

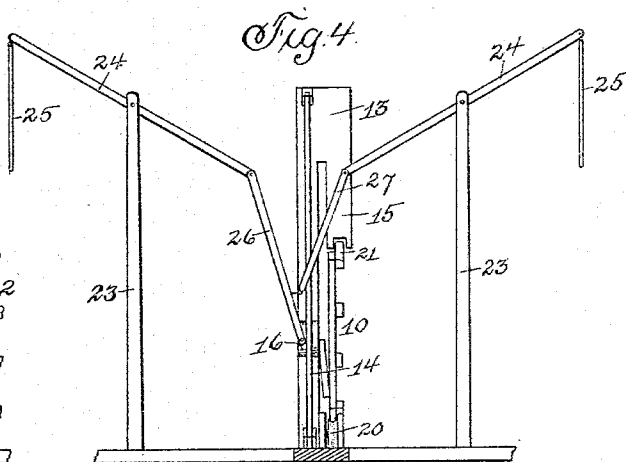
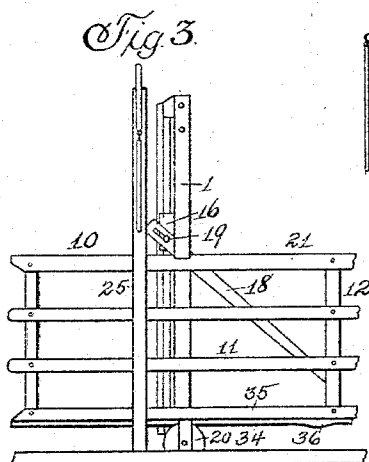
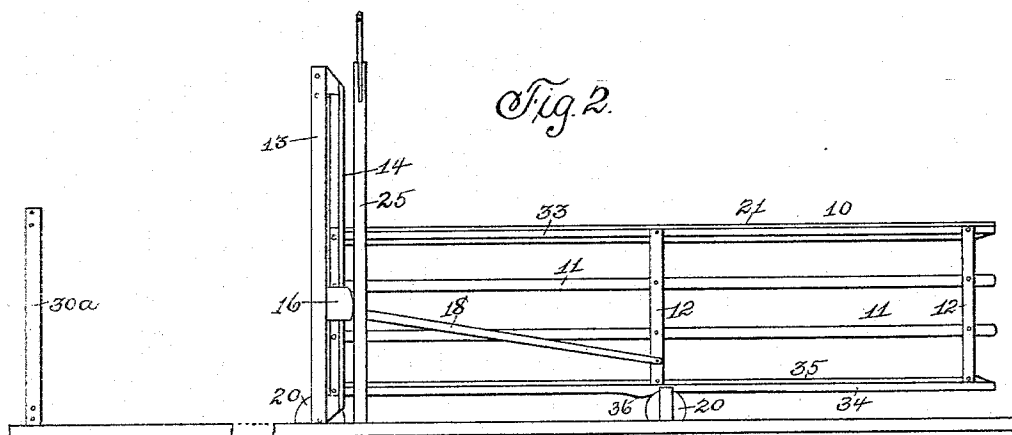
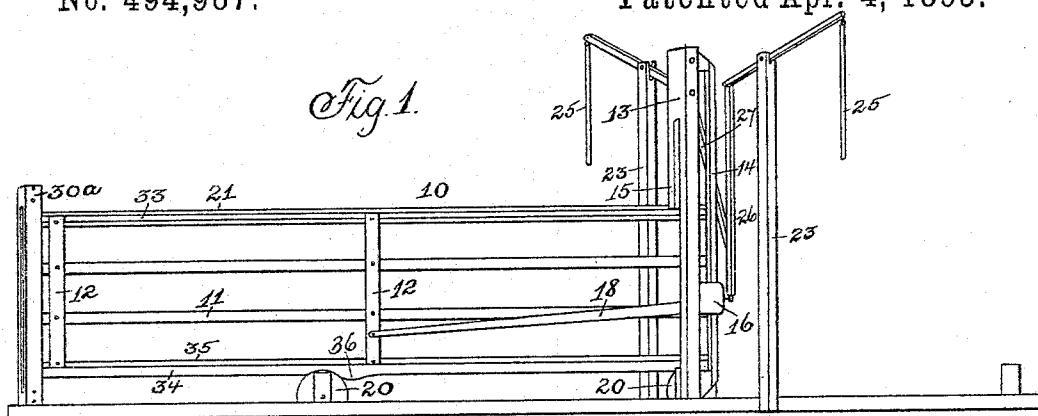
(No Model.)

