

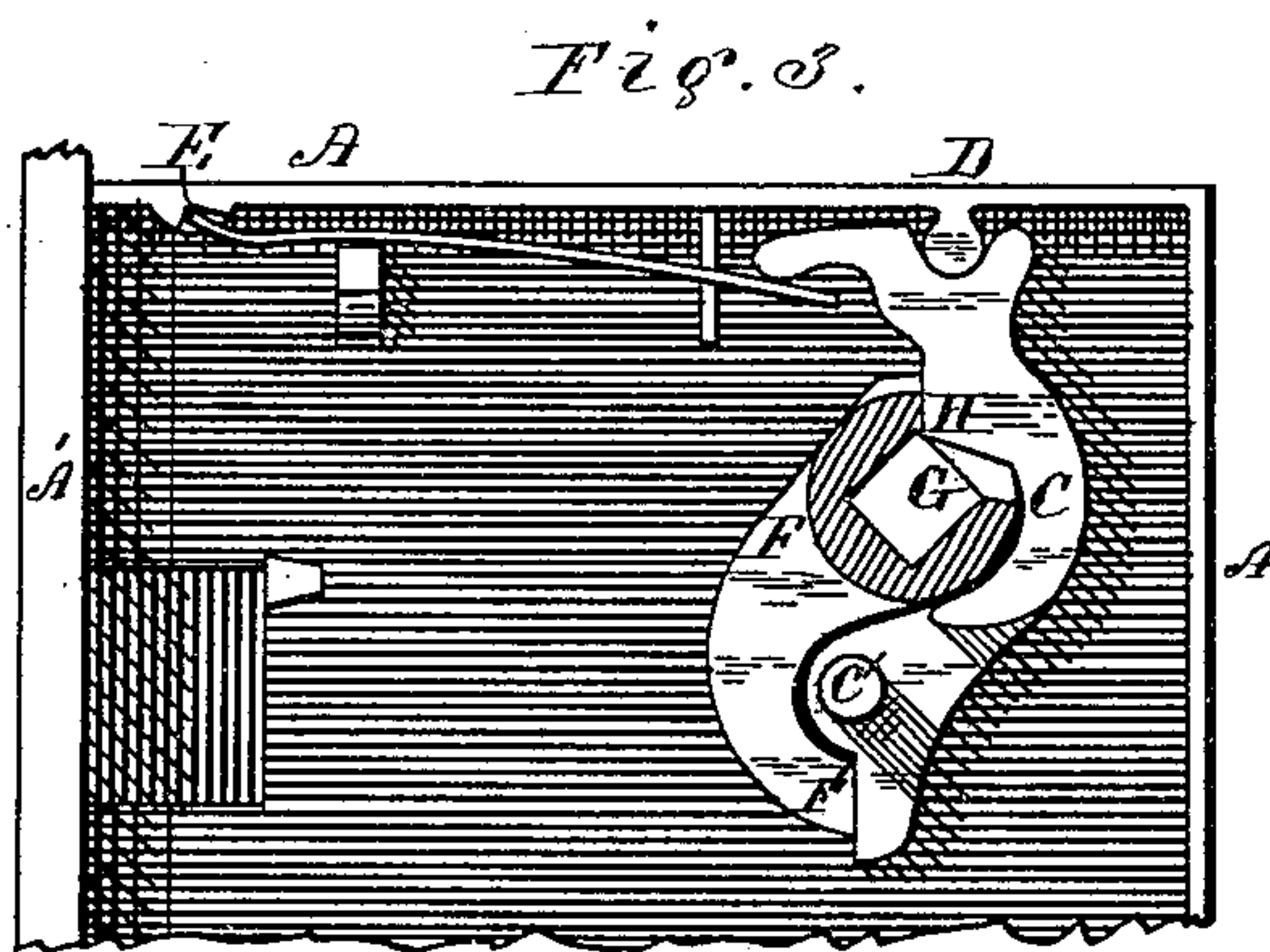
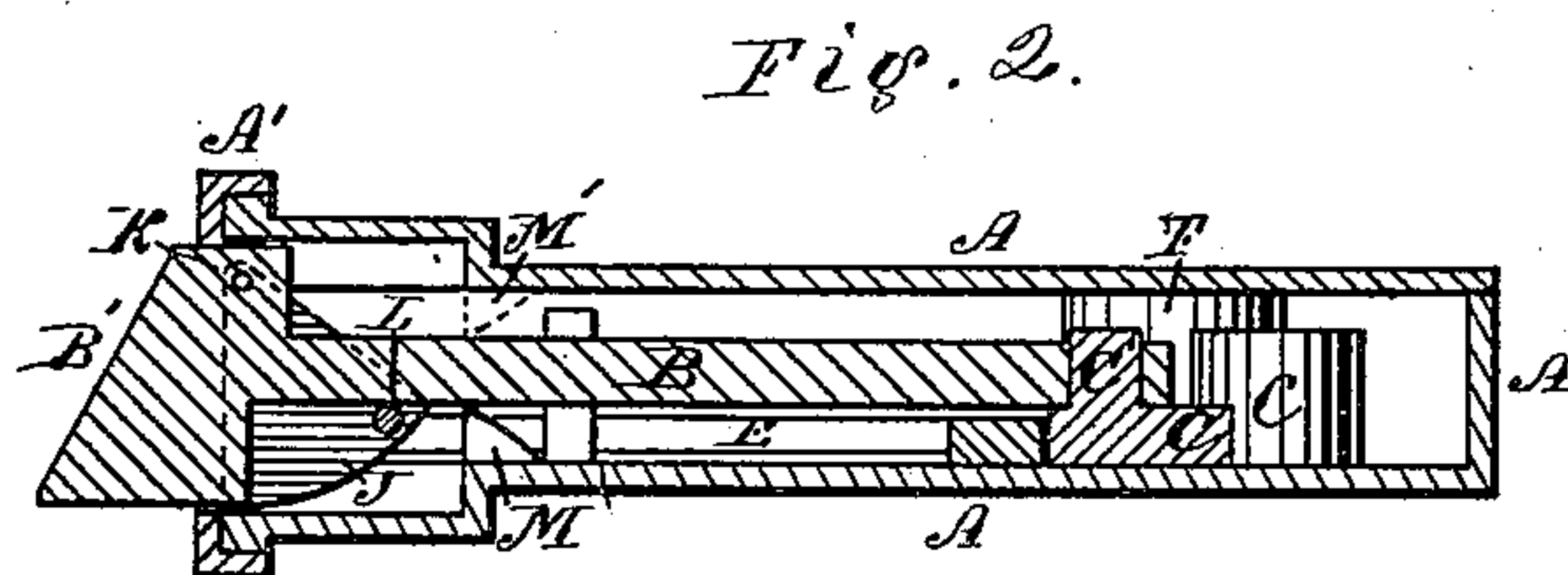
