

No. 639,921.

Patented Dec. 26, 1899.

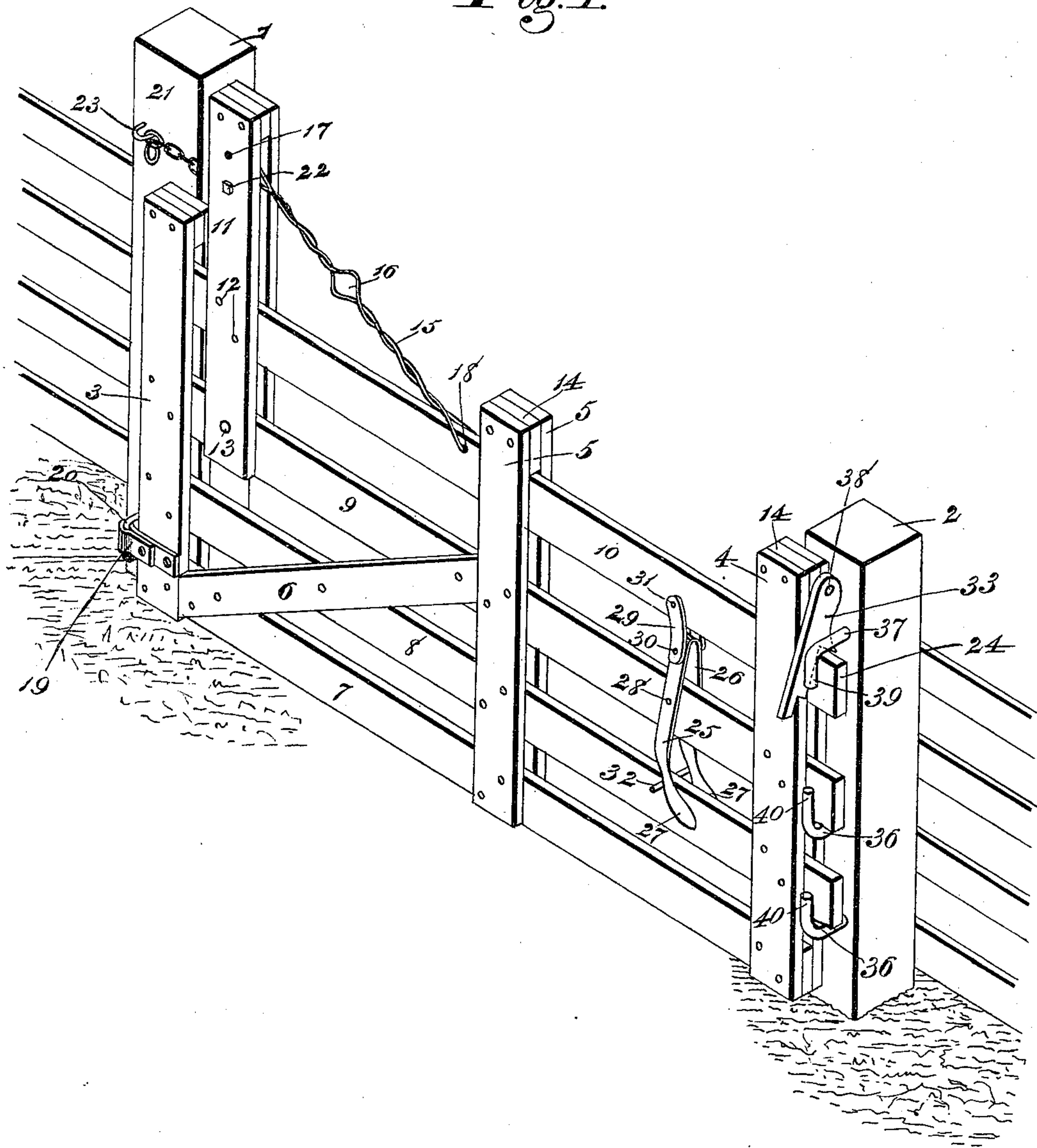
S. D. FRY.  
GATE.

