

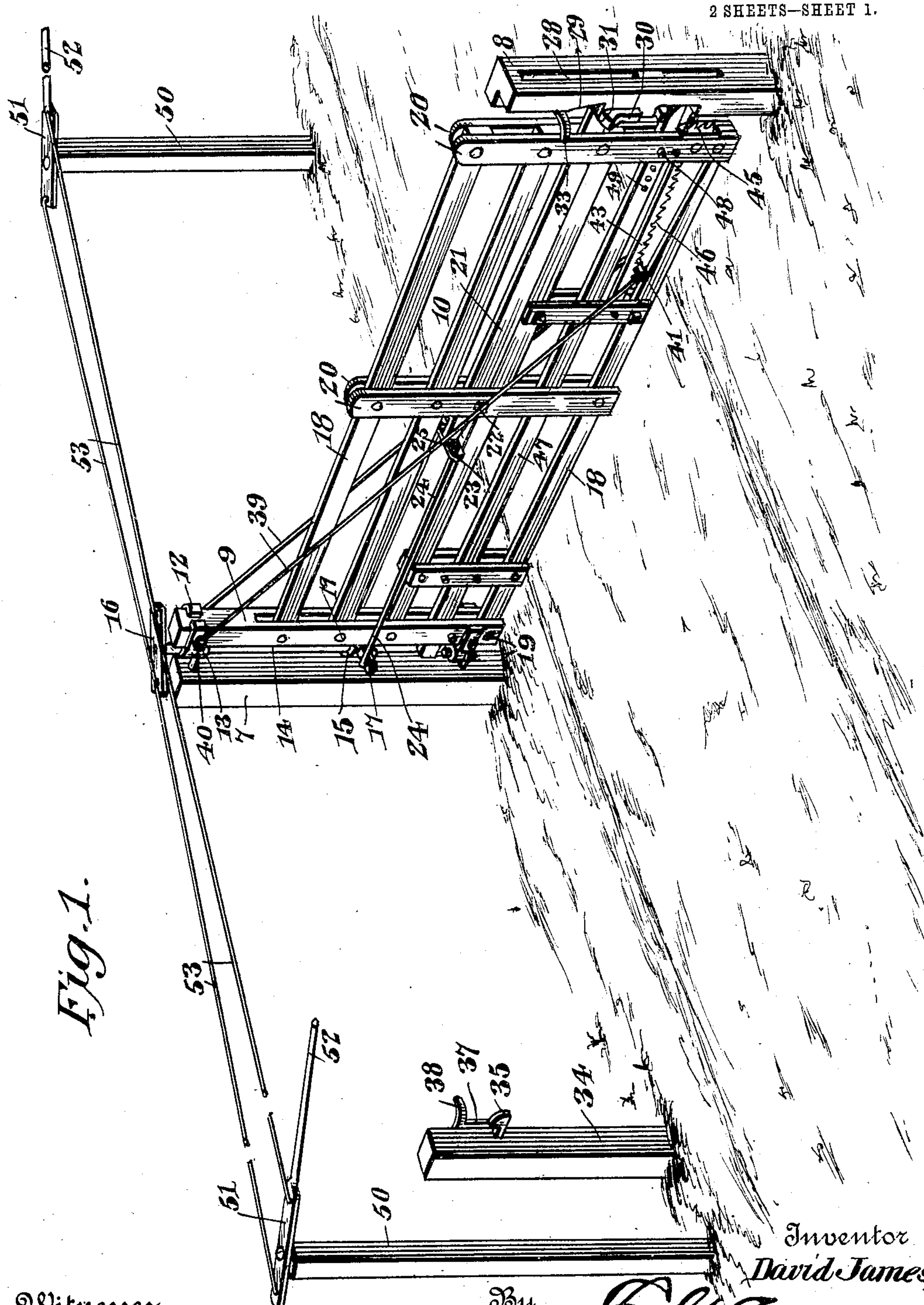
No. 862,167.

PATENTED AUG. 6, 1907.

D. JAMES.
GATE.

APPLICATION FILED SEPT. 27, 1906.

