

(No Model.)

W. H. THOMAS.

OIL CUP.

No. 369,265.

Patented Aug. 30, 1887.

Fig. 1.

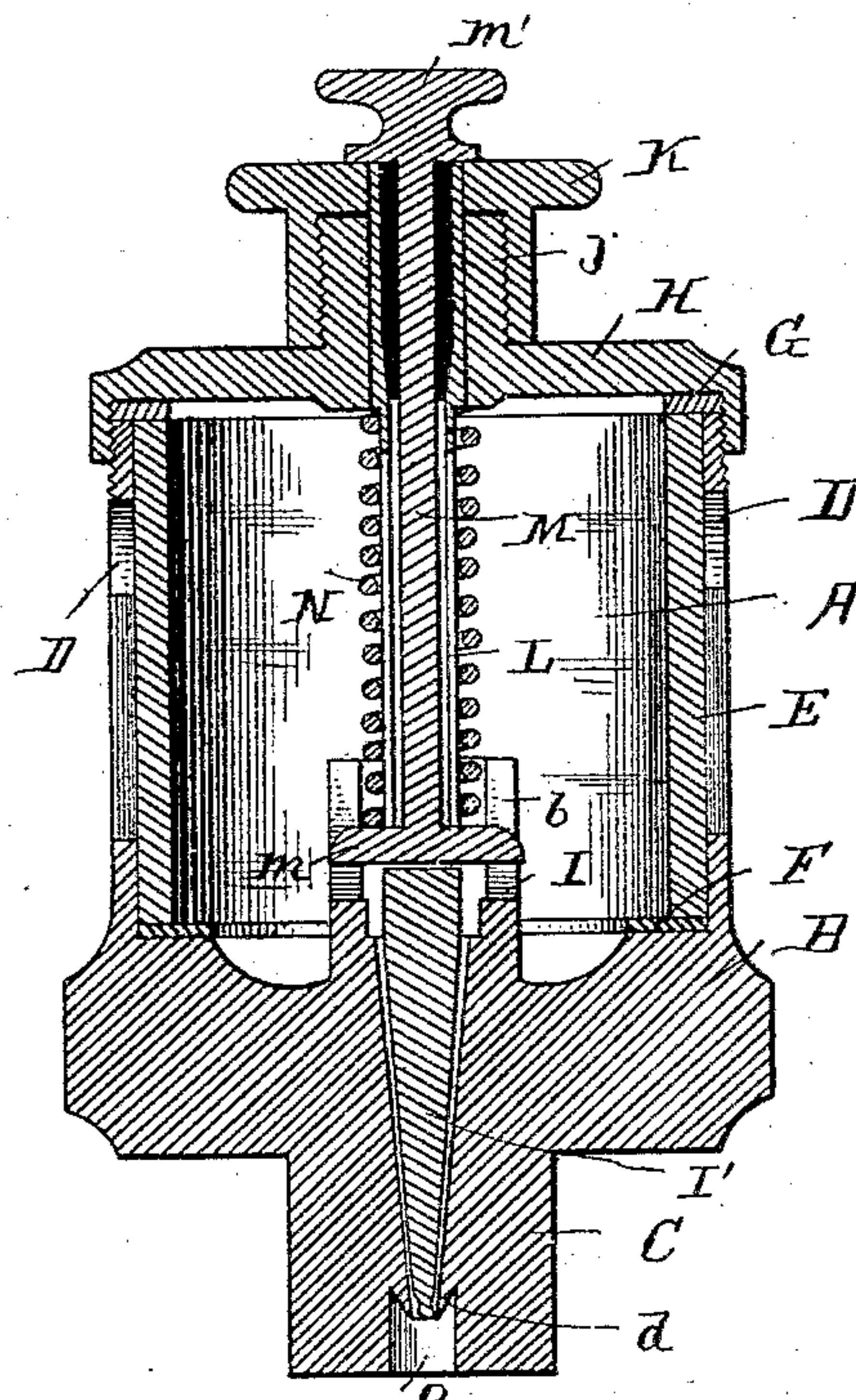


Fig. 5.

