

(No Model.)

W. G. STONE.

GATE.

No. 326,173.

Patented Sept. 15, 1885.

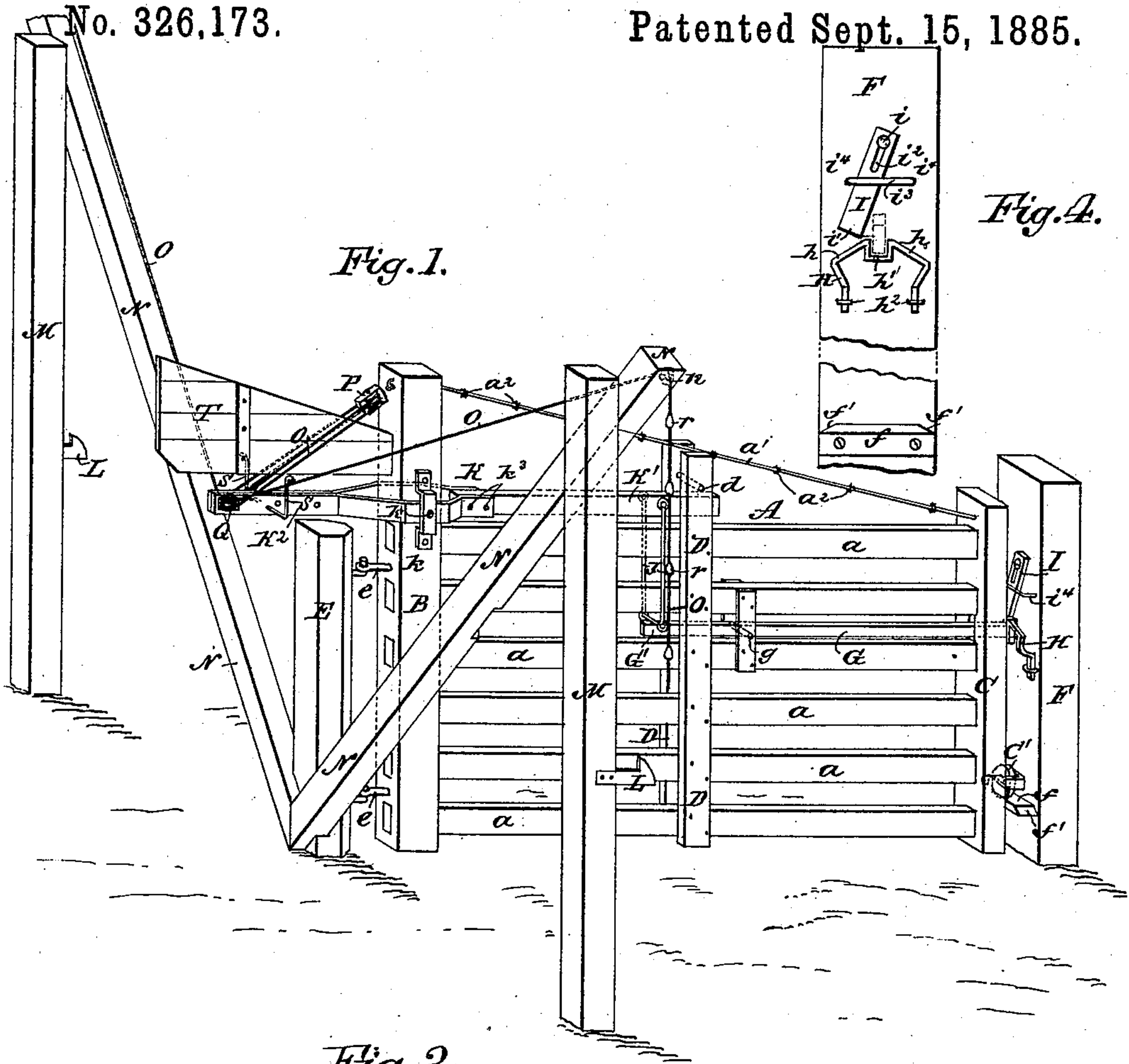


Fig. 1.