2 SHEETS—SHEET 1.



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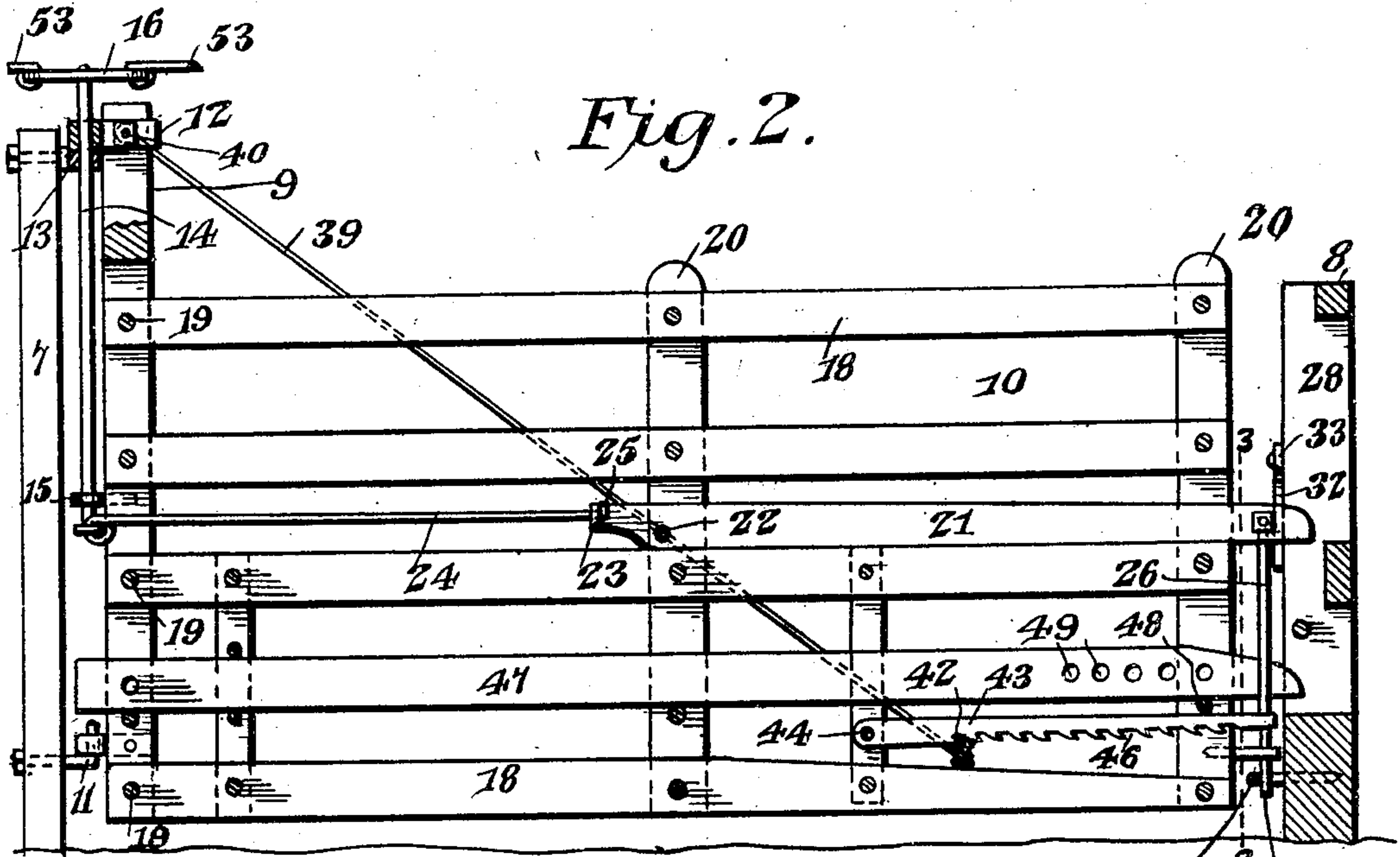


Fig. 3.