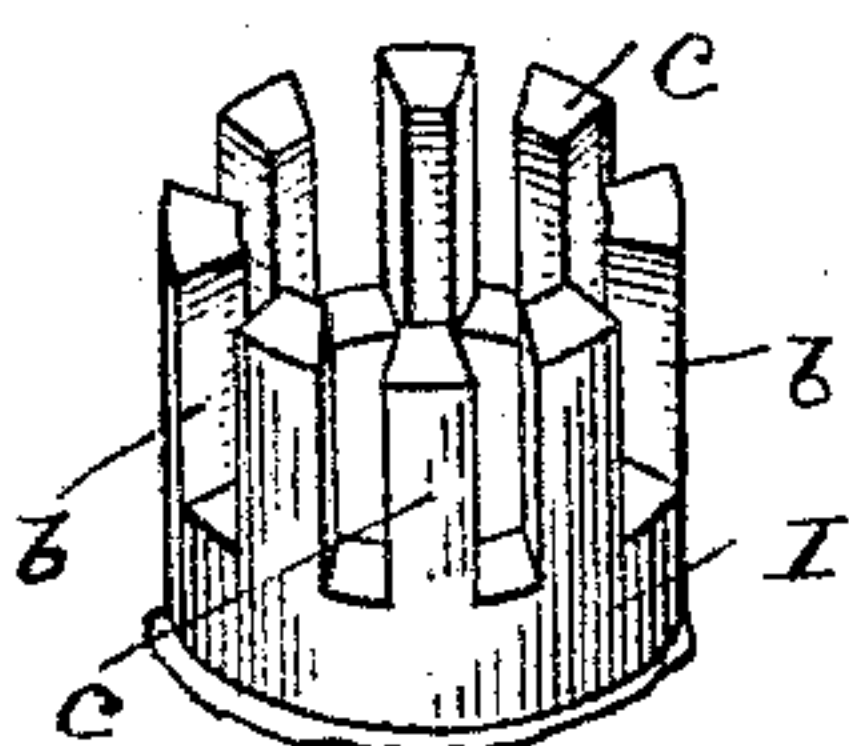


Fig. 3.

