

(No Model.)

2 Sheets—Sheet 1.

G. W. WEINMAN.
STEAM ACTUATED VALVE.

No. 256,523.

Patented Apr. 18, 1882.

Fig. 1.

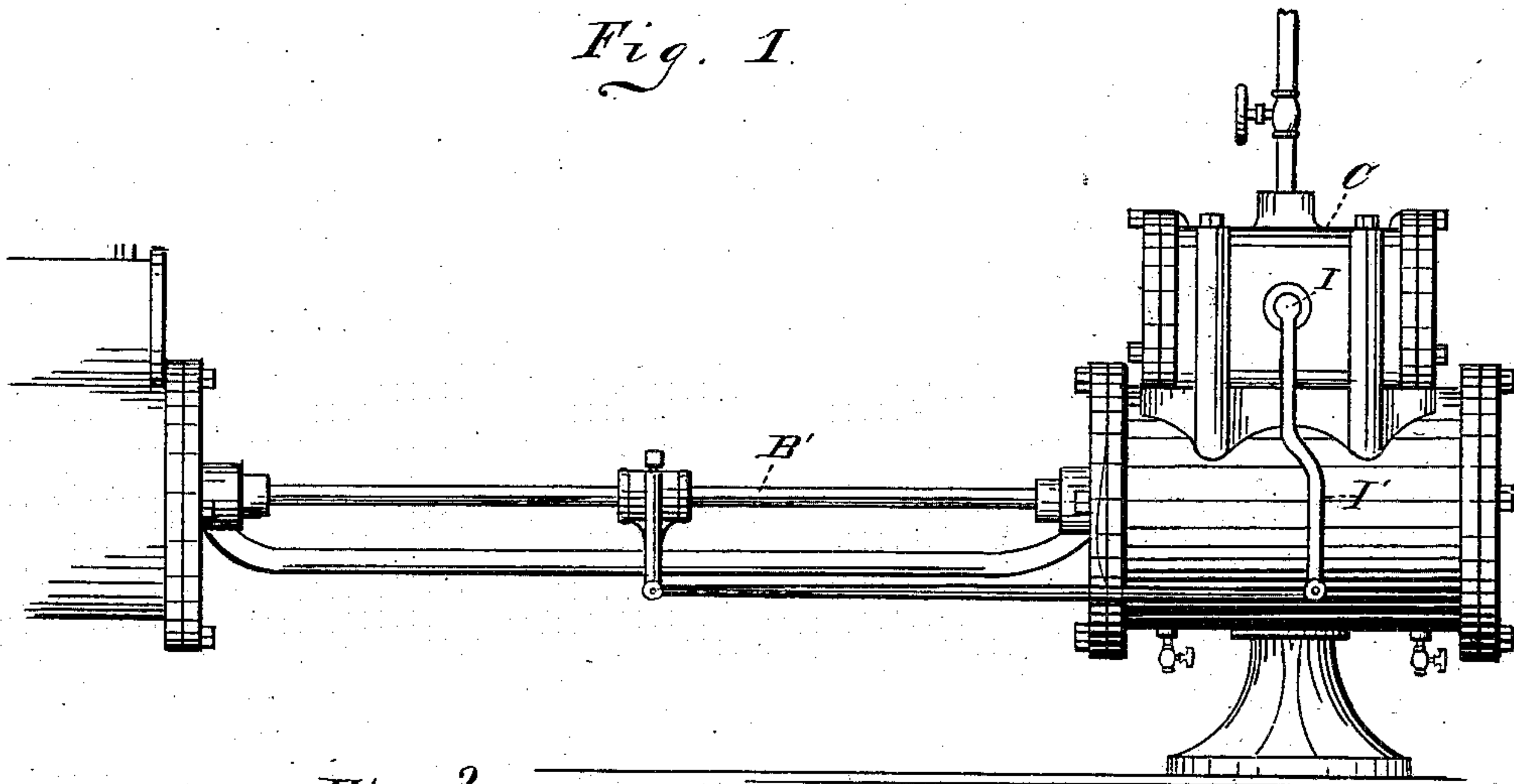
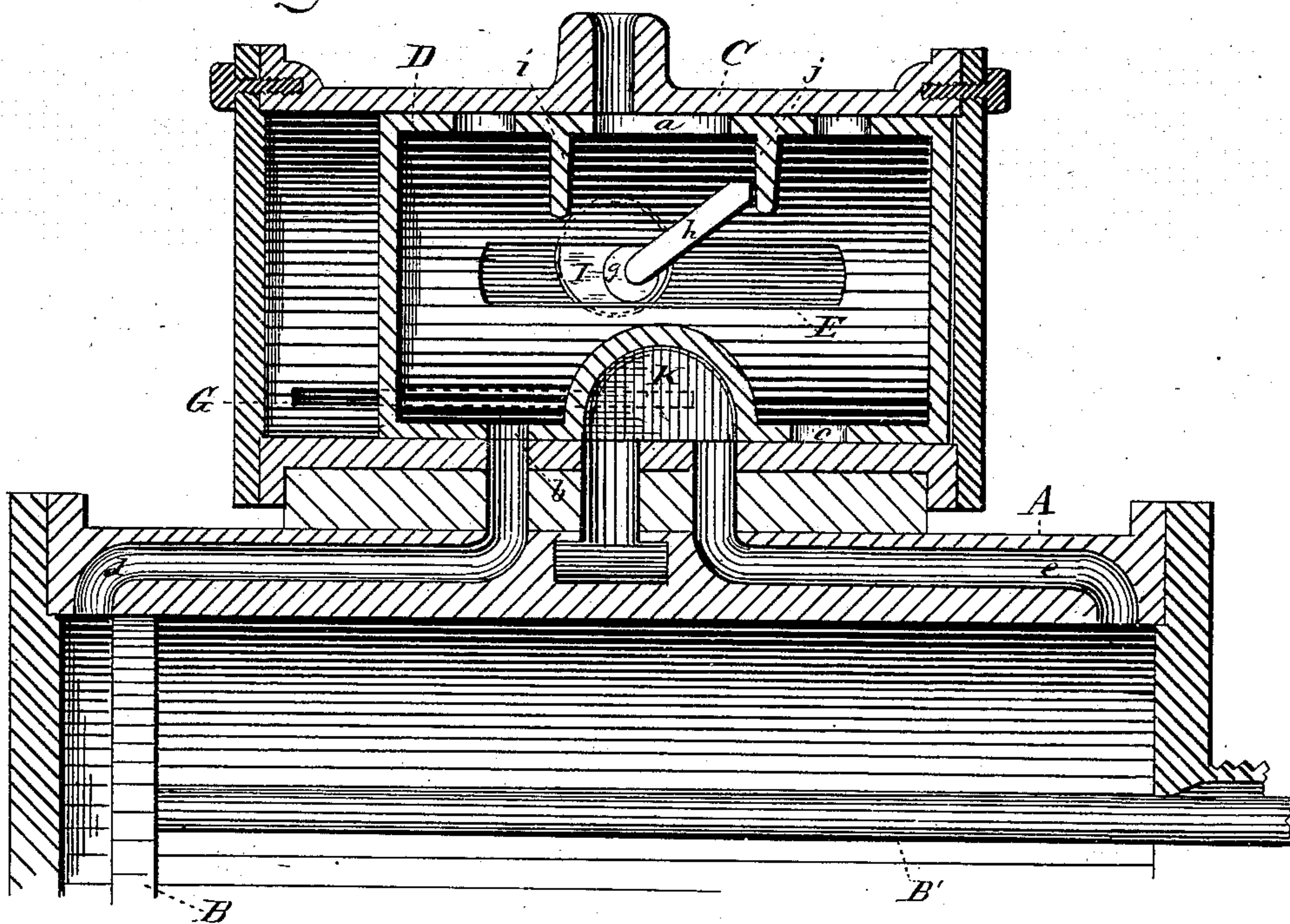


Fig. 2.