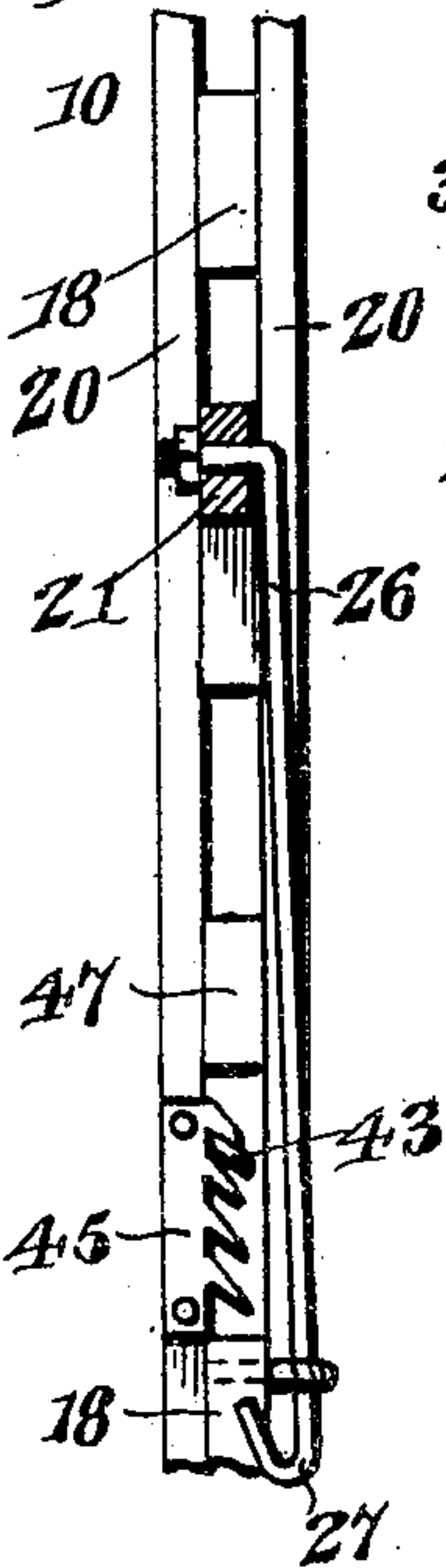


Fig. 4.

