

(No Model.)

2 Sheets—Sheet 1.

J. W. HENRY.
GATE.

No. 546,385.

Patented Sept. 17, 1895.

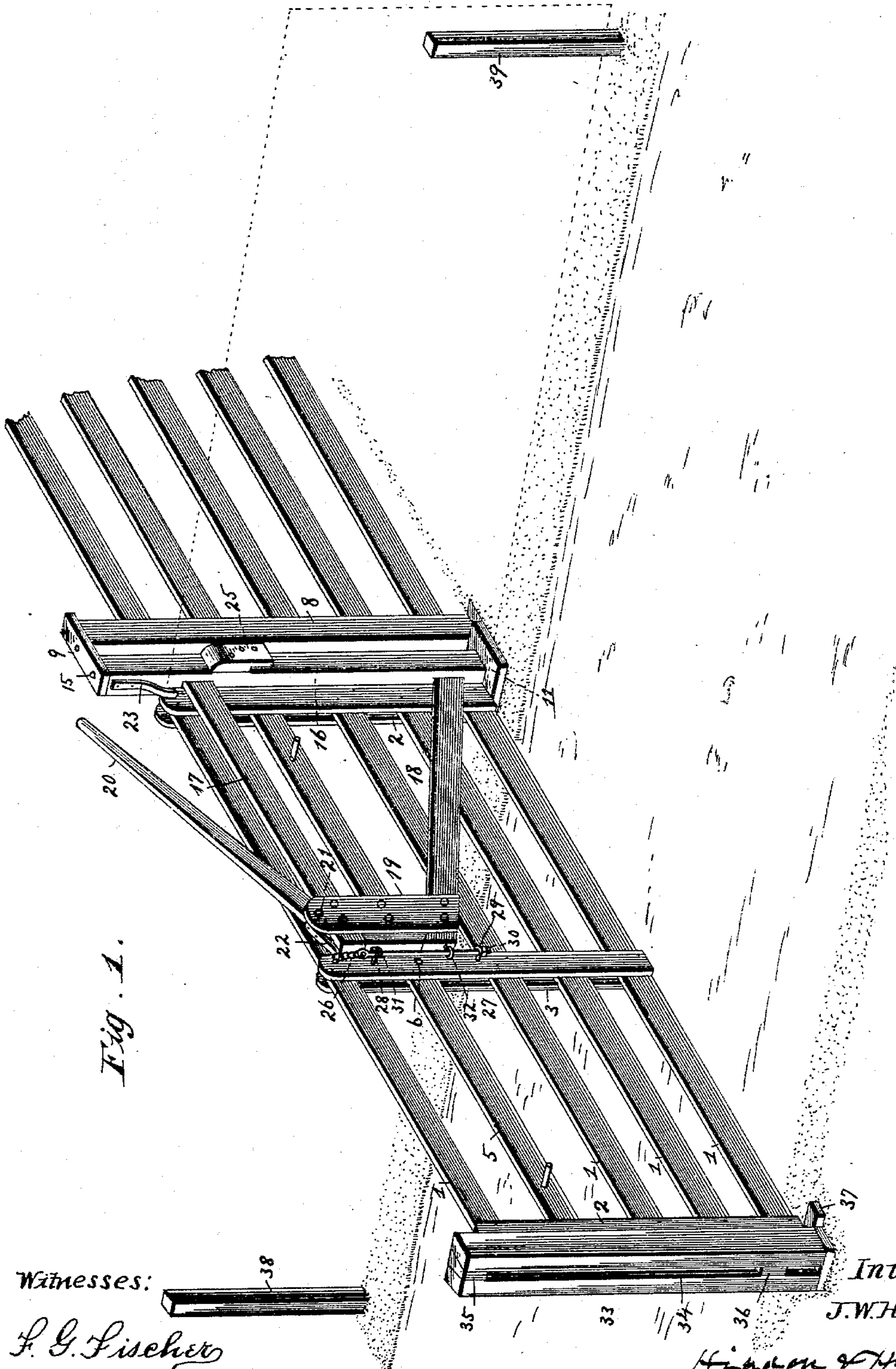


Fig. 1.

