

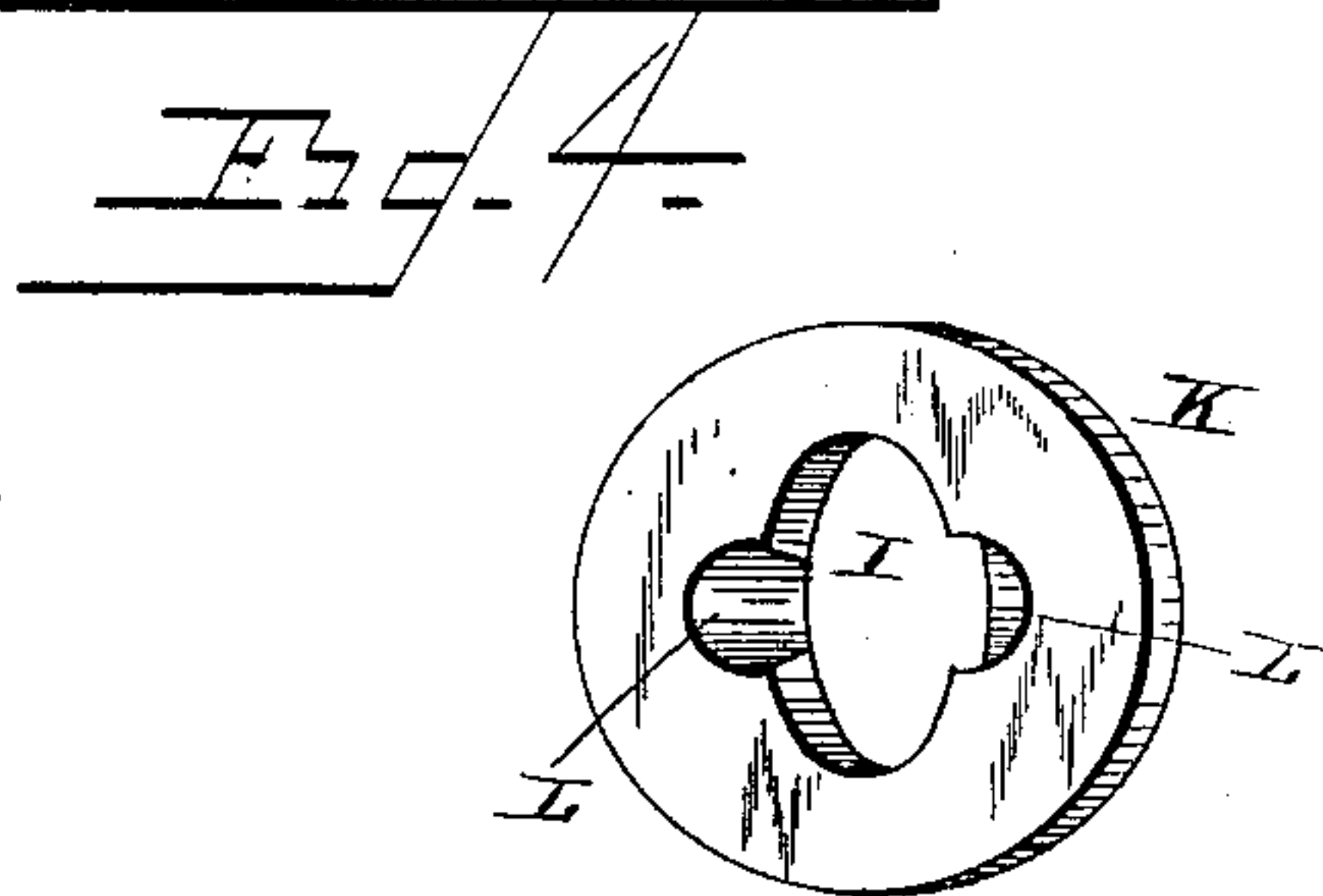