2 Sheets—Sheet 1.

W. A. JONES.  
FARM GATE.

No. 494,987.

Patented Apr. 4, 1893.



Witnesses  
F. C. Tate.  
G. R. Green

Inventor  
William A. Jones.  
by Charles C. Bulkley  
his Atty.

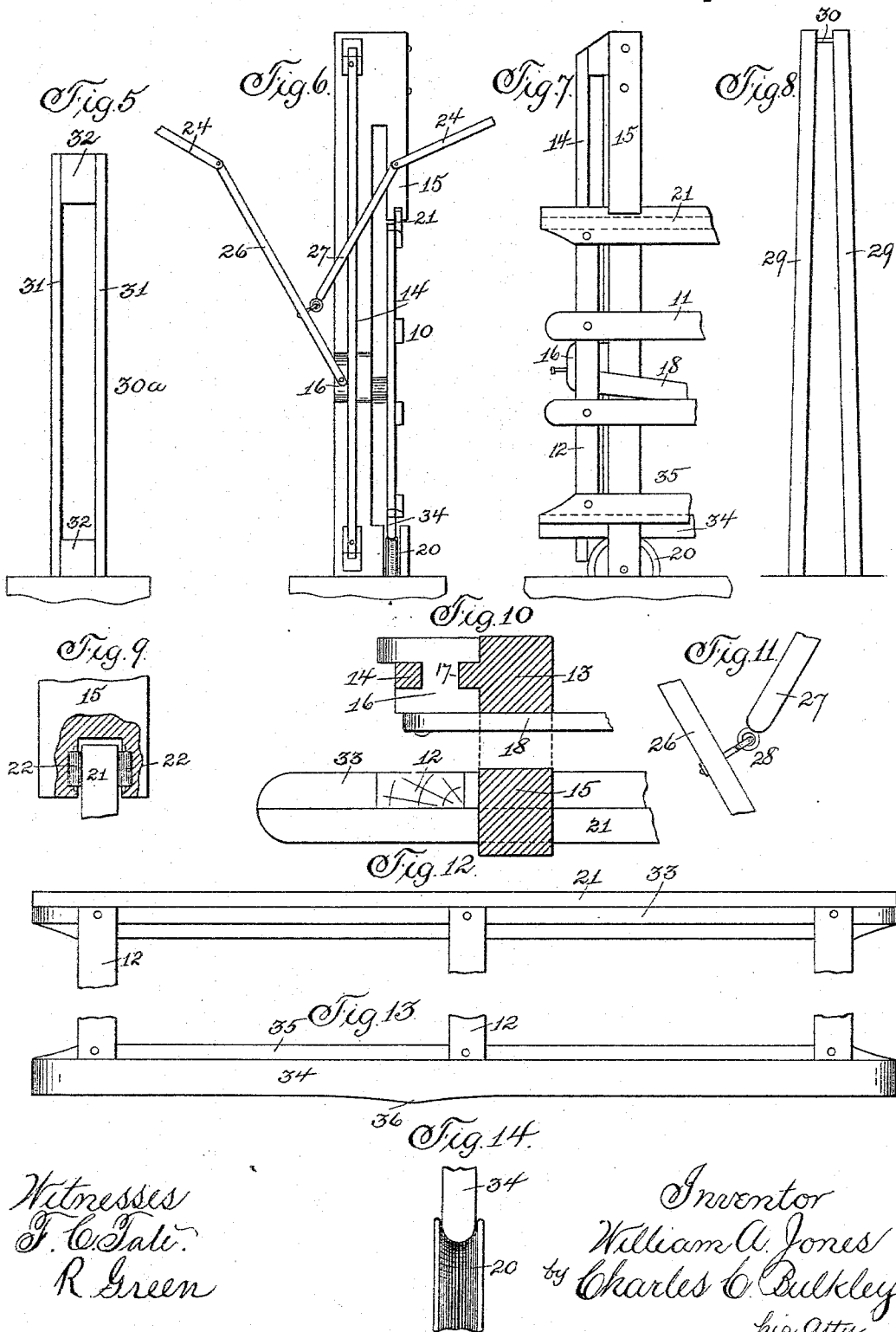
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# UNITED STATES PATENT OFFICE.

WILLIAM A. JONES, OF SIGOURNEY, IOWA.

