

2 Sheets—Sheet 1.

No. 286,221.

Patented Oct. 9, 1883.

FIG.1

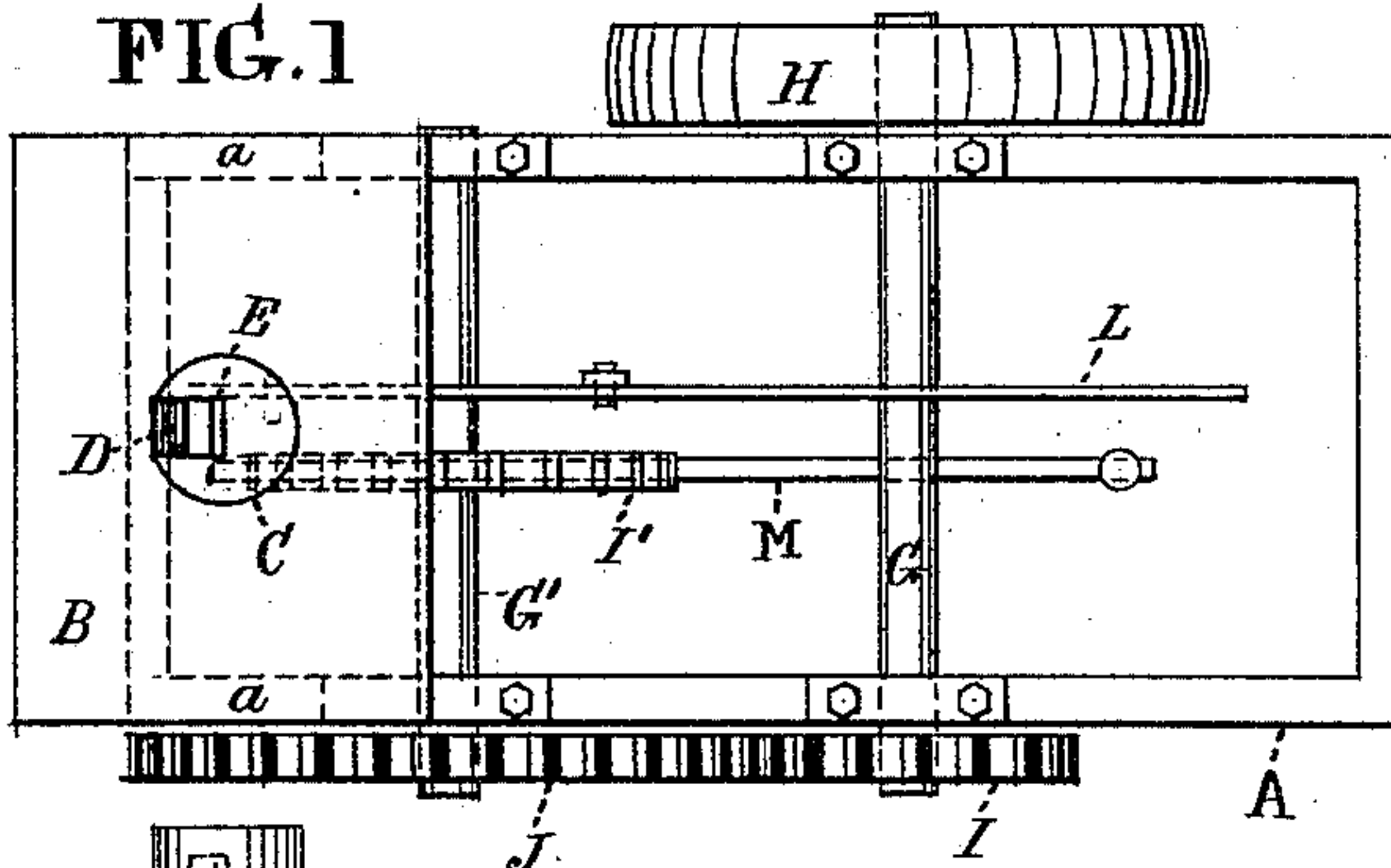


FIG. 2

