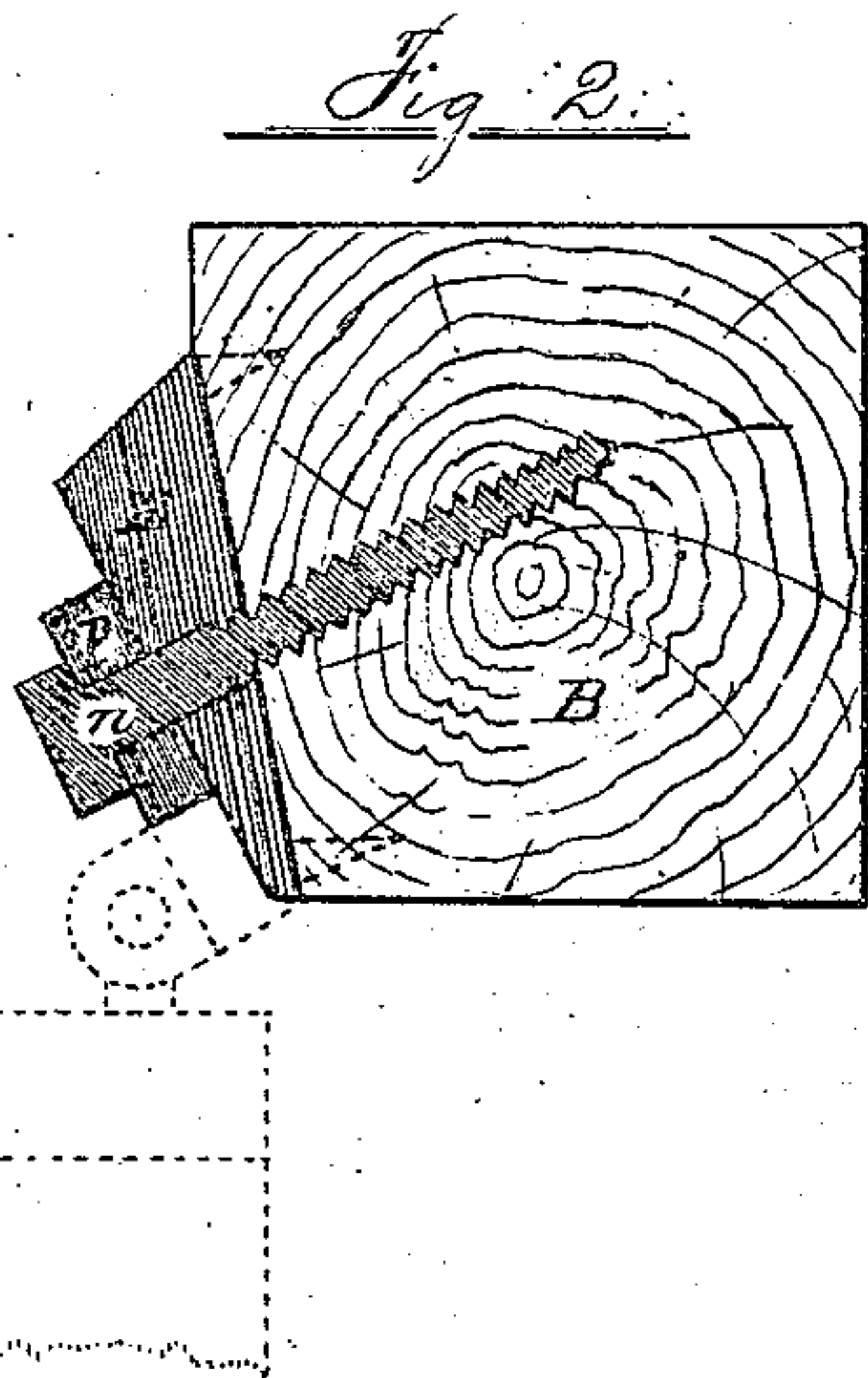
