

No. 672,627.

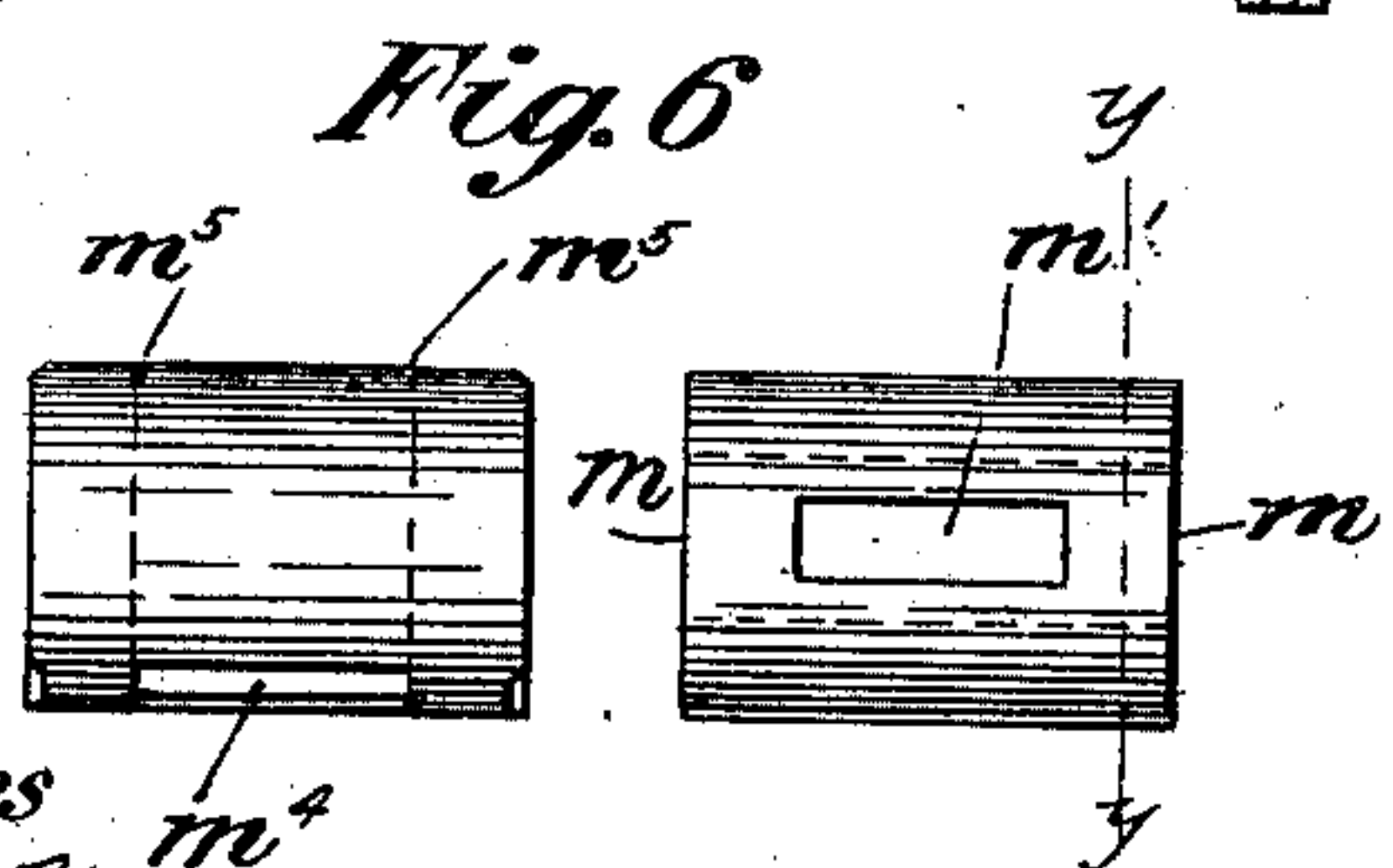
