

Marden & Abbott.

Steam Engine Governor.

N^o 88,498.

Patented Mar 30, 1869.

Fig 1.

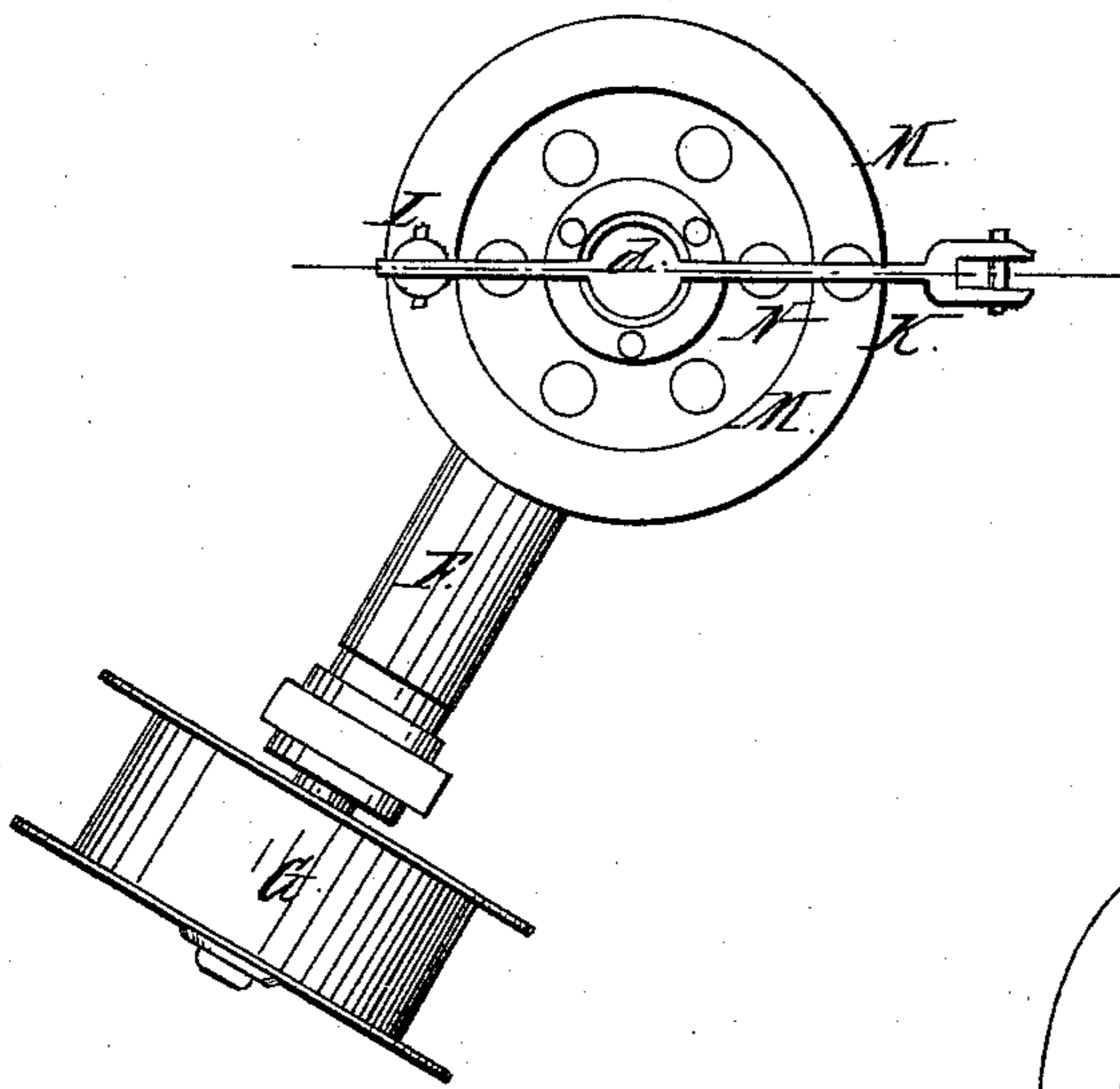


Fig 2.