(Application filed Nov. 15, 1898.)

(No Model.)

2 Sheets—Sheet 1.

*Fig. 1.*



Witnesses

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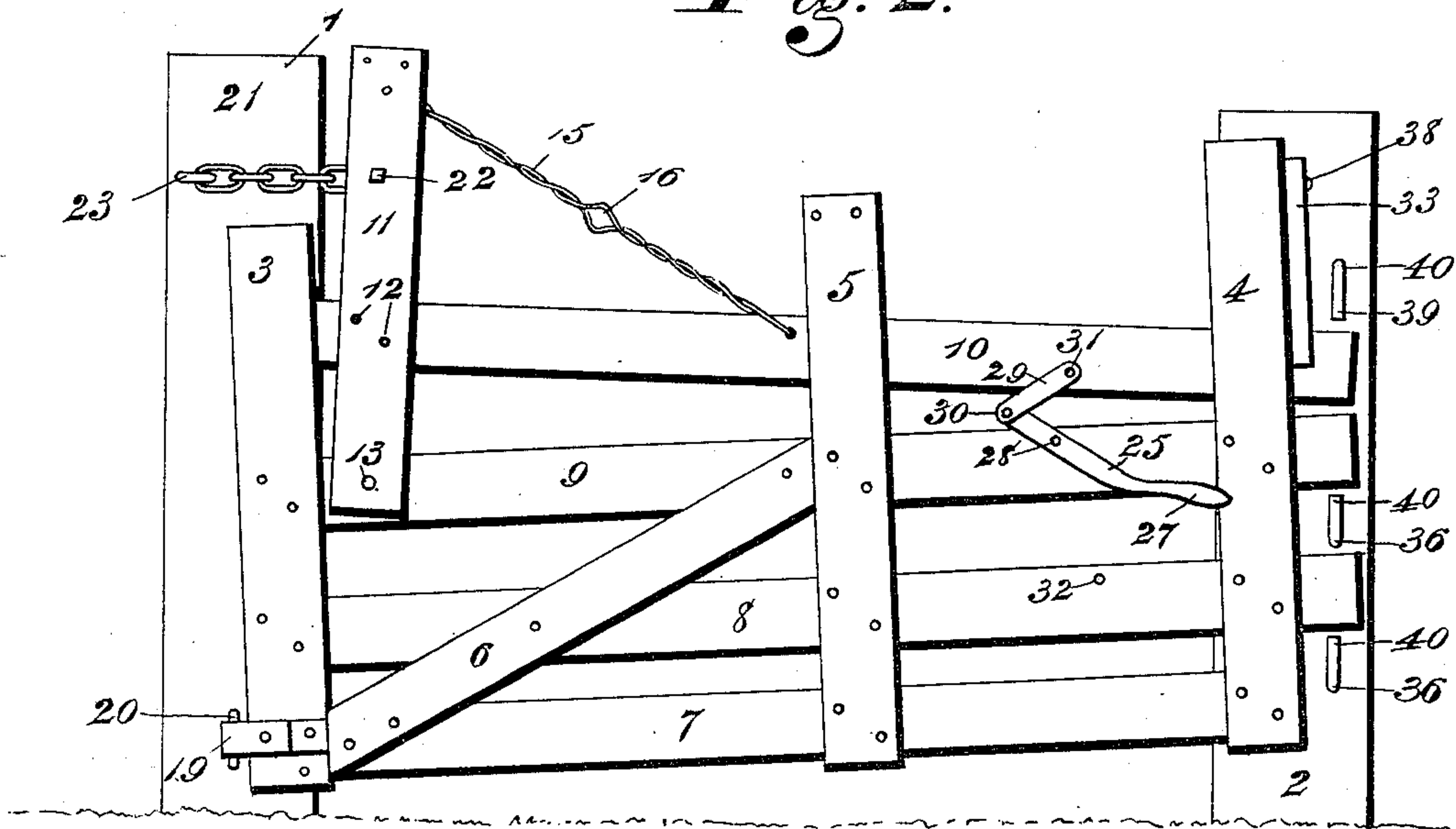
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