THRASHER & HORTON.

Folding Gate.

No. 18,308. Patented Sept. 29, 1857.

Fig. 2,

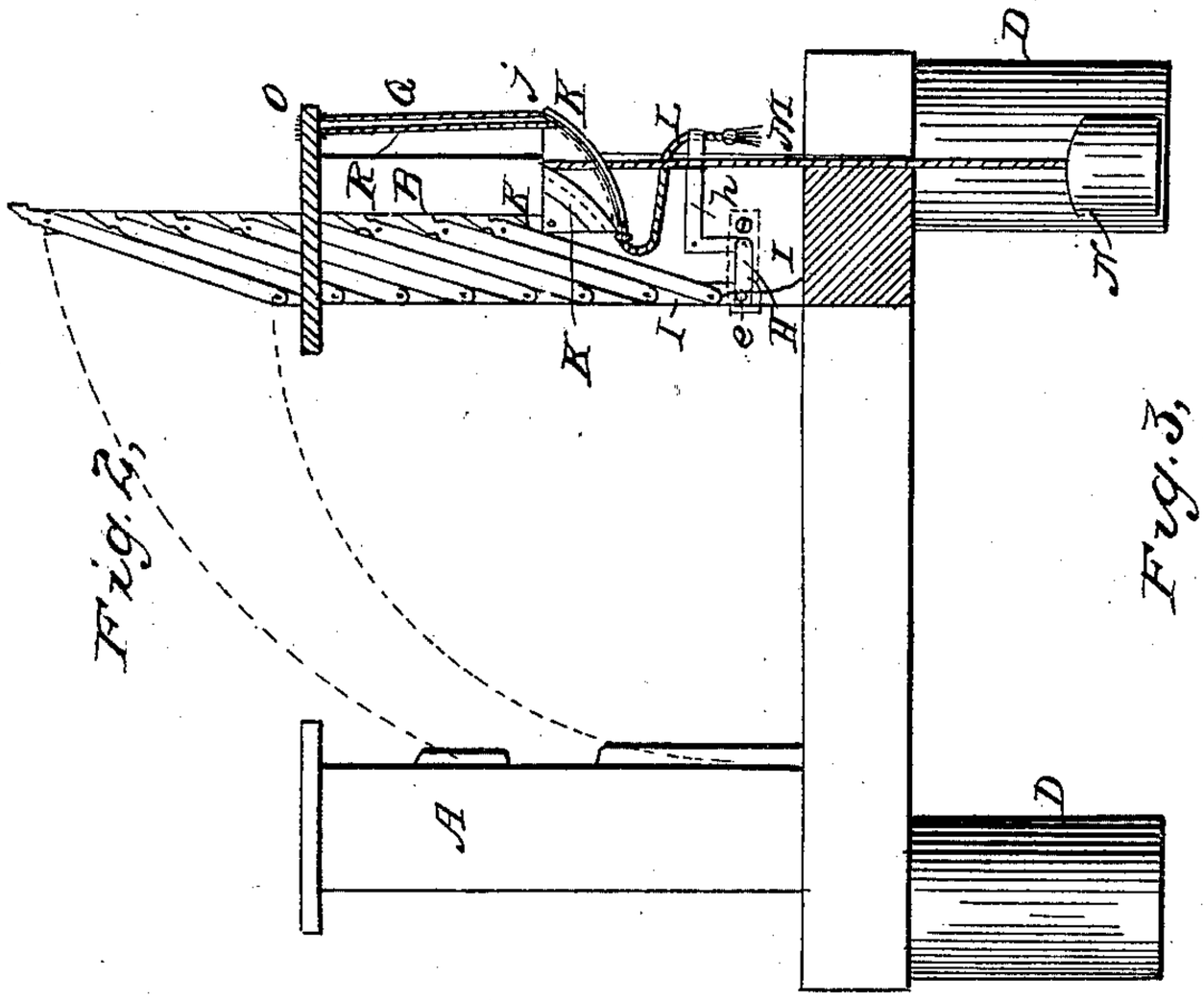


Fig. 3,

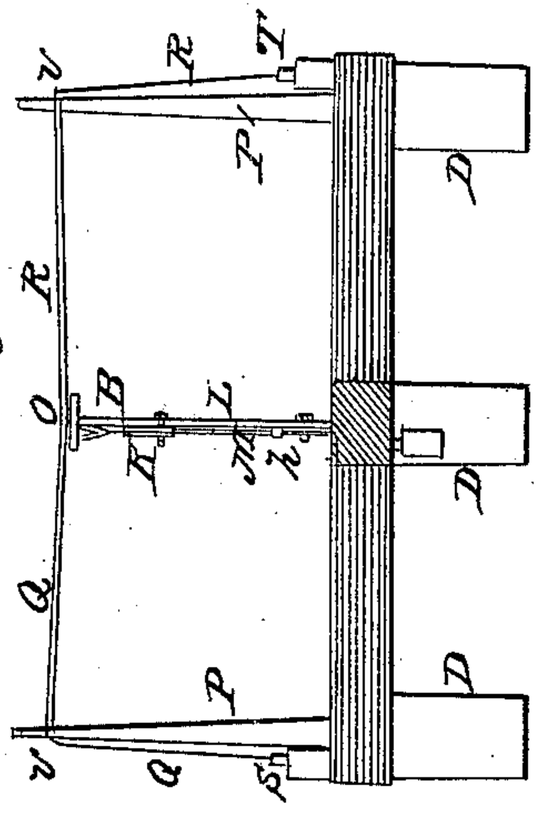


Fig. 1,

