

(No Model.)

G. Z. CLARK.

VALVE OPERATING MECHANISM.

No. 359,131.

Patented Mar. 8, 1887.

Fig. 1.

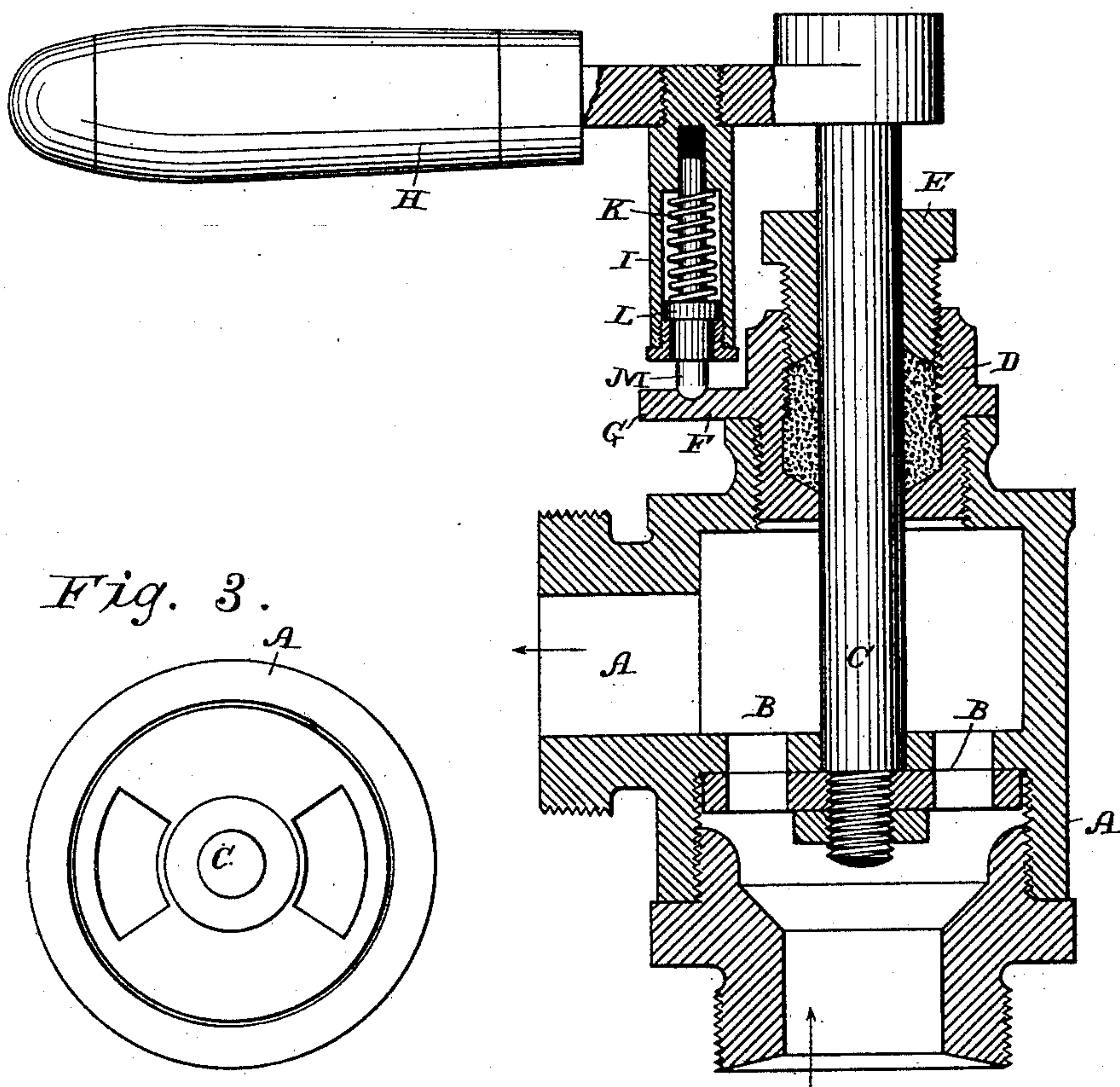


Fig. 3.