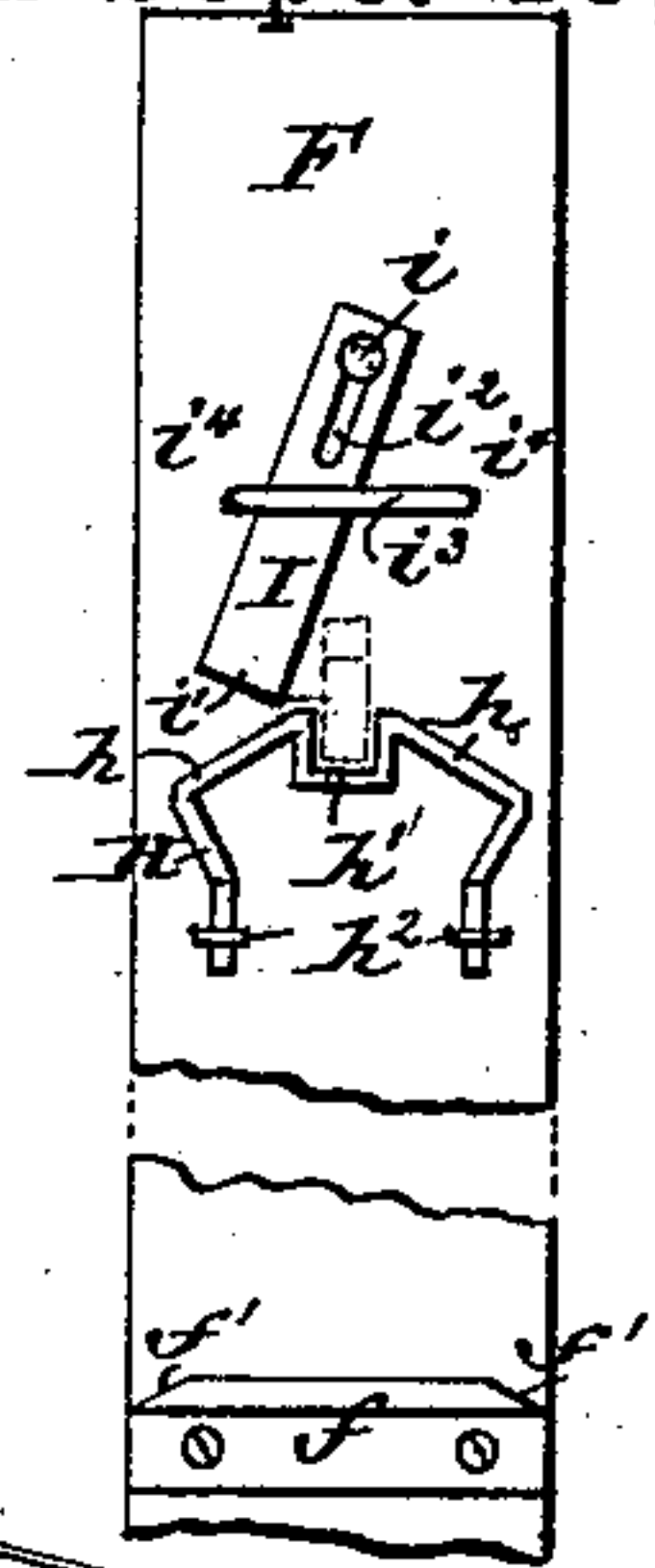


Fig. 4.

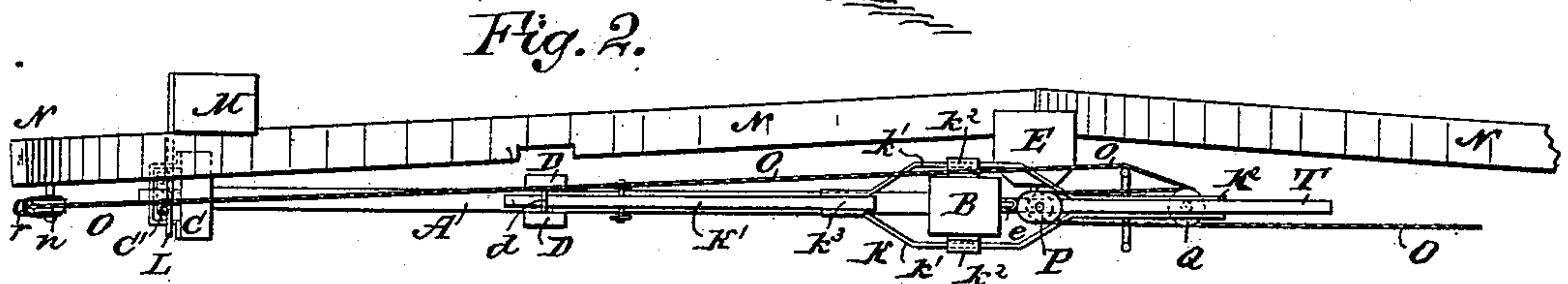


Fig. 2.

