2 Sheets—Sheet 1.

G. H. SMITH.

Gate.

No. 197,906. **Patented Dec. 4, 1877.**

Fig. 1.

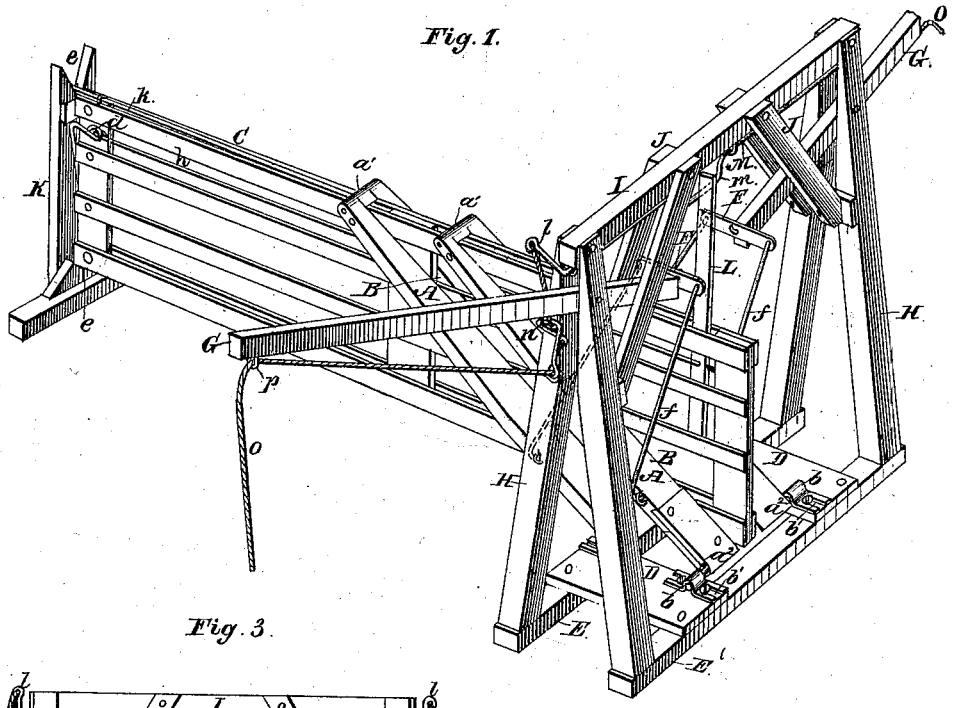


Fig. 3.

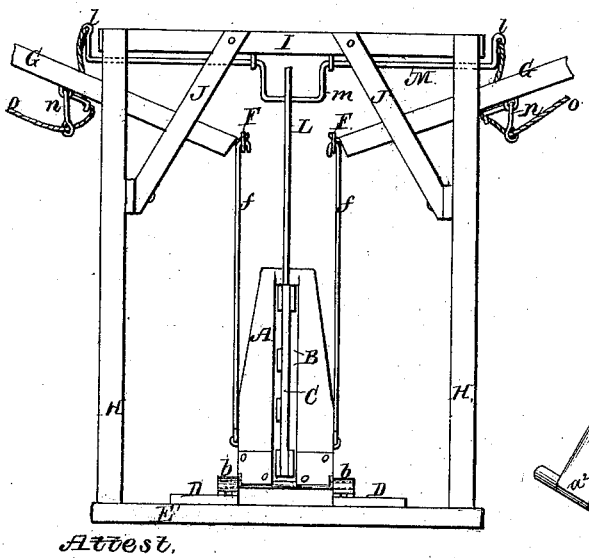
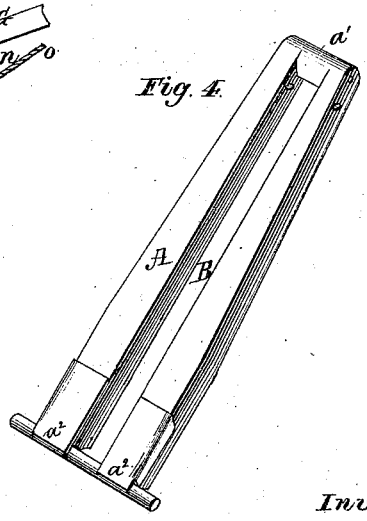


Fig. 4.



