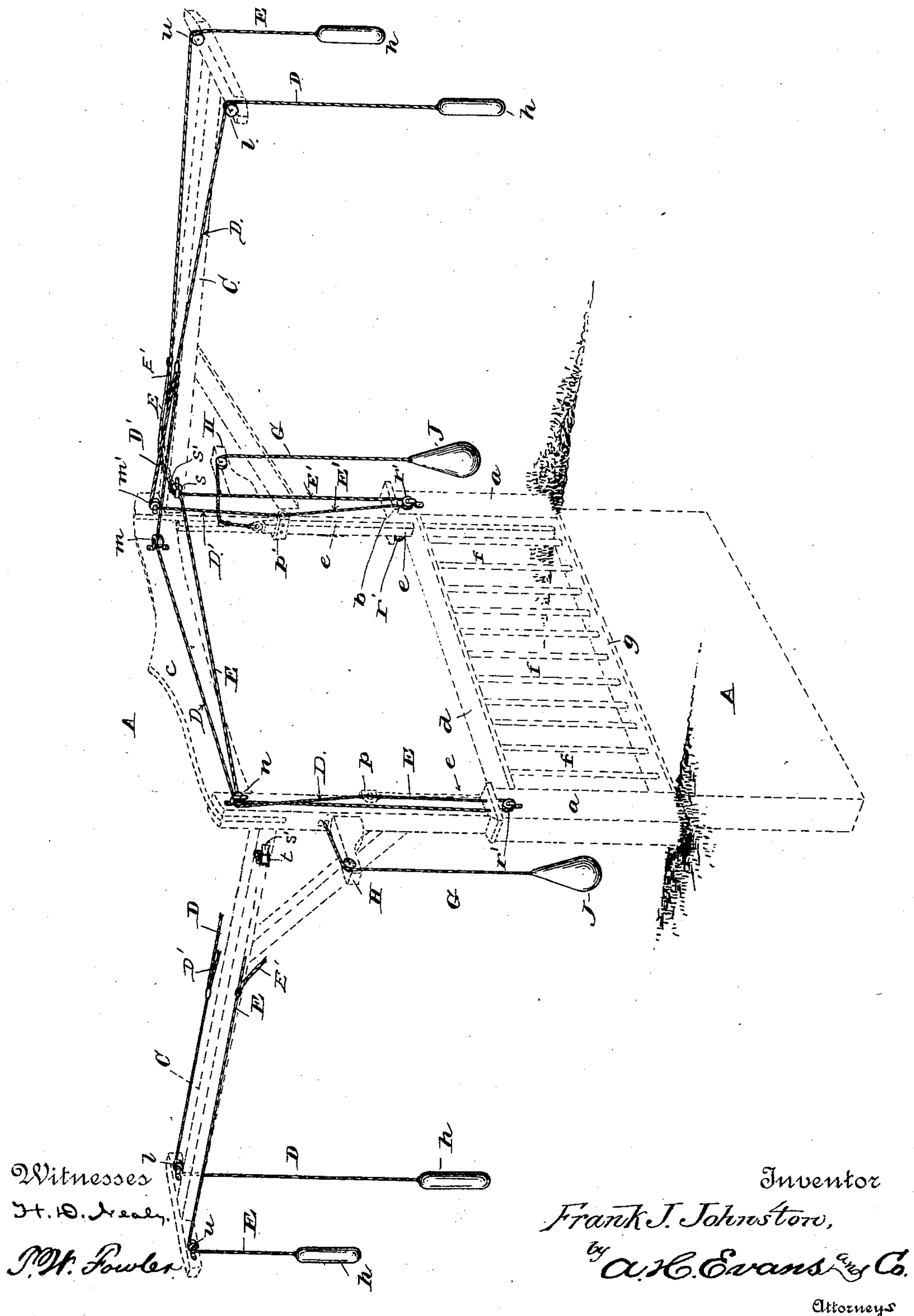


(No Model.)

F. J. JOHNSTON.
GATE.

No. 428,777.

Patented May 27, 1890.



UNITED STATES PATENT OFFICE.

FRANK JOHN JOHNSTON, OF SACRAMENTO, CALIFORNIA.

GATE.

SPECIFICATION forming part of Letters Patent No. 428,777, dated May 27, 1890.

Application filed August 14, 1889. Serial No. 320,664. (No model.)

