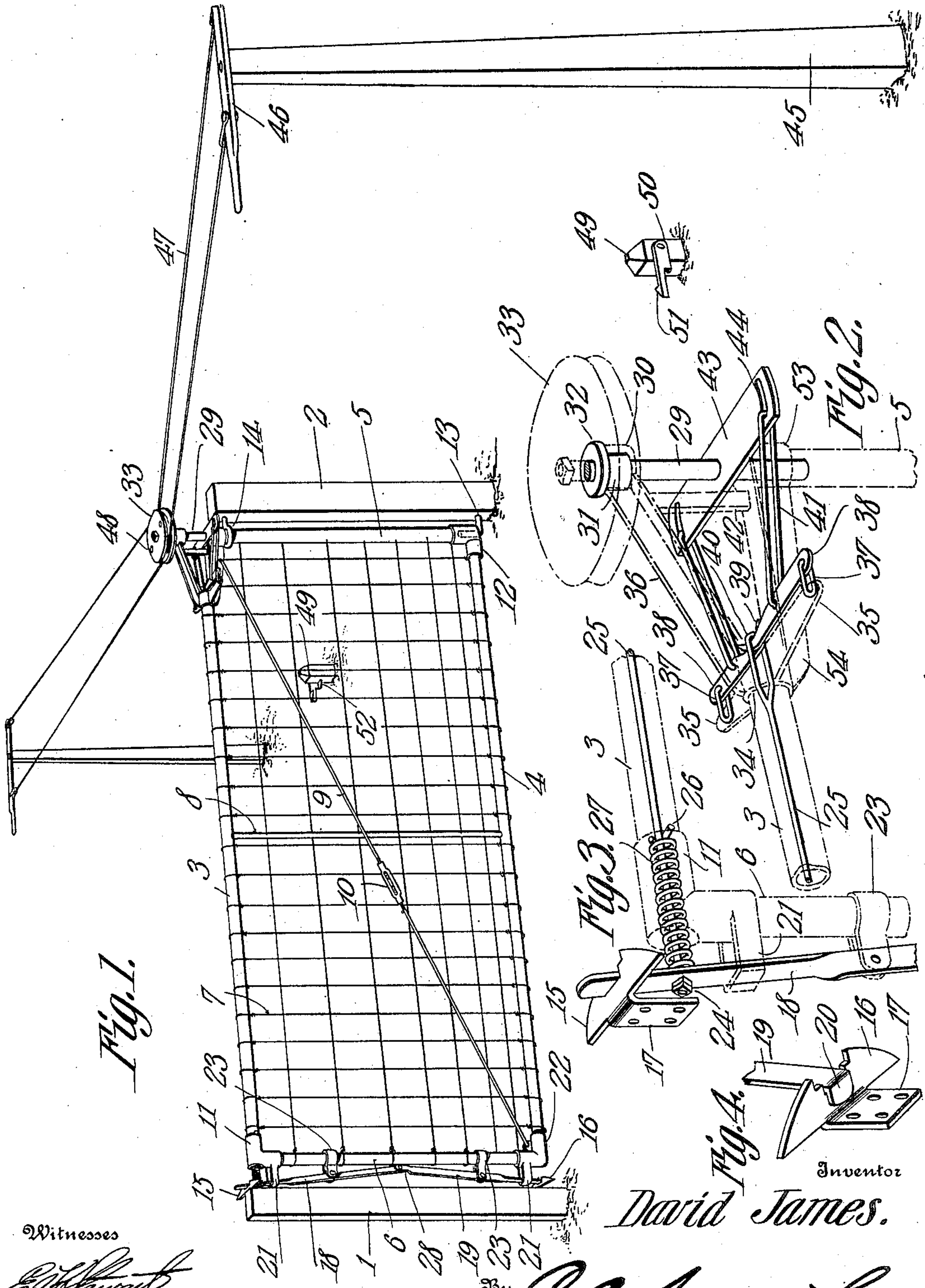


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GATE.

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934,814.

Patented Sept. 21, 1909.



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# UNITED STATES PATENT OFFICE.

DAVID JAMES, OF COFFEYVILLE, KANSAS.

GATE.

934,814.

Specification of Letters Patent. Patented Sept. 21, 1909.

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*To all whom it may concern:*

Be it known that I, DAVID JAMES, a citizen of the United States, residing at Coffeyville, in the county of Montgomery and State of Kansas, have invented a new and useful Gate, of which the following is a specification.

The improved gate forming the subject matter of this application for Letters Patent, is of that general type in which a horizontally swinging barrier is provided with means whereby the same may be operated from a distance, and from an elevated position, such as the seat of a vehicle.

The objects of the invention are, generally, the provision in a merchantable form, of a device of the above-mentioned class which shall be inexpensive to manufacture, facile in operation and devoid of complicated parts; specifically, the provision in a novel and improved form, of a gate; of latching mechanism therefor; of latch-operating and gate-swinging mechanism; other and further objects being made manifest hereinafter as the description of the invention progresses.