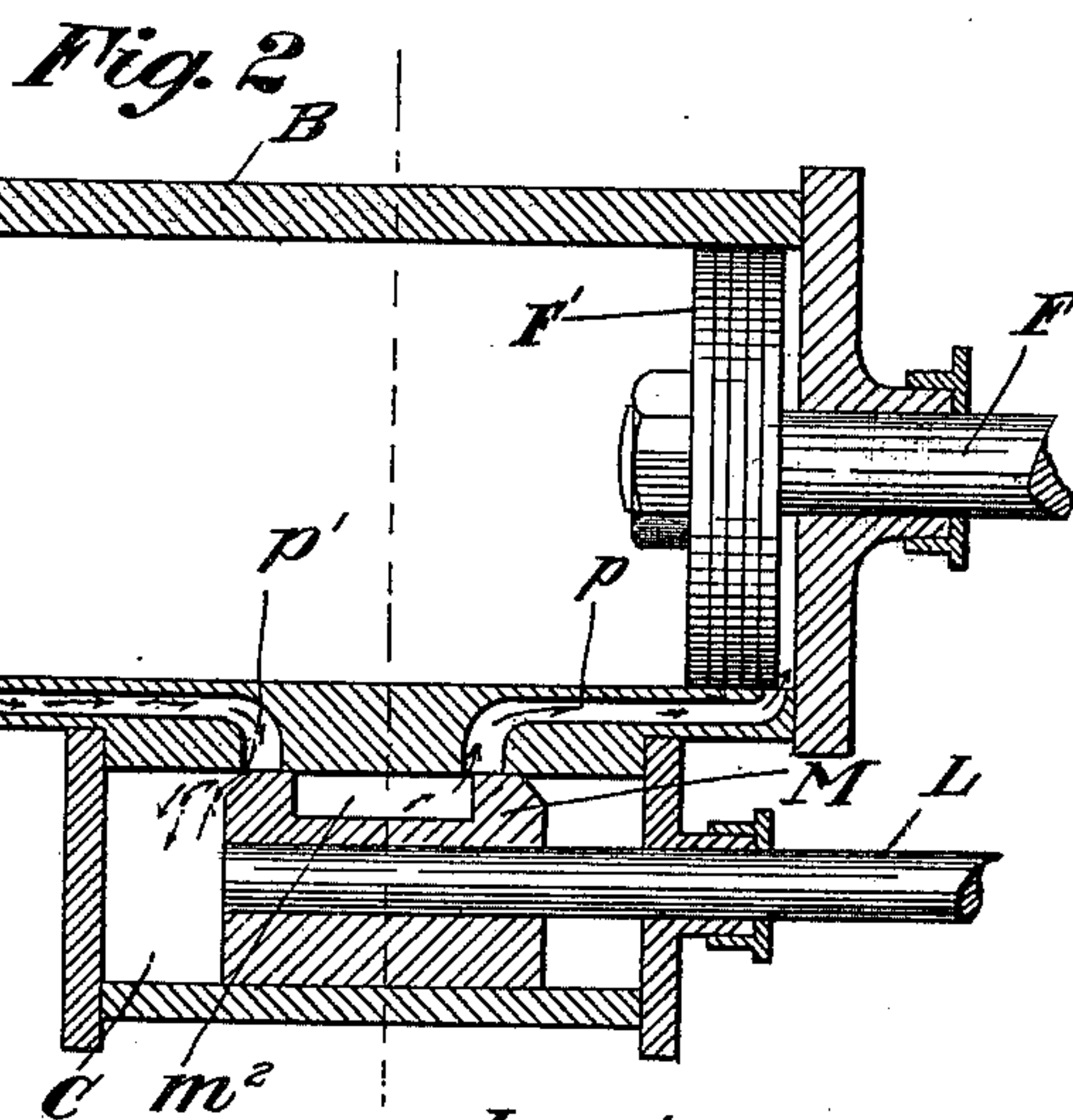