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By Higdon & Higdon
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(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

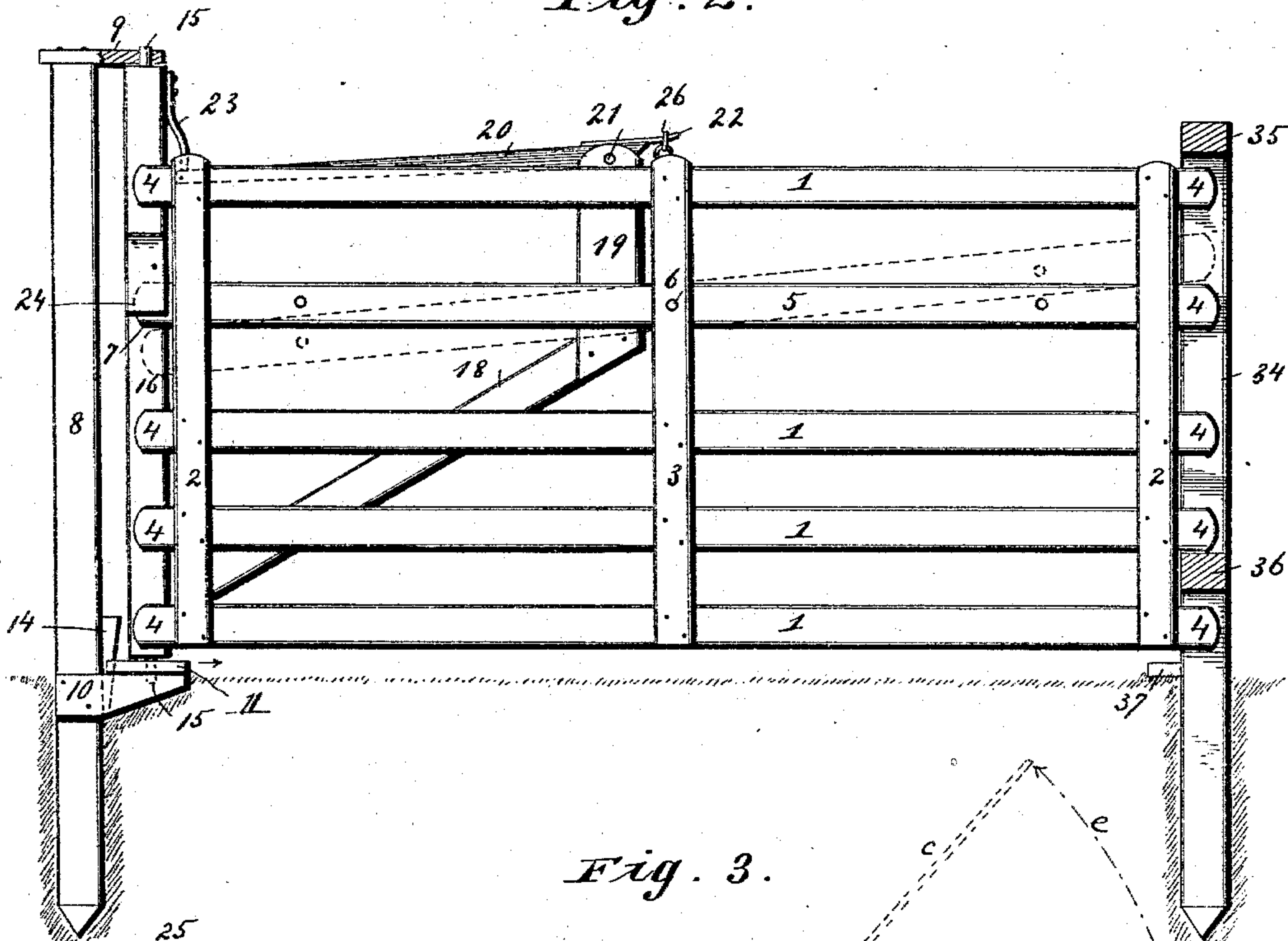


Fig. 3.