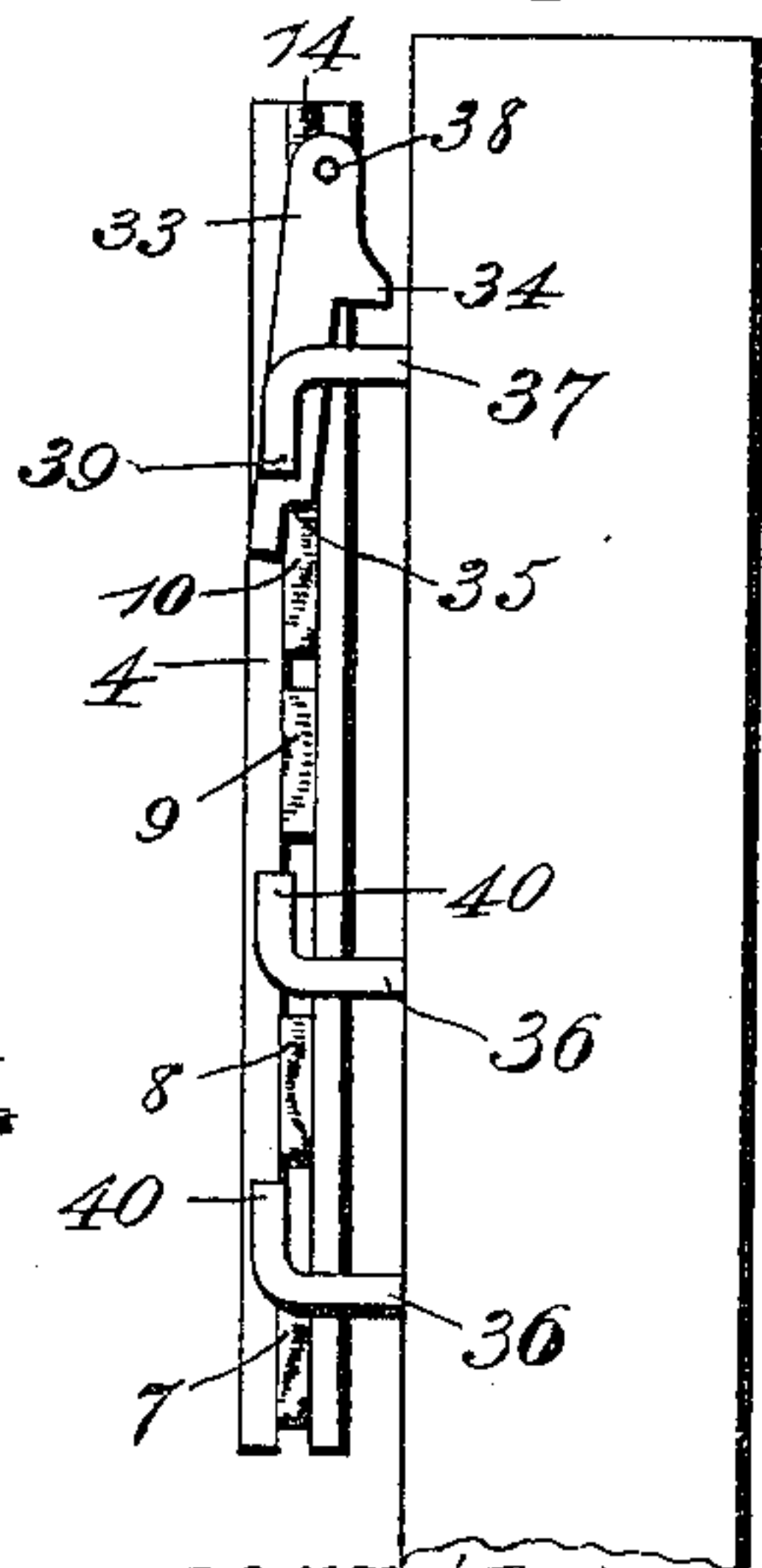
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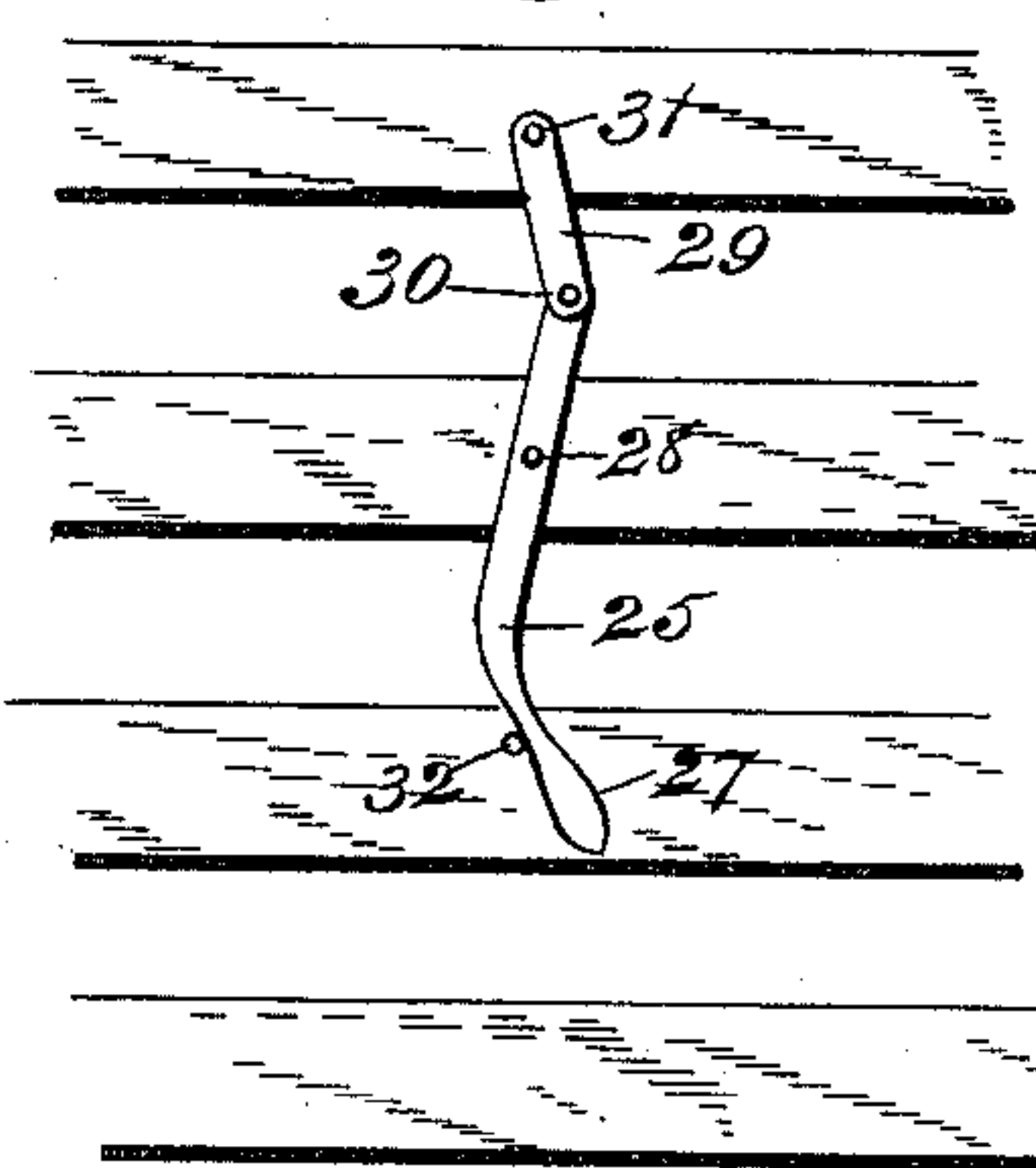
*Fig. 2.*