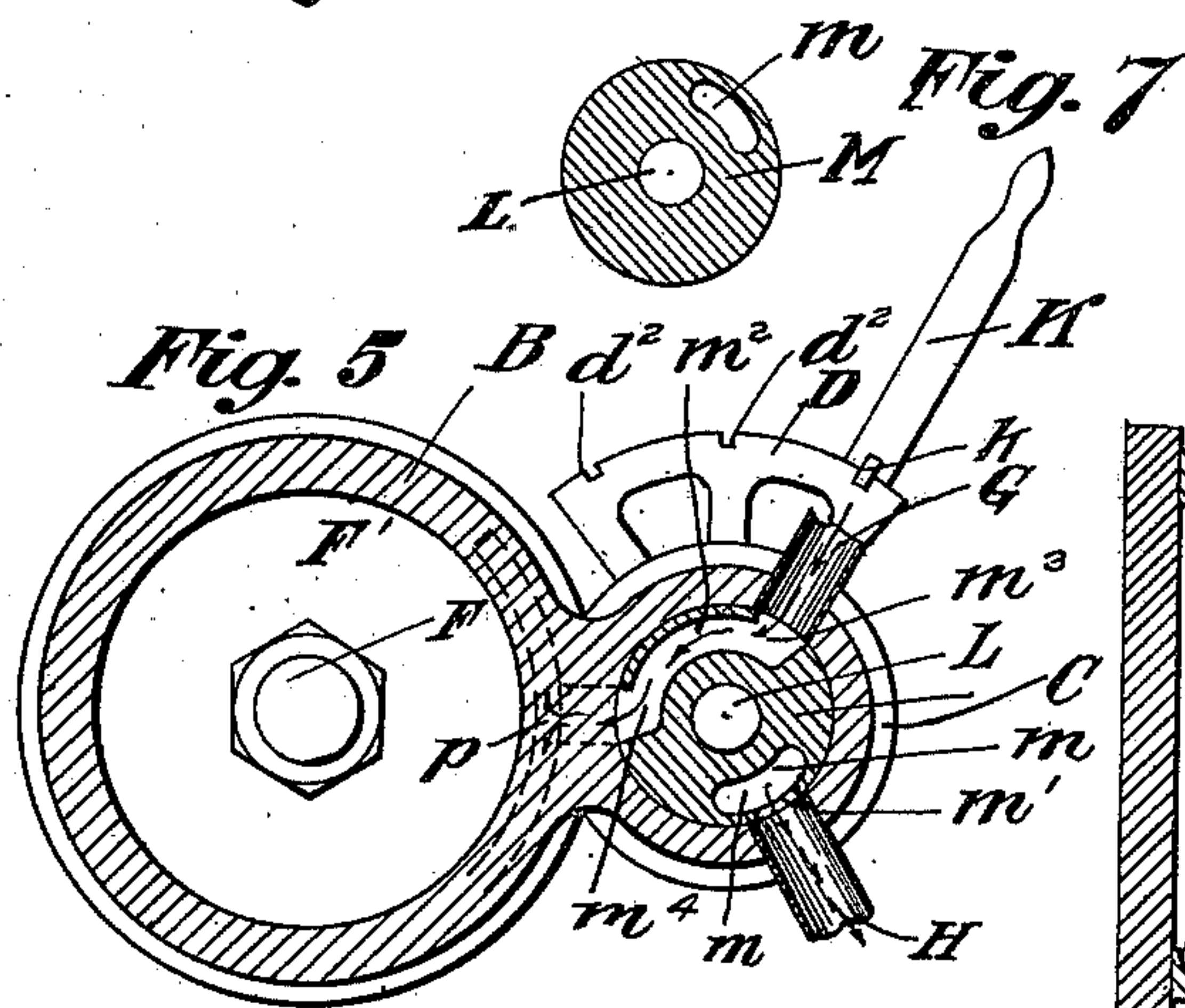