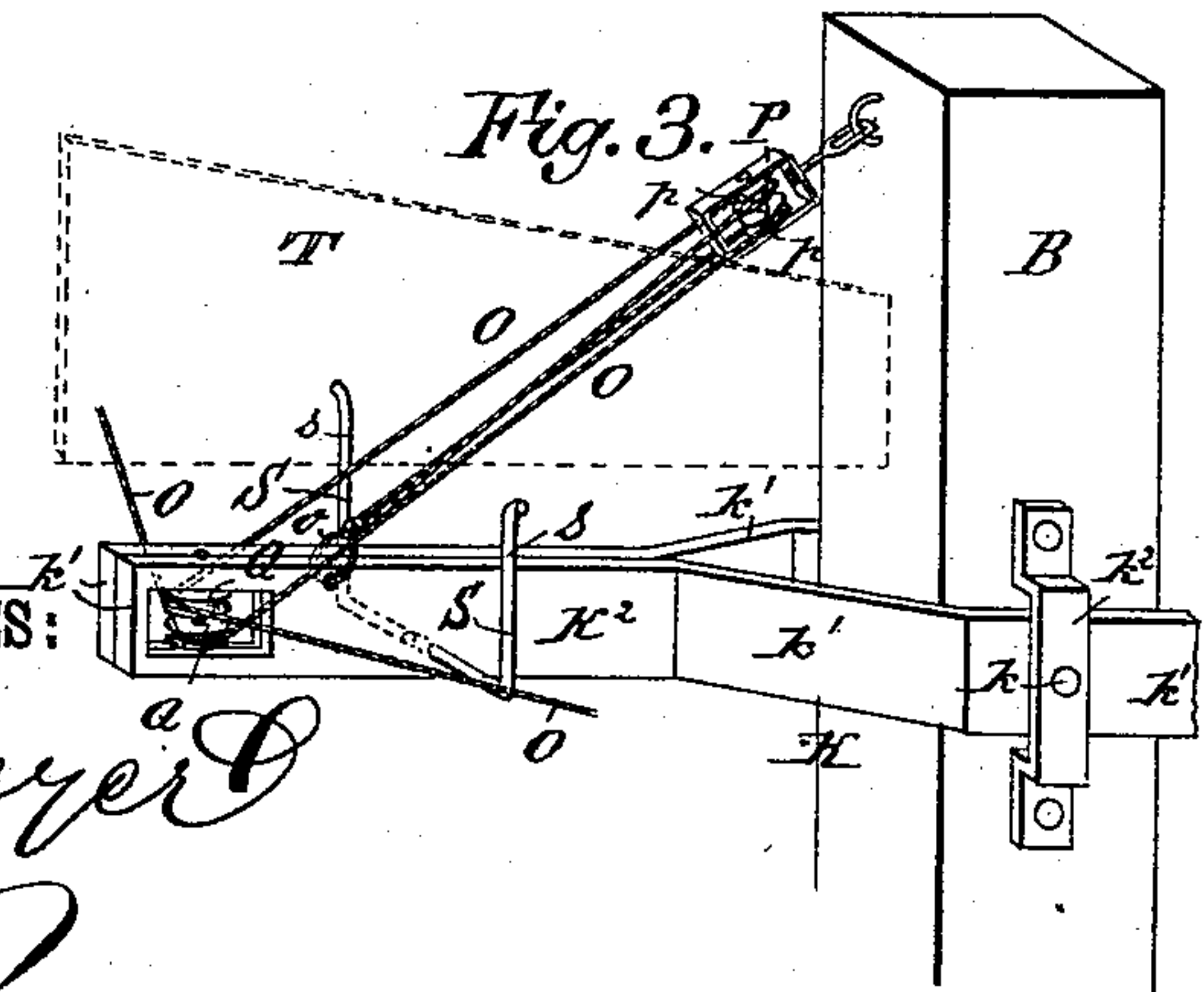


Fig. 3.