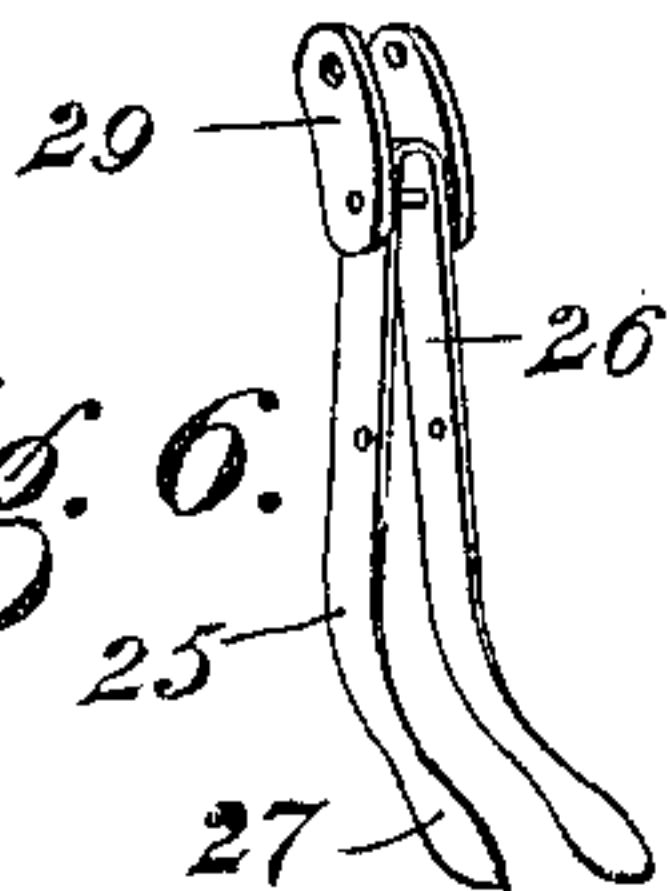
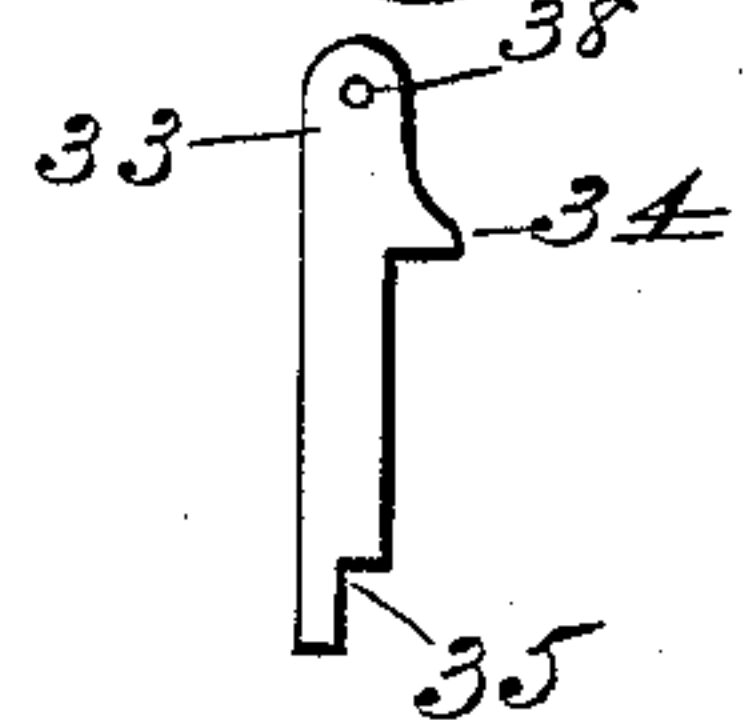
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