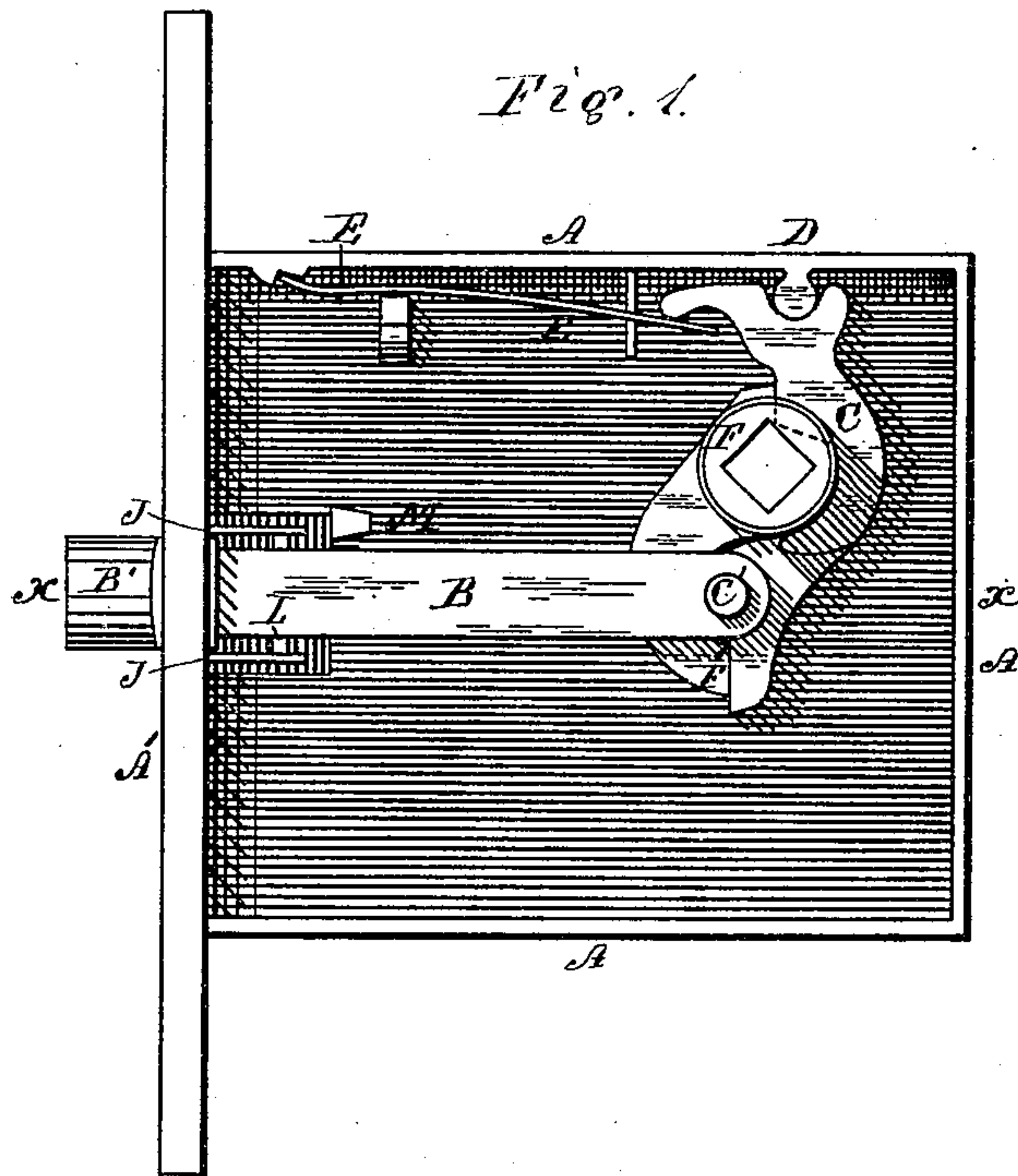
(Model.)