## FARM-GATE.

SPECIFICATION forming part of Letters Patent No. 494,987, dated April 4, 1893.

Application filed April 21, 1892. Serial No. 430,016. (No model.)

### *To all whom it may concern:*

Be it known that I, WILLIAM A. JONES, a citizen of the United States, residing at Sigourney, in the county of Keokuk and State of Iowa, have invented a new and useful Farm-Gate, of which the following is a specification.

My invention has for its objects the attainment of the following desired ends:—The provision of means by which a farm gate may be closed or opened from a point of operation on either side of the gate, and by which the gate may be held in an open or closed position without the use of supplemental or separate latches or other locking devices, said gate being held in said open or closed positions by means of the same instrumentalities employed to operate the gate into the open or closed positions; means by which the top and bottom of said gate are very materially strengthened; means by which, in the traverse of the gate into open or closed positions, said gate is guided and restricted in its upward movement and held in position upon the traveler wheels; such a formation of the rail of the gate as that the latter cannot assume a position in which the instrumentalities for opening and closing the gate are ineffectual, and also means by which the connecting and operating rods are so connected that the supporting posts may be arranged in any desired position relative to the gate.

My invention consists in certain details of construction and combination of parts herein more particularly described, pointed out in my claims, and illustrated by the accompanying drawings, in which:

Figure 1 is a view in perspective of my improved gate in a closed position. Fig. 2 is a side elevation, the gate being shown in an open position. Fig. 3 is a side view of a portion of the gate showing the position of the parts when the gate is partly open. Fig. 4 is an end elevation. Fig. 5 is an enlarged end elevation of one of the end posts. Fig. 6 is an enlarged end view of the central post. Fig. 7 is a side view thereof. Fig. 8 shows a modified form of supporting post for the operating levers. Fig. 9 is a detail view of the antifriction devices against which the top rail of the gate bears in its traverse. Fig. 10 is a detail sectional view through the central post show-

ing the motion block and means for guiding the same. Fig. 11 is a detail view of the swivel connections between the operating levers and connecting rods. Figs. 12 and 13 are respectively views showing the reinforcing strips on the upper and lower rails of the gate. Fig. 14 is a detail view showing the reinforcing strips of the lower rail in position and riding over one of the traveler wheels.

The numeral 10 designates the gate, consisting of the ordinary horizontal bars 11 and the vertical bars 12.

The numeral 13 designates a central post, to which post the guide bar 14 is secured and from which the arm 15 extends downwardly.

A motion block 16, either of wood or iron is provided, which motion block is so grooved as to ride up and down upon the guide bar 14 and the rib 17 on the side of the vertical post 13, as shown more clearly in Fig. 10.

Connected to one side of the motion block 16, (Fig. 3,) is an actuating and locking lever 18, slotted at its upper end, a pin 19 secured to said motion block 16 traveling within said slot, the other end of said lever being pivotally secured to the lower portion of the central one of the bars 12. The lower end of the arm 15 extending downward from the post 13 is notched, as shown in Figs. 4, 6 and 9, and the gate is mounted on traveler wheels 20, in such a manner as that the upper horizontal bar 21 of the gate 10 is engaged within the notch in the lower end of the arm 15.

In Fig. 9 I have shown two antifriction rollers 22, on each side of the notch on the lower end of said arm 15, so that when the gate is acted upon by undue pressure, resulting from wind or other causes, said antifriction rollers will serve to prevent binding and permit the free movement of the gate.

Referring to Figs. 1 and 4, the numeral 23 designates vertical supporting posts carrying the operating levers 24 pivoted on their upper ends, the rods 25 being connected to the outer ends of said operating levers 24, connecting rods 26, 27, being pivotally secured to the inner ends of said rods 24, the connecting rod 26 being connected to the motion block 16, and the rod 27 connected to the rod 26. The manner of connection of the rod 27 to the rod 26 and also of the latter to the motion block

16 is shown in Fig. 11, and consists of a swivel 28. By this means the posts 23 may be adjusted in any position relative to the central post 13 without occasioning binding of the parts which would prevent the operation of the mechanisms.

In Fig. 8 I have shown another form of support for the operating levers 24, which consists of two posts 29, set in such a manner as to incline the one toward the other, being joined together at their upper ends by means of the pin 30, which also constitutes the pivot of the operating levers 24.

In Fig. 5 is shown one of the end posts 30<sup>a</sup>, comprising the side pieces 31, 31, and the top and bottom blocks 32, 32.