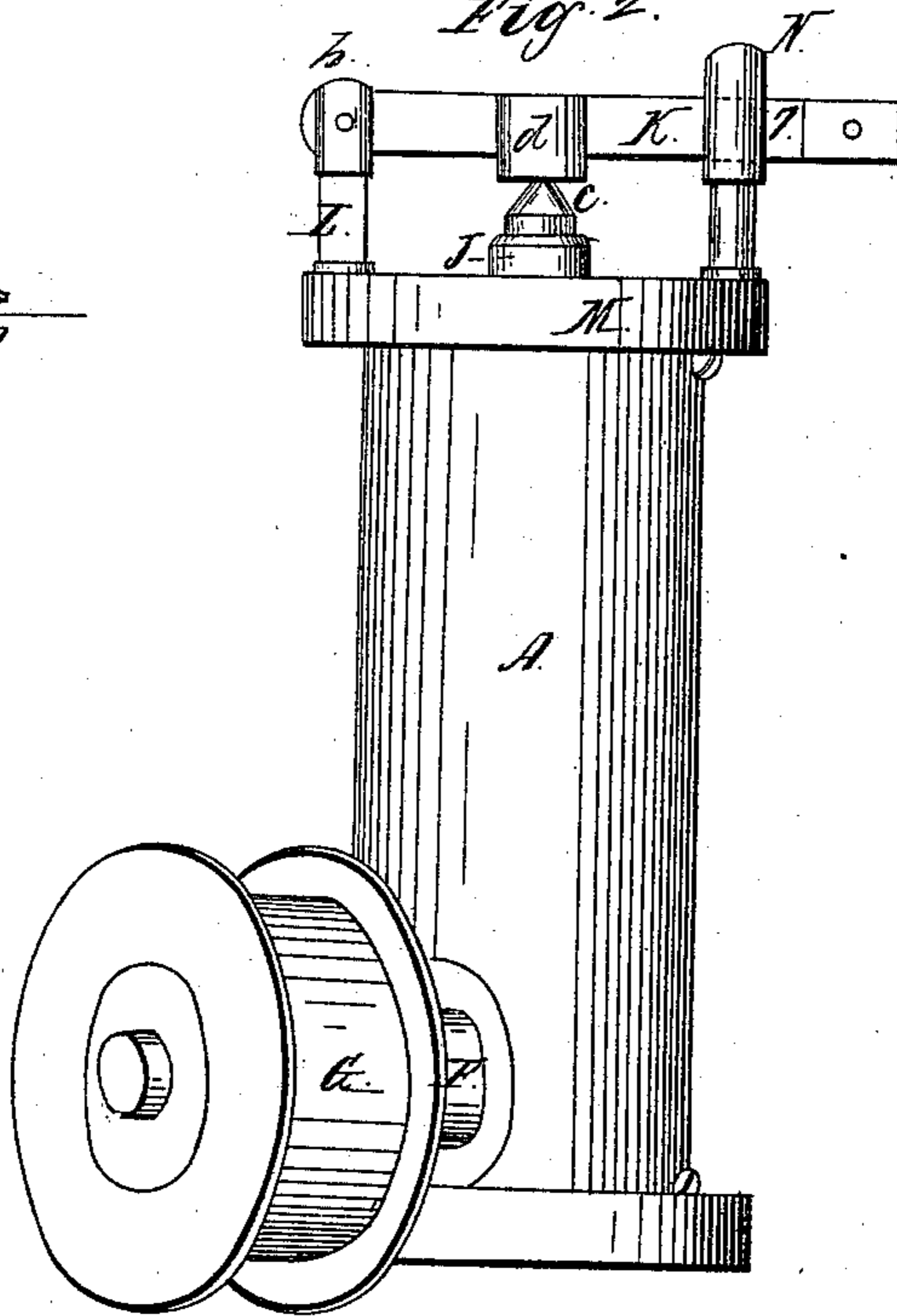


Fig 3.

