

G. C. Flagg,
Automatic Gate,

N^o 31,965.

Patented Apr. 9, 1861

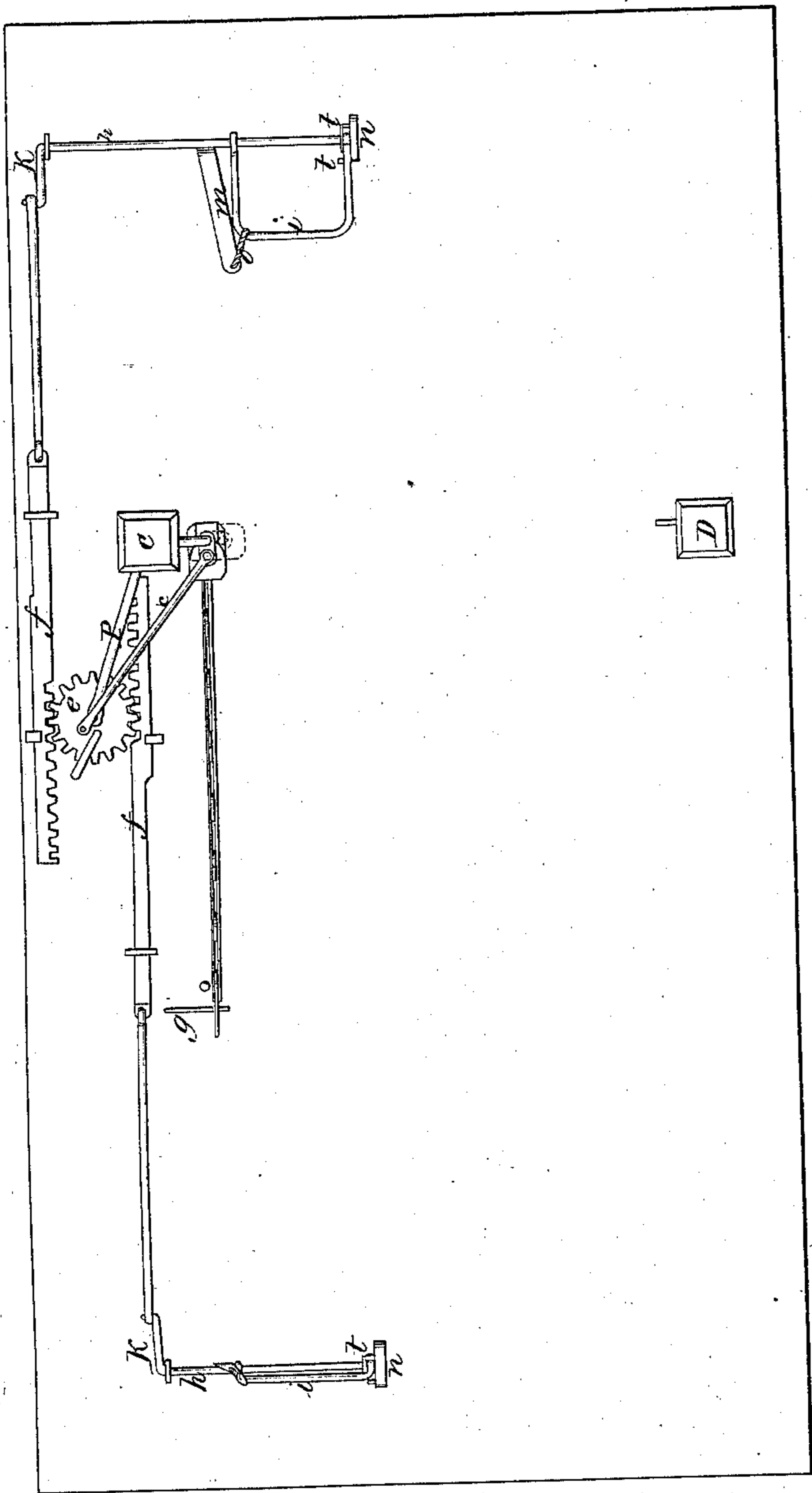


Fig. 3.

