

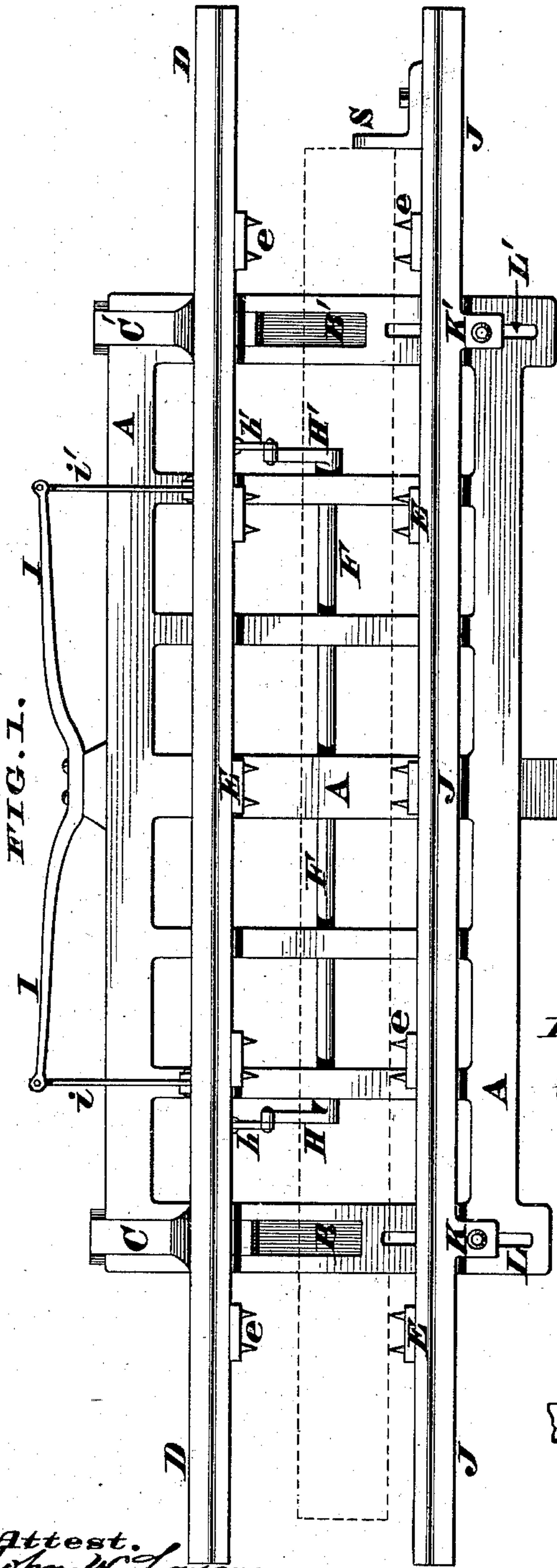
(No Model.)

J. A. BROWNFIELD.

LAYING OUT MACHINE.

No. 258,015.

Patented May 16, 1882.



Attest.  
John W. Layman,  
Geo. L. Borey

FIG. 2.