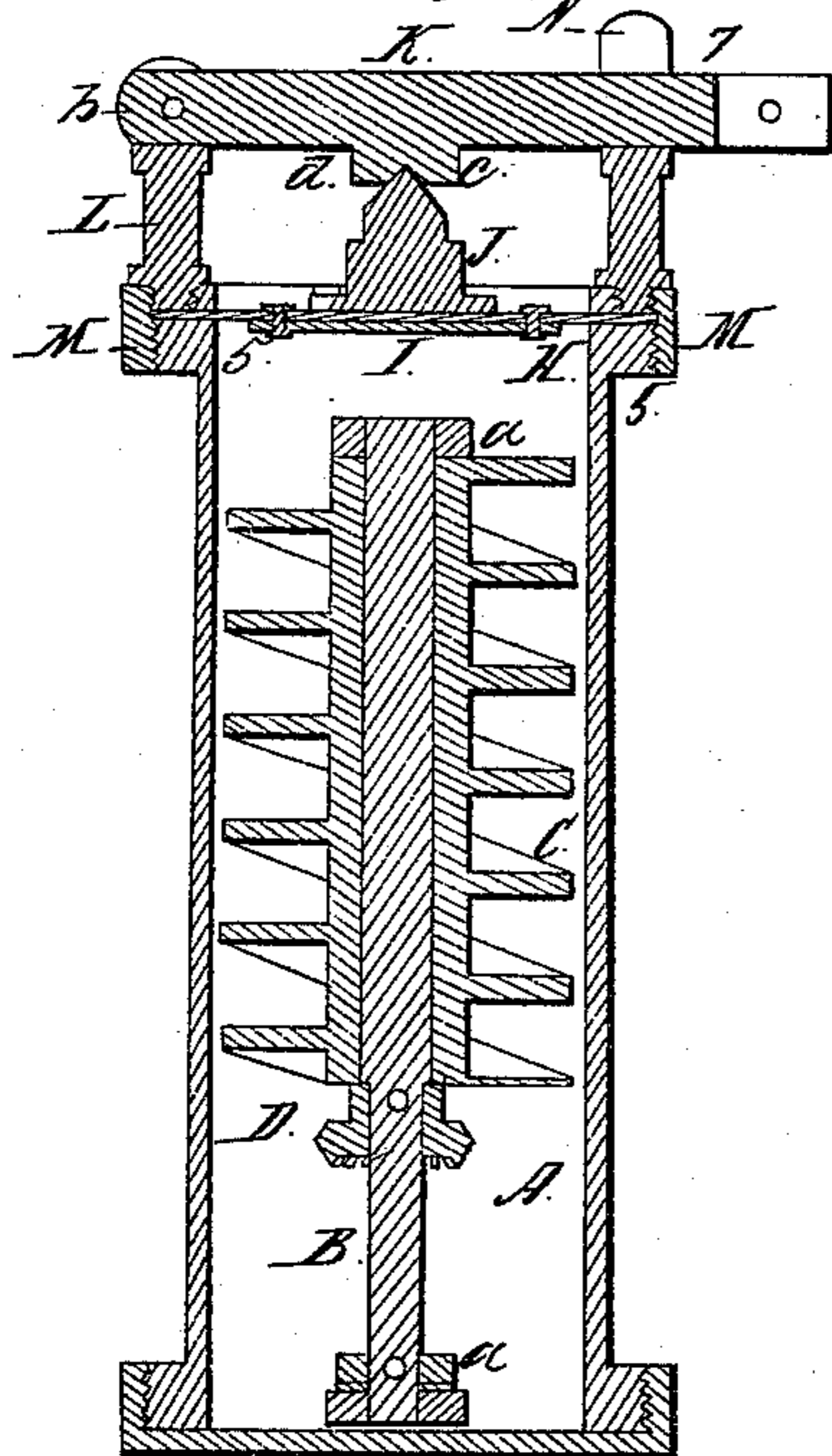