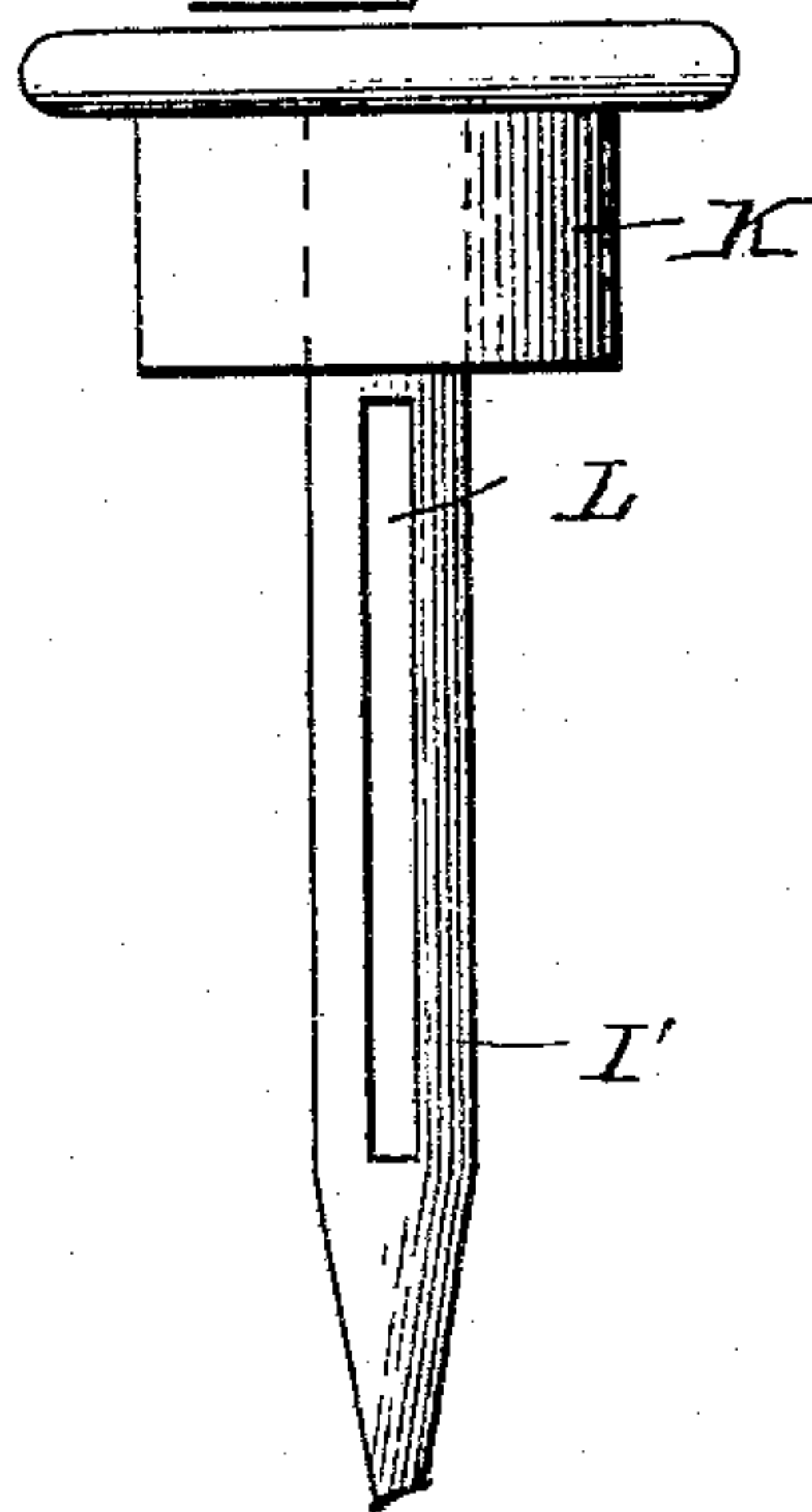


Fig. 2.