Attest.

Amos Hine

John A. Eichelberger

Inventor.

G. H. Smith

2 Sheets—Sheet 2.

G. H. SMITH.

Gate.

No. 197,906. **Patented Dec. 4, 1877.**

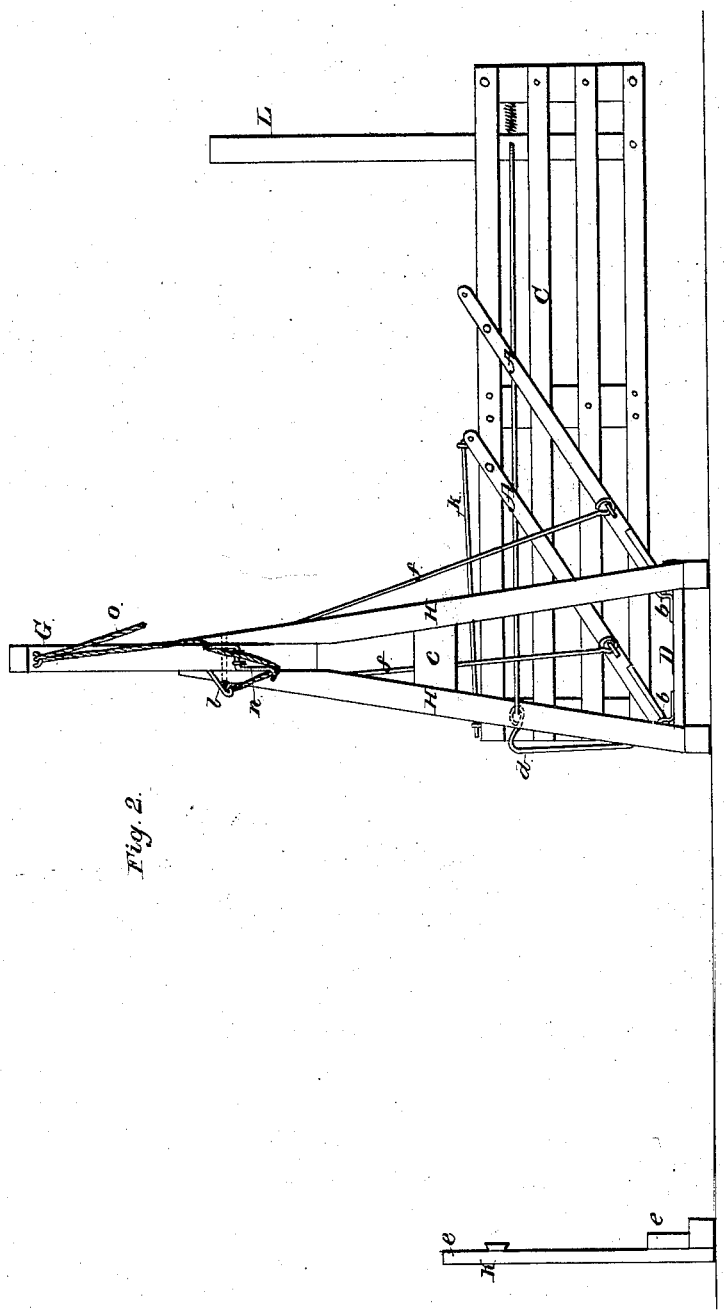


Fig. 2.

Attest.

Amos Hince

John A. Eichelberger.

Inventor.

G. H. Smith

UNITED STATES PATENT OFFICE.

GEORGE H. SMITH, OF FREEPORT, ILLINOIS.

IMPROVEMENT IN GATES.

Specification forming part of Letters Patent No. **197,906**, dated December 4, 1877; application filed June 25, 1877.

To all whom it may concern:

Be it known that I, GEORGE H. SMITH, of Freeport, in the county of Stephenson and State of Illinois, have invented a new and Improved Farm-Gate; and I do hereby declare that the following is a full, clear, and exact description of the same.