WITNESSES

Henry Abels
W. Engel

INVENTOR

G. W. Weinman
by Leggett & Leggett
ATTORNEYS

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Fig. 3.

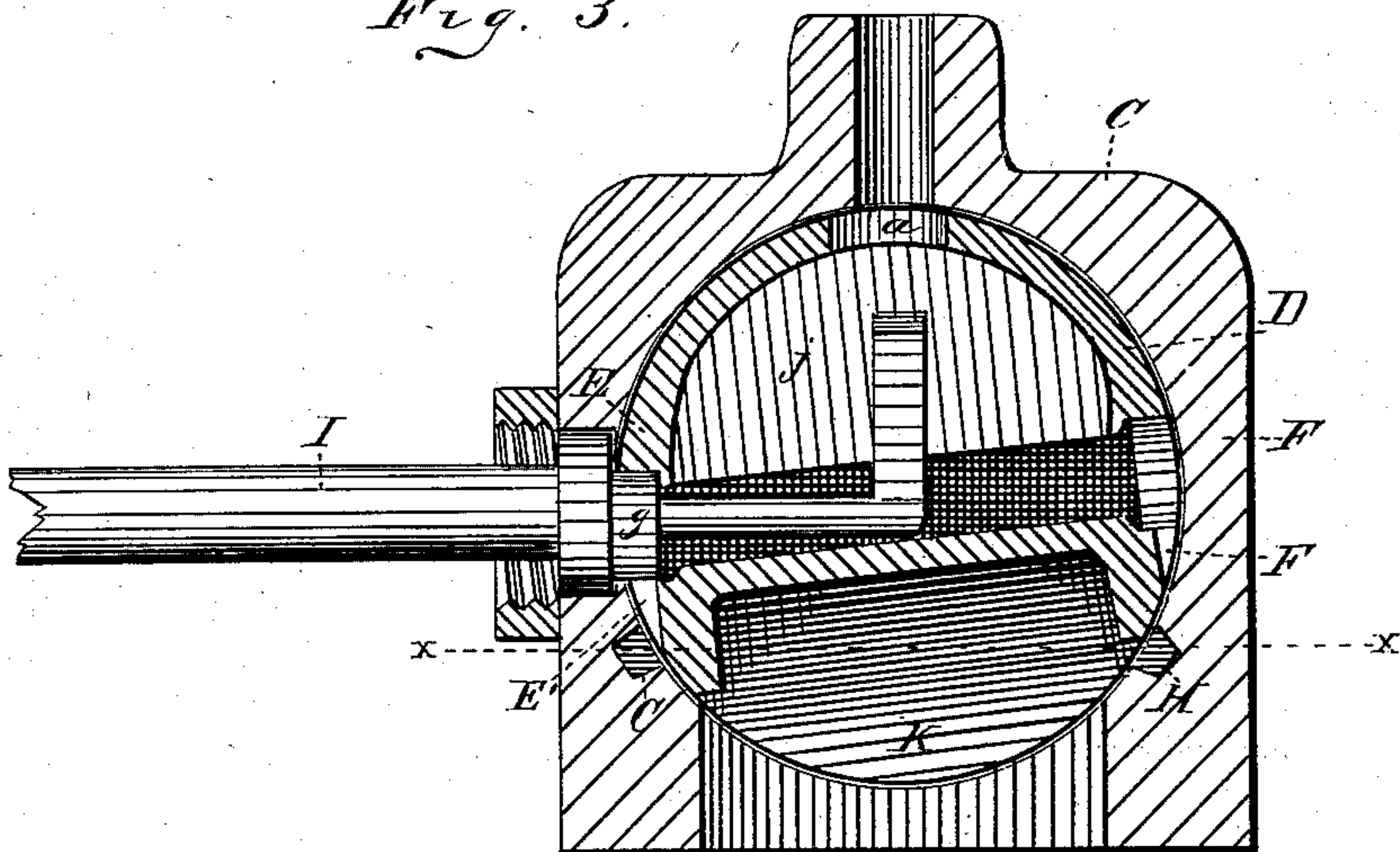
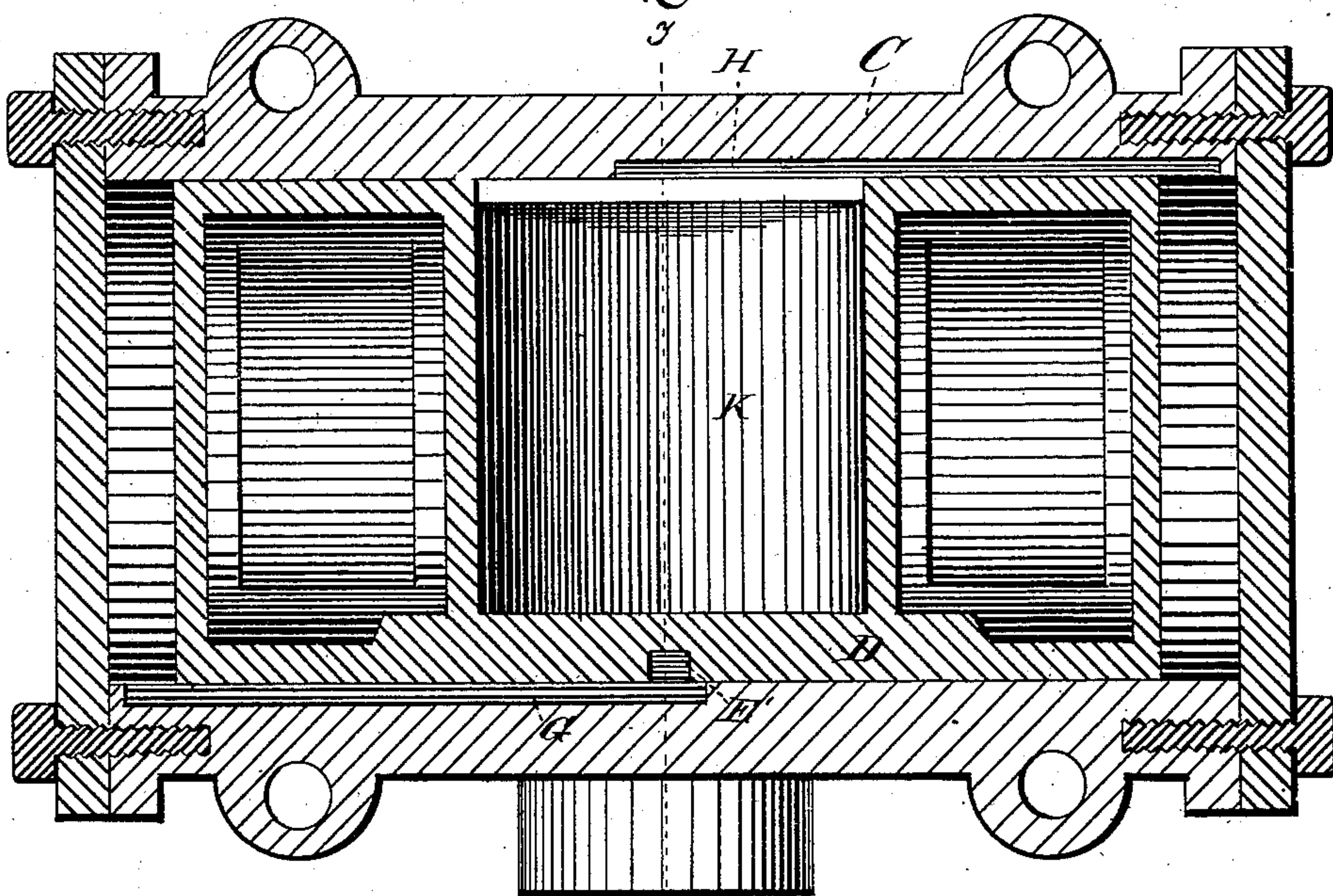