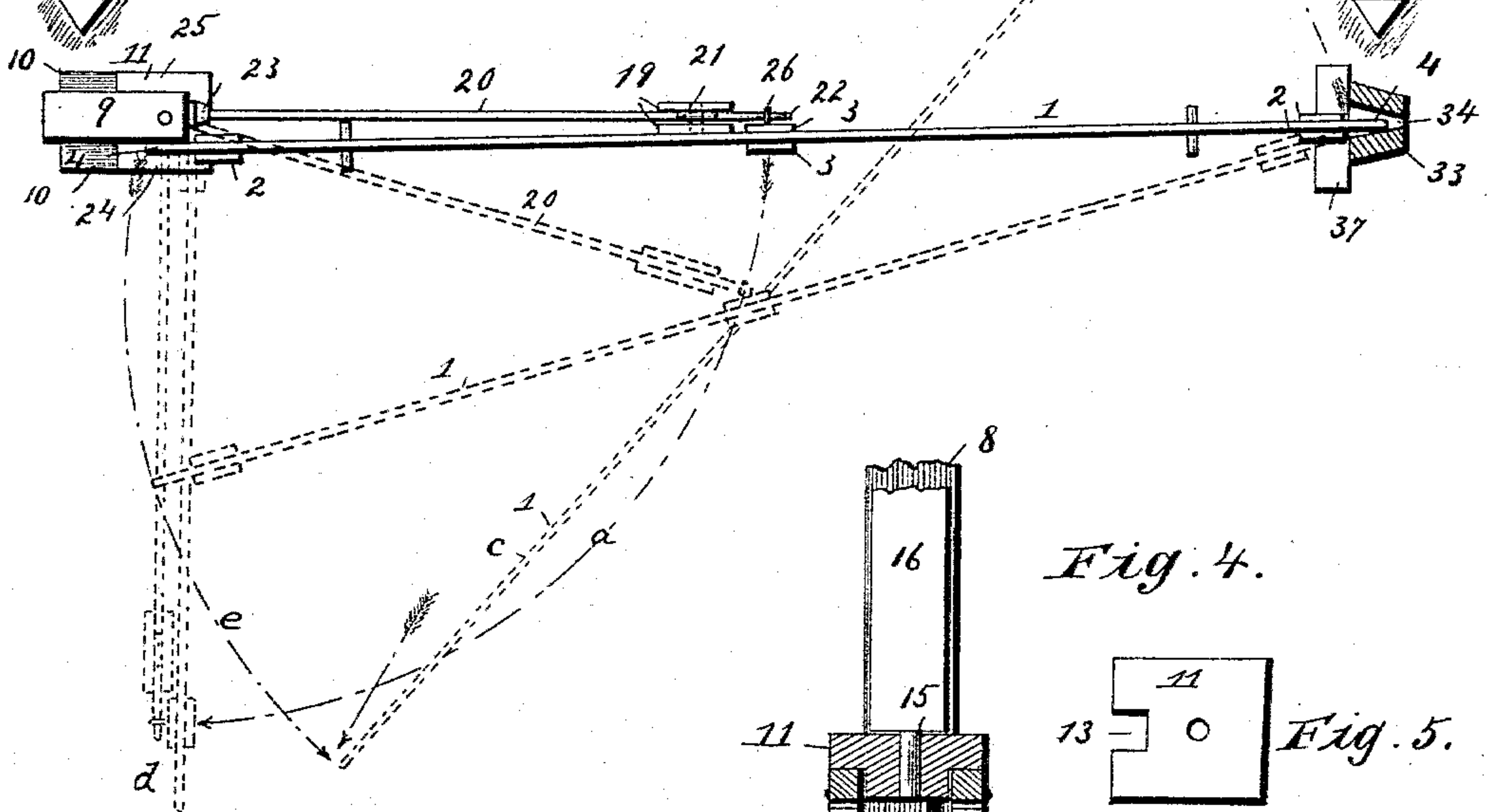
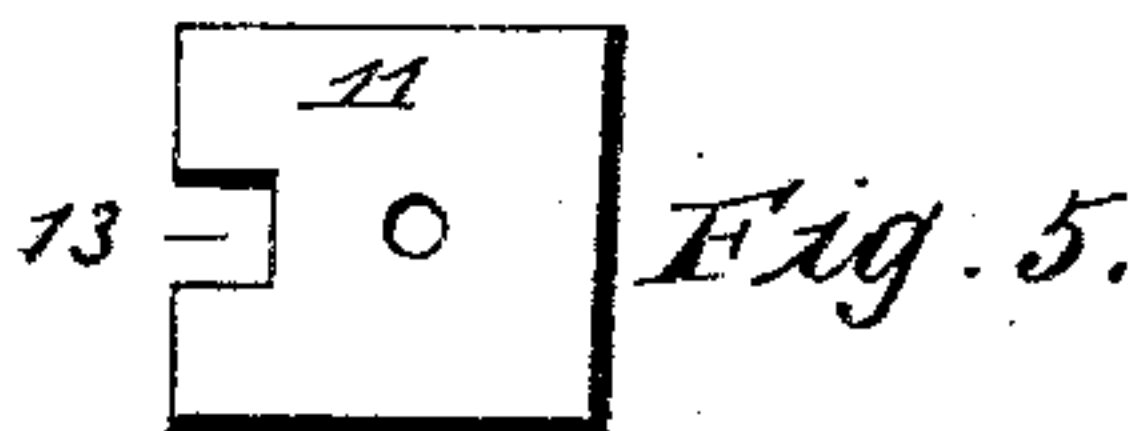