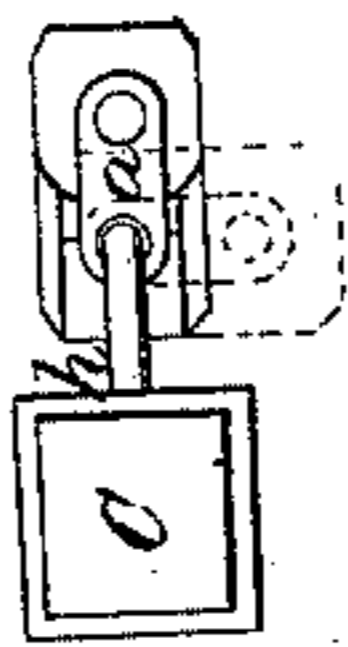


Fig. 2.

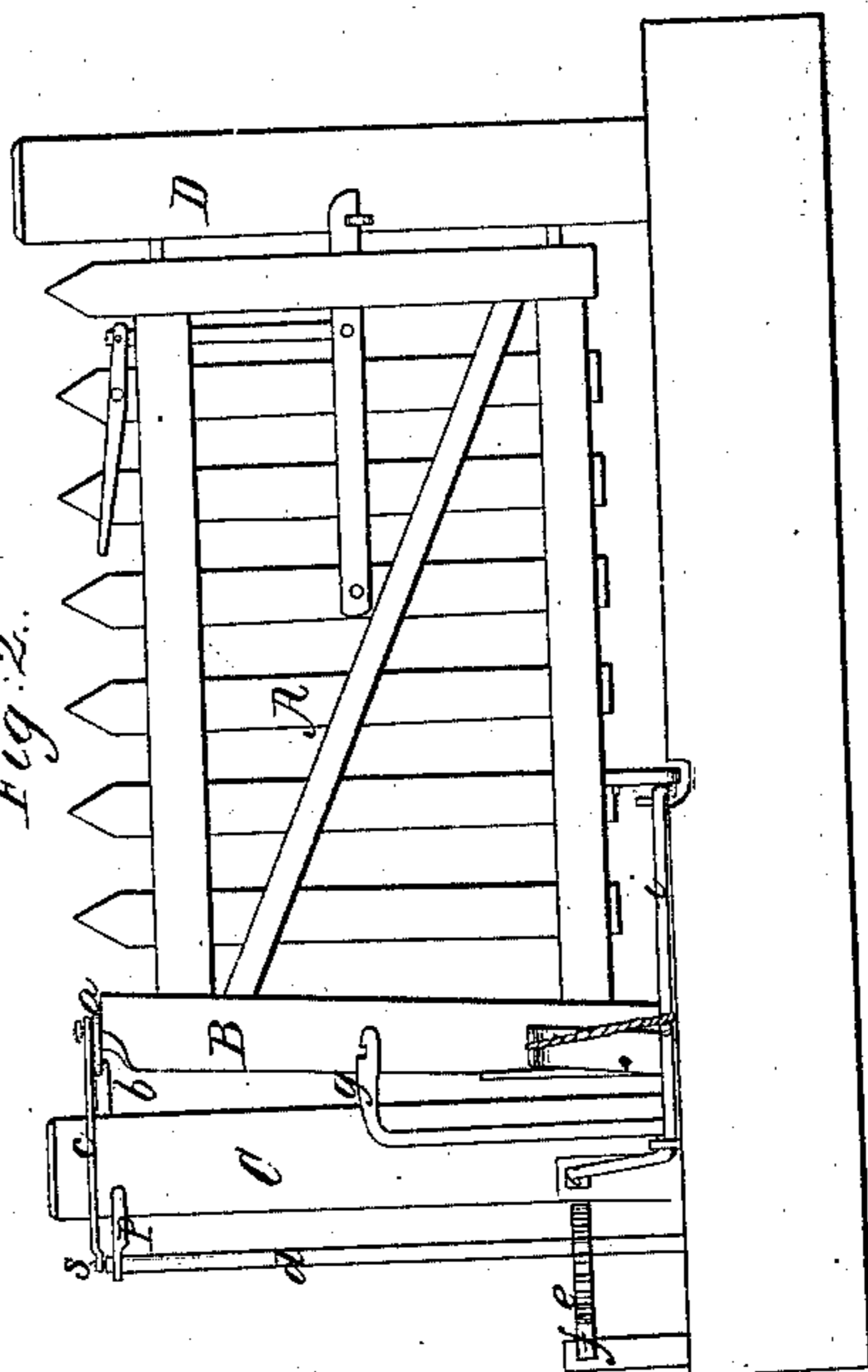
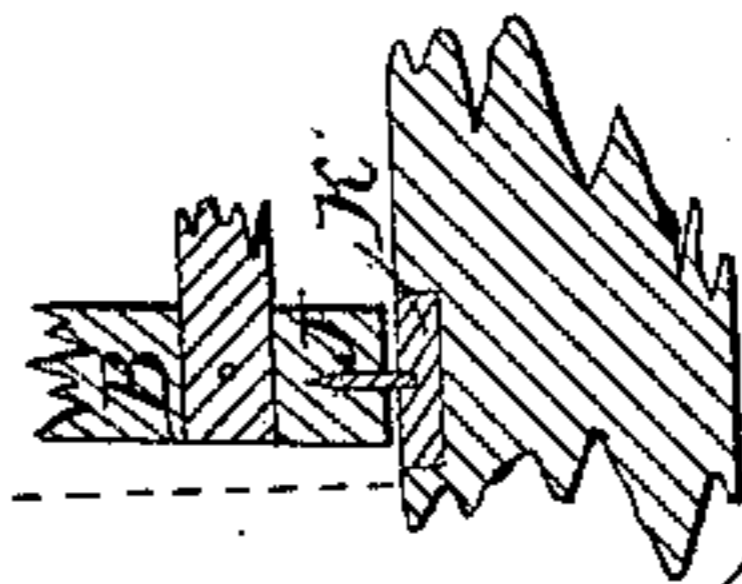