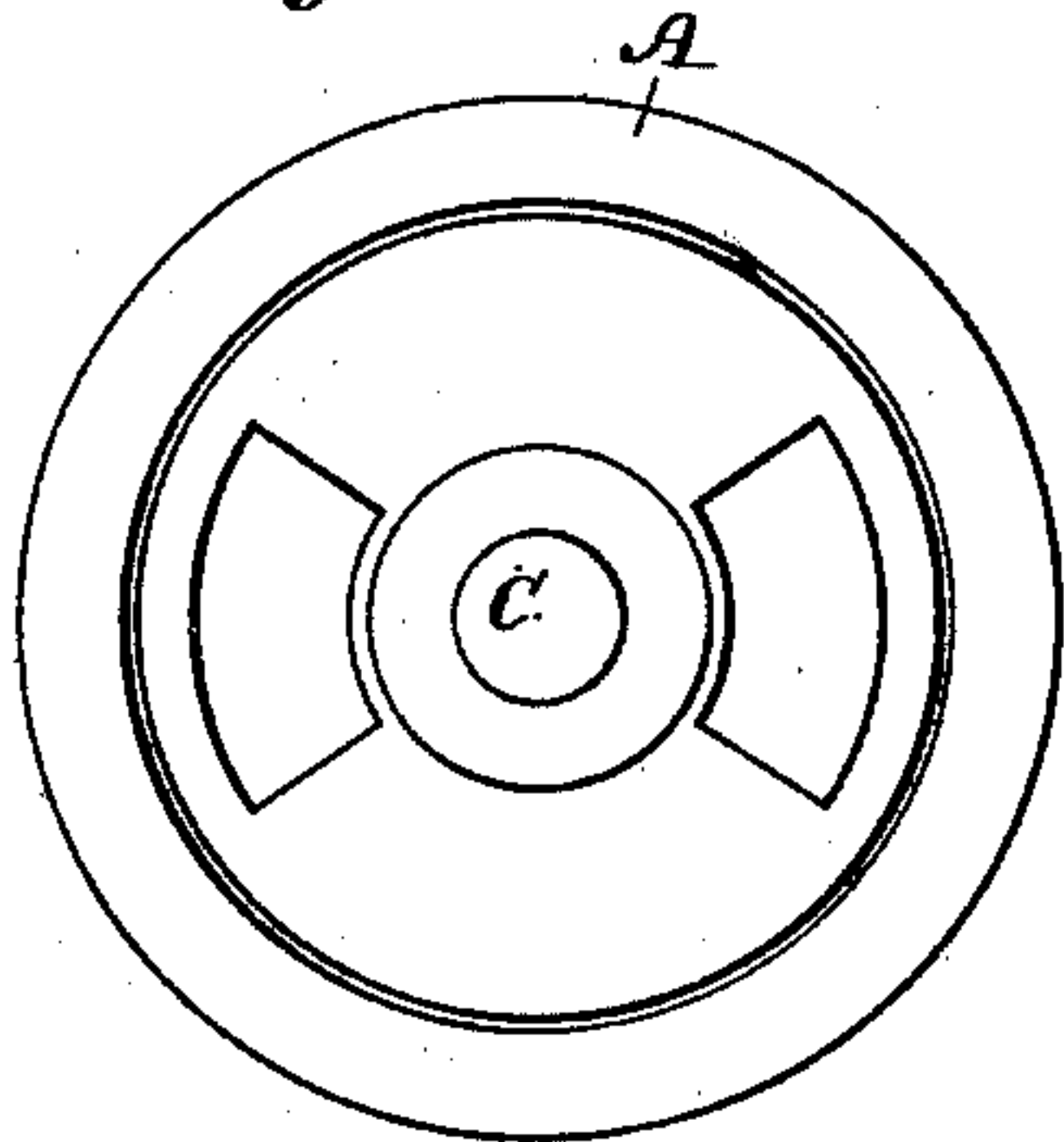