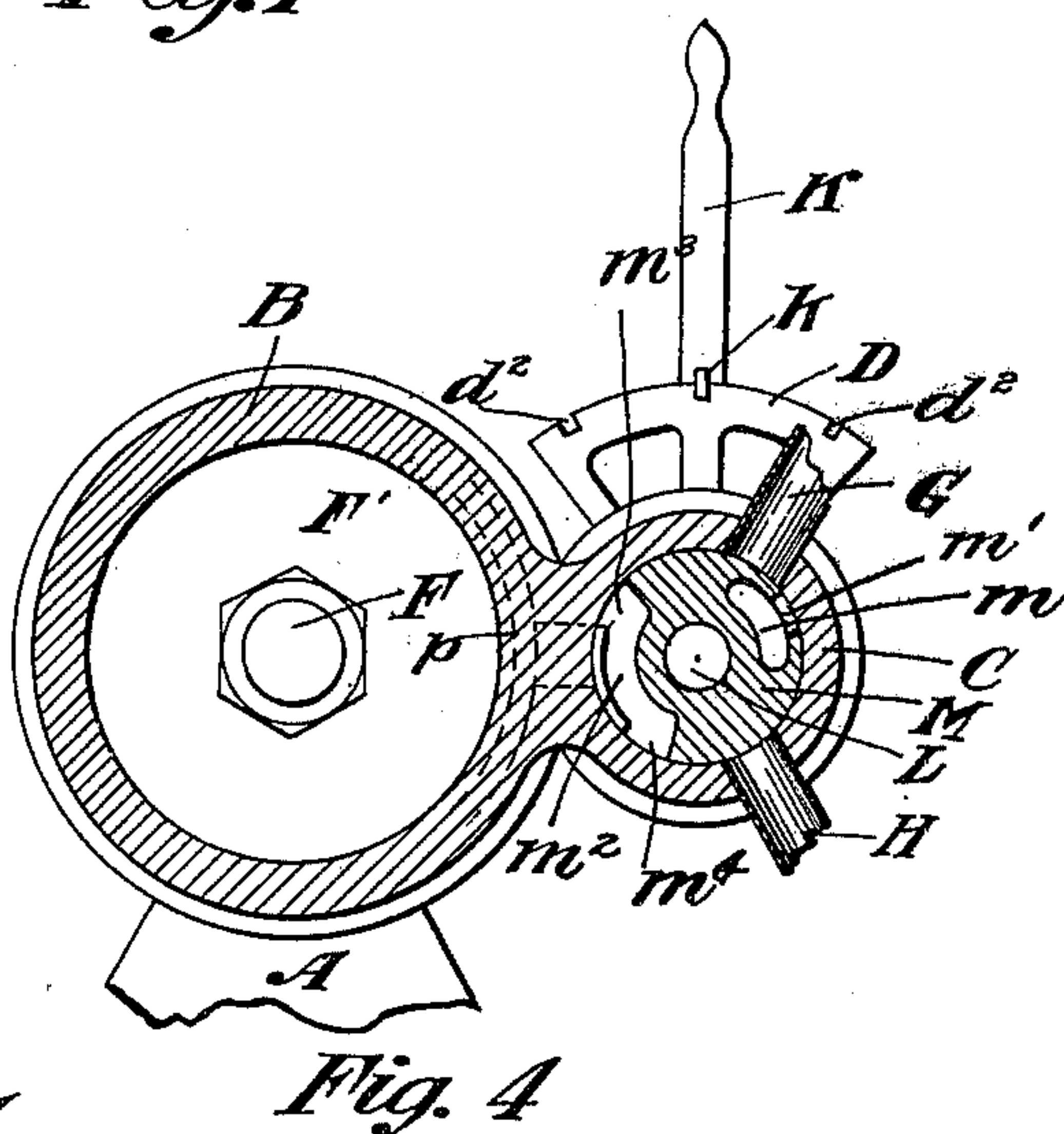