The invention is an improvement in the class of farm-gates which are supported by pivoted bars and move in a vertical plane when opening and closing, thus describing the arc of a circle, but at the same time preserving a horizontal position.

The improvement relates to the construction and arrangement of the bars that support the gate, and the connection of latch or locking devices therewith, in the manner hereinafter described.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of the gate closed. Fig. 2 is a side view of the gate open. Fig. 3 is an end elevation, and Fig. 4 a perspective view of one of the pivoted supports for the gate.

The gate proper may be constructed of panel and cross bars in the usual way. The supports for the gate consist each of two bars, A B, whose upper ends are connected by a block, a^1. The bars A B are separated by a slot, in which the gate works, and the latter is pivoted to them near their upper ends, the pivotal point of one support being located on one side of the longitudinal middle of the gate, and the other upon the other side thereof.

The frame to which the gate-supporting bars A B are pivoted consists of a horizontal top beam, I, two pairs of diverging supports or braces, H H, diagonal braces J, and two horizontal parallel sills, E E′, to which a platform, D, is secured in suitable manner. The bases of the gate-bars A B are pivoted, by means of journals a^2 a^2 and slotted adjustable straps or boxes *b b*, to the platform D. The front bar A B is pivoted over one sill, E, and the other over the other sill, E′; or, rather, one is pivoted on one side and the other on the other side of a line drawn vertically through the beam I and center of the platform D. The result of this construction and arrangement is that the gate is supported in such manner as to move with equal ease in both directions, (for opening or closing,) and to adapt it to be used with either end as the front. The gate is also braced laterally in such manner as to prevent swaying in high winds or sagging under any conditions.

The means for operating, *i. e.*, swinging the gate, are the levers G, rods *f*, and sway-bars or eveners F. The levers G are pivoted between the upper ends of braces H H, and project laterally in a direction parallel to the roadway, or at right angles to the gate. Their inner ends are pivoted to eveners F, and the rods *f* connect the respective ends of each evener with the front and rear gate-supporting bars A B. Thus, by depressing the outer or free end of either lever G, a like lifting force will be applied to each bar A B, and the gate thereby caused to swing vertically in the arc of a circle described from a point equidistant between the pivots or journals a^2 a^2.

The latch consists of two devices, one a rod, *k*, attached to the upper end of front gate-bar A B, and sliding in guides affixed to the top of the gate; and the other a vertical bar, L, pivoted to the rear end of the gate. The rod *k* is pushed forward and enters a triangular notch, *e*, in top of post K, when the gate is closing, and thus helps to bring the gate into proper position.

The latch-bar L is connected by rod *h* with a spring, *d*, at front end of gate, which operates to draw the upper or free end of bar L forward under the cross-beam I when the gate closes. When in that position the bar L locks the gate shut—that is to say, prevents the gate being raised and opened, except the upper end of the bar is first pushed back to free it of engagement with the beam I. To thus free the bar I employ the crank-rod M, whose bent central portion *m* bears against it, as shown in Fig. 1.

Cords *o* are attached to the bent arms *l* of the crank-rod M, also to elbow-levers *n*, pivoted to lifting-levers G, and pass through staples *p* at the ends of the latter. By pulling one of said cords *o* the part *m* of the crank-rod will press the upper end of latch-bar L backward or out from under the beam I, and, the tension being continued, the gate will be raised and opened.

It is obvious the spring *d* may be a catch

and engage a shoulder or ledge on post K, to assist in holding the gate latched or locked shut.

What I claim is—

1. The combination of the crank-rod M, rod *k*, latch-bar L, and cord *o*, arranged on the lifting-levers G, substantially as shown and described.

2. The combination of lifting-levers G, evengers F, rods *f f*, bifurcated gate-supporting bars A B, and gate C, said bars being pivoted to the gate at points on either side of the lengthwise middle, as shown and described.

G. H. SMITH.

Witnesses:
AMOS HIME,
JOHN A. EICHELBERGER.