In Fig. 13 is shown the reinforcing strip 34 for the bottom rail 35, this reinforcing strip having a beveled lower edge to ride within the periphery of the traveler wheels 20. I also form said lower rail in such a manner as that at a particular point an apex is formed, as shown at 36, its edges gradually sloping toward this point, which is located in such a position as that when the actuating and locking bar 18 is in the vertical and the gate unactuated by the operator, said gate will automatically be moved in either one direction or other on the inclined faces, so that by no possibility can the actuating rod 18 remain on a dead center.

The operation of my improved gate is as follows: Assuming the gate to be in a closed position, as shown in Fig. 1, it will be seen that the gate is locked in this closed position since the locking rod 18 is in a nearly horizontal plane and any effort to open the gate will be resisted by said rod. In order to open the gate the operator exerts a downward pull upon one of the operating rods 25, which rod in turn causes an upward movement of connecting rod 26 or 27, and makes the motion block 16 travel upwardly upon the guide rod 14 and rib 17, said downward pull being continued until the motion block arrives at the limit of its upward movement and the actuating rod 18 which has been approaching the vertical and drawing the gate into its open position passes into and by the vertical plane, when an upward push may be exerted upon the operating rod 25, which imparts a downward movement to the motion block 16, which latter in turn causes the actuating rod 18 to push the gate into its extreme open position by means of the locking rod 18 assuming a position in nearly a horizontal plane as in the instance when the gate is closed. It will be seen that the slot and pin connection of the actuating rod 18 to the slot 16 permits a free movement in the travel of the gate over the apex 36. It is also apparent that the same mechanism which actuates the gate into an open or closed position also holds said gate in said locked positions. I have also provided means by which the gate is capable of invariable operation, since at no time can the

actuating rod 18 assume a position in a vertical plane relative to the motion block 16 and its point of attachment to the gate, and I have also provided means by which the gate is materially strengthened and capable of operation with a minimum degree of friction. It will be observed also that the end post 30<sup>a</sup> in conjunction with the depending arm 15 holds the gate in position and prevents the same from rising, and also holds it upon the traveler wheels 20.

Having thus described my invention, what I claim as new therein, and desire to secure Letters Patent of the United States therefor, is—

1. The combination with the central post of a farm gate and an arm depending therefrom having a notched end in which the upper rail travels, of end posts having upper and lower blocks or cross pieces, and side pieces, providing a space for the entrance of the gate and which in conjunction with the depending arm of the post prevent any undue vertical movement of the gate together with manually actuated levers whereby the gate is moved longitudinally within said spaces.

2. In a farm gate the combination with the gate proper, of a central post, guides secured on said post, a motion block reciprocating in said guides, an actuating and locking rod pivoted to the motion block and to the gate, supporting posts on each side of the gate, operating levers pivoted at the upper ends of said posts, a connecting rod between one of said levers and the motion block, swivel connections between said rod and block, a connecting rod between the other lever and the first mentioned connecting rod, and swivel connection between said rods.

3. In a farm gate the combination with the gate proper, of a central post, guides secured on said post, a motion block reciprocating in said guides, an actuating and locking rod pivoted to the motion block and to the gate, supporting posts on each side of the gate, operating levers pivoted at the upper ends of said posts, a connecting rod between one of said levers and the motion block, a connecting rod between the other lever and the first mentioned connecting rod, a notched arm extending downwardly from the central post and engaging the top rail of the gate proper together with a double inclined rib on the bottom rail of said gate resting upon the supporting pulley, the apex of which rib is at the longitudinal center of the gate.

4. In a farm gate the combination with the gate proper, of a central post, guides secured on said post, a motion block reciprocating in said guides, an actuating and locking rod pivoted to the motion block and to the gate, supporting posts on each side of the gate, operating levers pivoted at the upper ends of said posts, a connecting rod between one of said levers and the motion block, a connecting rod between the other lever and the first

mentioned connecting rod, swivel connections  
between said rods and between one of said  
rods and the motion block, a notched arm ex-  
tending downwardly from the central post  
5 and engaging the top rail of the gate proper,  
and a reinforcing strip on the lower rail of  
said gate having a projection forming an apex  
adapted to ride over the traveler wheels.

In testimony whereof I have hereunto  
affixed my signature this 8th day of April, 10  
1892.

WILLIAM A. JONES.

In presence of—

JOHN T. PARKER,  
P. R. ELLIS.