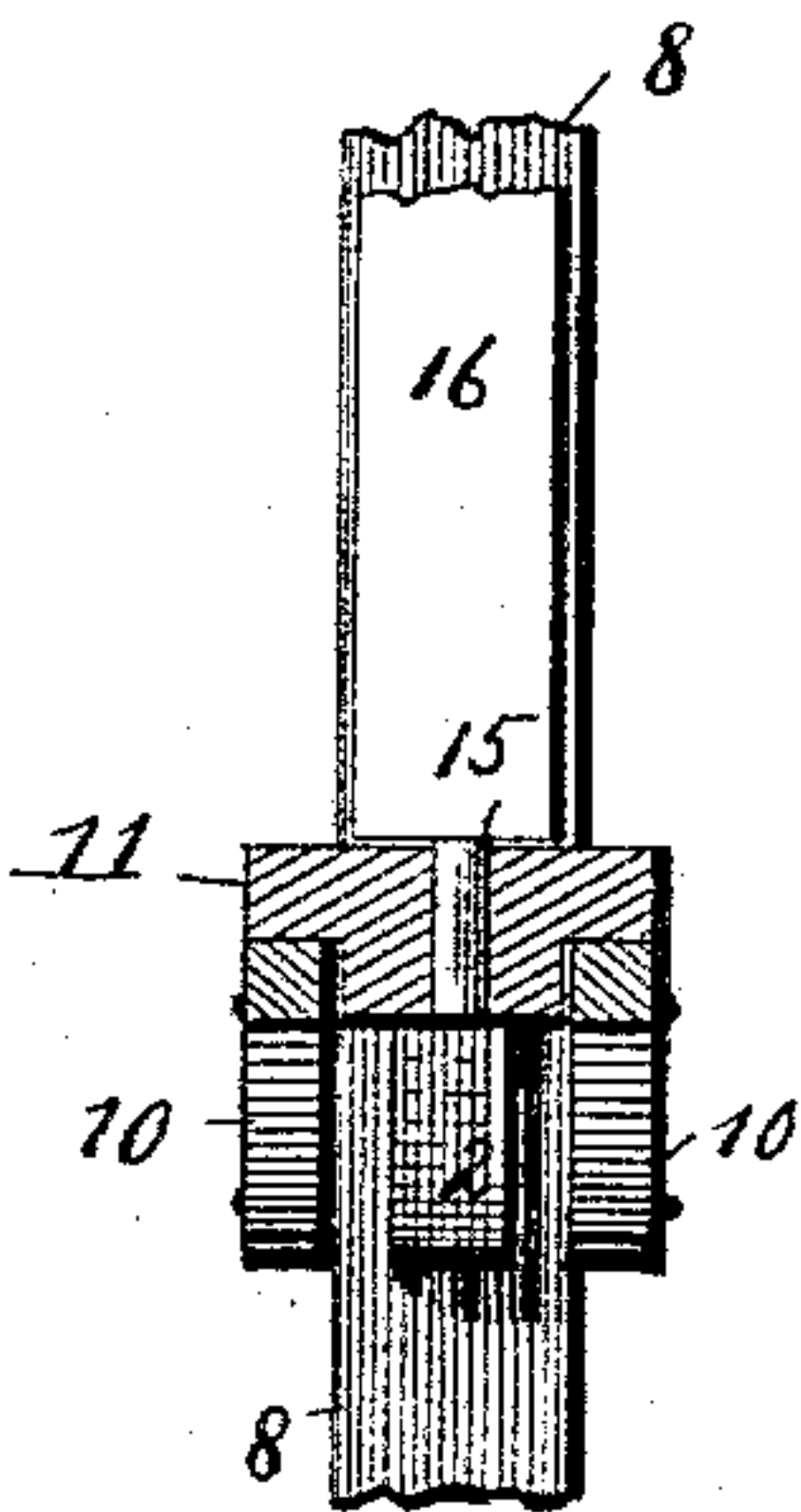