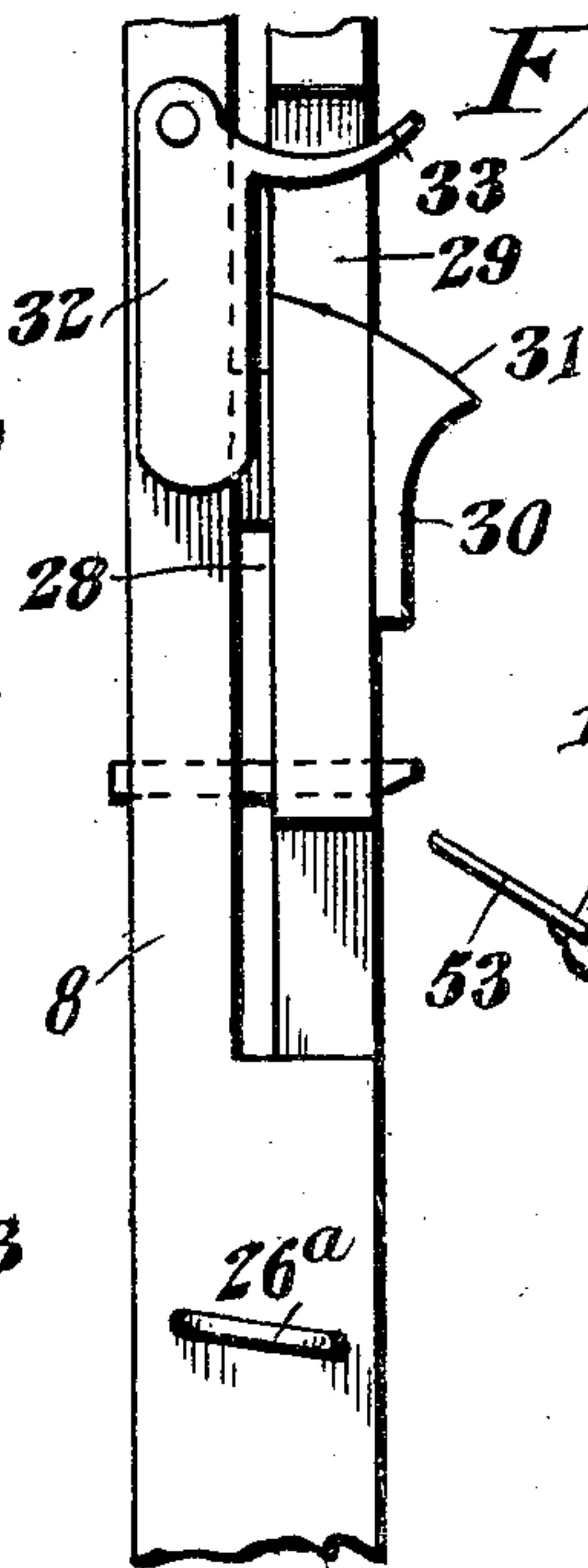


Fig. 5.