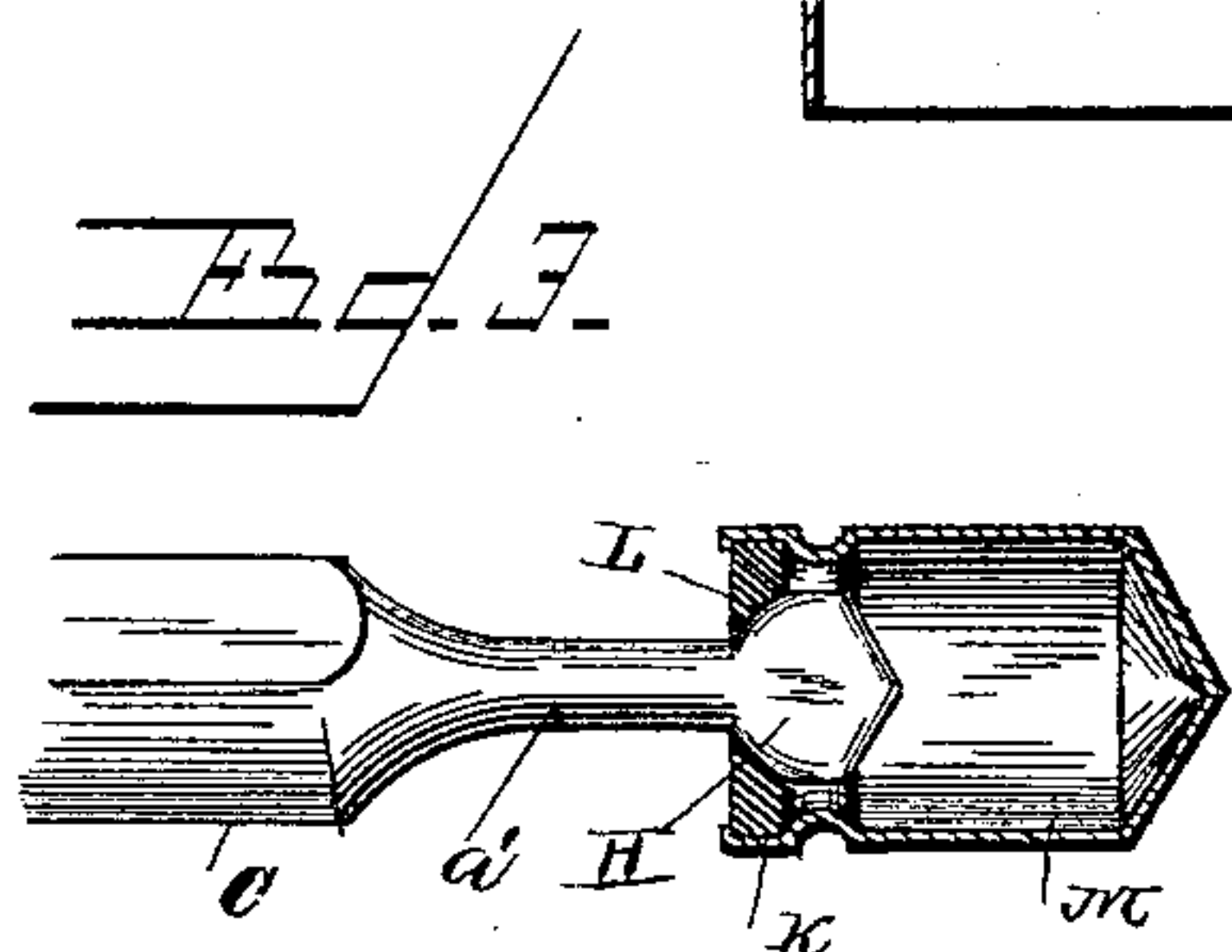
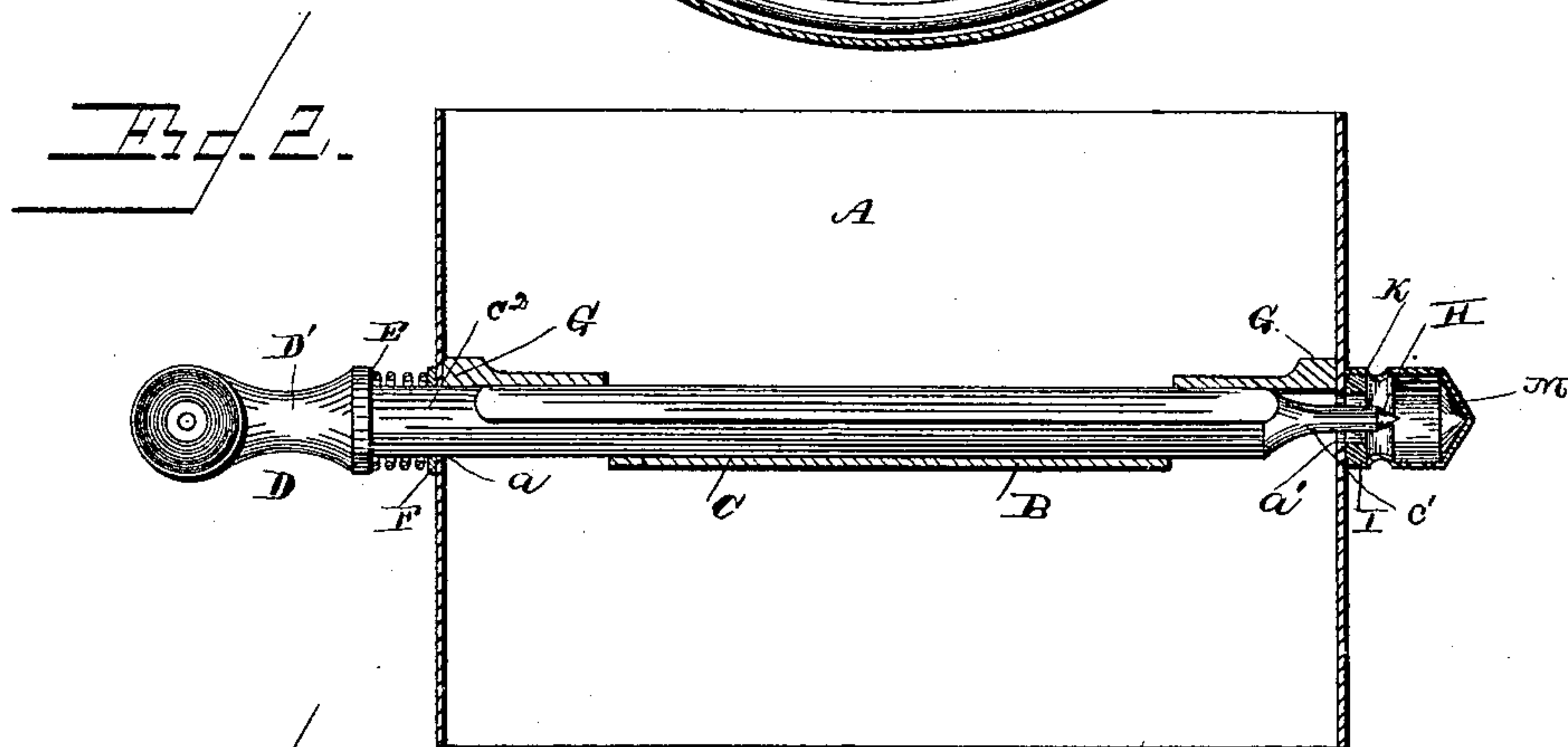