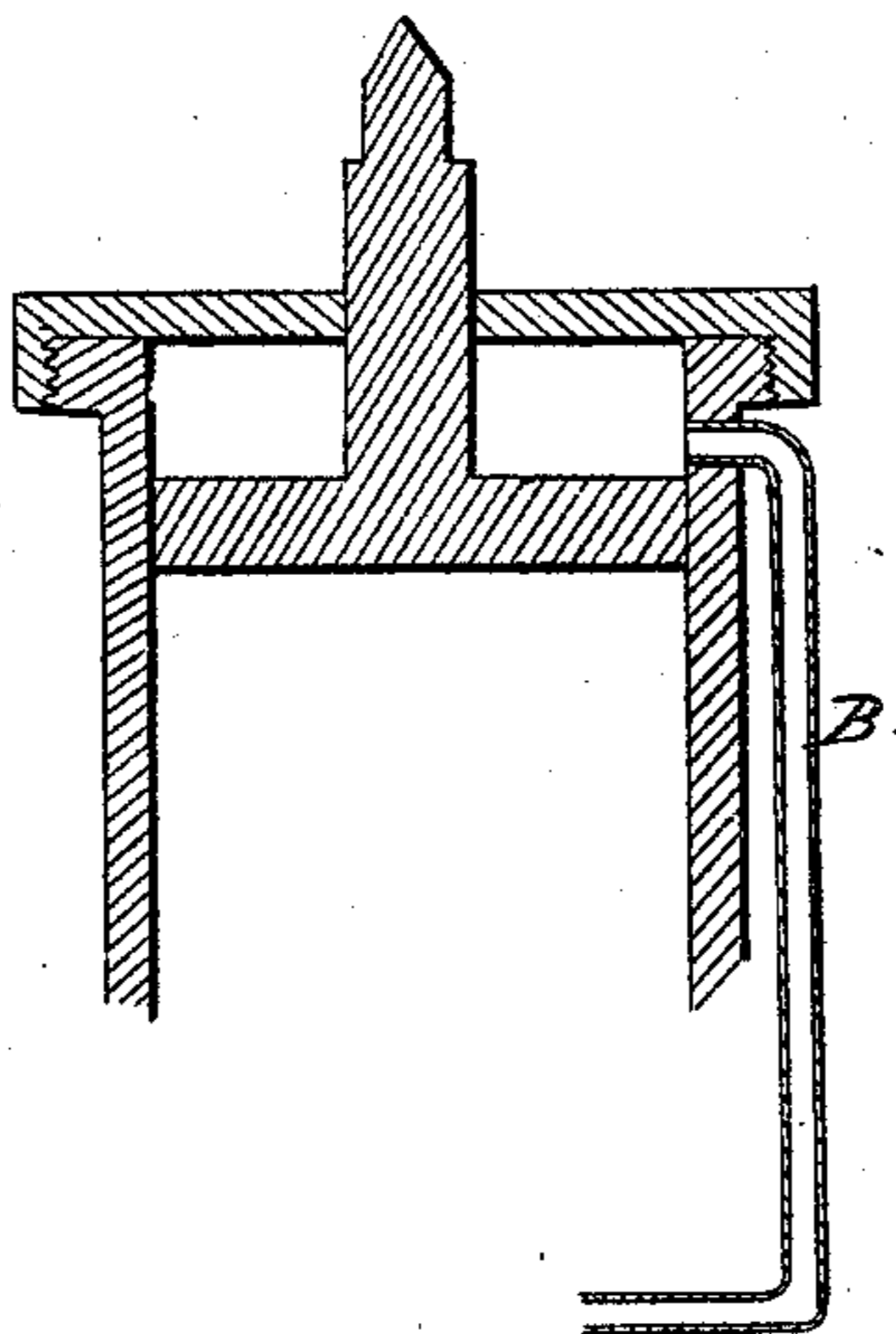