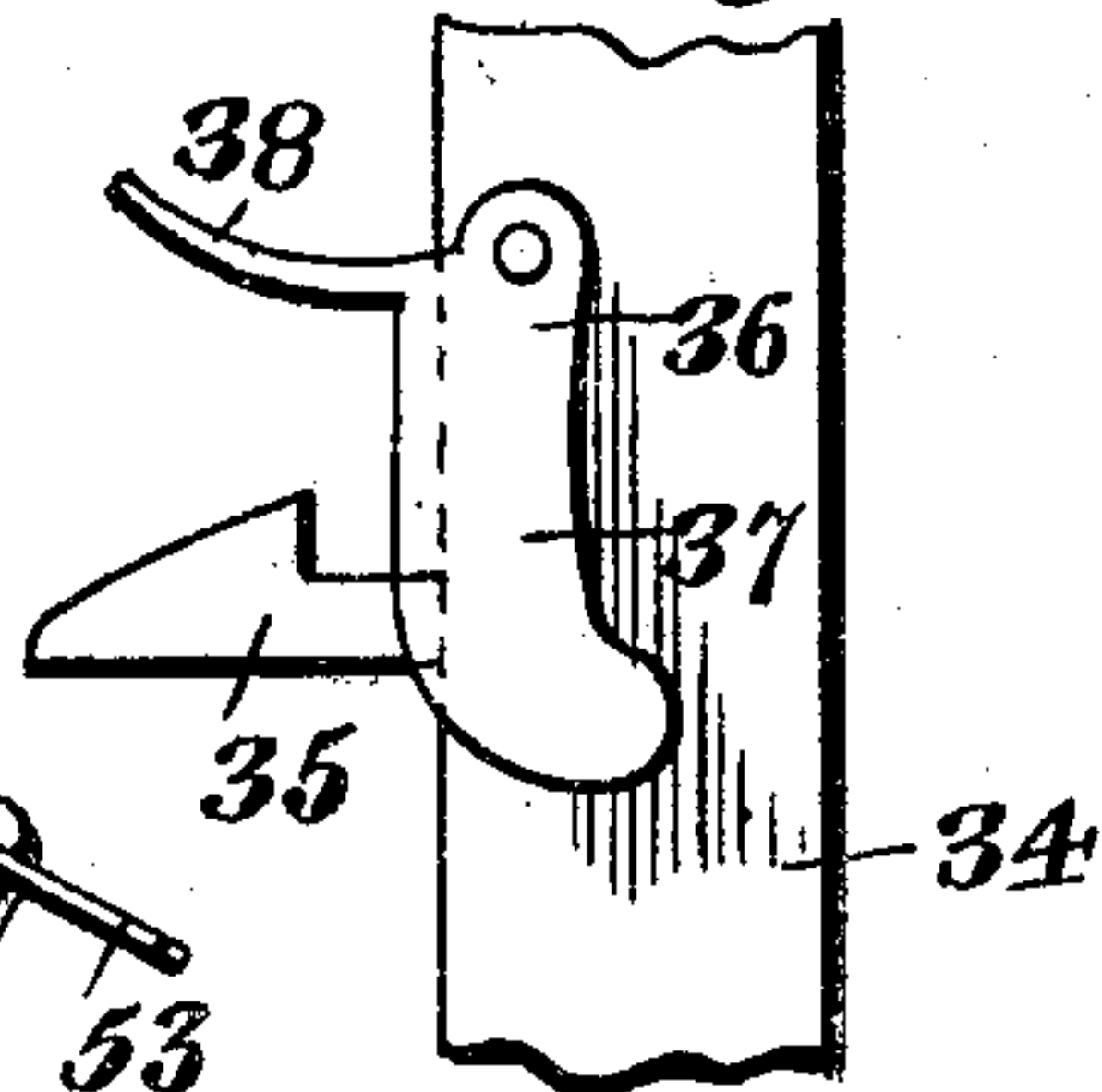
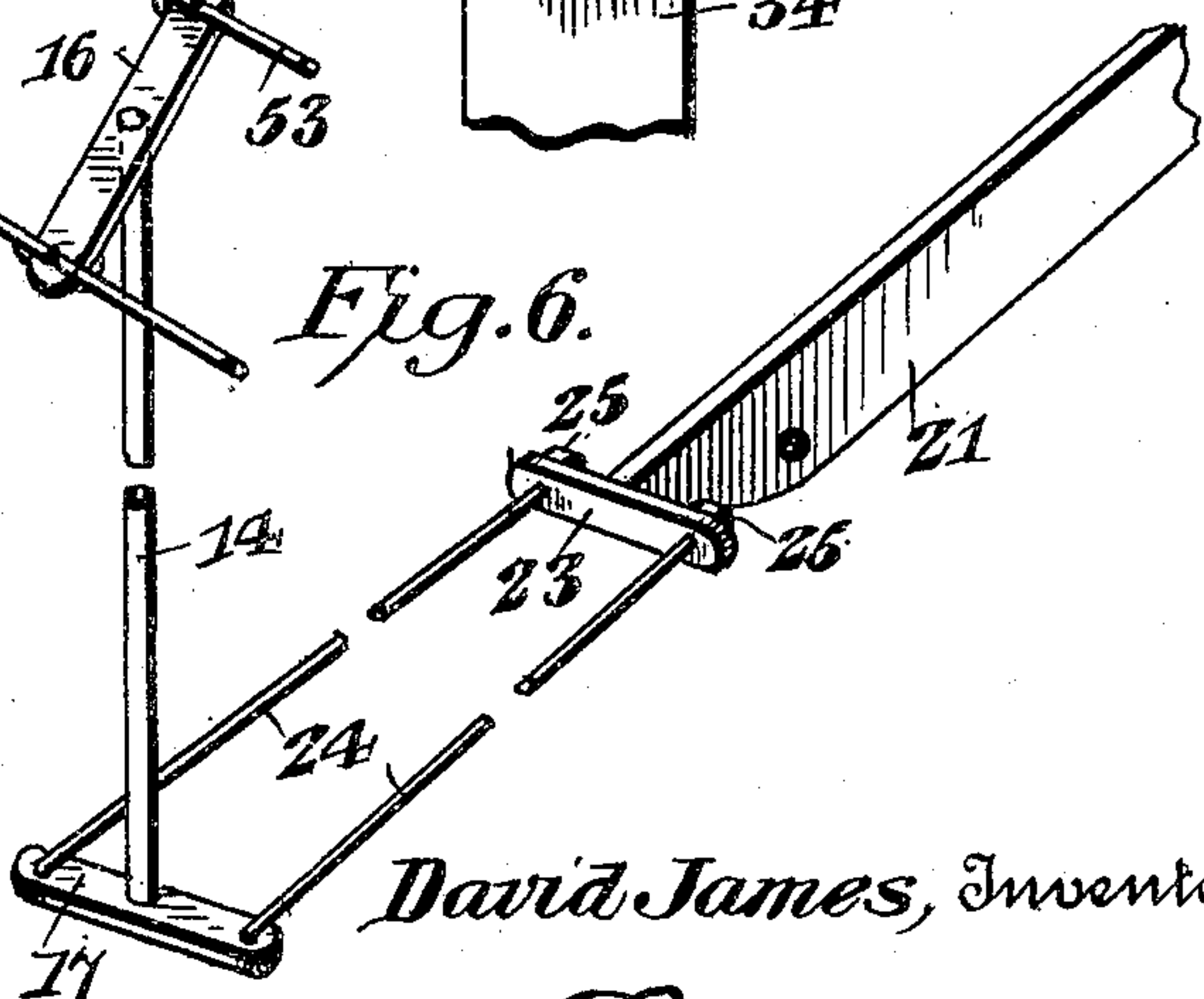