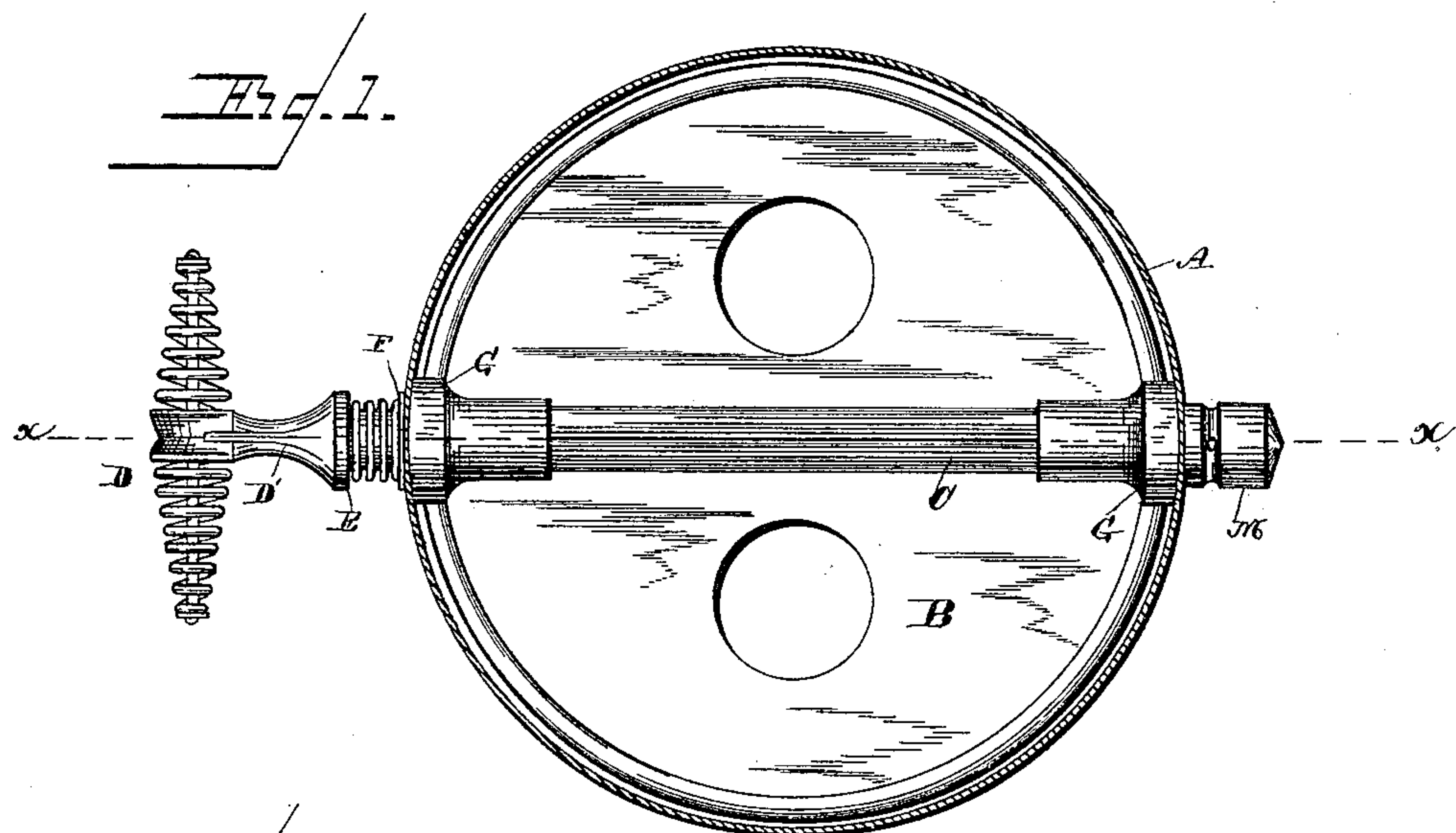
(Model.)