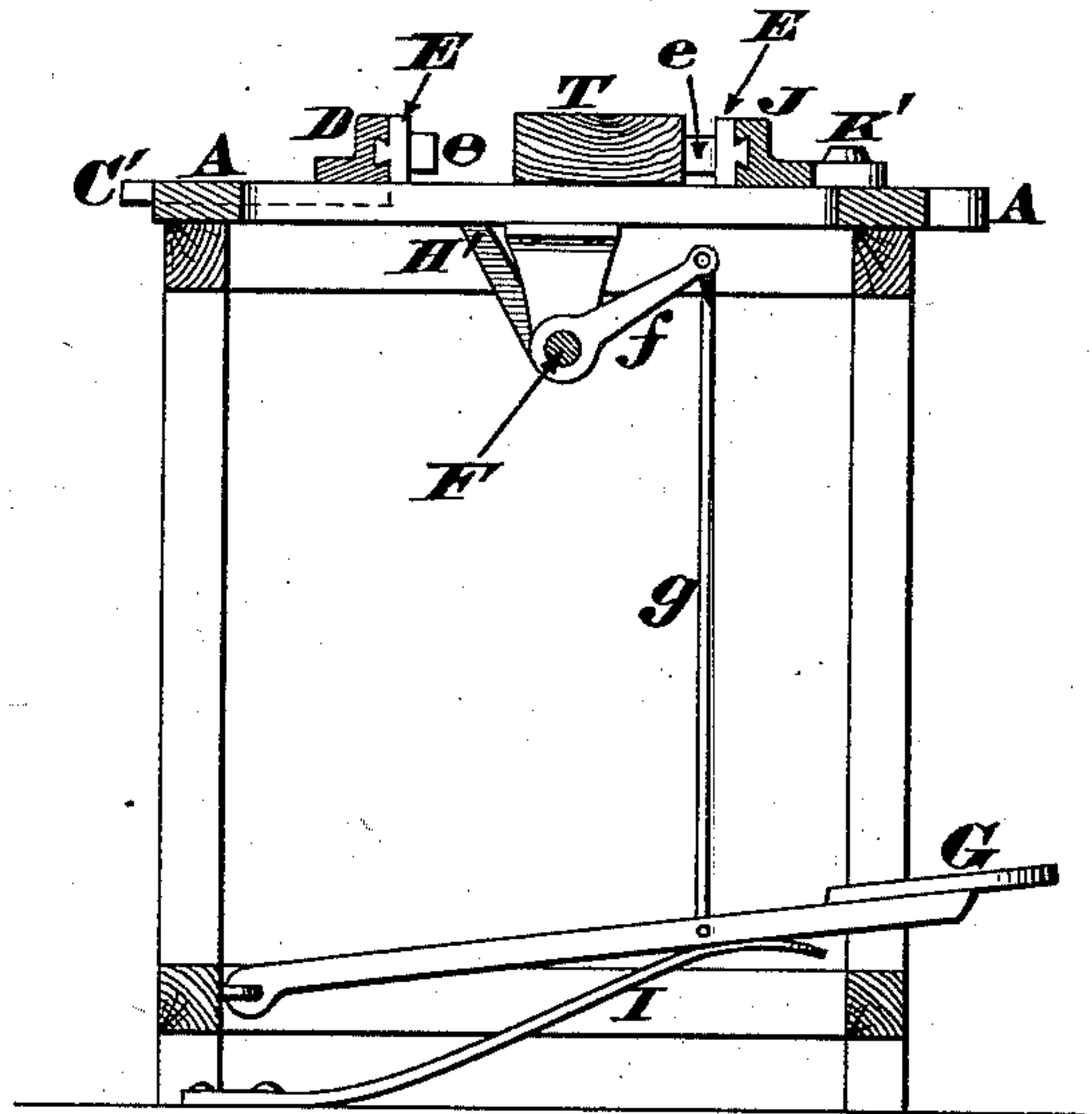


FIG. 3.