Fig. 6.



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UNITED STATES PATENT OFFICE.

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GATE.

No. 862,167.

Specification of Letters Patent.

Patented Aug. 6, 1907.

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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.

This invention relates more particularly to that type of gate, which can be actuated from a carriage or from horseback without the necessity of the operator alighting.

One of the principal objects of the invention is to provide a novel and simple gate and latch actuating means, which is thoroughly efficient in operation, and in which the tautness of the cable or draft connections between the actuating device and the gate will not vary during the swinging movement of the gate.

A further and important object is to provide means that will insure the latching of the gate in both its opened and closed positions and without regard to the speed at which the gate is moved, thereby obviating the danger of the gate rebounding and consequently being left unlatched.

A still further object is to provide novel means for holding the gate at different elevations, and to employ simple latching mechanism that will operate without regard to the vertical position of the free end of the gate.

The preferred form of construction is illustrated in the accompanying drawings, wherein:—

Figure 1 is a perspective view of the gate. Fig. 2 is a sectional view therethrough. Fig. 3 is a cross sectional view on the line 3—3 of Fig. 2. Fig. 4 is a detail view of a portion of the latch post. Fig. 5 is a detail view showing one of the devices for directing the latch into the keeper. Fig. 6 is a detail perspective view of the latch operating means.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the embodiment illustrated, spaced gate posts 7 and 8 are employed that are disposed on opposite sides of the roadway to be controlled by the gate. The gate consists of an upright hinged bar 9, and a body that is designated as a whole by the reference numeral 10. The upright bar 9 has its lower end hinged to the post by any suitable means, as shown at 11. Its upper end carries a hinge element 12, and the upper end of the post is also provided with another hinge element 13. The pintle for connecting these elements to permit their relative swinging movement, is in the form of an upright rock shaft 14 that passes through said elements, and has its lower end journaled in an eye 15 secured to the rear side of the bar 9. The upper end of the rock shaft carries a cross arm 16, and its lower end is also provided with a cross arm 17, the two cross arms being disposed in angular relation.

The gate body 10 consists of a plurality of longitudi-

nally disposed bars 18, each pivoted at its rear end to the upright bar 9, as shown at 19, said upright bar being slotted to receive the rear ends of the longitudinal bars 18. Spaced upright stays 20 are pivoted to the bars 18. A latch 21 extends longitudinally between a pair of the bars 18, and has its rear portion pivoted, as shown at 22 to the intermediate stays 20. The latch projects beyond the free end of the gate, and its rear end has oppositely extending outstanding eyes 23. Draft links 24, arranged on opposite sides of the gate, have their rear ends pivoted to the ends of the lower cross arm 17, while their front ends pass through the eyes 23, and have heads 25 that bear against the front faces thereof. The projecting free end of the latch 21 carries a depending locking bolt 26 that is pivoted thereto, the lower end of the locking bolt being preferably doubled, as shown at 27 in Fig. 3.