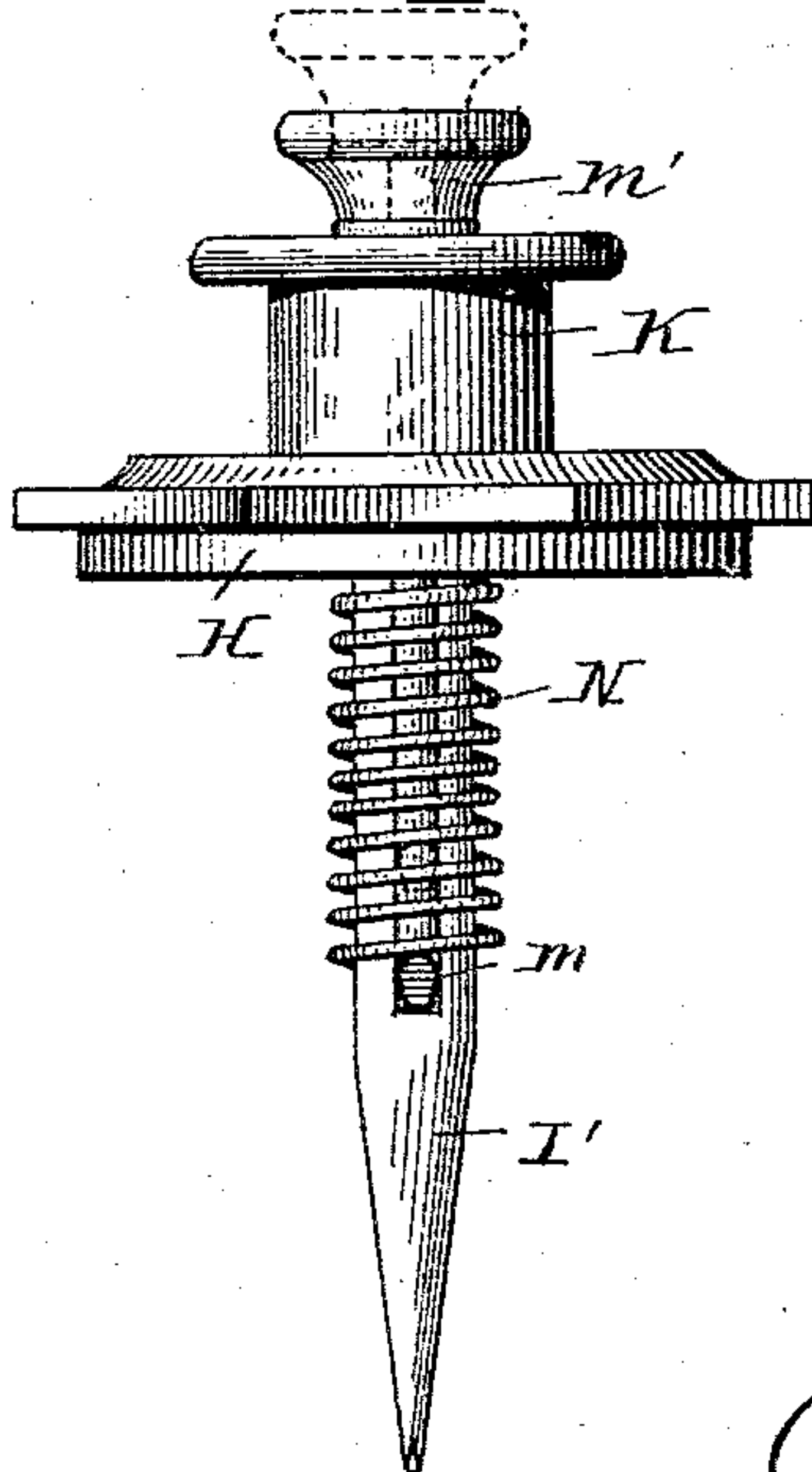
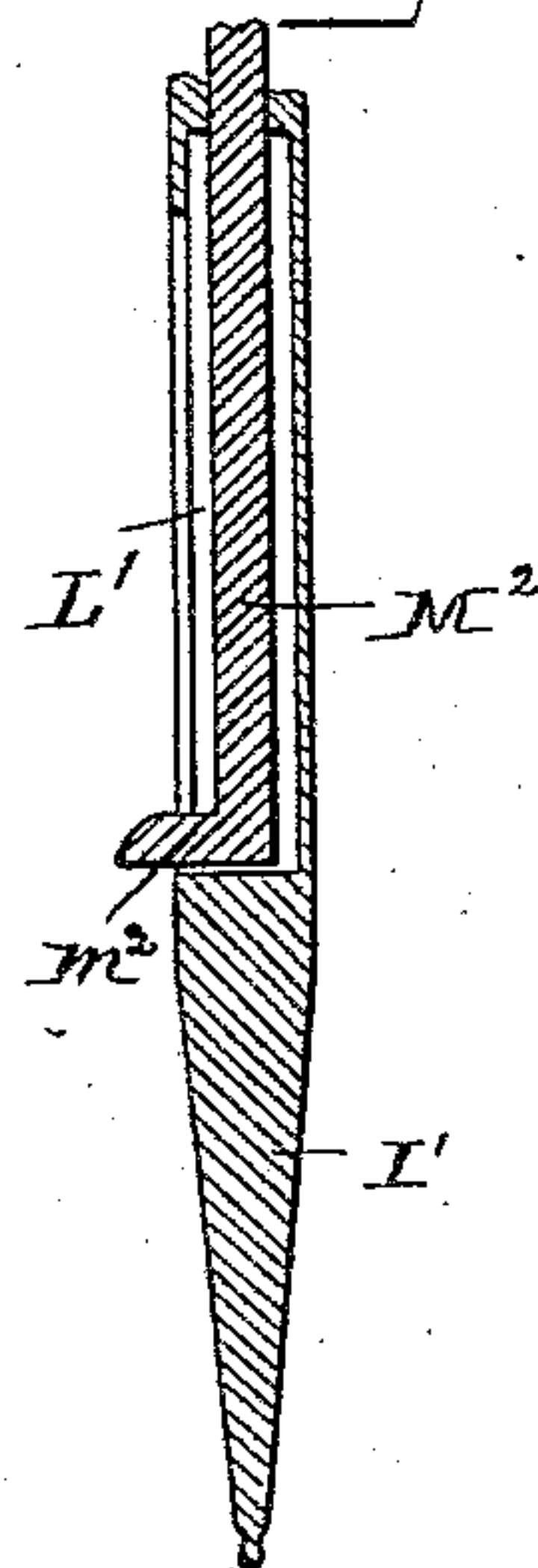


