

(No Model.)

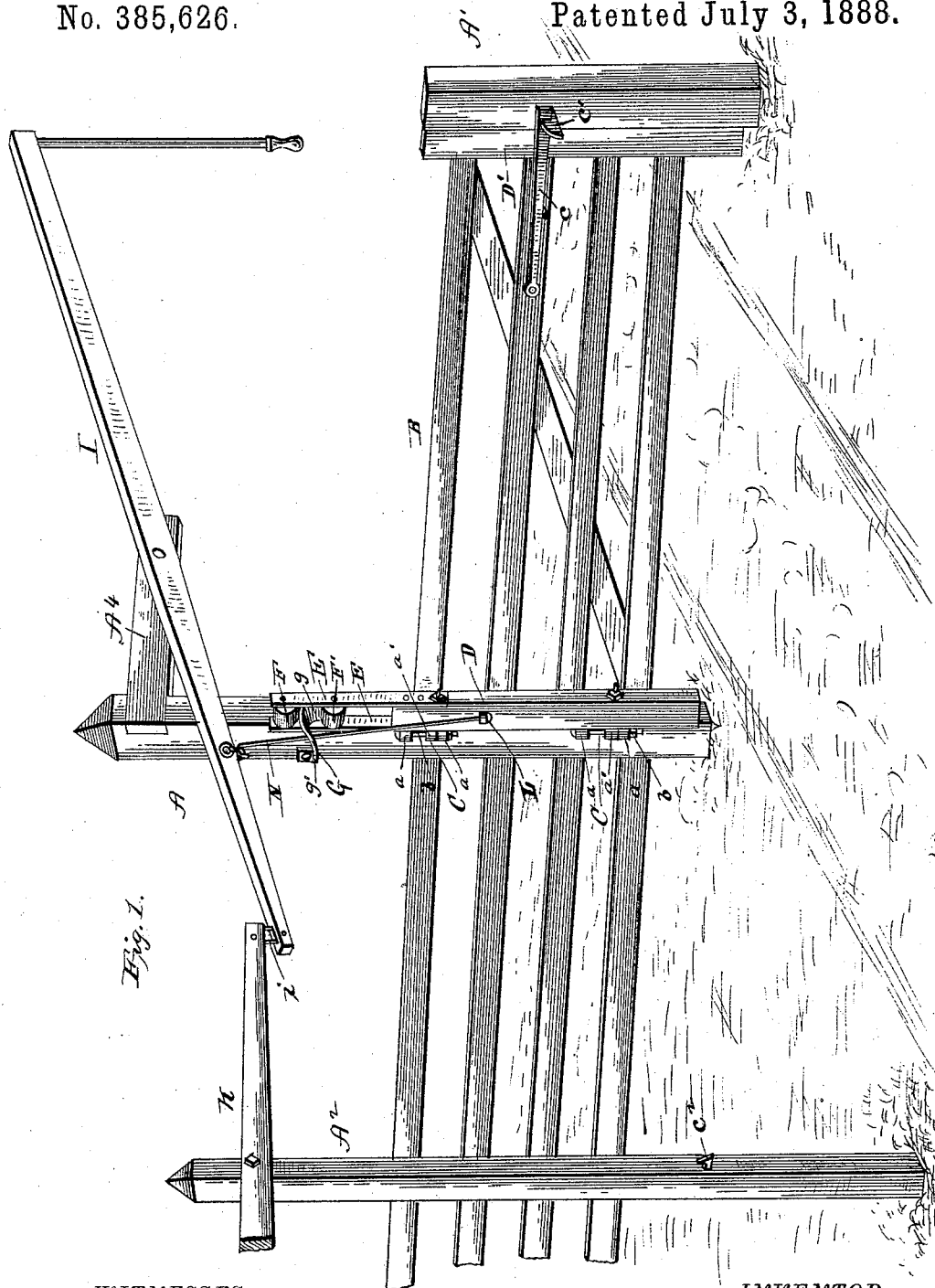
2 Sheets—Sheet 1.