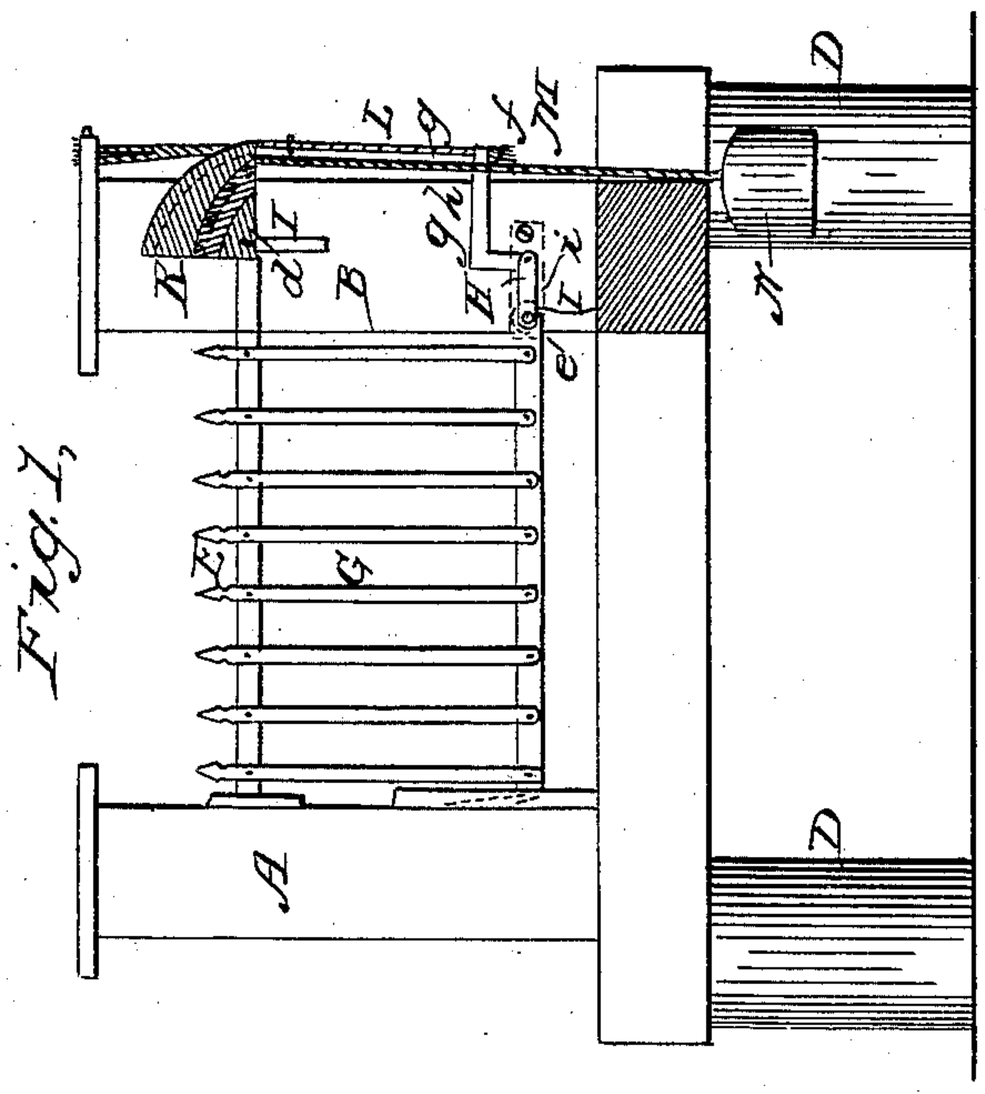
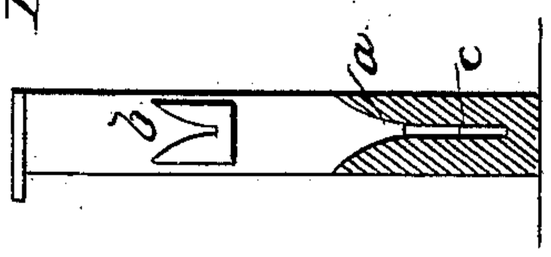


Fig. 4,



UNITED STATES PATENT OFFICE.

FRANCIS THRASHER AND HENRY B. HORTON, OF AKRON, OHIO.