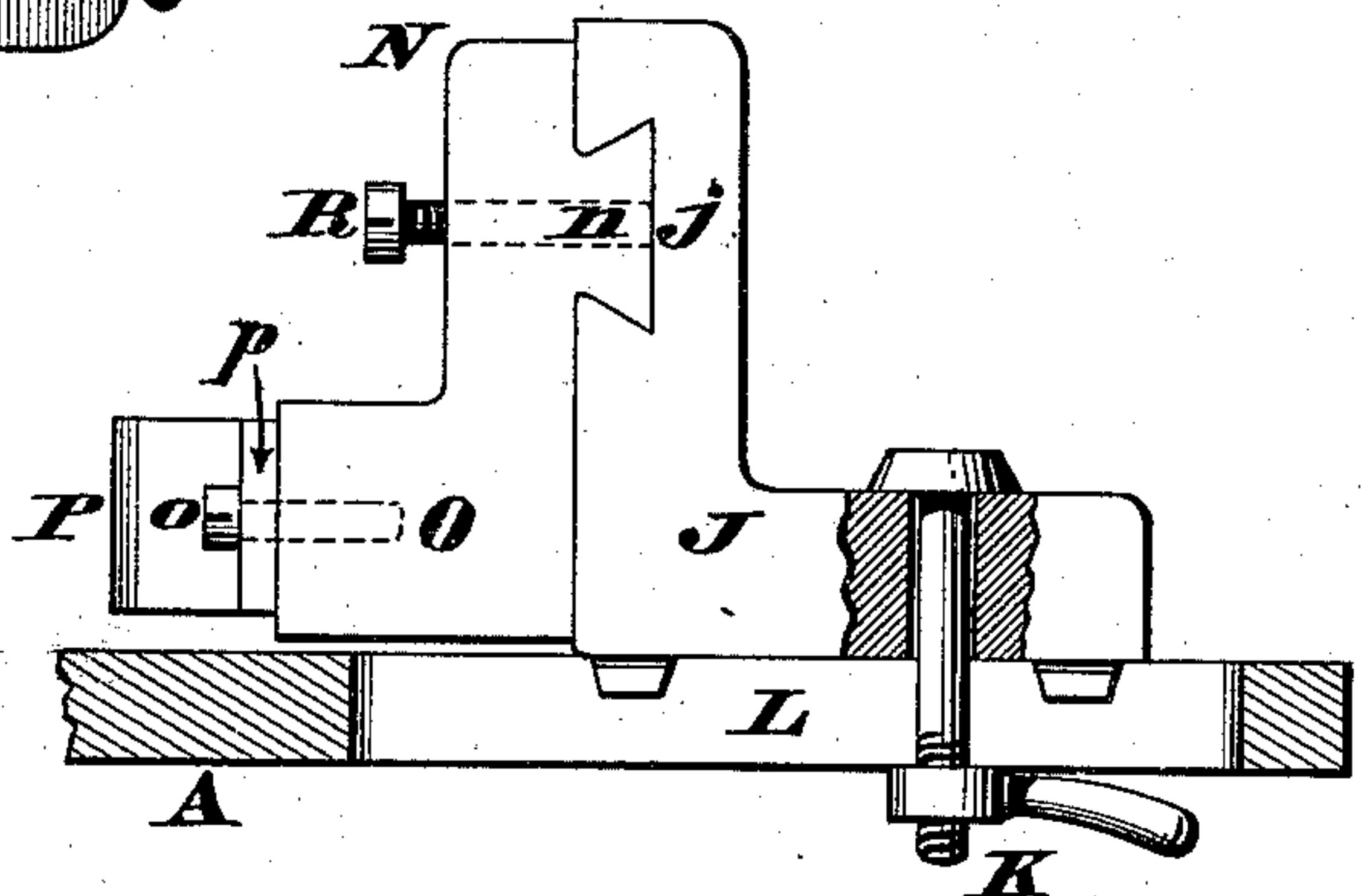
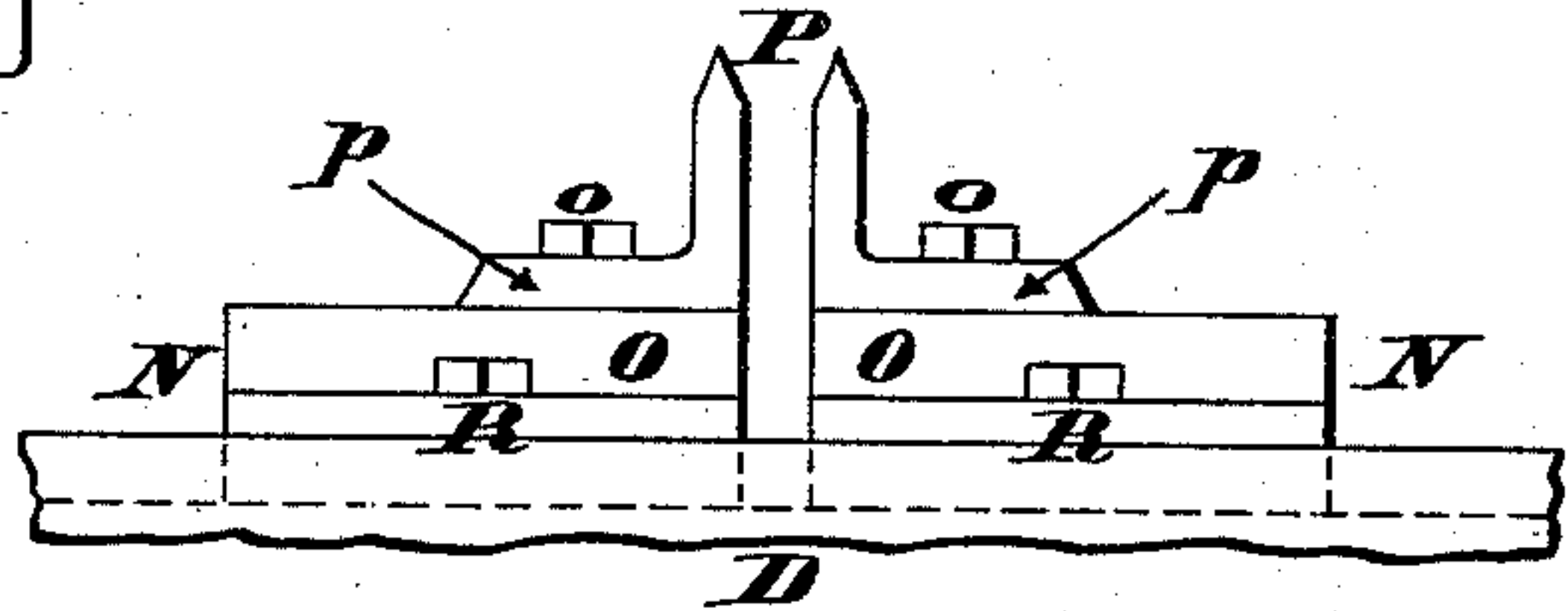