C. P. HOWE.

FARM GATE.

No. 385,626.

Patented July 3, 1888.



WITNESSES.

*John S. Finch*  
*Chas. R. Davis*

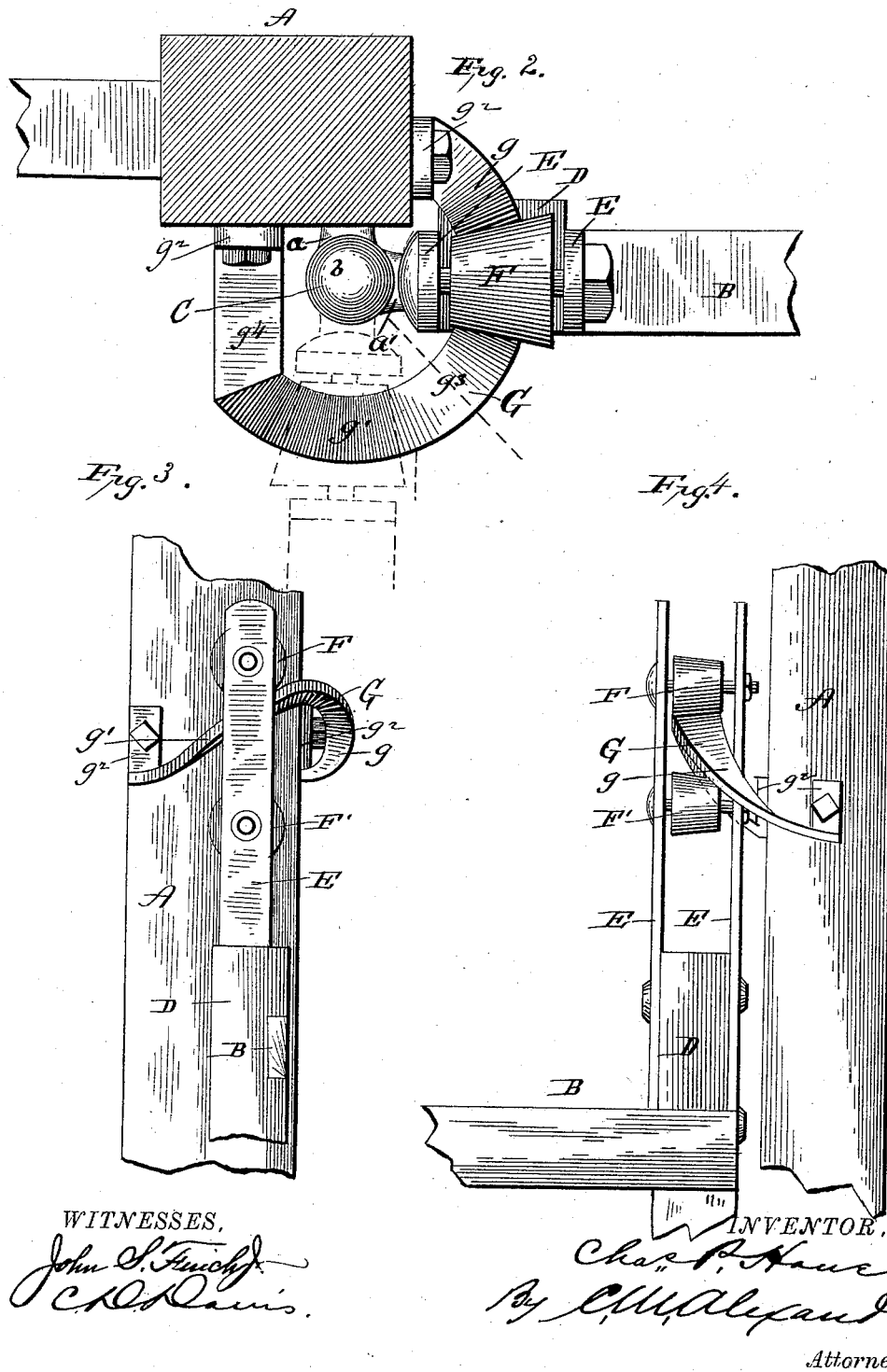
INVENTOR,

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2 Sheets—Sheet 2.