*Fig. 6.*

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# UNITED STATES PATENT OFFICE.

STEPHEN D. FRY, OF CHICAGO, ILLINOIS.

## GATE.

SPECIFICATION forming part of Letters Patent No. 639,921, dated December 26, 1899.

Application filed November 15, 1898. Serial No. 696,569. (No model.)

*To all whom it may concern:*

Be it known that I, STEPHEN D. FRY, a citizen of the United States, residing at No. 879 West Madison street, Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Gates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to farm-gates; and one object thereof, among others, is to provide means for reliably locking or securing the gate in a closed position, so that the same cannot become casually opened, as by the wind or by stock rubbing against it, and additional means for enabling the gate to be easily disengaged from its locked position and opened or closed, as desired.

Other objects and advantages will be made fully apparent from the following specification, the details of construction being fully illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved gate in its complete operative position. Fig. 2 is a side elevation of my improved gate on a slightly-reduced scale from that shown in Fig. 1. Fig. 3 is an end view of the same in the act of closing and securing itself. Fig. 4 is a detailed view of the securing device relied upon to hold the parts in a locked condition until manually released. Fig. 5 is a detail of the gravity pawl or detent employed to cooperate with the securing device shown in Fig. 4. Fig. 6 is a perspective detail of the securing device illustrated in Fig. 4, showing the same separated from the gate.

Briefly stated, my invention consists in providing a gate the upper member of which is pivoted and which has cooperating means to utilize the movability of said upper member to the end that the parts may be easily controlled and will automatically cooperate with each other and lock the gate in a closed position, as will be hereinafter set forth.

Referring in detail to the several parts of my invention, 1 and 2 are fence-posts to be erected at any desired point where the gate is to be mounted in its operative position, the

former post being preferably slightly larger than the keeper-post 2 in order that it may reliably sustain the weight of the gate, which latter is constructed somewhat in the usual manner, there being the usual end or vertical members 3 and 4 and the middle upright 5, while a bracing or sustaining member 6 may be provided, the number thereof being increased, if desired.

The lower bars 7, 8, and 9 may be multiplied in number as desired and are permanently bolted or otherwise secured to the uprights 3, 4, and 5 and to the bracing member 6, while the upper bar 10 is rigidly connected to the controlling-lever 11, as by the rivets 12, said lever being arranged to extend downward and pivotally connected to the bar 9 at a contiguous point thereon, as indicated by the pivot-bolt 13, it being understood that the end uprights 3, 4, and 5 are to be held separated, as by the blocks 14, such separation being sufficient to permit the free movement of the bar 10 between the uprights 3, 4, and 5, said bar being in no other way secured in position and being therefore free to be moved, as will be hereinafter pointed out and explained.

In order to reinforce the connection between the lever 11 and the bar 10, I provide the adjustable brace 15, which consists in this instance of two wires twisted together by means of the open section 16, a suitable piece of wood or other object being inserted in said open section 16 and employed to more tightly twist said wires together, the upper end of the wires being attached to the upper end of the lever 11, as by the bolt 17, while the lower end will pass through a suitable aperture 18 provided in the bar 10 or otherwise secured thereto.

The end upright 3 is provided with any suitable form of hinge member 19, designed to cooperate with a suitable hinge member 20, carried by the post 1, while the upper end of the gate is sustained in an upright position by means of the chain 21, one end of which is secured to the lever 11, as by the bolt 22, while the other end of said chain may be adjustably secured by being received by the hook 23, it being understood that any sag in the gate may be taken up by dropping one of the links and placing the succeeding link over the hook 23.