Fig. 4.



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UNITED STATES PATENT OFFICE.

JOSEPH W. HENRY, OF KANSAS CITY, MISSOURI.

GATE.

SPECIFICATION forming part of Letters Patent No. 546,385, dated September 17, 1895.

Application filed March 14, 1895. Serial No. 541,826. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH W. HENRY, of Kansas City, Jackson county, Missouri, have invented certain new and useful Improvements in Gates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to gates, and more particularly to that class which are hung upon swinging cranes.

The objects of the present improvement are, first, to provide means for supporting the gate when not in use, to relieve the hinge-post of the heavy strain which other hinge-posts must endure; second, to provide means for lifting the gate easily and quickly off of said supporting means when about to be opened; third, to equalize the weight upon the crane, so that the ends of the gate will not sag and come in contact with the ground and necessitate exertion on the part of the operator to steady it and the taking of a number of unnecessary steps to deposit it in proper position when opened; fourth, to provide means for preventing hogs or other animals lifting the gate sufficiently to pass beneath; fifth, to provide means for vertically adjusting the gate, and, sixth, for maintaining the vertical position of the crane should the hinge-post from any cause lean out of the perpendicular.

A further object is to provide a gate embodying these special features of improvement which is simple, strong, durable, and inexpensive of construction.

With these objects in view the invention consists in certain novel and peculiar features of construction and combinations of parts, as will be hereinafter described and claimed.

In order that the invention may be fully understood, I will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 represents a perspective view of a gate embodying my invention in its closed position. Fig. 2 is a view partly in side elevation and partly in section of the gate as viewed toward its opposite side from that shown in Fig. 1. Fig. 3 is a plan view of the same, and also shows in dotted lines different positions it assumes when being opened. Fig.

4 represents a vertical section taken in advance of the pivot post or standard of the crane. Fig. 5 is a plan view of the adjustable plate which carries the lower end of the crane.

In the said drawings the gate is shown as composed of a number of longitudinal slats 1, and vertical bars 2 and 3, between which said slats are secured, and project beyond the end bars 2, as shown at 4, for a purpose to be hereinafter explained. A locking-bar 5 is pivoted at 6 to the middle bar 3, and also projects at each end beyond the end bars 2, as shown clearly at 7 in Fig. 2.

8 designates the hinge-post at one side of a roadway, and 9 the plate which is secured to and projects from the upper end of the said hinge-post.

10 designates a pair of guide-bars, which are spiked or otherwise rigidly secured to opposite sides of the post 8, with their upper edges preferably in the plane of the ground. Said bars project from said post toward and transversely of the roadway, as does also the plate 9, and resting upon said bars 10 is the plate 11, which is provided with a depending rib 12, which fits snugly between the bars 10, and while permitting a longitudinal movement toward or from the hinge-post prevents any lateral movement. Said adjustable plate is notched at that edge which is contiguous to the post, so that by driving downward the wedge 14 said plate may be moved farther from the hinge-post.