To all whom it may concern:

Be it known that I, FRANK JOHN JOHNSTON, a citizen of the United States, residing at Sacramento, in the county of Sacramento and State of California, have invented certain new and useful Improvements in Gates, of which the following is a full and clear description, reference being had to the accompanying drawing, forming part of this specification, in which the figure represents a perspective view of a farm-gate embodying my invention, only the front set of ropes being shown complete.

My invention relates to vertically-moving gates, which may be opened from either side by a person riding or on foot; and my invention consists in the construction and combination of devices, which I shall hereinafter fully describe and claim.

To enable others skilled in the art to make and use my invention, I will now describe its construction and indicate the manner in which the same is carried out.

Referring to the drawing, A indicates a suitable frame having a hollow base A' secured in the roadway, said frame having also two end posts a, the lower inner surfaces of which are formed with guides or channels b, in which the ends of the gate B are fitted to move as the gate is raised or lowered, as I shall hereinafter fully disclose. The frame A is provided with a top bar c, and from the opposite sides of the end posts extend the horizontal arms C, which support the pulleys and cords by which the gate is operated by the traveler.

The gate B consists, essentially, of a top plate d, which is secured to end portions e, that slide up and down in the channeled posts a, and depending bars or rods f, which may be formed of gas-pipe or other tubular material, the said bars or rods having their lower ends passed through corresponding holes in the top g of the base of the main frame, which said base will by preference be let into the ground, so that when the gate is lowered by means which I will hereinafter fully describe the top plate d thereof will be flush with the surface of the road and will rest firmly upon the top of the base, so that it will not be seriously affected by the wheels of passing vehicles, while the perforated top of the base

A' will prevent dirt or other foreign substance from entering said base and interfering with the working of the gate. 55

The means for opening and closing the gate consist, essentially, of the cords D and E, each of which is provided with handles h. The cords D pass over pulleys l in the outer ends of the arms C, and thence extend inward toward the gate, being passed round pulleys m on the top bar c of the frame A near the ends thereof, and finally extend along said bar over pulleys n at the opposite end and downward to brackets p on the top of the ends e of the gate. The cords D have branches D', which unite at one end with the main cords D, and thence extend inwardly over pulleys m' on the top bar c, and thence downward to brackets p' on the end bars e of the gate. The other cords E are fastened at their inner ends to the brackets p, and thence extend downward under the pulleys r on the inner sides of the frame A and upward over pulleys s on the inner ends of the arms C, through holes s' therein to the opposite sides of the arms, thence around the pulleys t on said opposite side, from which points the cords extend along the arms to pulleys u on the outer ends thereof, and thence downward, so as to be in a position where their handles may be readily grasped by the operator. These cords E are also connected with branch cords E', which are secured to the brackets p' and extend downwardly under the pulleys r' on the inner sides of the frame A and upward over the pulleys n on that side, thence along the top bar c to the opposite end, where they pass over the pulleys s, through the holes s' in the arms C, and finally around the pulleys t and along the arm to the points where they are connected with the main cords E. In addition to these cords D D' and E E', I employ other cords G, which connect with the ends e of the gate and extend upwardly over pulleys in the sides of the main frame A, thence through holes in said sides, and over pulleys in short arms H, projecting from these sides, each of said cords having its outer end attached to a counterpoise or weight J, which may be located in a housing or frame to guide its movement and to prevent undue vibration. 100

From this description it is evident that when either of the cords D is pulled the power is

transmitted to both ends of the gate, and the gate thereby vertically moved to close the entrance in the roadway, the counterpoise or weight serving to retain the gate in its upper closed condition. When the gate is raised or closed and the operator wishes to lower or open it, he will pull upon one of the other cords E, which, through the connections previously described, will cause the gate to descend gradually, the weights in this instance preventing its falling with a rapid motion or jar. Such a gate as I have described possesses many advantages not obtained by the usual hinged and rolling gates, chief among which may be noted the danger of the gate flying open suddenly, so as to frighten teams, or swinging to against the horse or vehicle. Where rolling gates are employed, they are liable to become so strained or twisted after a little use as materially to affect their operation.

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

An improved gate consisting of a frame, a base adapted to be let into the roadway, the diagonally-opposite arms projecting from the frame, a vertically-moving gate having upwardly-extending end portions, the main raising and lowering cords D and E, brackets on the ends of the gate, with which said cords are connected, the branch cords D' and E', connected at one end with said brackets and at the other end with the main cords, guide-pulleys for the main and branch cords, and the cords G, connected with the ends of the gate and having weights upon their outer ends, substantially as described.

FRANK JOHN JOHNSTON.

Witnesses:

THOS. FOX,

W. H. HANLON.