By the construction just described it will



be apparent that the outer or free end 24 of the bar 10 may be depressed, which will cause the lever 11 to so act upon the pivot-point 13 that the outer end of the bar 9 will approach the bar 10, and this movement is utilized to effectively lock or secure the gate in a closed position by means of the following-described devices: In order that the bars 9 and 10 may be easily drawn together, I provide the controlling-lever 25, which is preferably formed by bending a piece of suitable material so as to provide the middle or U-shaped member 26 and the operating-handles 27. This construction enables the handles 27 to be disposed on either side of the gate and the device to be pivotally secured in position upon the bar 9 by the pivot-bolt 28. The U-shaped member 26 extends slightly above the bar 9 and is pivoted to the bar 10 by means of the arms 29, one being preferably placed upon either side of the gate in order that a good purchase may be had upon the parts, and by this arrangement it will be obvious that what is termed a "toggle-joint" is provided, thus giving great capacity to the controlling-handles 27, as the gate may be made of very heavy material and yet easily controlled by the means specified. As will be seen by reference to Fig. 4, the toggle-joint is so disposed that the handles will always move the pivot-point 30 forward or toward the post 2 sufficiently to carry it past the middle point between the pivots 28 and 31, or past the dead-center, which feature is utilized as will be hereinafter specified.

In order to check the inward movement of the handles 27, I provide the stop-pin 32, preferably located in the bar 8, as it is important to check said movement of the handles after the pivot-point 30 has passed the center point.

Pivoted to the upright 4, preferably upon the outer face thereof, I provide the gravity pawl or detent 33, which, as will be seen by reference to Fig. 5, is provided upon its inner edge with the extension 34 and at its lower end with the notch or recess 35, the office of said recess being to automatically engage the upper edge of the free end of the bar 10 and hold it until disengaged.

Upon the post 2 I provide the keepers 36 and 37, the former being increased in number as desired, while one of the latter will be found amply sufficient, it being secured to the post at a point thereon which will permit the gravity-pawl 33 to lie loosely between it and the end upright 4, it being understood that said detent is so pivoted, as by the stem 38, that it will loosely move thereon and will always automatically drop in a substantially vertical position when the end 24 of the bar 10 is moved downward, the location of the stem 38 being such as to permit the recess 35 to receive the upper edge of the end 24 when the latter has been sufficiently depressed to freely pass the depending end 39 of the keeper 37, it being understood that a corresponding elevation of the bars 8 and 9 is sufficient to

raise said bars above the upwardly-extending ends 40 of the keeper 36.

While I have described the preferred construction to be adopted in materializing the several elements of my invention, it will be understood that I desire to comprehend the substantial equivalent thereof.

Having described the construction of my improved gate, the operation thereof may be stated to be as follows: It is assumed that the gate is in a closed position, when one of the handles 27 is grasped and is moved toward the post 2, which causes the toggle-joint to move the outer ends of the bars 9 and 10 toward each other, causing the bar 10 to move below the depending end 39 of the keeper 37, while the extended ends of the bars 8 and 9 will be moved upward in clearance of the upwardly-extending ends 40 of the keepers 36, when at this instant the gravity-detent 33 will drop in a substantially vertical position, causing the recess 35 to engage with the upper edge of the bar 10, and thus secure the same against reverse movement when the handle is released. The gate may now be freely opened, and during the time it is in an open position the detent 33 will reliably perform its office and hold the several parts in their adjusted positions; but it will be obvious that when the gate is allowed to swing into a closed position the extension 34, formed upon the detent, will come in contact with the post 2; and thus force the recess 35 out of engagement with the bar 10, when by action of gravity the several parts will be caused to immediately assume their normal positions, resulting in the elevation of the bar 10 and the depression of the lower bars and incidentally throwing all the parts into a locked position by means of the keepers 36 and 37.

The purpose of constructing the controlling-levers 25 and the links or arms 29 so that the pivot-point 30 will swing past the dead-center is to insure that the lower parts of the gate cannot be casually elevated, as by some animal attempting to pass under the gate, or that the bar 10 may be depressed, as by an animal rubbing its neck thereon, it being clear that the stop 32 will hold the handles 27 from swinging sufficiently rearward to permit such movement. By pivotally connecting the bar 10 in position in the manner specified it will be seen that my improved gate is held in a locked position by its own weight or by the utilization of gravity, and it will be further apparent that all of said parts may be very readily and cheaply constructed and assembled in their respective operative positions and that there are few parts which will deteriorate or require repair except at long intervals.