Fig. 4.



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# UNITED STATES PATENT OFFICE.

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## OIL-CUP.

SPECIFICATION forming part of Letters Patent No. 369,265, dated August 30, 1887.

Application filed December 10, 1886. Serial No. 221,180. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. THOMAS, of Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Oil-Cups for Steam-Engines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to oil cups or lubricators for general purposes, but more especially for lubricating the cylinders of steam-engines, and has for its object to generally improve and simplify the construction of such devices.

With these objects in view my invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described, and afterward specifically pointed out in the claims.

In the drawings, Figure 1 is a central vertical section through a lubricator constructed in accordance with my invention. Fig. 2 is a view in side elevation of the upper parts and the plug removed from the cup. Fig. 3 is a view in side elevation of the adjusting cap-nut and feeder-plug. Fig. 4 is a central vertical section showing a portion of the slotted feeder-plug with a slightly-modified form of adjustable filling-bar; and Fig. 5 is a detail perspective view of the slotted ring in the bottom of the cup, upon which the filling-bar is held while filling and in the slots of which it rests when the lubricator is in use.

Like letters of reference mark the same parts wherever they occur in the various figures of the drawings.

Referring to the drawings by letter, A is the cup for holding the supply of oil, which consists of a single piece of metal having a solid bottom, B, with a tubular projection, C, by means of which it is secured in position, and through the bore *a* of which the oil passes to reach the interior of the steam-pipe on which the cup is usually mounted.

The sides D of the cup are of open-work, and within them is placed a clear glass cylinder, E, resting on a suitable packing-ring, F, at the bottom of the cup, and having at its top an-

other packing-ring, G. The level of the oil can always be seen through the glass cylinder, and the packing-rings, when pressed against the ends of it, by screwing down the cover H of the cup, render the joints perfectly tight and prevents leakage.

Within the cup there rises from the center of the bottom B, upward, a projection, I, which, containing, as it does, the continuation of the bore *a*, forms a tube, and is provided with vertical notches or recesses *b*, as shown in Figs. 1 and 5, formed between alternate recesses and pillars *c*. The bore *a* is slightly enlarged at the bottom, and is formed at the upper end of such enlargement with a teat, *d*, from which the oil may drop. From this point upward the bore increases in width, having the shape of an inverted cone, and is fitted with a conical pointed feed-plug, I'. This plug extends entirely through the cup, and is provided at the top with a sleeve, J, which is secured to the top of the threaded cap-nut K, projecting above the cover H of the cup. The cap K is screw-threaded, as shown, and is adapted to be screwed down on the upwardly-projecting portion of the cover H, the purpose of which is, that when the oil does not flow rapidly enough the cap K is unscrewed, thereby raising the feet *m* from pressure against the feed-plug and thus loosening the same, and allowing the oil to drip more rapidly.