The gate post 8 with which the free end of the gate coöperates, is provided with a longitudinally disposed groove or slot 28, and one wall of this groove or slot is cut away as shown at 29 in Fig. 4, to permit the passage of the free end of the latch 21 thereinto, a projection 30 being secured to the post and having a curved upper face 31 to direct the latch into said groove or slot. Pivoted upon the post, in rear of the groove or slot, is a latch-directing device comprising angularly disposed arms 32 and 33, the arm 32 being disposed transversely of the keeper formed by the groove, and located in the path of movement of the free end of the latch. The arm 33 is preferably curved upwardly, and extends outwardly over the groove and across the cut-away portion. Another latch post 34 is located alongside the roadway, and has a keeper hook 35 projecting therefrom. Another latch-directing device 36 is pivoted upon this post, and comprises angularly disposed arms 37 and 38, the arm 37 being disposed transversely of the keeper 35, and in the path of movement of the free end of the latch, the arm 38 extending over the keeper.

The gate body 10, besides having a lateral or horizontally swinging movement, is capable of vertical adjustment upon the hinged bar 9, and in order to support it, at different elevations, the following mechanism is preferably employed. A supporting stirrup comprises rods 39 pivoted at their upper ends, as shown at 40 to the upper end of the hinged bar 9, while their lower ends are connected by a transverse plate 41, having a tooth 42 formed on its upper edge. A lever 43, fulcrumed at its rear end, as shown at 44, upon the gate body, extends longitudinally of said body, and its free end is adapted to interlock with the teeth of an upright rack 45 secured to the free end of the gate. The lower edge of the lever is formed into a rack 46, and the tooth 42 of the stirrup detachably interlocks with the teeth of the rack, and is longitudinally adjustable along the same. For the purpose of holding the gate in its closed position, when elevated so far, that the latch 21 will not

properly cooperate with the holding means of the post 8, a sliding detent bar 47 is mounted on the gate body 10, and is movable to a position to engage in the groove 28 of the post 8. The bar can be held in different positions by a pin 48 that is arranged to engage in any of a series of openings 49 formed in said bar.

The actuating means for the latch and gate may be of any desired character. Thus, in the present embodiment, posts 50 are planted at suitable distances on opposite sides of the gate, and levers 51 are fulcrumed between their ends on the upper ends of said post. These levers have handle projections 52. Suitable cables or links 53 connect the levers on opposite sides of their fulcrums with the upper cross arm 16.

The operation of the structure may be briefly described as follows. If one of the levers 52 is swung, it will of course effect a movement of the rock shaft 14. As a result, one of the draft links 24 will be drawn, thus swinging the latch upon its fulcrum, and raising the free end out of the groove 28, while the lower end of the locking bolt 26 will be disengaged from the keeper loop 26^a, arranged at the bottom of the post 8. A further movement of the lever 52 will cause the gate to swing, and it will be evident that the axis of swinging movement is coincident with the axis of the rock shaft 14. Therefore throughout the extent of movement of the gate, the cables or links 53 will remain under the same tension or at the same tautness. As the gate swings to open position, the free end of the latch will pass over the keeper hook 35, but will strike the depending arm of the deflecting device 37, causing said arm to swing rearwardly. The arm 38 will therefore move downwardly, and if the lever 52 is now released, said arm 38 will cause the latch to move quickly down into the keeper, and prevent the rebounding of the gate. A reverse movement on the part of either lever 52 will cause the gate to return to its closed position in the same manner, as will be evident. In case, however, it is desired to allow certain classes of stock to pass under the gate, while prohibiting the passage of others, or if because of deep snow, it becomes necessary to elevate the gate, it is only necessary to swing the body upwardly with respect to the hinged bar 9, and lock it by the tooth 42 engaging other teeth of the rack 46, the lever itself being movable in order to effect the desired adjustment. In case, the gate body is moved so high that the latch 21 will not properly cooperate with the keepers, the detent bar 47 may then be brought into play to hold it in closed condition, and inasmuch as the groove 28 extends nearly to the top of the post, it will be evident that said gate can be locked without regard to the height to which it is raised.