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GATE.

SPECIFICATION forming part of Letters Patent No. 326,173, dated September 15, 1885.

Application filed May 21, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM GEORGE STONE, of Ellisville, Fulton county, and State of Illinois, have invented a new and Improved Gate, of which the following is a full, clear, and exact description.

The object of my invention is to provide a simple, inexpensive, durable, and easy-working gate, which may be opened and closed by persons in vehicles or on horseback and without dismounting, and which may also be opened by persons walking by moving the latch by hand.

The invention consists in the peculiar construction and arrangement of parts, as hereinafter fully described, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view showing the gate in closed position. Fig. 2 is a plan view showing the gate open and with one of the side posts for hanging the gate-operating cord broken away. Fig. 3 is a rear perspective view of the hinged upright of the gate, and Fig. 4 is a broken face view of the latch-post.

A indicates the gate, which is shown made of rails, *a*, an inner upright, B, and an outer upright, C, and intermediate uprights or bars, D D, one at either side of the gate and made fast to the rails *a*. A brace-rod or wire, *a'*, may connect the uprights B C, as shown.

E is the hinge-post, set at one side of the roadway, to which post the gate is hung by hinges *e* of any approved kind.

F is the latch-post, which is set at the other side of the roadway, and is provided near the bottom with a block, *f*, having beveled ends *f'*, up which a roller, C', journaled on the upright C, may ride as the gate swings shut from either direction, so that the roller C' may rest on the top of the block *f* when the gate is latched, to relieve the gate-hinges *e* from strain by the overhanging weight of the gate.

G is the latch-bar of the gate, which is pivoted thereto at *g*, and extends outward to ride up the inclined faces *h* of the catch H, fixed to the post F, and drop into a notch, *h'*, of the catch, to hold the gate shut as the gate swings from either side. I make this catch H prefer-

ably of a bar or rod of metal by bending it to form the faces *h* and notch *h'*, and fix it to the latch-post by staples *h²*, or other suitable fastenings.

Above the catch H is pivoted, at *i*, the lock-bar I, which hangs by gravity with its lower end, *i'*, directly above the notch *h'* of the catch. This lock-bar I is slotted at *i²*, and hangs loosely on the headed pivot-pin *i* from the top or head of the slot, and a keeper, *i³*, holds the lock-bar I against the face of the latch-post and limits the swing of the lock-bar in either direction.

As the gate closes from either side the latch G will ride up an incline *h* of the catch H, and will strike one edge of the lock-bar I and swing it back until it strikes the farther end, *i⁴*, of the keeper *i³*, which stops the swing of the gate with the latch-bar G directly over the notch *h'* of catch H, into which notch the end of the latch-bar drops by gravity to hold the gate closed. The slot *i²* permits the lock-bar I to be lifted from the notch *h'* by the rise of the latch from the notch when the gate is again to be opened, as will readily be understood.

The inner end, G', of the latch-bar G is connected by a link or links, J, with the outer end, K', of a lever, K, which lever is pivoted at *k* to the upright B, and extends beyond or back of the post by its end K², as shown. The end K² of lever K is made sufficiently heavy or is weighted so that it will overbalance the opposite end, K', of the lever and act through the links J to depress the outer or latching end of the bar G; or, in other words, to latch the gate closed by engagement of the outer end of the bar G with the catch H, or to latch the gate open to either side by engagement of the outer end of bar G with either one of the catches L, fixed to the posts M, which are set along the roadway at either side of the hinge-post E, to which post the posts M are or may be braced by suitable bars, N, from which the gate-operating cords hang, as hereinafter described.

The lever K may be made in different ways to give its opposite ends their varying weight; but I prefer to make its outer end, K', of a light bar of wood, and its opposite end, K², of a couple of metal bars, *k'*, bolted together back of the upright B, and branching laterally to

pass over reverse sides thereof and within keepers k^2 fixed to said upright, and thence forward to connect by bolts or otherwise with the end bar, K' , at k^3 . The pivot-bolt k of the lever K passes through the keepers k^2 , the bars k' , and the upright B , all as clearly shown in the drawings.