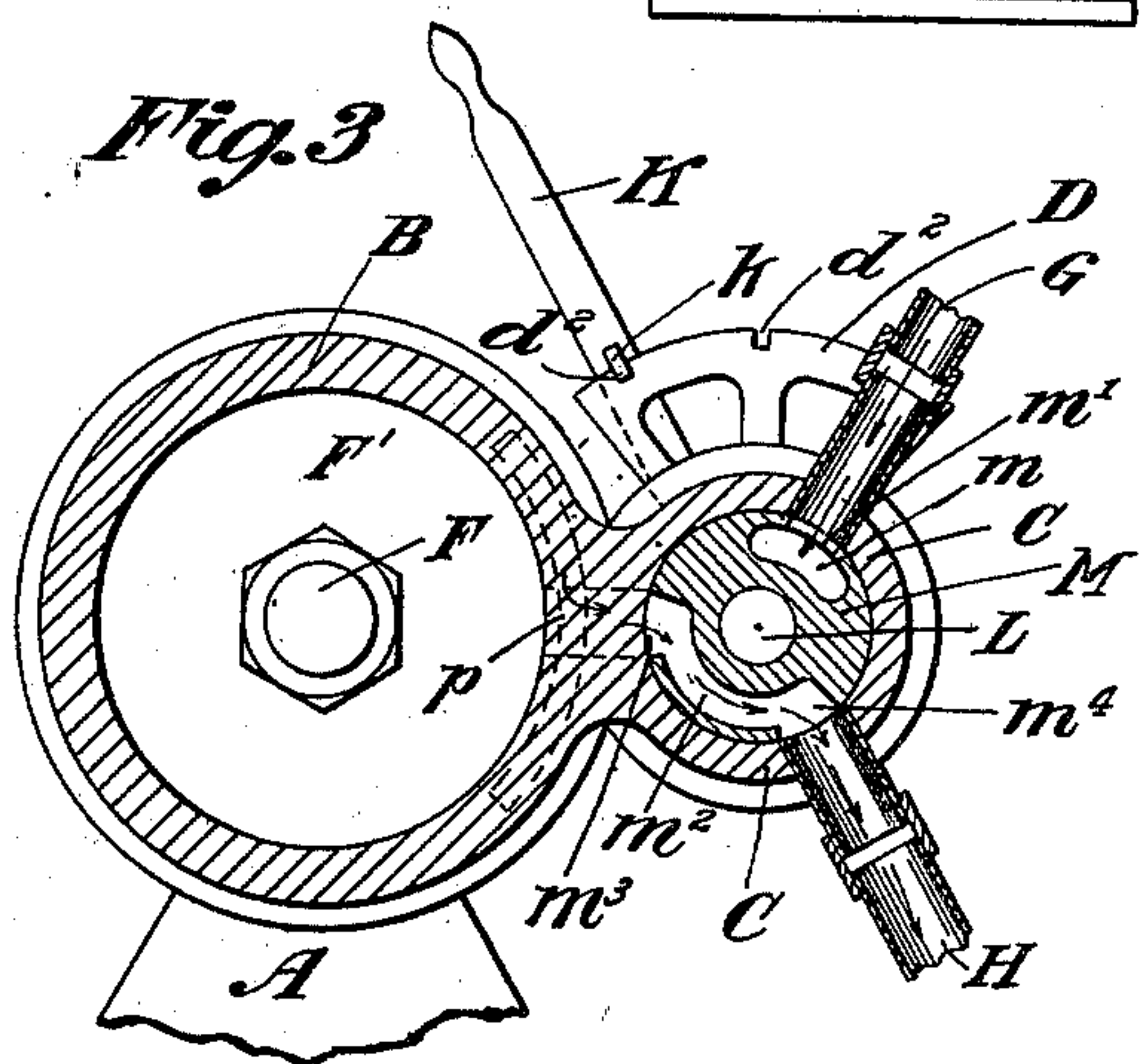