Fig. 4.



Witnesses;
S. H. Shakespeare
E. P. Smith

Inventor;
Geo. C. Flagg
Per *J. Southgate Smith*
Atty

UNITED STATES PATENT OFFICE.

GEORGE C. FLAGG, OF TANKTOWN, OHIO.

GATE.

Specification of Letters Patent No. 31,965, dated April 9, 1861.

To all whom it may concern:

Be it known that I, GEORGE C. FLAGG, of Tanktown, Delaware county, Ohio, 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 drawing, forming part of this specification, in which—

Figure 1st represents a plan of a gate and its connections for opening the same embracing my improvement. Fig. 2d represents an elevation of the same when closed. Fig. 3d represents on an enlarged scale a plan of the gate post, and hinge bar, showing the different position of the hinge bar when the gate is open, and closed. Fig. 4th represents an elevation of the hinge showing the position of the hinge.

My improvements in gates relate to that class termed "approach openers" in which the gate, and its opening and closing mechanism, are so arranged that the gate may be opened by the hand, or by the wheels of vehicles, before reaching it; and closed in the same manner after passing through.

Among other modes adopted in hanging the gate, and in arranging the opening and closing mechanism—is, to arrange the center of motion of the lower hinge joint back of the center of motion, of the upper hinge joint, and make the outer leaf of the upper hinge in the form of a lever, and pivot it to the gate post outside the center of motion of the lower hinge, and also to the hinge bar of the gate inside of the center of motion of the lower hinge, and attach to the outer end of this lever, mechanism by which it may be turned, and thus raise the gate and incline the end bar, so that the gate will swing open, or close. The objection to this manner of hanging the gate, is, that in raising the gate and inclining the end bar, the lower hinge is twisted by the heavy strain thrown on it, and the gate when open instead of standing level droops, on which account more power to close it than to open it is required, besides the liability of the gate striking the ground and not swinging clear open.