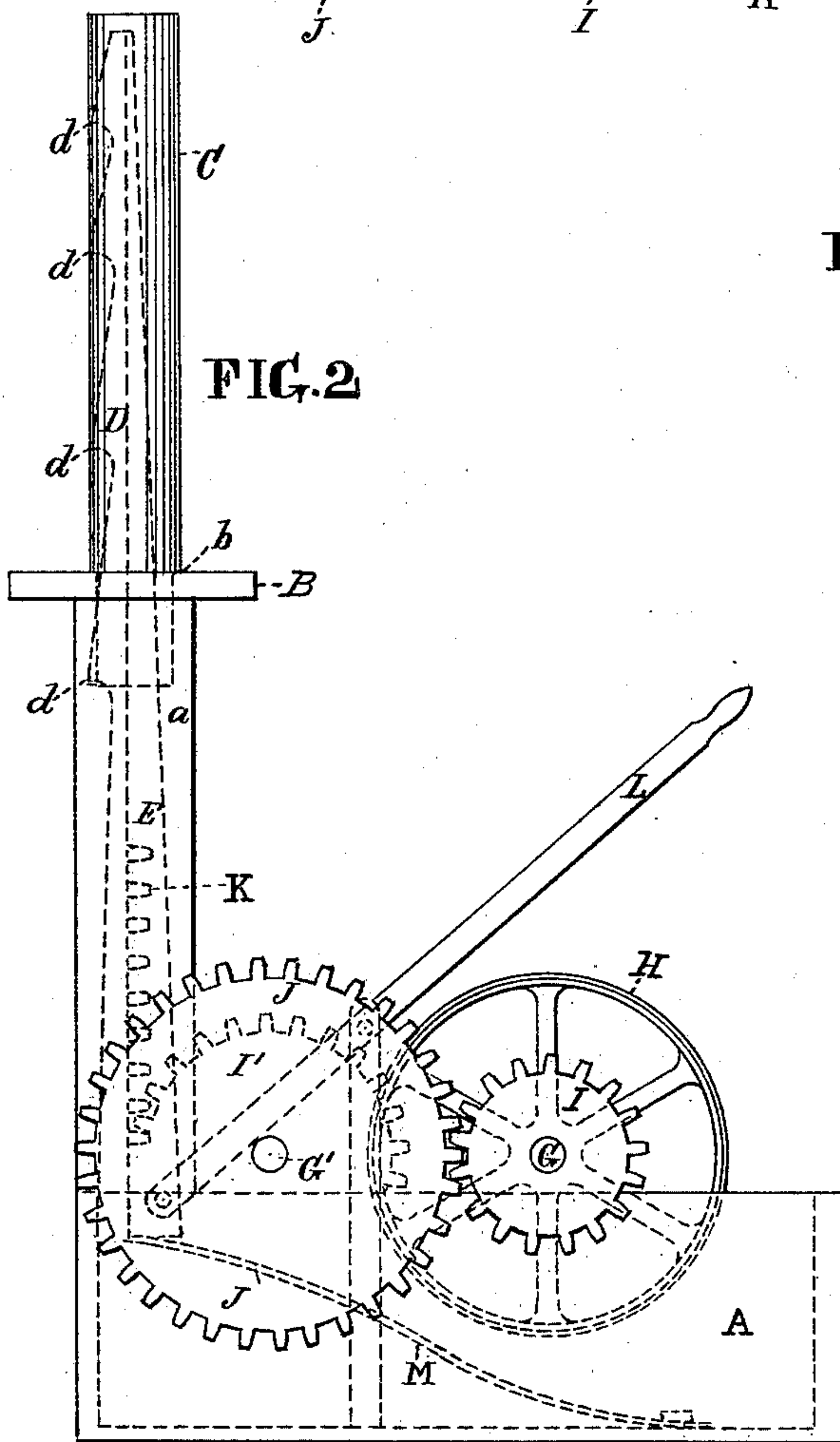


FIG. 5

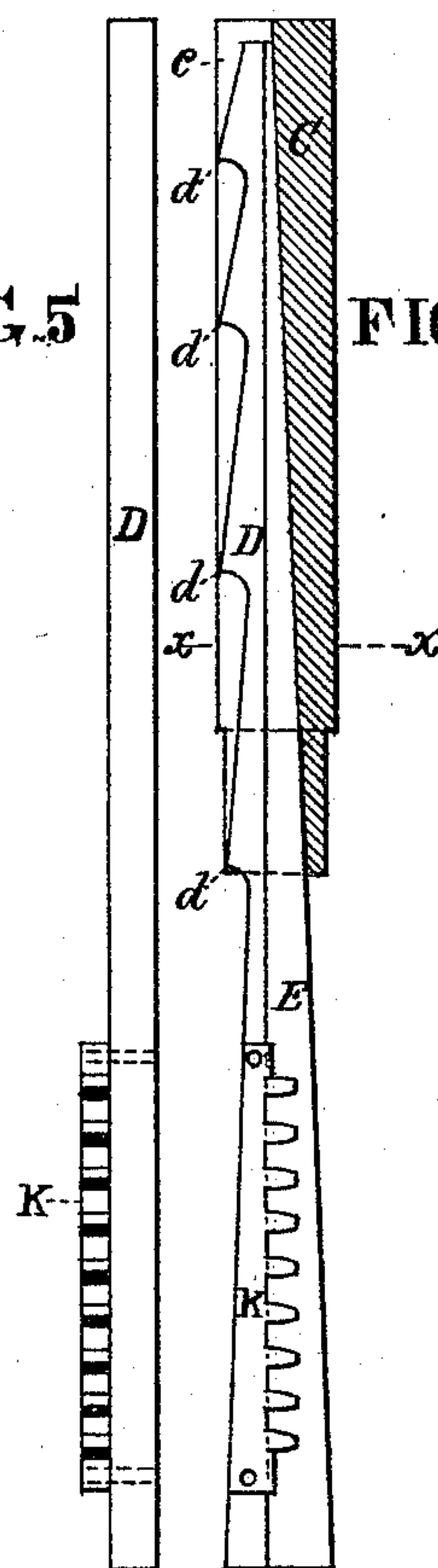


FIG. 3

FIG. 4



Inventor

Thomas J. Bewley
Joseph P. Ingram.

