

(No Model.)

2 Sheets—Sheet 1.

V. O. STROBEL.

VALVE FOR HOT BLAST OVENS.

No. 350,568.

Patented Oct. 12, 1886.

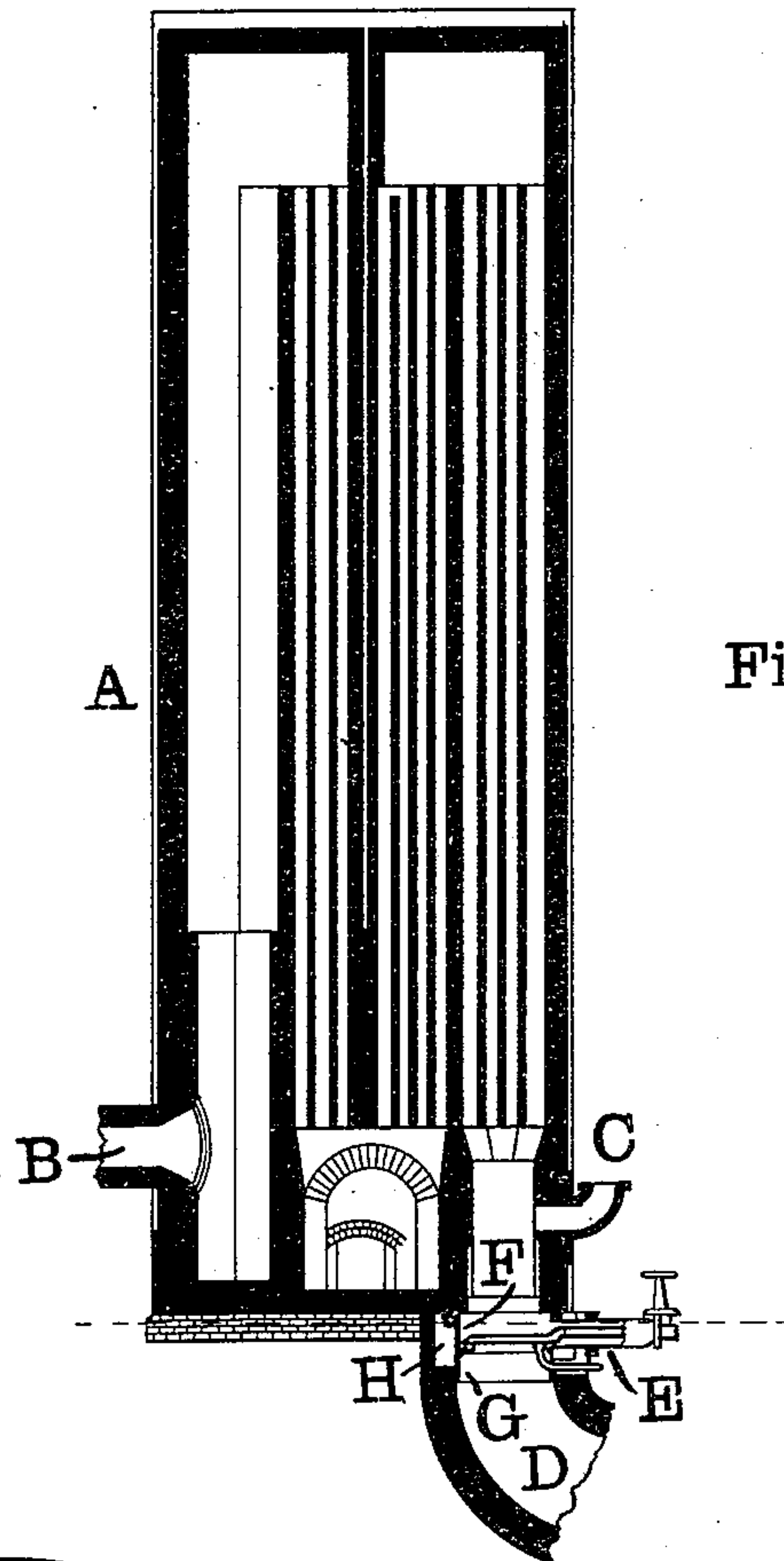


Fig. 1.