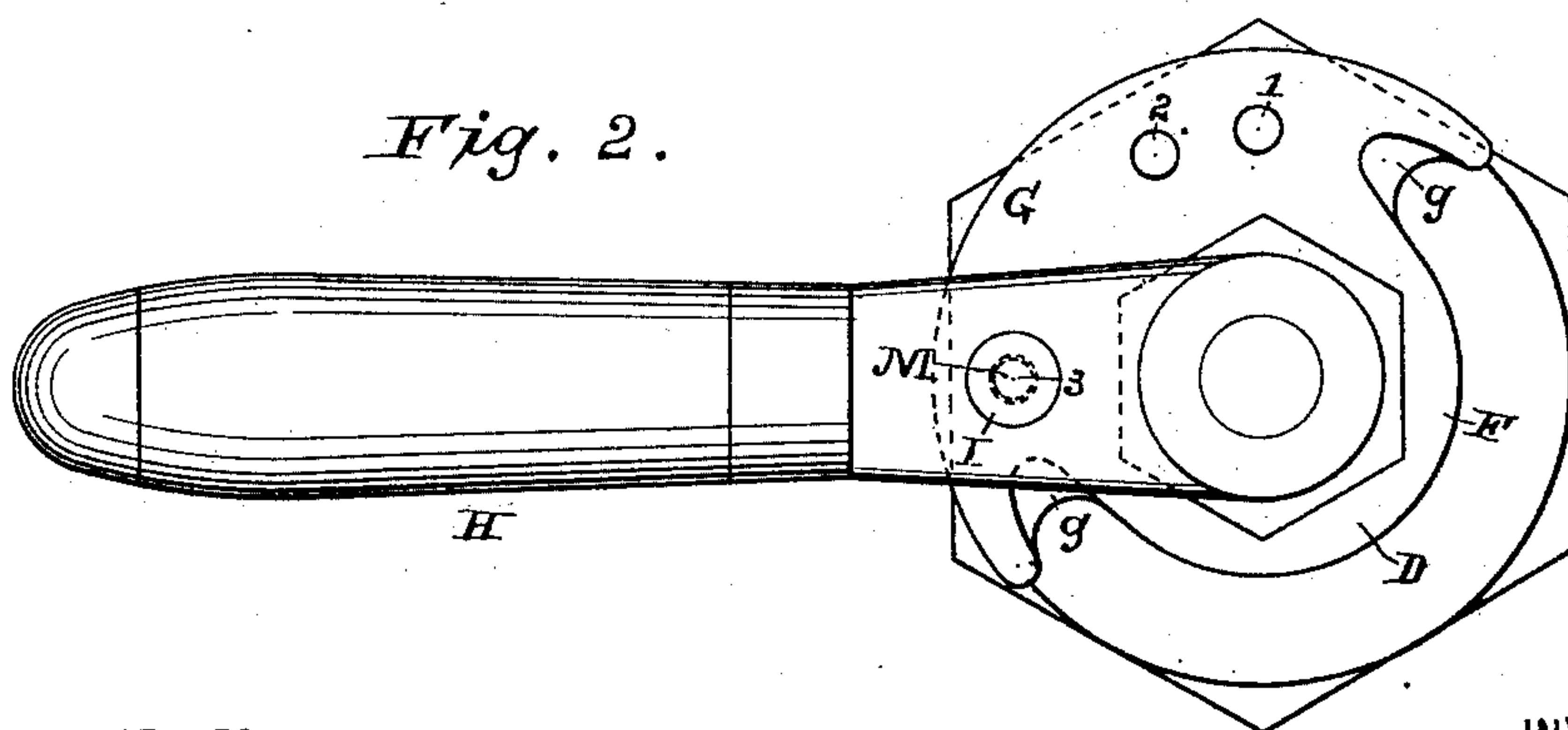