E. PARKER.

LATCH.

No. 262,243.

Patented Aug. 8, 1882.



Witnesses.

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UNITED STATES PATENT OFFICE.

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LATCH.

SPECIFICATION forming part of Letters Patent No. 262,243, dated August 8, 1882.

Application filed May 13, 1882. (Model.)

To all whom it may concern:

Be it known that I, EMERY PARKER, of New Britain, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Latches; and I do hereby declare that the following is a full, clear, and exact description thereof, whereby a person skilled in the art can make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters in the figures indicate the same parts.

My improvement relates to such latches as are commonly placed in door-locks, and which are operated by a spring that yields as the door is closed by the action of an incline upon the end of the latch, and then presses the latch outward to hold the door closed.

The object of my invention is to provide a mechanism for equalizing the resistance and friction when the knob is turned in either direction, so that the force required shall be the same in either case; and it also has for its object the reduction of the friction caused by the bearing of the latch-bolt against the case as it moves inward by pressure upon the incline when the door is closed.

In the accompanying drawings, illustrating my invention, Figure 1 is a top view of a spring-latch embodying my improvements, having the top plate of the case removed to show the interior parts. Fig. 2 is a cross-section through the middle of the latch-bolt on the line *x x* of Fig. 1, looking upward. Fig. 3 is a top view of the hub and lever which operate the latch, having the top of the hub removed to show its construction.

A is the case which contains the working parts, and is adapted to be set into a mortise in the edge of a door.

B is the latch-bolt, which passes through an opening in the case, and is furnished with an inclined face, B', in the customary manner.

C is the lever which operates the latch. It is furnished with a pin, C', which passes through an opening in the latch-bolt B.

D is a projection upon the interior of the case, which serves as a fulcrum for the lever C.

E is a spring, which is attached to the case

A, and rests upon the lever C, so as to throw out the bolt B.

F is the hub, through which the spindle of the knob passes to operate the latch. It is furnished with a square hole in the middle for the spindle, and turns in bearings in the sides of the case in the customary manner. The hub F has commonly been furnished with two projections, one above and one below, to press against the lever C and push it and the latch-bolt back in whichever direction the knob is turned. The lower one operating at a longer distance from the pivot D has always worked with less pressure than the upper, which operates near to the fulcrum; and these projections on the hub, owing to the diameter of the central part, have not been of proper length to equalize the force required, having always been made upon its circumference and some distance from the center of the knob-spindle. In my improved construction I form a recess, G, in the hub reaching through to the spindle, or to the square hole in the middle of the hub, and I also form a projection, H, upon the lever C, which enters into the recess, so that the bearing between the hub and lever is brought much nearer the center of the hub than has before been practiced. In this way the leverage of the upper bearing of the hub acting on the lever is increased, so as to make it nearly or quite the same as the lower bearing, the lower bearing being formed by the arm F', acting upon the lower end of the lever C, as shown in the drawings.

J J are the sectors, one on each side of the bolt B, united by the pivot K, which passes through the latch-bolt. The sectors are also connected by a pin, L, which passes from one to the other through the space under the bolt. The curved edges of these sectors roll upon the side plate of the case.

M is a stud or projection, which is for the purpose of preventing the sectors from slipping back on the case. In order to make the latch reversible, a second stud, M', is placed upon the other side of the case, which serves the same purpose as M when the latch is turned half-way round in the case.

When the latch-bolt is out, as shown in the drawings, one edge of the sector J rests against

the face-plate A' of the case, and when in this position the pin L is resting against the under side of the bolt to prevent the sectors from turning upward out of place. When the latch 5 is drawn in by the operation of the knob the sectors roll on the case, and the pin L comes against the front part of the bolt, thus preventing its getting out of place.

What I claim as my invention is—

10 1. In a latch-case, the combination of the lever C, having the projection H, and the hub

F, having the recess G, with the spring E and the bolt B, substantially as described.

2. The sectors J, pivoted through the bolt B, and provided with the pin L, in combination with the bolt B and the case A, substantially as described. 15

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Witnesses:

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