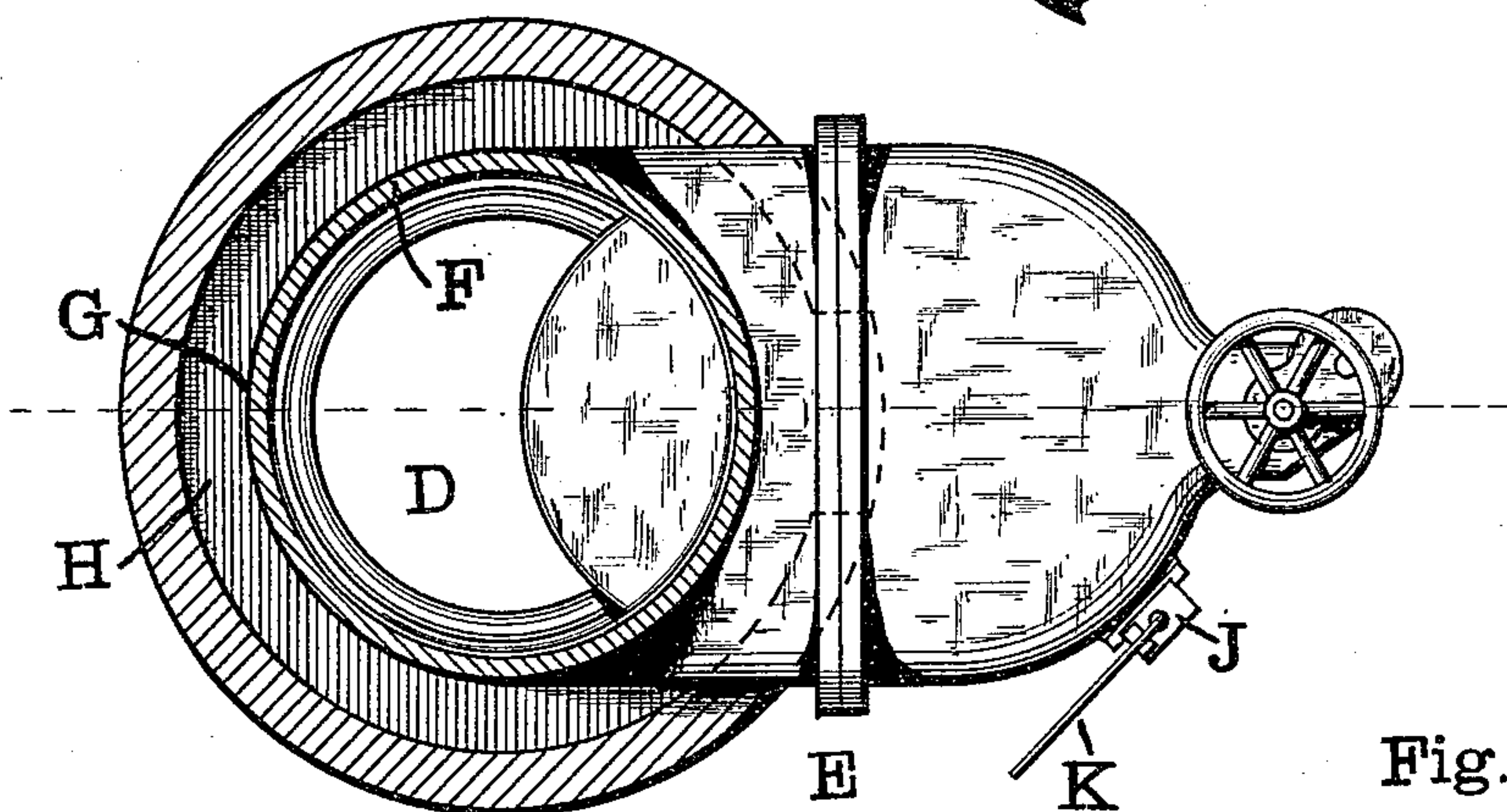


Fig. 2.