J. W. YATES.

DAMPER.

No. 365,219.

Patented June 21, 1887.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN W. YATES, OF BOURBON, INDIANA.

DAMPER.

SPECIFICATION forming part of Letters Patent No. 365,219, dated June 21, 1887.

Application filed January 19, 1887. Serial No. 224,813. (Model.)

To all whom it may concern:

Be it known that I, JOHN W. YATES, a citizen of the United States, residing at Bourbon, in the county of Marshall and State of Indiana, have invented a new and useful Improvement in Dampers, of which the following is a specification.

My invention relates to dampers for stove and furnace pipes; and it consists in a certain novel construction and arrangement of parts for service, fully set forth hereinafter, and specifically pointed out in the claim.

My object is to provide means to enable the damper to be easily removed from the pipe, also to prevent the damper-rod from becoming loose and rattling, and obviate the tendency of the damper to warp.

In order that the construction of my improvement may be fully understood and the advantages thereof appreciated, I illustrate a device embodying the features of my invention in the accompanying drawings, in which—

Figure 1 is a plan view of the damper in position in a stove-pipe, the latter being shown in section. Fig. 2 is a sectional view of the same on the line $x x$ of Fig. 1. Fig. 3 is a section of the end of the damper and the cap detached. Fig. 4 is a detail view of the lock burr or catch detached from the cap.

Referring to the drawings, in which similar letters denote corresponding parts in all the figures, A designates an ordinary stove-pipe having the large circular opening a on one side and the smaller opening a' diametrically opposite thereto.