Fig. 2.



WITNESSES

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GEORGE Z. CLARK, OF TOPEKA, KANSAS, ASSIGNOR OF ONE-HALF TO
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VALVE-OPERATING MECHANISM.

SPECIFICATION forming part of Letters Patent No. 359,131, dated March 8, 1887.

Application filed September 10, 1886. Serial No. 213,231. (No model.)

To all whom it may concern:

Be it known that I, GEORGE Z. CLARK, of Topeka, in the county of Shawnee and State of Kansas, have invented certain new and useful Improvements in Valve-Operating Mechanisms, of which the following is a specification, reference being had to the accompanying drawings.

The object of my improvements is to provide a valve-operating mechanism adapted to be used in connection with an ordinary injector for steam-boilers, as well as for other purposes, that will turn the valve in a shell, to either close it, open it slightly, as for priming an injector, or open it fully for working, and at the same time that can be operated in the dark as well as in the light. Besides this I provide for a sliding movement of the valve, to separate it from its seat, so that it can be blown out by steam and cleared of sediment; and, further, I provide for turning the valve clear round in either direction, which may remove any obstruction, and which renders it self-grinding, so to speak, and tends to keep it tight.

In the drawings I show views of the valve-shell, valve, and valve-operating mechanism, as that embraces the whole of my invention, and it will be understood by those skilled in the art how to apply my valve-operating mechanism, in connection with a steam-injector, and otherwise, without more.

Figure 1 is a vertical central section. Fig. 2 is a top view; and Fig. 3 is a view of the top of the valve, also showing its relation to the shell.

A indicates the valve-shell, and the arrows indicate the inlets and outlets for steam.

B indicates the ordinary valve-seat and septa.

C is the valve-rod, secured to the valve firmly by a screw, or in any other usual way.

D is a coupling-nut, threaded above and below, as shown, for connecting the valve-shell and the packing-nut E, through which the valve-stem passes. Around the outside of the coupling-nut is a ledge, F, with a special projection, G, having three stop-holes, 1 2 3, as shown. This projection has inclines *g g* at each end.

H is the handle of the valve-stem, by which the latter and the valve are turned.

I is a spring-holding cylinder secured to the handle and carrying a coil-spring, K, bearing against a piston, L, having a pin, M, with a rounded lower end projecting beneath and adapted to enter the stop-holes.

Instead of a spring cylinder there might of course be a stem, and the spring coiled around it in the usual way.

The parts are so adjusted that when the handle is turned so that the spring K presses the pin M into stop-hole 1 the valve will be closed. When the pin is in stop-hole 2 the valve will be opened slightly, as for priming an injector, and when it is in stop-hole 3 the valve will be fully open. When the handle is turned so that the pin rides down either of the inclines *g*, then, by pressing on the top of the valve-stem at X, the valve will be caused to slide down off its seat.

To prevent its sliding down too far, the cylinder I strikes against the narrow part of the ledge F. In that position steam will "blow out" the valve and clear it of sediment or obstructions. When the handle is turned to bring the pin M up one of the inclines *g*, the valve will be raised to its seat. Thus it will be seen the valve can be turned clear round, which grinds it alike at all points. It can be operated in the dark, because the pin M will automatically set into the stop-holes, so that the engineer can tell by feeling what is the position of the valve, and it can be seated and unseated, so as to be cleaned by blowing out at will.

It will be seen, also, that my improvements are of simple economical construction, and not likely to get out of order.

What I claim to be new, and desire to secure by Letters Patent of the United States, is—

The combination, with the valve-shell, of the valve, its stem and handle, the ledge F, having the stop-holes, the spring stop-pin M, and the cylinder I, substantially as set forth.

In testimony whereof I have hereunto subscribed my name.

GEORGE Z. CLARK.

Witnesses:

JAMES BOOTH,
IRWIN TAYLOR.