From near the bottom to its upper end the plug I' is hollow, and is provided with a slot, L, on one or both sides, as shown, respectively, in Fig. 4 and Figs. 1, 2, and 3. In the hollow of this plug is fitted loosely a stem or bar, M, having at its bottom one or more side projecting feet, *m*, which are arranged to slide vertically in slots L, while the upper end projects through the cover of the cup and the cap-nut K, and is provided with a knob, *m'*, for convenience of handling. A spiral spring, N, encircling the hollow plug, rests upon the projections *m* and serves to keep the bar M normally in its lower position, with the knob *m'* close down on the cap-nut K. There is a space around the bar M. When the bar is raised and the feet *m* are drawn out of the notches and placed upon the pillars *c*, it opens the space. When the bar is forced down, it closes the opening.

The operation of my invention may be de-



scribed as follows, viz: The parts being in the position shown in Fig. 1, and the cup secured in position on the cylinder or steam-pipe, the amount of feed is regulated by raising or lowering the plug by turning the cap-nut K. The bar M is then raised against the action of the spring and slightly turned, so that the feet *m* are raised out of the notches *b* and caused to rest on top of the pillars *c*. The space around the bar M is now open, and oil can be introduced into the cup until the proper level is reached, as will be seen through the glass cylinder. The bar M is again turned and by the spring forced down, so that the feet rest in the notches *b* and the bar securely held down, closing the opening at the top and preventing the bar from being turned.

In Fig. 4 I have shown the bar M<sup>2</sup> as having a foot or projection, *m*<sup>2</sup>, on one side only, in which case there need be only one slot, L', in one side of the hollow plug, the operation being precisely the same.

It will be observed that when the valves and cylinders are to be lubricated with more than the quantity of oil passing through the lubricator automatically the spring spindle or valve may be raised, thus permitting a larger quantity of oil to pass down, or when the supply is to be increased or decreased the spindle-valve is set to permit more or less, as the case may be, to be automatically supplied without danger of waste. Thus the lubricator is set to supply a certain quantity of oil automatically, no matter what the jarring of the engine may be.

The lubricator is cheap in first cost, durable, and reliable in use. Its parts are interchangeable, so that when any portion is worn out a new piece may be substituted.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A lubricator provided with a suitable oil drip or outlet and having internally-projecting pillars, a valve-plug, and a headed bar loosely

fitting and projecting through the top opening in the cover and having side projections or feet at its lower end, in combination with a spring surrounding said bar, whereby the bar is normally kept in its lowest position, causing its head to close the top opening, as described.

2. The combination, in a lubricator, of an oil-cup having an opening in its cover and a bottom drip-outlet, a hollow sliding plug in said drip-outlet, a bar loosely fitted in said hollow plug, having feet which project laterally through vertical slots therein and a head or knob above the cup, a spring to hold the bar normally down, said cup having an interior or projecting tube provided with a series of notches and alternating pillars to alternately receive the bar as it may be lowered or raised, as and for the purposes set forth.

3. A lubricator for steam-engines and the like, having an upper and lower portion and an intermediate cylinder, the lower portion being provided with a valve-opening, and having pillars *c* and recesses *b*, and having at the upper portion an adjusting-head and a hollow sliding plug and laterally-projecting feet, in combination with a spring for retaining bar M and its feet in position when the valve is set, substantially as shown and described.

4. A lubricator for steam-engines, having an upper and lower portion and an intermediate cylinder, the lower portion being provided with a valve-opening and having pillars and recesses, and having at the upper portion an adjusting-head and a hollow sliding plug and inclosed bar, in combination with a spring for retaining said bar in position when the valve is set, substantially as shown.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

WILLIAM H. THOMAS.

Witnesses:

OTTO ANDERSON,  
H. C. FIDLER.