Witnesses:

J. W. Snyder
W. A. Howard

Victor O. Strobel

Inventor

by James W. See

Attorney

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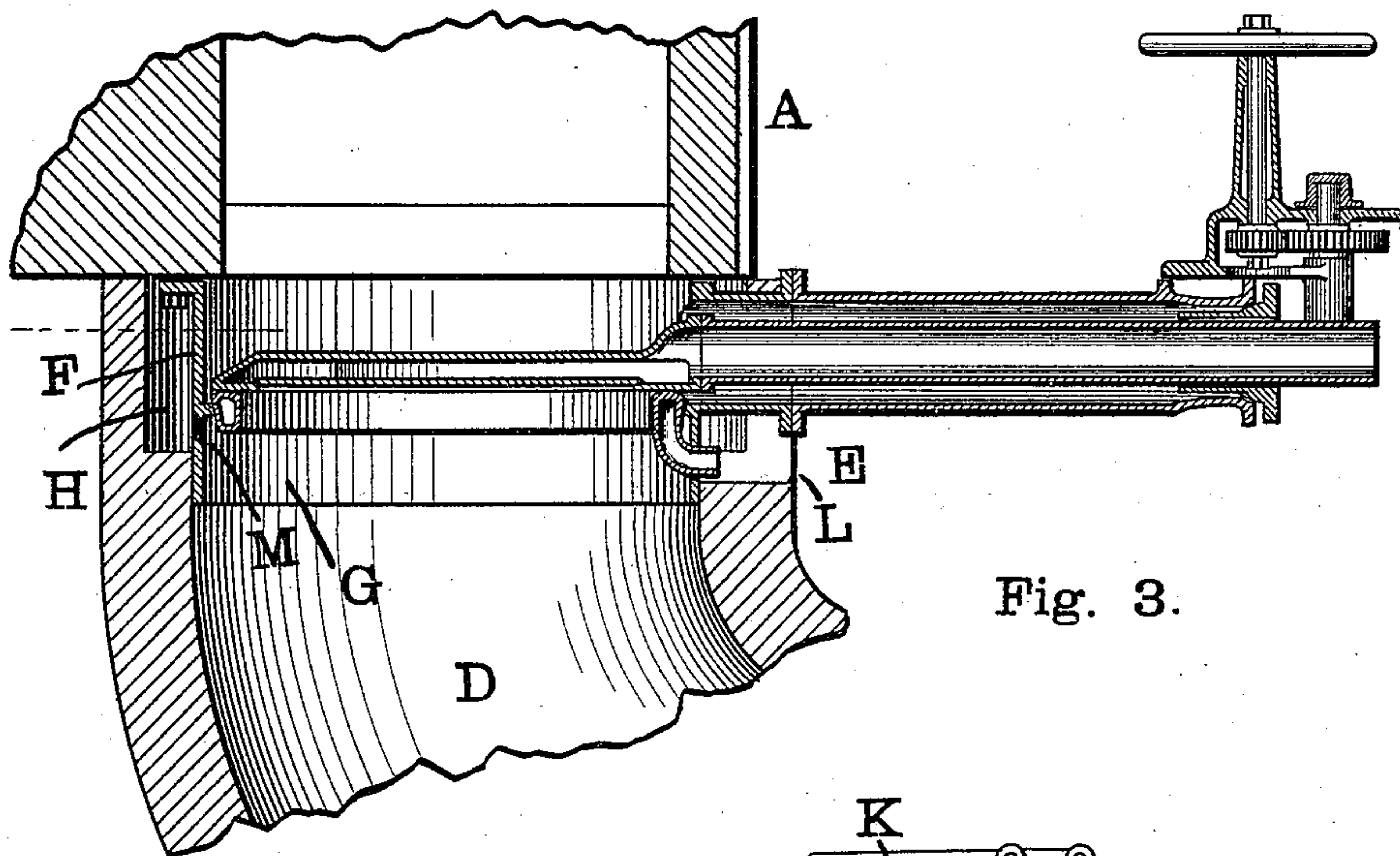


Fig. 3.