The plates 9 and 11 are provided with vertical apertures, in which rotatably engage the pivot-pins 15, projecting from the upper and lower ends, respectively, of the crane post or standard 16. Said crane is composed of the post 16, the horizontal arm 17, a suitable distance from the upper end of the post, the upwardly-inclined arm 18, projecting from the post near its lower end, and the short vertical and parallel bars 19, which embrace the opposite sides of and are bolted to the ends of the arms 17 and 18. A lever 20 is pivotally mounted at 21 between said bars 19 and vertically above the top bar 17 of the crane, and carried by said lever or formed integral therewith is a hook-arm 22. The opposite end of said lever is adapted at times to be held in a depressed position by means of the spring-

catch 23, secured to the post or standard 16 near its upper end. Downwardly-disposed hooks 24 and 25 are secured to the opposite sides of said post or standard 16 at a suitable height to be engaged by the locking-bar 5, as will be hereinafter more particularly explained.

The free end of the hook-rod 22 of the lever 20 engages the topmost of a series of chain-links 26, which are attached to the upper end of a pivot-rod 27, which is guided in eyebolts 28 and 29, projecting from one side of the middle bar 3 of the gate, and the lower end of the said rod is engaged by a retaining-nut 30. Said rod, at the requisite distance apart, is also pivotally embraced by eyebolts 31 and 32, which project horizontally from the free or outer end of the crane. The position of said eyebolts relative to the eyebolts first described will be hereinafter explained.

At the opposite side of the roadway from the hinge-post is located the post 33, which, in conjunction with either of the downwardly-disposed hooks 24 and 25 and the locking-bar 5, locks the gate in its closed position. Said post is formed with a wedge or approximately V-shaped slot 34, and preferably is in the form of a pair of bars arranged at the required angle to each other. The upper ends of said bars are united and the slot is closed by the block 35, and a similar block 36 connects said bars a distance from their lower ends *b* exceeding slightly the depth of the bottom slot 1 of the gate. The lower side of the block 35 is also a suitable distance from the upper edge of the top rail 1 when the gate is in its normal position—that is, when the end bars 2 of the same rest directly upon the adjustable supporting-plate 11 and the stationary supporting-plate 37, contiguous to the post 35.

When the gate is resting upon its supporting-plates, the projecting portions of the slats at one end fit in the wedge-shaped slot 34 of the post 33, and the ends of said slats, projecting beyond the opposite end bar 2 of the gate, rest against the side of the crane post or standard 16, as shown clearly in Figs. 2 and 3. When in this position, the topmost eyebolt 28, carried by the gate, is contiguous to the topmost eyebolt 31 of the crane, but exerts no pressure thereon, because, as hereinbefore stated, the gate is supported upon the plates 11 and 37, and the eyebolt 32 of the crane is arranged a suitable distance above the eyebolt 29 of the gate.

When the gate is to be opened, the operator first depresses the handle 20 until it engages and is held in an approximately-horizontal position by the spring-catch 23, as shown in Fig. 2. This operation of said lever, of course, raises the gate bodily to the position shown in full lines, Fig. 2, where it will be observed that it is not supported by the plates 11 and 37. The locking-bar 5 is now pivotally operated to disengage it from the downwardly-disposed hook 24, and the gate is pulled toward or pushed from the operator

in the direction indicated by the arrow *a*, Fig. 3. By the time it reaches the position shown in dotted lines *b* it will be found convenient to swing it upon the pivoted rod 27 to the position shown in dotted lines *c*, without interrupting the movement of the crane in the direction indicated by the arrow *a*, which movement is continuous until the gate is entirely opened and has assumed the position shown in dotted lines *d*, with its end in rear of the stop post 38, which is located at the same side of the roadway as the hinge-post. During the swinging of the crane the gate proper moves continuously in the direction indicated by the arrows *e* until it rests flatly against the side of the crane opposite to that which it engaged originally or when the gate was in its closed position.

When in operation, and also after being opened, the gate may be supported in its elevated position by reason of the free end of the lever 20 being held in its depressed position; but it will also be seen that after the gate clears the slotted post the lever may be disengaged from the spring to permit the gate to assume a lower position. It will still be carried by the crane, however.