Samuel B. Pierce.
per Stephen Ustickatt.

(No Model.)

2 Sheets—Sheet 2.

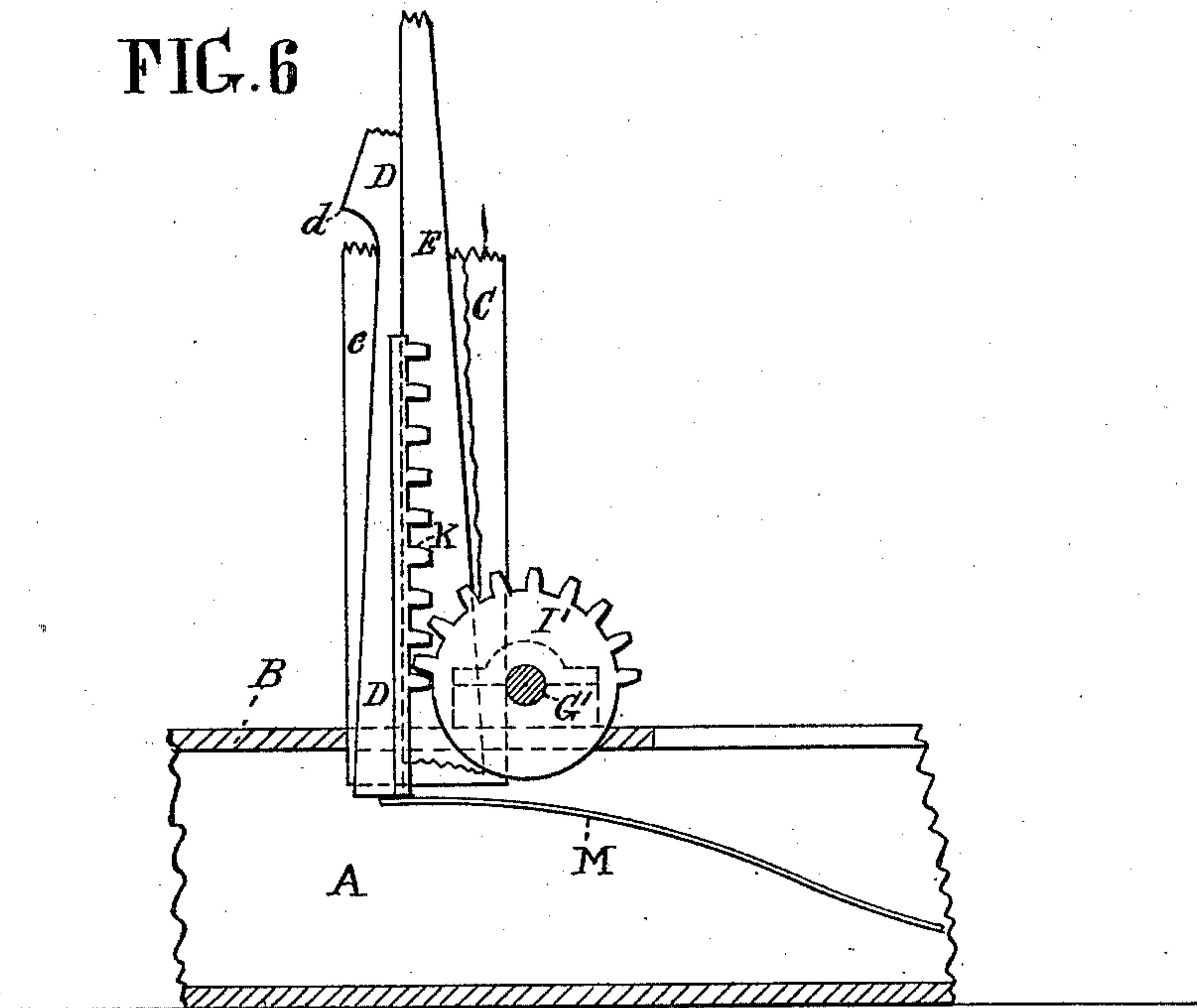
S. B. PIERCE.