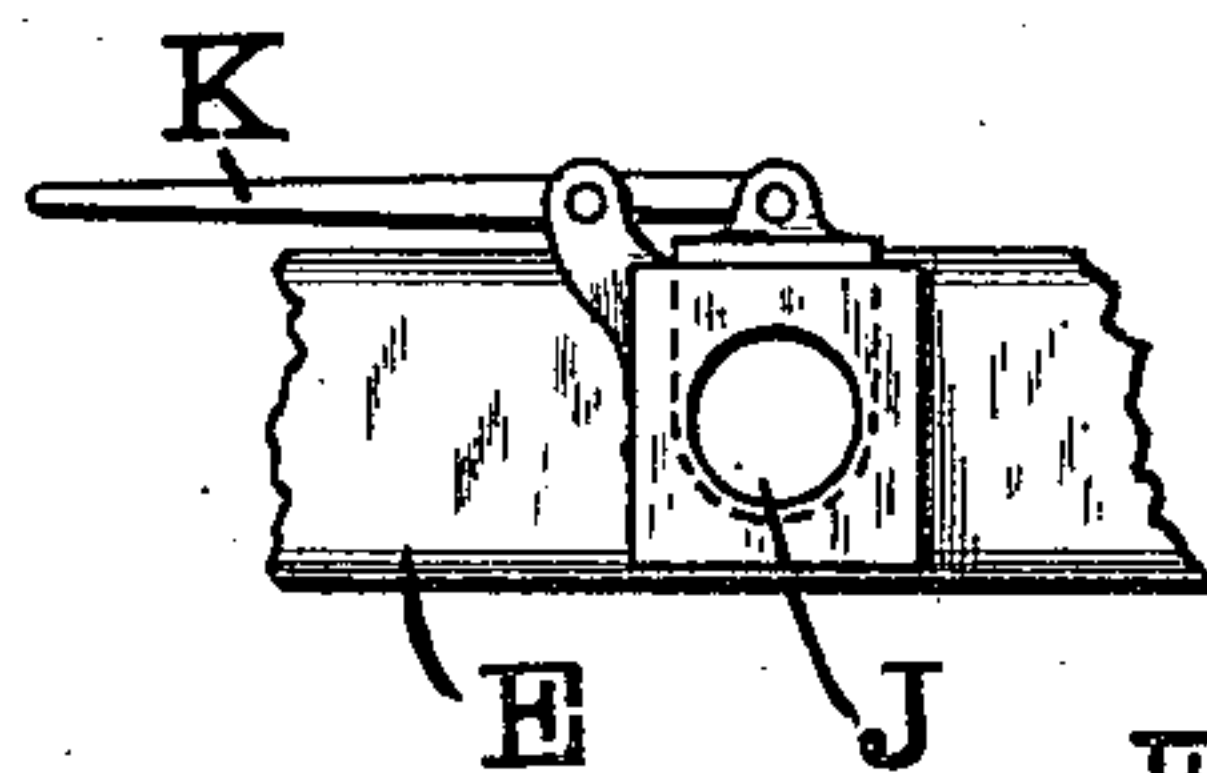


Fig. 5.