It will be apparent, of course, owing to the pivotal connection between the middle of the gate and the supporting-crane, that the position of said gate may be reversed at any time required—that is, it may swing around so that the ends of the slats shown in the drawings as engaging the slot 34 will lie against the opposite side of the crane post or standard 16, and their opposite ends, which in said drawings lie against said post, will engage the said slot; also, that the gate may be opened in the opposite direction until it is in rear of the stop-post 39. It will be noticed in this connection that the gate cannot sag at either end, because the pivot-rod is maintained in a vertical position at all times by the eyebolts of the crane being arranged a considerable distance apart and because, the eyebolts 28 and 29 being also a considerable distance apart, the gate is always maintained in the same position relative to said pivot-rod. In other words, by having the bearing-points at some distance apart there can be no pivotal motion, and without pivotal motion, as long as the crane remains vertical, it is impossible for one end of the gate to drop below the other.

In case from any cause the hinge-post 21 leans out of the perpendicular toward the gate it is only necessary, with a hammer or an axe, to drive the wedge 14 down farther between said post and said plate 11. This operation forces said plate farther from the post until the crane has resumed its vertical position. The blocks 35 and 36, as hereinbefore stated, are arranged a suitable distance above the upper edges of the contiguous slats, and thus will permit the gate to be raised some distance from the supporting-plates 37, but prevent its being elevated high enough

to permit pigs or hogs to pass below. By employing a chain 26 of several links it will be apparent, in case it is necessary to raise the gate when snow is on the ground sufficiently deep to interfere with the free operation of the same, that by engaging the hook 22 with a lower link than the top one, which it normally engages, it can be easily accomplished.

It will also be apparent, should a horse or other animal depress the lever 20 and raise the gate from the supporting-plates, that the gate will not open, because the locking-bar 5 will still be in engagement with the downwardly-disposed hook 24 or 25, as the case may be.

It is to be understood that changes in the form, proportion, and arrangement of parts may be made without departing from the essential spirit and scope of my invention.

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

1. A swinging gate, comprising a crane at one side of a road-way, a slotted post at the opposite side of the road-way, a gate proper pivotally connected to the free or outer end of the crane, and a lever pivotally carried by said crane and connected to the gate in such manner that the gate will be elevated or lowered accordingly as said lever is operated, substantially as set forth.

2. A swinging gate, comprising a crane at one side of a road-way, a slotted post at the opposite side of the road-way, a gate proper pivotally connected to the free or outer end of the crane, a lever pivotally carried by said crane and connected to the gate in such manner that the gate will be elevated or lowered accordingly as said lever is operated, and a spring-catch carried by said crane, substantially as and for the purpose set forth.

3. A gate, comprising a swinging crane lo-

cated at one side of a road-way, a slotted post at the opposite side of said road-way, a gate proper at one end projecting into the slot of said post and at its opposite end resting against the side of said crane, a downwardly-disposed hook carried by said crane, and a pivoted locking-bar forming one of the slats of the gate and engaging at its opposite ends the slot of said post and the said downwardly-disposed hook, substantially as set forth.

4. A swinging gate, comprising a swinging crane located at one side of a road-way, eye-bolts projecting from the free end of the same at some distance apart, a gate proper, eye-bolts projecting from the same midway its length, one of said eye-bolts being located vertically above and the other vertically below the eye-bolt of the said crane, a vertical pivot-rod extending through said eye-bolts and provided with a retaining-nut at its lower end, a chain attached to its upper end, and a lever pivotally carried by the crane and provided with a hook detachably engaging said chain, substantially as set forth.

5. A swinging gate, comprising a hinge-post, a plate carried at the upper end of the same, parallel guide-bars projecting also from said post, with their upper surface preferably in the plane of the ground, a sliding-plate mounted upon said guide-plates, means to adjust the same toward or from the lower end of the hinge-post, and a swinging crane pivoted at its upper and lower end, respectively, in the plate carried by the hinge-post and the said adjustable plate, and a gate proper pivotally connected to the free end of the crane, substantially as set forth.

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

JOSEPH W. HENRY.

Witnesses:

G. Y. THORPE,
M. R. REMLEY.