The invention consists in the novel construction and arrangement of parts hereinafter described, delineated in the accompanying drawings, and particularly pointed out in the appended claims; it being understood that divers changes in the form, proportions, size and minor details of the structure may be made, without departing from the spirit or sacrificing any of the advantages of the invention.

Similar numerals of reference are employed to denote corresponding parts throughout the several figures of the drawings.

In the accompanying drawings:—Figure 1 shows my invention in perspective; Fig. 2 is a detail perspective, upon an enlarged scale, showing the swinging and latch operating mechanism; Fig. 3 is a detail perspective, showing the upper latch 18, its method of attachment to the gate, and its relation with the upper striking plate 15; Fig. 4 is a detail perspective of the lower end of the lower latch 19, and is designed to show the relation between the said lower latch 19 and the lower striking plate 16.

In the following description, I shall use the term "inner" to designate the pivoted end of the gate, and the term "outer" to designate the free or swinging end of the gate.

In carrying out my invention, I have shown an outer post 1, upon the inner face of which is mounted an upper striking plate 15, and a lower striking plate 16, spaced apart. As clearly shown in Fig. 4, these striking plates consist of a body portion from which depends, at right angles, a member 17, arranged for attachment to a post, the edges of the body portion being notched to receive the latches. From the inner post 2 is suspended a gate comprising a top member 3, a bottom member 4, an inner member 5, and an outer member 6. These members are united by suitable corner unions 11, 12 and 22, the unions 11 and 12 being similar, comprising tubular arms disposed at right angles to each other, one of the said arms being open at both ends. The corner union 22 is a simple, right angle elbow, and for the uniting of the members 3 and 5 at the corner diagonally opposite from the member 22, I have provided a structure which will be hereinafter described in detail. A strut 8 connects the top and the bottom members 3 and 4 respectively, near their middle parts, a diagonally disposed tension member 9 uniting the corner union 22 with the corner of the gate diagonally opposite therefrom, the said tension member being provided with a turn-buckle 10 or like device whereby the tension of the said member 9 may be regulated.

The body portion of the gate may be variously constructed. In its preferred form, however, it consists of the cancellated wires 7. Mounted upon the outer member 6 are the collars 23, in which are fulcrumed the latches 18 and 19. From the corner unions 11 and 22, U-shaped stops 21 project outward, said stops 21 being arranged to inclose the latches 18 and 19 and to limit their movement. The remote ends of the latches 18 and 19 are arranged to engage the notches in the body portion of the striking plates 15 and 16, and, as shown in Fig. 4, the lower latch 19 is provided with a shoulder 20, arranged to contact with the lower surface of the body portion of the striking plate 16, and designed to prevent the uplifting of the gate by stock.

Slidably mounted in the member 3 is a rod 25, its outer end protruding from the corner union 11 and passing through an opening provided in the upper end of the latch 18. A spring 27 incloses the rod 25 at its outer terminal, the inner end of the spring 27 rest-



ing against a pin 26 passed transversely through the member 3, the outer end of the said spring 27 being in contact with the upper terminal of the latch 18. The portion  
5 of the rod 25 which extends outward beyond the latch 18 is threaded, and carries nuts 24, or like devices, whereby the tension of the spring 27 may be regulated.

A right angled hook 13, projecting from  
10 the inner post 2, serves to support the gate, and an eyebolt 14, projecting from the inner post 2, near its top, embraces the inner member 5 and serves to complete the pivotal connection of the gate. Mounted upon the top  
15 member 3, at its inner end, is a collar 34, from which project laterally oppositely disposed arms 35, upper and lower bifurcating arms, 36 and 54 respectively, project from the collar 34 at an acute angle to its axis,  
20 between the arms 35. The lower arm 54 carries at its terminal a collar 53, in which is rigidly mounted the upper terminal of the inner member 5. The upper arm 36 carries at its terminal a bearing 30, in which is  
25 mounted a bushing 31, having an annular rib 32, outwardly projecting from its periphery and arranged to contact with the top of the bearing 30. A shaft, 29, is rotatably mounted in the bushing 31, and extends  
30 downward through the collar 53, being terminated at any suitable point within the inner member 5; the upper terminal of the shaft 29 carries, rigidly attached thereto, a pulley 33, resting normally upon the top  
35 of the bushing 31, thereby supporting the shaft 29 in its bearings. A strut 42 unites the arms 36 and 54, and serves to distribute the weight of the pulley 33 and the shaft 29. Transversely mounted upon the shaft  
40 29 is the cross-arm 43, having in its ends transversely disposed slots 44; falciform levers 38, are shown having their remote ends pivotally connected with the arms 35 by links 37. The rod 25 is provided with a  
45 looped end 40, arranged to engage the overlapping ends 39 of the levers 38. Connecting members 41 are shown, their inner ends pivoted in the slots 44 in the cross-arm 43, their outer ends being mounted in the levers  
50 38 at points between the links 37 and the loop 40 of the rod 25.

Posts 45 are shown having pivoted near their upper ends levers 46; on the ends of the levers 46 flexible elements 47 are mounted  
55 and passed about the pulley 33, these flexible elements 47 being connected with the pulleys 33 as shown at 48. Between the inner post 2 and the post 45, are located other short posts 49, upon which are mounted latches arranged to receive the lower end of the gate-carried latch 19, when the gate is swung  
60 back or open.