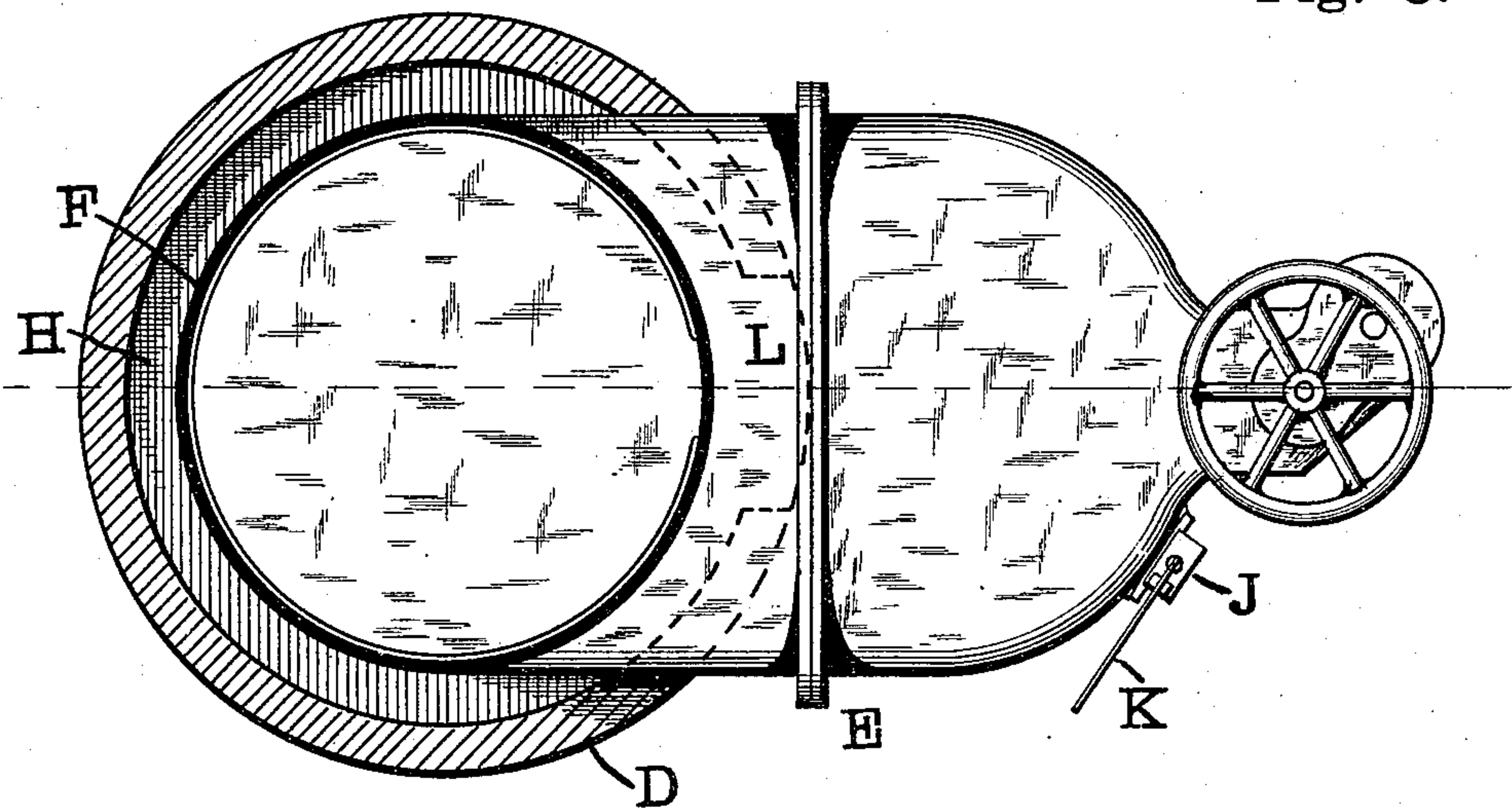


Fig. 4.

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UNITED STATES PATENT OFFICE.

VICTOR O. STROBEL, OF PHILADELPHIA, PENNSYLVANIA.

VALVE FOR HOT-BLAST OVENS.

SPECIFICATION forming part of Letters Patent No. 350,568, dated October 12, 1886.

Application filed March 29, 1886. Serial No. 197,084. (No model.)

To all whom it may concern:

Be it known that I, VICTOR O. STROBEL, of Philadelphia, Philadelphia county, Pennsylvania, have invented certain new and useful
5 Improvements in Valves for Hot-Blast Ovens, of which the following is a specification.

This invention relates to chimney-valves for hot-blast stoves, and will be readily understood from the following description, taken in con-
10 nection with the accompanying drawings, in which—

Figure 1 is a vertical section of a regenerative hot-blast stove fitted with my improved chimney-valve at its base; Fig. 2, a plan of the
15 valve, shown partly open, with part of the valve-body and its inclosing-flue shown in horizontal section; Fig. 3, a vertical diametrical section of the flue leading to the chimney, the base portion of the stove where the flue connects, and the valve placed at such point of
20 connection; Fig. 4, a view of the valve similar to Fig. 2, except that the valve is shown as closed; and Fig. 5, a portion of the nose-cap of the valve-body, with the dust-valve shown
25 in front elevation.