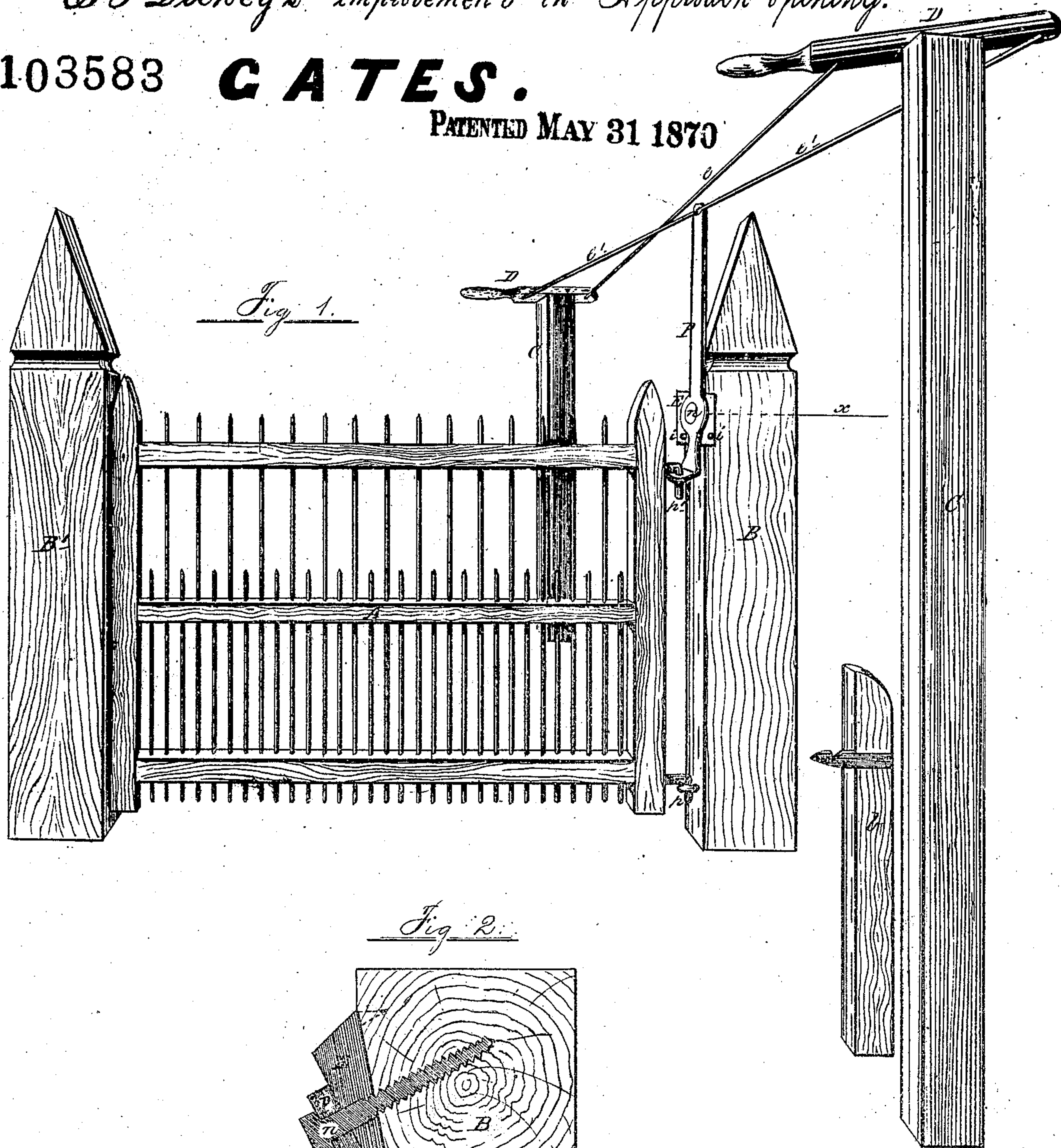