Fig. 4.



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ATTORNEYS

UNITED STATES PATENT OFFICE.

GEORGE W. WEINMAN, OF COLUMBUS, OHIO.

STEAM-ACTUATED VALVE.

SPECIFICATION forming part of Letters Patent No. 256,523, dated April 18, 1882.

Application filed November 19, 1881. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WM. WEINMAN, of Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Steam-Actuated Valves for Steam-Pumps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to valves for steam-pumps; and it consists in the peculiar construction of the same, as will be hereinafter fully set forth and claimed.

In the drawings, Figure 1 represents a side elevation of a steam-pump embodying my invention. Fig. 2 is a longitudinal vertical section taken through the steam-chest, valve, and cylinder. Fig. 3 is a vertical cross-section taken through the steam-chest and valve on line *y y*, Fig. 4; and Fig. 4 is a longitudinal section taken on line *x x*, Fig. 3.

A is the cylinder of a steam-pump. B is the piston; B', the piston-rod. C is a steam-chest, which is provided with a valve, D, having an inlet-port, *a*, at its upper end for the admission of steam, and supply-ports *b* and *c* at its lower end, whereby steam is supplied to either end of the cylinder A through the ports *d* and *e* to operate the piston B. The valve D is also provided at its sides with two elongated slots, E and F.

Extending downward for a short distance below, and communicating with the slots E and F, are two vertical slots or ports, E' and F', which are so constructed and placed as to alternately communicate with the ports G and H, formed on the interior of the steam-chest C, and extending to either end of the same, when said valve is given a rocking motion by any suitable means. One means is shown in the drawings—viz., a shaft, I, extending through one side of the steam-chest C, and provided on its end with an eccentric, *g*, which engages with the slot E. The other end of the shaft I is provided with an arm, I', which is connected to the piston-rod B' in such a manner that as said piston-rod is driven backward, and forward it acts to give to the shaft I a

rocking motion, which is in turn communicated to the valve D by means of the eccentric *g*.

Extending out from the eccentric *g* is an arm, *h*, which, as the shaft I is rocked, engages with either of the lugs *i* or *j*, which extend downward from the interior of the valve D, and aid in starting said valve if from any cause it should become stuck in the steam-chest C.

The operation of my device is as follows: Steam is supplied to the interior of the valve through the inlet-port *a*. Now, if the valve is in the position shown in Fig. 2 steam passes through the supply-port *b* into the port *d*, and from thence into the left end of the cylinder, where, acting on the piston, it will move it toward the right. Now, as the piston B is being driven in that direction the arm I', being connected to the piston-rod B', acts to partially revolve the shaft I, which in turn, by means of the eccentric *g* on the end of said shaft I, acts to turn the valve D on its axis until the vertical port E' communicates with the port G, and steam passes through the elongated slot E and down through the vertical port E' to the port G, and from thence to the end of the steam-chest C, with which the said port G communicates. When the valve D is revolved, as above described, the port H is caused to communicate with the exhaust K, and thus steam is allowed to pass off from the other end of the steam-chest C, and allow of the valve D being thrown over by the force of the steam passing through the port G. As the valve D is thrown over it feeds steam to the port *e* through the supply-port *c*, and exhaust through the port *d*, which causes the action of the piston to be reversed, as is also that of the valve, &c.

If from any cause the valve should stick or become clogged in the steam-chest, the arm *h* engages with either of the lugs *i* or *j*, as the case may be, to loosen or start said valve.

What I claim is—

1. In a steam-pump valve having ports formed on the interior of the steam-chest, and extending to either end thereof, said ports alternately receiving steam from the interior of the valve, whereby the valve is operated, a shaft and an eccentric, whereby a rocking movement is imparted to the valve, substantially as and for the purpose set forth.

2. In a steam-pump valve, the shaft I, said shaft being provided with an eccentric, *g*, on its end, whereby a rocking motion is imparted to the valve, substantially as and for the purpose shown and described.

5 3. In a steam-pump valve, the combination, with the lugs *i* and *j*, of the shaft I, said shaft being provided with an eccentric, *g*, for imparting a rocking motion to the valve, and the

arm *h*, substantially as and for the purpose shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

GEORGE WM. WEINMAN.

Witnesses:

JNO. CROWELL, Jr.,

W. E. DONNELLY.