No. 385,626.

Patented July 3, 1888.



# UNITED STATES PATENT OFFICE.

CHARLES P. HOWE, OF CHICAGO, ILLINOIS.

## FARM-GATE.

SPECIFICATION forming part of Letters Patent No. 385,626, dated July 3, 1888.

Application filed February 6, 1888. Serial No. 263,102. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES P. HOWE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Farm-Gates, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to certain novel and valuable improvements in that class of swinging gates which are adapted to be opened and closed by persons approaching them in vehicles without necessitating the stopping and alighting of the occupants; and the invention consists in the improved features of construction and combination of parts, which will be fully understood from the following description and claims, taken in connection with the annexed drawings, in which—

Figure 1 is a perspective view of a gate provided with my improved operating devices; Fig. 2, a detail plan view of a portion of the gate, showing the hinge-post in horizontal section; and Figs. 3 and 4, detail side elevations of the hinge-post, taken from different sides of the same.

Referring to the annexed drawings by letter.

A' designate the two gate-posts, which are arranged on opposite sides of the roadway, and A<sup>2</sup> designates a post on one side of the roadway, to which the gate is latched when fully opened, to allow a vehicle to pass.

The gate B may be constructed of wood or metal, like any ordinary farm gate, and it is attached to the post A by long hinges C C, each composed of eyebolts *a a*, secured to the vertical gate-post A, and an eyebolt, *a'*, secured to the vertical bar D of the gate, through the eye of which bolt passes a headed bolt or pintle, *b*, secured to the eyes of the bolts *a a*, as shown in Fig. 4 of the annexed drawings. It will thus be observed that the gate B can be raised or lowered vertically, and also swung around one quarter of a circle from post A' to post A<sup>2</sup>. To the vertical bar D', at the free end of the gate, I apply a latch, *c*, which is adapted to engage either with a beveled catch, *c'*, on post A', or with a similar catch, *c''*, on post A<sup>2</sup>. To the upper end of the gate-bar D, I firmly bolt two rigid strap-irons, E E, which rise vertically and afford bearings for the short shafts

of two rollers, F F', arranged at a suitable distance apart between said strap irons, and preferably slightly tapered.

When the gate is shut, as indicated in full lines, Fig. 2, the upper roller, F, rests upon the lowest part of one limb, *g*, of a segmental cam shaped rail, G, which is rigidly secured to the post A above the upper hinge C, and when the gate is fully opened the said roller F rests upon the lowest part of the limb *g'* of said rail G.

The rail G is bent through somewhat more than one-half of a circle; and it consists of two inclined planes or limbs, *g g'*, terminated by angular portions *g'' g''*, through which the screws or bolts pass that rigidly secure the rail to the post A, as shown in Fig. 2 of the annexed drawings.

At *g''* is a rounded ridge, which is the highest point of the said inclined planes, and at *g'* is a straight horizontal portion of the rail which is at right angles to the post A and designed to render the rail compact and at the same time afford the proper length of track.

A<sup>4</sup> designates a horizontal arm or bracket, which is rigidly secured to the post A parallel with the roadway, and to which is fulcrumed a long lever, I, the shortest arm of which is connected by a rod, N, to an eyebolt or staple, L, secured to the vertical hinged gate-bar D just below the upper hinge C. The shortest arm of the lever I is also connected by a link, *i*, to the shortest arm of a lever, K, which is fulcrumed on the post A<sup>2</sup> at a suitable height from the ground. From the longest arms of the levers I and K depend wires having rings or other suitable handles attached to them, by which a person riding or on foot can operate said levers and open or shut the gate.