B. F. Dickey's improvement in Approach-opening.

103583

CATES.

PATENTED MAY 31 1870



Witnesses.

Peter Roche
Otto Lee Johnson.

Inventor.

B. F. Dickey

UNITED STATES PATENT OFFICE.

BENJAMIN F. DICKEY, OF MARSHALL, MICHIGAN.

IMPROVEMENT IN GATES.

Specification forming part of Letters Patent No. 103,583, dated May 31, 1870.

To all whom it may concern:

Be it known that I, BENJAMIN F. DICKEY, of the township of Marshall, in the county of Calhoun and State of Michigan, have invented certain Improvements in Approach-Opening Gates, of which the following is a specification.

My invention relates in part to a combination, with the gate and hanging-post, of a pivot shifting-lever and an angular guide plate or block to cause the said lever and the gate-corner hinged to it to move in a path which is oblique and not parallel with the roadway or with the faces of the post.

It also relates to a combination, with the long arm of the aforesaid lever and with two hand-actuating levers, (mounted on distant elevated posts,) of a diagonal wire connection, the object being to cause the gate to open and shut by changing and destroying its equipoise while seated in a vehicle or on horseback and effecting the best results of the practical application of the principle involved with the least number and most inexpensive character of the parts employed.

In the drawings, Figure 1 is a perspective view of the gate when shut and its adjuncts, seen from the inside of inclosure. Fig. 2 is a cross-section of the hanging-post in the line *x*.

A is the gate, B B' the main gate-posts, and *b* the post for the gate to latch to when open.

C C are two high posts in range, or nearly so, with the hanging-post and line of roadway, erected at a suitable distance from and on each side of the gate.

D is a hand-lever pivoted at the top of each post C, the handles projecting toward the roadway.

e and *e'* are wires connecting diagonally with the hand-levers and with a pivot shifting-lever, P, to be hereinafter described.

The gate is hung between the posts in such a manner that when not disturbed by the shifting mechanism it will stand in perfect equilibrium and hang in true vertical and horizontal line as well when open as shut.

The pin *p* of the bottom hinge should project about two inches farther from the gate than does the pin *p'* of the upper hinge, or such distance as may be deemed a proper deviation from the true line of gravity, and of course

the eye of the screw-bolt in which the lower hinge-pin works will be a corresponding distance nearer to the post than the eye of the shifting-lever P, in which eye the upper hinge-pin works.

The shifting lever P is pivoted to the post, as shown, through and against an angular-faced guide block or plate, E, in such a manner as to compel the lever to vibrate in a vertical plane at a proper angle of obliqueness with the line of the roadway, the angle and extent of travel of the top hinge being governed and determined by the relative set of the hinge-pins, as aforesaid, so that when the gate is fully opened it will hang under the same conditions as when shut.

Instead of employing a separate guide, E, secured to the post, the post itself may be chamfered and the lever secured against it by the pivot-bolt *n*, or in place of the aforesaid means the lever may be hung on a stud projected at the desired angle from the post; but however the lever may be hung and guided its vibration should be properly limited by two stop-pins, as at *i i*, or in some other convenient way.

The two wires *e' e'* are connected with the long arm of the lever, as shown, so as to operate on it with a pulling force, and when either of the levers D is pulled in a proper direction for opening or shutting the gate by an approaching operator in a vehicle or on horseback, the lever P will move the top hinge in an oblique path, the first effect of which is to unlatch the gate and so change its center of gravity that it will move with great impetus at the commencement of the swing, but at the termination will only retain sufficient initial force to latch with certainty and without destructive jar.

The very best effect of automatic action is in this way produced by a simple, durable, and inexpensive device, and I design, by reversing the angle of inclination and a corresponding change in the application of the lever, to apply the same to the foot of a gate and post for operation by the wheels of a vehicle in the ordinary way in cases where the arrangement as described for hand operation is inadmissible.

I disclaim shifting the center of gravity in a

gate for automatically opening or closing the same when so shifted by either hand or wheel iron lever-connections; but

I do claim as my invention and desire to secure by Letters Patent—

The vertical lever P, formed with the eye for the upper hinge-pintle, when pivoted on a hori-

zontal axis to the oblique face of the hanging-post B, or of a plate, E, attached thereto, as herein shown and described.

B. F. DICKEY.

Witnesses:

PETER KOEHER,

OTTO LEE JOHNSON.