The latches mounted upon the post 49 comprise a body portion 50 which is pivotally  
65 connected with the post 49. The bottom of

the body portion 50 is upturned at right angles thereto to form a stop 52, which, when the latch is downturned, engages the post 49 and holds the latch in horizontal position. When the latch is upturned the portion 52  
70 engages the face of the post 49, and holds the latch in vertical position, thereby preventing the said latch from jumping backward to the rear of the post 49. From the top of the body portion 50 a catch 51 projects outward into the travel of the gate-carried latch 19, serving to retain the gate against the post 49 when the gate is swung  
75 back.

The bifurcating arms 36 and 54 may be  
80 of any form; in practice however, as shown, I prefer to fashion them from T iron.

In assembling my invention, I cause the adjacent ends of the latches 18 and 19 to overlap, and these overlapping ends I unite  
85 pivotally as shown at 28. The posts 45 are sufficiently remote from the inner post 2, so that the levers 46 may be operated from the seat of a buggy or other vehicle, the portion of the vehicle remaining between the  
90 posts 45 and 2 being beyond the travel of the gate as it swings open.

Let it be supposed that the device is in the position shown in Fig. 1, then its operation is as follows:—When the levers 46 are  
95 operated, the pulleys 33 will be rotated, and the shaft 29 will rotate in the bushing 31, the cross-arm 43, moving with the shaft 29, will carry with it, in its rotation, the connecting members 41, drawing inward the  
100 levers 38. The ends 39 of the levers 38 will engage the loop 40 of the rod 25, drawing the said rod inward, and freeing the latches 18 and 19 from the striking plates 15 and 16. When this unlatching process has been completed, continued pressure upon the levers  
105 46 will cause the gate to swing to an open position. It is obvious that when the gate is being swung into an open or a closed position, but one of the members 41 will be  
110 operative. The slot 44 in the arm 43 furnishes a means whereby the member 41, which is not exerting a pull upon the gate, may move inward so as not to interfere with the action of the member 41 which is at  
115 the time exerting a pull upon the gate. This slot 44 further prevents the levers 38 from being disturbed in the gate swinging operation.

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

1. In a gate, an inner member and a top member connected therewith, the top member being provided with laterally extending  
125 arms; a pair of overlapping levers having their remote ends pivoted to the arms; a shaft journaled for rotation in the inner member; a cross arm mounted on the shaft; links connecting the cross arm with the le-  
130



vers; latch-operating means operatively connected with the overlapping portions of the levers; and means for rotating the shaft.

2. In a gate, an inner member and a top member connected therewith, the top member being provided with laterally extending arms; a shaft journaled for rotation in the inner member; a cross arm mounted on the shaft; means for connecting the terminals of the cross arm with the terminals of the laterally extending arms; and means for rotating the shaft.

3. In a gate, a top member and an inner member; upper and lower bifurcating arms terminally connected with the top member, the lower bifurcating arm being connected with the inner member; arms laterally extending from the top member; a pair of overlapping levers having their remote ends pivoted to the laterally extending arms; a bearing carried by the outer end of the upper bifurcating arm; a shaft journaled for rotation in the bearing and in the inner member; means for operatively connecting the shaft with the levers; latch-operating means operatively connected with the overlapping portions of the levers; and means for rotating the shaft.

4. In a gate, an inner member and a top member; upper and lower bifurcating arms terminally connected with the top member, the lower bifurcating arm being connected with the inner member; a bearing carried by the outer terminal of the upper bifurcating arm; a shaft journaled for rotation in the bearing and in the inner member; a cross arm mounted on the shaft; means for connecting the terminals of the cross arm with the terminals of the laterally extending arms; and means for rotating the shaft.

5. In a gate, a top member and an inner member; upper and lower bifurcating arms terminally connected with the top member,

the lower bifurcating arm being connected with the inner member; a bearing carried by the terminal of the upper bifurcating arm; a shaft journaled for rotation in the bearing and in the inner member; latch-operating mechanism operatively connected with the shaft; and means for rotating the shaft.

6. In a gate, an inner member and a top member; upper and lower bifurcating arms terminally connected with the top member, the lower bifurcating arm being connected with the inner member; a bearing carried by the upper bifurcating arm; a shaft journaled for rotation in the bearing and in the inner member; means for rotating the shaft; and means operatively connecting the shaft with the top member, whereby the gate may be swung upon the rotation of the shaft.

7. In a gate, an inner member and a top member; upper and lower bifurcating arms terminally connected with the top member, the lower bifurcating arm being connected with the inner member; arms laterally projecting from the top member; a bearing carried by the upper bifurcating arm; a shaft journaled for rotation in the bearing and in the inner member; a cross arm mounted upon the shaft; overlapping levers having their remote terminals pivotally connected with the remote terminals of the laterally extending arms; links connecting the levers with the cross arm; latch-operating mechanism operatively connected with the overlapping portions of the levers; and means for rotating the shaft.

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

DAVID JAMES.

Witnesses:

JOHN W. BRACKEN,  
HENRY WOLBER.