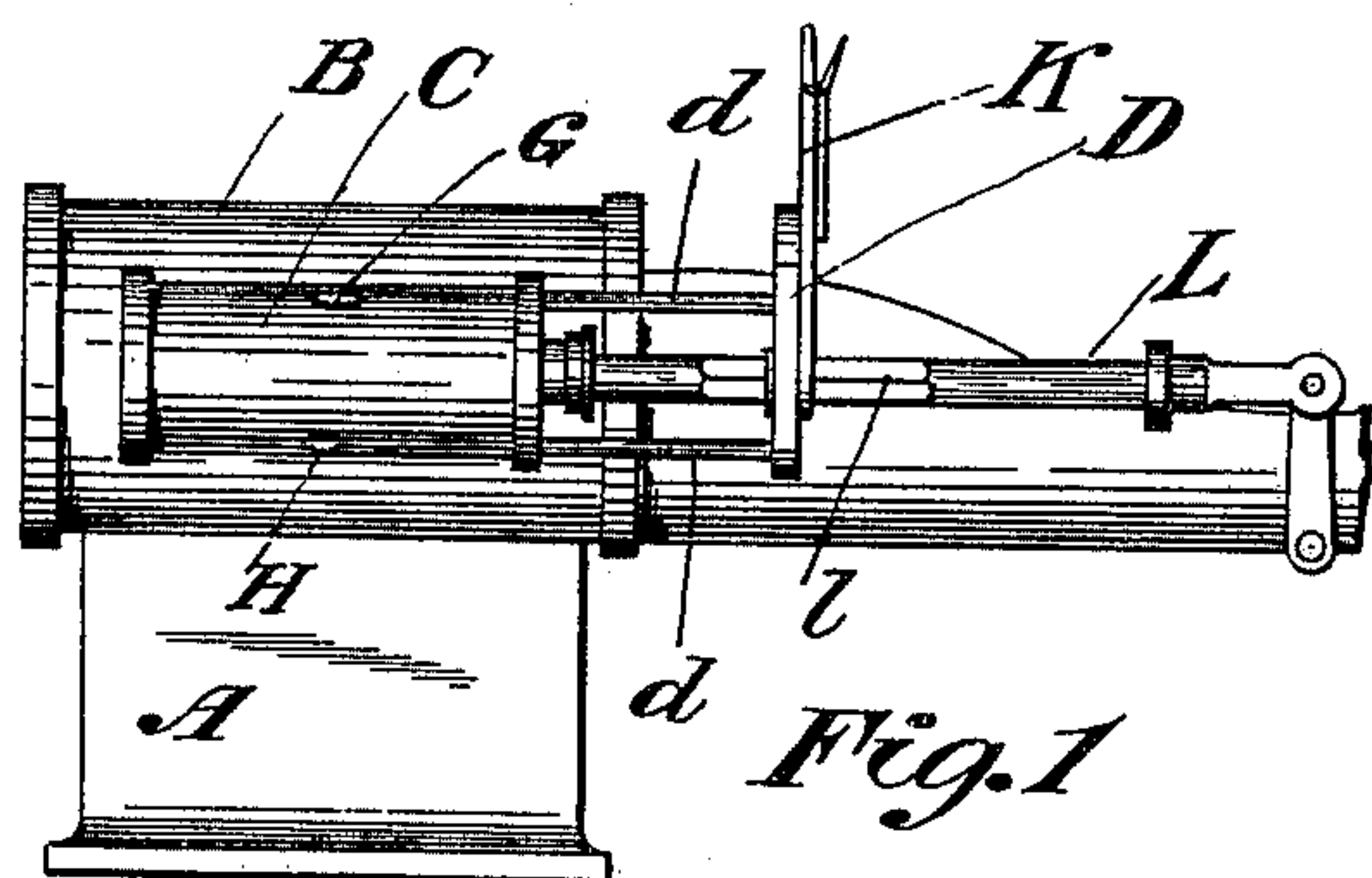
Patented Apr. 23, 1901.