From the foregoing, it is thought that the construction, operation, and many advantages of the herein described invention, will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion, and minor details of construction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

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

1. In a structure of the character described, the combination with a swinging gate, of a swinging latch pivoted

on the gate and having oppositely extending outstanding eyes disposed above the horizontal plane of its pivot axis, a rock shaft having its axis disposed substantially in coincidence with the axis of movement of the gate, said shaft having a cross arm, links connected to the cross arm and slidably engaged in the eyes, being provided with heads that engage said eyes, and means for operating the rock shaft.

2. In a structure of the character described, the combination with a gate post, having upper and lower keepers, of a swinging gate, a swinging latch pivoted on the gate and cooperating with the upper keeper, a depending locking bolt hung from the free end of the latch and movable with said latch, the lower end of said bolt cooperating with the lower keeper, and means for swinging the gate and operating the latch.

3. In a structure of the character described, the combination with a swinging gate, of a swinging latch pivoted thereon, a rock shaft located at the hinged end of the gate and having a cross arm, at its lower end, draft links connected to the cross arm and directly to the rear end of the swinging latch at one side of its pivot, said links being located on opposite sides of the gate, and means for rotating the shaft.

4. In a structure of the character described, the combination with a swinging gate, of a swinging latch pivoted thereon, means for swinging the latch and the gate, and a depending locking bolt pivotally hung from the free end of the latch and movable with the same, said latch constituting actuating means for the bolt.

5. In a structure of the character described, the combination with spaced gate posts, of a swinging gate, a latch, a lower hinge connecting one of the posts and the gate, upper hinge ears respectively connected to said post and gate, a rock shaft journaled in the ears and constituting a hinge pintle, upper and lower angularly disposed cross arms carried by the rock shaft, a latch disposed longitudinally of the gate and pivoted thereto, draft links connected directly to the rear end of the latch at one side of its pivot, said links being also connected to the lower cross arm, and actuating levers having spaced connections with the upper cross arm.

6. In a structure of the character described, the combination with a gate post, of a swinging gate movable toward and from the same, a keeper mounted on the post and having an upwardly inclined upper end, a latch movably mounted on the gate, means for swinging the gate and moving the latch, and a latch deflecting device pivoted on the post and having angularly disposed arms, one of which depends transversely of the keeper and is disposed in the path of movement of the latch, the other extending outwardly over such keeper, said latter arm having an outwardly and upwardly inclined under face disposed in opposition to the upper edge of the keeper.

7. In a structure of the character described, the combination with a swinging gate comprising a hinged bar, and a vertically swinging gate body pivoted on the bar, of a rack mounted longitudinally on the body, and adjustable vertically thereon and a supporting stirrup extending diagonally of the gate, said stirrup being connected at its upper end to the hinged bar and having its lower end detachably engaging and longitudinally adjustable along the rack.

8. In a structure of the character described, the combination with a swinging gate, comprising a hinged bar, and a vertically swinging gate body pivotally mounted on the bar, of a lever pivoted on the gate body and having a rack, means for holding the lever against movement, and a supporting stirrup pivoted at its upper end to the hinged bar and having a tooth at its lower end that detachably engages the rack and is adjustable longitudinally along the same.

9. In a structure of the character described, the combination with a gate comprising a hinged bar, and longitudinally disposed bars pivotally mounted on said hinged bar, of a lever fulcrumed upon the free end of the gate and disposed longitudinally thereof, said lever having a rack, an upright rack engaged by the free end of the lever, supporting rods pivoted at their upper ends to the upper end of the hinged bar, and a tooth connecting the lower ends of

the supporting rod, said tooth cooperating with the rack of the lever and being adjustable longitudinally along the same.

5. In a structure of the character described, the combination with spaced gate posts, one of which is provided with an upright groove or slot having a portion cut away, of a keeper associated with the cut away portion, a gate comprising an upright bar hinged to the other post, longitudinal bars pivoted to said upright bar, forming a body, means connecting the body and the hinged bar for supporting the former at different elevations, a latch mounted on

the gate and cooperating with the keeper, means for swinging the gate and moving the latch, and a locking bar mounted on the body and having its free end movable into the upright groove of the post.

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:

JOE R. HAWKINS,
H. FARMER.