My improved gate will be found desirable for admitting the free passage of small stock, as swine, without opening the gate, as all that is necessary will be to throw it into the position illustrated in Fig. 2.

Believing that the advantages, construc-



tion, and operation of my improved gate have been made fully apparent from the foregoing specification, considered in connection with the accompanying drawings, I will dispense with the details thereof.

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

1. As an improvement in gates, upper and lower members pivoted together; suitable means for adjustably mounting said gate upon its supporting-post and an operating-lever for drawing the free ends of said members together, and additional means for holding said parts in said adjusted condition until the gate is moved into a closed position, all operatively combined in the manner specified and for the purpose set forth.

2. As an improvement in gates, a pivoted upper bar carried by the gate; a lever pivoted to the gate proper and connected with said bar whereby the free ends of the gate and bar may be drawn toward each other, and a gravity-pawl carried by the frame of the gate and adapted to automatically swing into engagement with and secure said parts when drawn together and means carried by said pawl to effect its disengagement when the gate is moved into a closed position, as specified and for the purpose set forth.

3. As an improvement in gates, the herein-described means for securing the same in a closed position, consisting of the pivoted upper bar; suitable means carried by the adjacent bar of the gate to draw said bars toward each other, a gravity-pawl carried by the gate-frame and designed to hold said parts in said position and a series of keepers carried by the latch-post designed to receive the extended ends of the fixed and movable bars when the latter have been restored to their normal position, as specified and for the purpose set forth.

4. As an improvement in gates, the combination with a gate having upper and lower members pivotally connected, supporting and keeper posts therefor, of the herein-described operating device consisting of the lever proper 25 and the pivoted arms 29 designed to form a toggle-joint between the portions of the gate and suitable means for securing the free ends of the gate members in approximation, while the gate is in an open position and for releasing and permitting the same to be restored to their normal position when the gate is swung against the keeper-post, as specified and for the purpose set forth.

5. The herein-described improvement in gates, consisting of a series of lower bars fixedly secured together with respect to each other and having extended ends, in combination with an upper bar pivotally secured to a portion of the frame holding said lower members; a lever rigidly secured to said upper bar and extending above and below the same, the lower end being pivoted to the adjacent bar of the gate; suitable means for hinging the upper end of said lever to the supporting-post and for connecting said end to the middle portion of the upper bar; a lever pivoted to the middle portion of the gate below the upper bar and pivotally connected to said upper bar, whereby the outer free ends of the upper and lower bars may be drawn toward each other, and additional means carried by the lower portion of the gate designed to check the free end of said lever when the opposite end thereof passes the dead-center, as specified and for the purpose set forth.

6. The herein-described improvement in gates, consisting of a rigid lower portion and an upper bar pivoted thereto; suitable means for mounting said parts upon a supporting-post whereby the weight of the gate will hold the free end of the upper bar and the rigid portion of the gate normally separated, and suitable means for drawing said rigid and pivoted bars toward each other; a keeper-post and a series of keepers thereon, and a gravity-pawl to hold the same in an adjusted position whereby the gate may be freely opened past said keepers and said parts be restored by gravity to their normal positions when the gate is swung against the keeper-post, as specified and for the purpose set forth.

7. As an improvement in gates, the combination with a gate comprising a rigid portion and an upper bar pivotally secured thereto, and supporting and keeper posts therefor, of the herein-described operating device consisting of the lever proper 25, the pivoted arms 29 designed to form a toggle-joint between said portions of the gate, and a gravity-pawl adapted to automatically secure and hold said upper bar and rigid portion of the gate in an approximated condition until the gate is opened and again swung against the keeper-post, as specified and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

STEPHEN D. FRY.

Witnesses:

HARDY SANGER,  
G. G. GRAHAM.