FIG. 4.



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# UNITED STATES PATENT OFFICE.

JAMES A. BROWNFIELD, OF NEWPORT, KENTUCKY.

## LAYING-OUT MACHINE.

SPECIFICATION forming part of Letters Patent No. 258,015, dated May 16, 1882.

Application filed March 6, 1882. (No model.)

*To all whom it may concern :*

Be it known that I, JAMES A. BROWNFIELD, a citizen of the United States, residing at Newport, in the county of Campbell and State of Kentucky, have invented certain new and useful Improvements in Laying-Out Machines, of which the following is a specification.

This invention relates to those machines which are employed for laying out simultaneously on both edges or sides of a stile or other piece of stuff a series of marks or indentations where mortises are to be subsequently cut; and my improvement comprises a table or frame upon which the stuff is supported, a horizontally-reciprocating marker-rail operated by a treadle movement, and a stationary marker-rail capable of being adjusted parallel with reference to said reciprocating rail, as hereinafter more fully described, and pointed out in the claims. Furthermore, my invention comprises a novel combination of cutter-heads or slides armed with marking-points, as hereinafter more fully described, and pointed out in the claims.

In the annexed drawings, Figure 1 is a plan of my laying-out machine, the position of the piece of stuff being indicated with dotted lines. Fig. 2 is a vertical section of the machine, taken in the plane of the operating-treadle. Fig. 3 is an enlarged vertical section of the adjustable marker-rail and its attachments. Fig. 4 is a plan of a pair of cutter-heads arranged in close proximity to each other.