MACHINE FOR CUTTING KEY SEATS.

No. 286,221.

Patented Oct. 9, 1883.

FIG. 6



Witnesses.

Thomas J. Dewley.

Edmund J. Roberts

Inventor

Samuel B. Pierce.

per Stephen Ustick atty

UNITED STATES PATENT OFFICE.

SAMUEL B. PIERCE, OF LA CROSSE, WISCONSIN.

MACHINE FOR CUTTING KEY-SEATS.

SPECIFICATION forming part of Letters Patent No. 286,221, dated October 9, 1883.

Application filed July 24, 1882. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL B. PIERCE, a citizen of the United States, residing at La Crosse, in the county of La Crosse and State of Wisconsin, have invented a new and useful Improvement in Machines for Cutting Key-Seats, of which the following is a specification.

My invention consists in the combination, with a toothed rack connected with a cutter-bar, of a revolving shaft having a segmental pinion, and a spring for giving a reciprocating movement to the cutter-bar, as hereinafter described.

In the accompanying drawings, which make a part of this specification, Figure 1 is a plan view of my improved machine. Fig. 2 is a side elevation of the same. Fig. 3 is a longitudinal section of the mandrel C, cutter D, and wedge E. Fig. 4 is a cross-section at the broken line *x x* of Fig. 3. Fig. 5 is an edge view of the cutter D and rack K. Fig. 6 is a side elevation, in section, of a part of the machine, showing the connection of the spring M with the rack K, attached to the cutter-bar D, a portion of the cutter-bar wedge E and mandrel C being broken away.

Like letters of reference in all the figures indicate the same parts.

A represents the bed or frame of the machine, which has uprights *a a*, that support the face-plate B.

C is a vertical mandrel, the lower end of which is set in a corresponding opening in the face-plate, with its shoulder *b* resting on the latter. The mandrel has a longitudinal groove, *c*, throughout its whole length, for the reciprocating movement of the cutter-bar D, having cutters *d* and the wedge-bar E.

G is the driving-shaft of the machine, which is provided with the driving-pulley H and pinion I, and G' a shaft having a spur-wheel, J, with which the pinion I gears, and the pinion I', provided with teeth one-half around, which gear into the toothed rack K, which is attached to the lower end of the

cutter-bar D, whereby said bar, in one-half of the revolution of said segmental pinion, is drawn downward, its cutters *d*, in said movement, forming the key-seat in the eye of the pulley, wheel, or other piece of machinery. The mandrel C is of corresponding size to the eye, so that the piece to be slotted is held thereby laterally, its weight being sufficient to keep it from rising during the upward movement of the cutter-bar. The wedge-bar E is arranged between the rear side of the groove *c* of the mandrel C and the cutter-bar D, and serves by its upward movement, given by means of the hand-lever L, to keep said bar up to its work during its downward movement from the position seen in Fig. 2, and also to give the requisite tapered form to the key-seat. The downward movement of the cutter-bar is given during the action of the teeth of the pinion L with the toothed rack K. When the last tooth has left the rack, an upward movement is given to it, and thereby to the cutter-bar, by means of the spring M. Before this movement commences the lever L is raised to admit of the descent of the wedge-bar E to its lowest position, and the withdrawal thereof from the cutter-bar admits of the latter ascending freely through the groove *c* to its upper position for another cut, and a like operation is continued until the key-seat has been cut to the required depth.

I have used the above-described machine in my machine-shop with complete success in cutting all kinds of key-seats called for in my business.

I claim as my invention—

The combination of the revolving shaft G', segmental pinion I', toothed rack K, and spring M for giving a reciprocating movement to the cutter-bar D, substantially in the manner and for the purpose set forth.

SAMUEL B. PIERCE.

Witnesses:

JOHN BRINDLEY,
J. L. PETTENGILL.