J. M. REDLINGSHAFFER.

ROTARY STEAM VALVE.

(Application filed Feb. 16, 1900.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

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ROTARY STEAM-VALVE.

SPECIFICATION forming part of Letters Patent No. 672,627, dated April 23, 1901.

Application filed February 16, 1900. Serial No. 5,420. (No model.)

To all whom it may concern:

Be it known that I, JOHN M. REDLINGSHAFFER, a citizen of the United States of America, and a resident of California, county of Washington, and State of Pennsylvania, have invented certain new and useful Improvements in Reversing Steam-Valves, of which the following is a specification.

Figure 1 is an elevation of the valve-chest and steam-cylinder; Fig. 2, a longitudinal section through the same; Fig. 3, a section on line $x x$ of Fig. 2, but showing the valve in its position for running the engine forward; Fig. 4, a like position, but showing valve in position where engine is neutral; Fig. 5, a like section showing valve in position to run engine backward; Fig. 6, side elevations of the valve, and Fig. 7 a section on line $y y$ of Fig. 6.

The purpose of my invention, generally stated, is to devise a steam-valve of simple construction which by its partial rotation to three given points will put the engine running forward or upon a dead-center or backward. This partial rotation can be accomplished by a single lever suitably connected to the valve-stem.

My invention is particularly useful for reversing mill-engines, but is not limited thereto.

In the accompanying drawings, which make part of this specification, A is the engine-base, B the steam-chest, and C the valve-chest.

D is a quadrant suitably supported by arms $d d$.

F is the piston-rod, and F' the piston.

G is the inlet steam-pipe, and H the exhaust-pipe.

K is a reversing-lever, and k the latch therefor, locking into the notches $d^2 d^2 d^2$ of the quadrant D.

L is the valve-stem, squared at l to receive the lever K. The valve-stem bears a reciprocating slide-valve M, which is also capable of a partial rotation through the lever K. The valve M is a cylinder and is provided with two passages, which are located on opposite sides of the cylinder. One of these passages m extends from one end of the valve to the other, as seen in the dotted lines in the right-hand figure of Fig. 6. The passage m breaks

through the shell of the valve by the opening m' . The second passage m^2 embraces a larger portion of the periphery of the valve than the passage m , extending substantially a third of the circumference around the same. The openings to this passage are $m^3 m^4$. The passage m^2 occupies only the central portion of the longitudinal dimensions of the valve, the length of the passage being indicated by the dotted lines $m^5 m^5$ in the left-hand figure of Fig. 6. The usual steam-ports into the cylinder are shown at $p p'$. When running backward, steam will enter through $m^3 m^4$ and escape through $m m'$.

Various alterations may be made in the details of my mechanism while still retaining the important features of my valve. For instance, the valve-stem may be projected entirely through the other head of the valve-chest and the lever located at the end opposite to that shown in the drawings. The relative proportions and locations of the passages in the valve may also be modified.

By the simple throw of a single lever to one of the three positions I am enabled to rapidly and easily control the engine as desired.

Having described my invention, I claim—

1. In valve mechanism a rotary slide-valve, a passage extending through said valve from end to end which has an opening at some intermediate point through the periphery of the valve and a second passage substantially opposite to the first passage but not extending to the ends of the valve and provided with two openings through the periphery of the valve.

2. The combination of a valve-chest; a rotary slide-valve located therein, direct passages in said valve and direct passages in the steam-chest, communications between said passages in said valve and said passages in said chest and means for turning the valve to three positions for running the engine, forward, backward or stopping the same.

Signed by me at California, Pennsylvania, this 9th day of February, 1900.

JOHN M. REDLINGSHAFFER.

Witnesses:

S. FRANK BAKER,
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