METHOD OF OPENING AND CLOSING VERTICO-LATERAL-FOLDING GATES.

Specification of Letters Patent No. 18,308, dated September 29, 1857.

To all whom it may concern:

Be it known that we, FRANCIS THRASHER and HENRY B. HORTON, of Akron, in the county of Summit and State of Ohio, have invented a new and Improved Folding Gate; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

It often happens near buildings or embankments and in alleys and lanes as well as in other places, that a swinging gate is very inconvenient, and our invention is designed to meet such cases.

Figure 1, is a view of the gate when shut. Fig. 2, is a view of the same when open. Fig. 3, is a back view of the posts B, P, P, showing the weights and pulley by which the gate is opened and closed. Fig. 4, shows one of the gate posts.

Our invention consists of an improvement in folding gates.

Fig. 1 represents the gate when closed.

C and D are merely a pedestal to support the posts A and B.

The drawings represent the form I prefer for iron gates.

E, and F, are the main bars fastened to the post B by pivots *d*, and *e*, which may slide in the two slots J and *i*. The slots G, G, are pivoted to the bars E, and F, so that the gate may be raised and folded into the post B, as seen in Fig. 2.

By means of the weight N, the whole gate is overbalanced and made to rise and remain up until it is drawn down by the hand placed upon the cord near the small weight S or T. It will be seen that when the gate is raised, the end of the upper rail E may move downward with its pivot *d*, along the slot J, therefore the whole weight of the gate rests upon the lower bar F and its pivot *e*, in slot *i*. When the gate is shut down, the spring I acting against the pivot *e*, pushes the bar F into a notch *c*, Fig. 4, in post A, so as to fasten the gate.

If upon approaching the gate a person desires to open it, a slight pull is made upon either the cord Q, or R, Fig. 3. These cords passing over pulleys O, V, and U, and being connected with cord L, act upon the crooked lever *h*, Figs. 1 and 2. The action of lever *h*, is to move the plate H backward and drag with it the bar F, so as to unlatch the gate and allow the weight N free play in raising the gate as above described.

In order to close the gate, either the cord Q, or R, is pulled, so as to raise the quadrant plate K, thus closing the gate with the same cord by which it was opened.

In order to hold the pivot *e*, steady when sliding back and forward in slot *i*, a plate corresponding to plate H, may be placed on the opposite side of post B, and held to plate H, by pivot *i*, and secrew *f*, the latter also sliding in a horizontal slot. Or with heavy gates the pivot *i*, may be supported upon friction rollers, or an inclined plane, or upon a lever or support the upper end of which can play to and fro.

It will be seen in Fig. 2, that the groove *k*, upon the quadrant plate K, into which the cord M, plays, is farther from the center of motion at one end than at the other. This position of the groove gives the weight N greater power when the gate commences rising than when the gate is nearly up. In like manner the groove *j* in which the cords Q, R, play, is so situated in relation to the center of motion, as to give to these cords a greater power when the gate begins to descend than when it is nearly down.

In the full sized gate the weight N hangs above the ground, although for convenience in the drawings and model it is placed in one foot of the pedestal C, D.

In making a gate of wood, the form may be somewhat varied while adhering to the same principles. For a gate ten feet wide the main rails E and F should be four inches wide and two inches thick. The lower rail is made ten feet eight inches long, the fulcrum pin *e*, being six inches from the end of the rail. The upper rail is twelve feet six inches in length, in order to extend beyond the pin *d*, so as to give a suitable arm for attaching the weight N. Several intervening rails are required to give strength to the gate but these may be but two inches wide and one and one fourth inches thick. The upright slats are fastened to all the rails with pivots and washers, so as to move freely. Care is requisite that the width of all the rails or of all the slats be not too great to allow the gate to fold together.

Our gate being balanced upon the pin or pivot *e*, has no tendency, like swinging gates, either to sag out of proper shape or to

draw the post from a perpendicular, so that the front end will strike the ground. It folds completely into the post, so as to be clear of wagon hubs in passing. It leaves the side walk unobstructed, and if necessary, the string post P, may stand close to the post B.

Having thus fully described our invention, what we claim and desire to secure by Letters Patent of the United States is—

1. Balancing the gate upon a single fulcrum pin while the gate is held to the post and guided by another pin working in a slot, thus giving a steady motion to the gate in folding and unfolding.

2. The eccentric quadrant plate K by means of which the action of weight N, and also the action of the hand, (when pulling upon either the cord Q or R), are varied so as to easily set the gate in motion and yet prevent the gate from opening or closing with volence as described.

3. The combination of the crooked lever *h*, with the spring I, and cords L, Q, and R, whereby a slight pull upon either of the cords Q and R will unlock the gate and let it fly open, while a stronger pull upon the same cord will close the gate, as set forth.

FRANCIS THRASHER.
HENRY B. HORTON.

Witnesses:
EDW. F. BROWN,
DANIEL BREED.