O O indicate the operating-cords of the gate, both of which are fastened at one end, at o , to the back end, K^2 , of lever K ; thence the cords pass to a double sheave or pulley block, P , swiveled to the head of the upright B , each cord O passing over one of the sheaves p of the block P ; thence the cords pass down to and around separate sheaves or pulleys Q , journaled at the back end of the lever K , and thence the cords pass one to each side and over pulleys n , one at the head of each brace N . The cords O hang down from the pulleys n , and have any suitable hand-grasps, r , such as knots of the cord or wooden blocks fastened to them at convenient heights, to be easily reached by the occupants of low vehicles or persons riding on top of high loads. The top-grasps, r , prevent the cords from being drawn back from or out of the pulleys n , and a stop pin, d , in the upwardly-projecting ends of the uprights D , limits the rise of the end K' of the lever by the weight of the opposite end of the lever.

The lever K has wire or other suitable stays or arms S fastened to its back end, K' , one at each side, said arms S projecting laterally by their vertical portions s , so that the cords O in passing from the sheaves Q will always pass over the side parts, s , of the arms when the gate is latched open to either side, as will be understood from Fig. 2, where it will be seen that the pulleys n are arranged, by an incline forward of the top ends of the braces N , or otherwise, about in the vertical plane of the closed gate or forward of the gate, so that in drawing upon either cord O to close the gate a tendency of the cord to take a direct line from the back pulley Q to the pulley n will cause the cord to draw upon or over the part s of arm S and act to swing the gate shut, the same pull upon the cord acting first to raise the back or weighted end of the lever K and lift the latch G from either one of the catches L with which it may be engaged. A pull upon either cord O from either side of the gate will of course lift lever K to release the latch G from the catch H on the latch-post F when it is desired to open the gate.

Should the gate be hung truly, the pull-cords O will close it without the interposition of the arms S ; but these arms always insure the prompt closing of the gate by a pull on the cords.

I fix to the rear upright, B , of the gate, and in a vertical plane, a wind vane or fan, T , made preferably of thin light boards held together by suitable cleats. The object of the vane T is to catch the wind and control the swinging movements of the gate by assisting in opening and closing it when the wind force

is strong, and to start the gate in shutting it against the wind.

In operating the gate the person wishing to pass will pull on the first cord O , which will unlatch the gate from post F and will open the gate and permit it to latch open at the farthest catch L , and after passing through the gateway the second cord O will be pulled to unlatch the gate from the catch L and swing the gate back to close it and latch it to the post F . A light pull on a cord O will operate the gate, as it works very easily.

The latch G may, of course, be operated by hand by persons walking the road to open and close the gate.

The entire construction of the gate is simple, its movements are all positive, and it is well calculated for durability in use.

The brace a' of the gate may have barbs a^2 fixed to it, or the brace may be wound or wrapped with barbed wire to prevent stock from rubbing against the lever K and accidentally unlatching the gate.

The double pulley Q at the back end of the lever K may be a duplicate of the pulley P , by which the cords O are held at the upright B , as will readily be understood.

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

1. The combination, with the gate A , of the latch G , pivoted at g , the lever K , pivoted to the rear upright, B , at k and connected to the inner end of the latch G by a link, J , said lever K being weighted at the back end so as to depress the outer or acting end of the latch G , and the cords O , fastened to the lever K at o and leading over pulleys or guides P on the upright B , pulleys Q on the outer end of the lever K , and pulleys n , hung on posts at the sides of the roadway, substantially as shown and described.

2. The combination, with the pivoted latch G , the lever K , pivoted near the center of its length to the rear upright of the gate and connected to the latch, and the operating-cords O , of the arms S , having vertical portions s projecting laterally from the rear end of said lever, substantially as herein shown and described, whereby the said arms will be acted upon by the cords in operating the gate to depress the forward end of said lever and thereby raise the latch, as set forth.

3. The latch-operating lever K , made with a wooden end bar, K' , and a weighted end, K^2 , formed of metal bars k' secured together at their outer ends, branched outward and along opposite sides of the rear upright, B , and secured at k^3 to the end bar, K' , in combination with the gate A , the latch G , and the operating-cords, substantially as shown and described.

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Witnesses:

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ANSON J. SMITH.