Fig 4.



Witnesses:
W J Cambridges
E E Batchelder

Inventors:
J A Marden & C E Abbott
Per their Attorneys
Teschmacher & Stearns

United States Patent Office.

JEREMIAH A. MARDEN AND CHARLES E. ABBOTT, OF BOSTON, MASSACHUSETTS,
ASSIGNORS TO JOHN H. AND CHARLES E. ABBOTT, OF SAME PLACE.

Letters Patent No. 88,498, dated March 30, 1869.

IMPROVEMENT IN STEAM-ENGINE GOVERNORS.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, JEREMIAH A. MARDEN and CHARLES E. ABBOTT, of Boston, in the county of Suffolk, and State of Massachusetts, have invented certain Improvements in Governors for Steam-Engines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of our improved governor.

Figure 2 is an elevation of the same.

Figure 3 is a vertical section on the line *xx* of fig. 1.

Figure 4, modification to be referred to.

Our present invention relates to that class of governors for steam-engines, in which a receptacle containing oil is employed in connection with devices for opening and closing the steam-valve; and

Our invention consists in a screw, or propeller, revolving within a receptacle containing oil, or other suitable fluid, and provided with a yielding cover or a float, the motion of which is imparted to a lever suitably connected with the valve, the speed of the screw within the receptacle serving to regulate the degree of the pressure of the oil upon the cover or float, and consequently the height to which the lever is raised, whereby the valve is opened or closed more or less, as required.

To enable others skilled in the art to understand and use our invention, we will proceed to describe the manner in which we have carried it out.

In the said drawings—

A is the receptacle for containing oil, intended to be situated immediately above the valve, (not shown.)

Extending diametrically across the top and bottom, are cross-bars *a*, in the centre of each of which is formed a circular hole for the reception of one of the ends of a vertical shaft, or spindle, B, around which winds a spiral propeller, or screw-blade, C, which is revolved within the oil-receptacle by means of a bevel-gear, D, driven by another bevel-gear on the end of the shaft F, revolved by a belt (not shown) passing over the drum G.

H is a leather disk, the edge of which is securely clamped down on a flange, 5, at the top of the oil-receptacle, by means of a circular screw-nut, M.

To the centre of the disk H, is secured a circular plate, I, from which rises an upright post, J, the top

of which is inclined and terminates in a point, *c*, upon which rests an enlargement, *d*, of a horizontal lever, K, one end of which is pivoted, at 6, to a post, L, projecting up from the screw-nut M, the other end, 7, of the lever K, being free to rise and fall within a forked post, or guide, N, also rising from the screw-nut M.

This end, 7, is connected with the steam-valve by means of a rod, lever, or other device, by which construction, when the drum G is driven too rapidly by the governor-belt, the speed of the screw is correspondingly increased, and a larger quantity of oil is carried up thereby and forced against the under side of the leather covering H of the top of the oil-receptacle, and, owing to the flexibility of the leather, it is pressed upward, carrying with it the post J, which consequently causes the outer end of the lever to be raised, and through the connections above referred to, closes, or partially closes the valve, thus regulating the speed, as required.

As soon as the speed commences to diminish, the post commences to fall toward the position seen in section, fig. 3.

Instead of a leather covering for the oil-receptacle, one of rubber, or other elastic material, may be employed, or a circular float, or plunger, (see fig. 4,) of the exact diameter of the interior of the receptacle, and fitting snugly thereto, may be used, if desired, the float, or plunger being connected with the lever K, without departing from the spirit of our invention, in which case, should the oil find its way above the float, or plunger, it may be conveyed down into the receptacle, below the bottom of the screw-blade, by means of a pipe, 8.

Claim.

What we claim as our invention, and desire to secure by Letters Patent, is—

A screw-propeller, C, revolving within the receptacle A, in combination with a float, and the lever K, connected with the steam-valve, substantially as set forth.

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Witnesses:

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