The bed or table A consists of an open frame that allows chips, sawdust, &c., to fall through, so as not to interfere with the proper working of the machine, said frame having near either end grooves B B', traversed by dovetail-slides C C', projecting from the horizontally-reciprocating marker-rail D, which latter is preferably made of angle-iron. The front face of this rail has a longitudinal dovetail groove to receive sliding cutter-heads E, armed with knives, points, or markers e. These heads, together with their markers, may be secured in place with suitable devices, but preferably with ordinary set-screws or bolts, as hereinafter described.

Secured in suitable hangers beneath the table is a rock-shaft, F, having at its mid-length an arm, f, connected by a rod, g, to the operat-

ing-treadle G. The opposite ends of this rock-shaft carry cranks H H', connected by links h h' to the reciprocating rail or beam D, in order that any motion of the treadle G may be directly communicated to said rail or beam.

I is a retractile spring, secured to the rear of frame A, and having its ends connected to the rail D by rods i i'; but, if preferred, this spring may be located under the treadle G, as seen in Fig. 2, in which event these rods would be dispensed with.

The adjustable marker-rail J is provided with a series of slides and points similar to the devices attached to the other rail, D, and is securely locked in position by bolts K K', traversing slots L L' of the table, as more clearly shown in Fig. 3. This illustration shows also that the rail J has a longitudinal dovetail groove, j, to admit the tongue n of a sliding head, N, having a laterally-projecting base, O, to which base the flanges p of the markers or points P are clamped by screws or bolts o.

R is a set-screw or bolt passing through the tongue n, and adapted to bear firmly against the vertical face of the longitudinal groove j, and thereby prevent accidental shifting of the sliding head N.

S is an adjustable stop, against which abuts one end of the stile or other piece of stuff, T.

When my machine is in its normal position the reciprocating rail or beam D is retracted by the spring I, and the various slides or cutter-heads E are set off from an ordinary staff, gage, or pattern-rod, so as to bring the markers e or P in a proper position to indicate the exact places where the mortises are to be made in the piece of stuff T, which latter rests directly on the table A and has one of its ends abutting against the stop S, as suggested by the dotted lines in Fig. 1. Treadle G being now depressed, the rail D is advanced accordingly, and its markers, together with those of the stationary rail J, simultaneously incise the opposite edges of the piece T. If the stuff should be quite narrow, rail J must be set comparatively close to the rail D; but for wider stuff said rail J should be retracted accordingly, the bolts K K' securely holding it in any desired position. As the stuff rests wholly on the extended surface afforded by the table A, there is no danger of the marker-points be-



ing sprung, as is the case with some laying-out machines, in which the entire weight of the stile is borne by one set of cutters. Consequently my markers will last much longer, and the machine will operate more evenly and with less wear and tear.

Another advantage is obtained by locating the links  $h h'$  at some distance from the center of the rail D, as this arrangement prevents any spring of said rail when the markers or points  $e$  are forced into very hard wood.

I claim as my invention—

1. A laying-out machine consisting of the table A, provided with a pair of grooves, B B', traversed by the slides C C' of reciprocating marker-rail D, which latter is operated by a treadle and rock-shaft in the manner described, another marker-rail, J, being secured to said table with locking devices K K' L L', so as to be adjusted parallel with reference to said rail D, both of these rails being furnished with

shiftable cutter-heads armed with points, for the purpose specified.

2. In combination with the reciprocating marker-rail D of a laying-out machine, the rock-shaft F, having cranks H H' and links  $h h'$ , which links are located at some distance from the center of said rail to prevent it springing.

3. A marker-rail having a longitudinal dovetail groove,  $j$ , to receive the tongue  $n$  of the shiftable cutter-head N, whose projecting base O is armed with the points P  $p$ , said head being secured in position by the set-screw R, as herein described.

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

JAMES A. BROWNFIELD.

Witnesses:

JAMES H. LAYMAN,  
SAML. S. CARPENTER.