The object of my invention is to remedy these defects and my improvement consists in constructing the gate with the hinge bar inclined outward at the top (while the other sides of the gate are respectively parallel and at right angles to the gate post) in connection with a double jointed hinge to at-

tach the upper end of the hinge bar to the gate post, arranged with the post joint directly over the joint of the lower hinge; by which means these two joints preserve the same relation to each other in all positions of the gate, and the gate swings open or closes with greater ease, and stands level when open or closed.

In the accompanying drawing is represented a gate embracing my improvement.

The gate (A) is arranged between two posts (C and D) and differs from ordinary gates in its construction in that the hinge bar (B) inclines outward at the top from the gate post (C) in all positions in which it is placed, while the opposite or latch bar, and top, and bottom of the gate, are respectively at right angles to each other.

The lower joint of the gate consists of a pintle (*j*) driven into the end of the bar, which rests in a socket (*k'*) formed in the sill.

The upper joint consists of a link (*a*) pivoted at one end to a staple (*b*) driven in to the gate post (C), at the other end to the top of the hinge bar (B).

The distance the staple (*b*) projects beyond the face of the post (C) and its connection with the link (*a*) is such as to bring the joint between them, directly over the pintle in the lower end of the bar (B) while the position of the other end of the link and its attachment to the gate bar (B) accommodates this bar to the gate post, so that its upper end in all the positions it is placed in opening and closing the gate is thrown outside of its lower end, which causes the gate to swing open or close, with ease and certainty, by inclining the hinge bar in the proper direction.

The opening and closing mechanism consists of a link (*c*) attached to the top of the hinge bar at one end, and attached to a crank (*s*) on the end of a vertical shaft (*d*) to which is attached a pinion (*e*). This pinion is operated by means of racks (*f*) gearing into it on opposite sides, and extending beyond the gate on both sides, and connected by links with a crank (*h*) on the end of a horizontal shaft (*h*) to which is attached a dog (*n*) with projecting stops (*t*).

A wheel lever (*i*) is also pivoted to the shaft (*h*) to turn loosely on it, and arranged so that one arm passes between the two stops projecting from the face of the dog. This lever is connected with a retracting

spring (*m*) by means of a cord (*o*) or in any other convenient manner, which draws the lever back when depressed by the carriage wheel.

5 The operation of the mechanism for opening and closing the gate is as follows. The gate being closed, the wheel of an approaching vehicle passing over the lever depresses it, and causes it by striking one of the stops
10 (*t*) to turn the shaft (*h*) which moves both ratchets, and through the connections, draws back the link (*c*) attached to the top of the hinge bar (*B*) and raises the gate so as to unlatch it, and also inclines the hinge bar
15 at the top outward and beyond its foot, so that the gate swings open by its own weight, and the latch is caught and held by a catch bar (*g*). The wheel lever is raised by the retracting spring after the wheel has passed
20 over and is in position to be operated by the next succeeding vehicle.

It will be seen from the arrangement of the outer joint of the upper hinge it always stands directly over the lower joint, hence
25 the gate when open or closed stands level; and moreover from the arrangement of the joints directly over each other the hinge bar in opening or closing the gate inclines only in one direction so that there is less friction
30 on the lower joint and the gate opens and

closes with greater freedom than by the arrangement of joints heretofore used. Another advantage derived from my arrangement is that the gate when opened partially
35 by hand without moving the opening or closing mechanism to allow a person or animal to pass closes of itself which no other gate of this description does.

I do not confine myself to the precise construction or arrangement of the parts as described, as they may be varied by any good
40 mechanic, to adapt the gate to different situations without departing from the spirit of my invention.

Having thus described my improvement
45 in gates, what I claim therein as new and desire to secure by Letters Patent, is,

A gate constructed substantially as described, with the hinge bar inclined to the gate post, in combination with a double
50 jointed hinge arranged as described to connect the upper end of the bar, with the gate post; for the purpose as set forth.

In testimony whereof I have subscribed my name.

GEORGE C. FLAGG.

Witnesses:

A. K. JONES,
SILAS EMERSON.