It will be observed that the vertical irons E receive between them the cam-rail G; also that the distance between the two rollers F F' is such as will allow the gate to be raised bodily the proper height before the lower roller, F', impinges against the under side of the cam-rail G.

In operation, suppose the gate is shut, as indicated in Fig. 1 of the annexed drawings, and a person riding or walking in the roadway approaches it in either direction, he will pull on the longest arm of the lever nearest him,

which will lift the gate bodily until the lower roller,  $F'$ , bears against the bottom of the limb or inclined plane  $g$  of the rail  $G$ , when, continuing to pull on said lever, the roller  $F'$  will  
 5 ride up said inclined plane, and thus swing the gate around until the ridge  $g^3$  is reached, when the gate is allowed to descend and the upper roller to bear upon and roll down the inclined plane  $g'$ , thus completing the opening of the  
 10 gate by swinging it around and causing its latch  $c$  to engage with the catch  $c^2$  on the post  $A^2$ . After the person has passed through the gateway far enough to reach the wire depending from the opposite lever, he pulls on the  
 15 long arm of this lever, and thus raises the gate free from its engagement with the post  $A^2$  and causes the lower roller,  $F'$ , to bear against the bottom side of the inclined plane  $g'$  of cam  $G$ . By continuing to pull on said lever the gate  
 20 will be swung around until roller  $F'$  reaches the ridge  $g^3$  of said cam, at which point the gate is allowed to descend until the upper roller,  $F$ , bears upon the top of the inclined plane  $g$  of the cam  $G$ , when the gate will swing shut  
 25 by its own gravity and be latched to the catch on post  $A'$ .

A person walking will open the gate by simply unlatching it from its post  $A'$  and swinging it open on its hinges, when it will swing  
 30 shut again by its own gravity; or, in other words, by the upper roller,  $F$ , descending the inclined plane  $g$  of the cam-rail  $G$ .

It will thus be observed that in moving the gate by means of the levers from a latched position the first eighth of a circle the lower roller,  $F'$ , is caused to act against the bottom of the cam-rail, after which the gate is lowered and the upper roller,  $F$ , allowed to descend on top of this rail. When the gate is opened by  
 40 a person on foot pressing against it, only the upper roller,  $F$ , is brought into action upon the top of the cam-rail.

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

1. The combination, with a swinging gate adapted to be moved vertically, of a double inclined segmental cam-rail secured to a gate-post, and rollers applied to upper extensions of the gate-bar above and below said rail, substantially as described. 50

2. The combination, with a gate which is adapted to be swung horizontally and to be bodily moved vertically, of elongated hinges, a double inclined segmental track secured to the gate post, the rollers  $F F'$ , adapted to operate on opposite sides of this track, the levers  $I K$ , and a rod connecting the lever  $I$  to the vertical hinged bar of the gate, substantially as described. 60

3. The combination of a swinging gate which is adapted to be moved vertically and which is connected to a gate-post,  $A$ , by elongated hinges  $C C$ , and provided with a latch,  $c$ , the posts  $A' A^2$ , provided with catches and located with respect to the roadway as described, levers fulcrumed on said posts, linked together and connected to the gate by a rod,  $N$ , a double inclined segmental cam-rail secured to said gate-post  $A$ , and rollers journaled in extensions of the gate-bar  $D$  and receiving between them said cam-rail, substantially as described. 65 70

4. The combination, with the gate-posts  $A A'$  and the gate hinged to the former, so as to be movable vertically thereon, of the stationary segmental rail  $G$ , composed of the oppositely-inclined portions  $g g'$ , united by a ridge,  $g^3$ , the said rail being attached to the hinge-post  $A$ , and the rollers  $F F'$ , journaled upon the inner post,  $D$ , of the gate and adapted to bear, respectively, above and below the said segmental rail  $G$  in the operation of opening and closing the gate, substantially as set forth. 75 80

In testimony whereof I affix my signature in presence of two witnesses. 85

CHARLES P. HOWE.

Witnesses:

J. M. HARTMAN,  
 GEO. W. WEEKS.