B designates the circular damper of any preferred pattern, (it may be elliptical or of any other shape to accord with the shape of the pipe,) and is rigidly but detachably fixed on the damper-rod C, the ends of which are adapted to rotate in the openings $a a'$ of the pipe, and therefore form journals $c' c^2$ for the damper. One end or journal, c' , of the damper is reduced and tapered to pass through the smaller opening, a' . It will be seen that the portion of the damper-rod which passes through the damper is squared, or otherwise made angular in cross-section, to prevent the damper from turning independently thereon, while the ends $c' c^2$ of the rod, which are journaled in the openings in the pipe, are rounded.

D is the handle, formed integrally or de-

tachably with the damper-rod C. I have shown this handle as being formed of a series of coils of wire connected together by a central rod; but I do not claim this construction, as I am aware that it is old. I do not wish to be limited to the use of this form of handle. I have shown it merely to indicate how this handle can be applied to the damper and serve as a non-heat-conducting operating-knob. The spindle or shank D' of the handle is provided with an annular shoulder, E, at the point where it joins the journal or end c^2 of the damper-rod, and on this journal or end c^2 , outside of the pipe, is fitted a coiled spring, which bears, respectively, against the shoulder E and the washer F, the latter being fitted on the journal or end c^2 of the damper-rod and resting against the outside of the stove-pipe.

To prevent the damper from turning hard in the pipe, I provide flanges or collars G on the edge of the said damper at the point where the damper-rod passes through the side of the pipe, which collars bear against the inside of the pipe and hold the edge of the damper proper out of contact with the pipe.

The tapered or reduced journal or end c' of the damper-rod is provided with a slight swell or enlargement, H, elliptical in form, which enlargement or swell is adapted to pass through an elliptical opening, I, in the burr K. After the said enlargement has been passed through the elliptical opening in the burr the latter is passed down to the small or reduced portion of the rod in the rear of the swell or enlargement and turned one-fourth around, when the small recesses L in the inside of the said burr will receive the shoulders formed on the rod by the enlargement, and the burr will be held from slipping off the rod thereby.

To place the damper in the pipe, pass the damper-rod, with the spring and washer in place, through the pipe, and also through the sleeves formed on the damper for its reception, press the rod through the pipe as far as possible against the force of the spring, and pass the burr over the enlargement or swelled portion H and turn the burr, as explained. Then allow the spring to draw the rod back through the pipe, and it will be seen that the swell or enlargement engaging in the recesses L will be held from being drawn back, and the burr will be pressed firmly against the outer side of the pipe. It

will now be seen that the damper is held very tightly and is prevented from rattling, while at the same time the damper can be easily turned.

To remove the damper, press the handle toward the pipe against the force of the spring, and pass the burr down to the reduced portion of the end *c'* of the rod, and after turning it one-fourth around the elliptical opening *I* of the burr coincides with the elliptical swell of the end of the rod, and the cap *M* with the burr can be removed, and the damper is free to be taken out. The hollow cap *M* also provides a tight joint over the projecting end of the spindle *C* by inclosing the same and the opening in the pipe through which it passes, and thereby preventing the escape of smoke therethrough into the outer space in which the stove may be situated.

It will be seen that when the burr is passed down to the reduced portion of the rod, in order to turn it, the enlarged portion of the said rod passes into the hollow part in the cap which is fitted on the burr.

The advantages of the invention are that the damper cannot rattle when in place, is much more easily removed and replaced than any other damper now in general use, and cannot possibly become accidentally detached; further, the catch for holding the free end of the damper being on the outside of the pipe

affords the heat no chance to draw or warp the damper, so as to loosen the rod and render the action of the damper worthless.

The damper being held in place by the spring combined with the burr keeps the damper tight and causes it to respond at all times to the movements of the handle.

The tendency of the spring is to draw the burr or catch against the pipe and make the connection free from lost motion.

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

The combination, with the spring-actuated damper-spindle *C*, of the operating-handle *D*, the burr *K*, having the central elliptical opening *I*, provided with the depressions *L L*, the enlargement *H*, formed with the end of the damper-spindle, and the hollow cap *M*, mounted over the projecting end of the spindle, as set forth, and for the purpose of providing a handle and preventing the smoke from escaping at this point, substantially as described.

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

JOHN W. YATES.

Witnesses:

E. G. SIGGERS,
WM. N. MOORE.