In the drawings, A indicates a regenerative hot-blast stove, to be arranged in the usual manner to be heated by burning gases passing through it in one direction, and to subsequently
30 give up its heat to an air-blast passing through it in the contrary direction; B, the gas inlet and hot-blast outlet to the stove; C, the cold-blast inlet to the stove; D, a flue of brick-work leading from the gas-outlet at the base of the
35 stove to the chimney; E, the chimney-valve inserted in the flue D, and serving to cut off the chimney-connection when the stove is under blast; F, the cylindrical shell of the valve-body secured to the base of the stove; G, a por-
40 tion of the shell projecting below the valve-seat downward into the flue D, where it fits and serves to form the male element of a slip-joint; H, an annular chamber in that portion of the flue surrounding the shell above the slip-joint;
45 J, a dust-valve upon the outer end of the nose-cap of the valve-body; K, the hand-lever by which the dust-valve is operated; L, an opening through the side of the flue D, leading from the outer atmosphere into the chamber H, and
50 M a port through the valve-body at a point

opposite the opening L, leading from the chamber H into the flue below the valve.

The valve proper is disposed horizontally, and is hollow, and is intended to be cooled by the passage of water or other cooling medium,
55 and the valve-seat is also to be similarly arranged. The dust settling above the valve is to be blown out through the dust-valve J, which is located upon the nose-cap of the valve which projects horizontally outward. 60

As the masonry of the flue D becomes moved or distorted by settling, the slip joint formed at G still maintains connection between the valve-
65 body and the flue, even when the flue may have pulled loose from the bottom of the stove.

Fresh air from the atmosphere enters the opening L and circulates through the chamber H, whence it is drawn into the chimney through the port M, thus serving to cool the parts in
70 the neighborhood of the valve-seat.

I have heretofore in Letters Patent shown a stove having a metallic chimney rigidly se-
75 cured to the stove-shell, the inner brick-work of the stove having a nozzle projecting upward into the chimney and forming a slip-joint, the nozzle being inaccessible in case of needed re-
80 pairs. My present device differs from the one described, in that the valve-body forms a metallic nozzle secured to the stove-shell, while the masonry of the flue engages the nozzle ex-
teriorly, thus rendering access and repair con-
venient with reference to the brick-work of the slip-joint, which is the part liable to dis-
turbance.

Valve-seats and valves have heretofore gen-
85 erally been provided with interior cooling-cavities having suitable conduit-connections. In my present device, aside from such interior cooling-cavities, I provide a cooling-chamber exterior to and surrounding the valve body,
90 within which valve-body, if desired, may be the usual cooling-cavities, &c., of the valve proper and seat. The exterior channel pro-
vides for additional cooling medium in much
95 larger quantities and in more free circulation than is possible with channels, &c., inside the valve-body.

Dust-traps have heretofore been connected with flues, &c., and are not original with me. In my device I project the nose-cap of a valve- 100

body outwardly horizontally and place a dust-valve at the outer projection of the nose-cap, thus causing the nose-cap to serve as a valve-cap and as a conduit for bringing the dust-dis-
5 charge out away from the flue, and at the same time I insure the cleaning of that portion of the valve where accumulated dust is likely to be fatal to the opening and closing of the valve.

I claim as my invention—

10 1. In a chimney-blast for hot-blast stoves, a metallic valve-body connected to the shell of the stove and provided with an outwardly-projecting male portion, and a masonry chimney-flue encircling and surrounding said male por-
15 tion of the valve-body, combined substantially as and for the purpose set forth.

2. In a chimney-valve for hot-blast stoves, a valve-body disposed in the chimney-flue, a chamber surrounding the valve-body exteri-
20 orly, an opening from the atmosphere to such chamber, and an opening leading from such chamber to the chimney-flue, combined substantially as and for the purpose set forth.

3. In a chimney-valve for hot-blast stoves, a
25 valve-body connected to the stove, a chimney-

flue connected to the stove and engaging the valve-body by a slip-joint, a chamber surround-
ing the valve-body exteriorly, an opening lead-
ing from the atmosphere to said chamber, and
an opening leading from the chamber to the
chimney-flue, combined substantially as and
for the purpose set forth. 30

4. In chimney-valves for hot-blast stoves, a chimney-flue, a valve arranged therein and
disposed horizontally with the nose-cap of its
body projecting outward, and a dust-valve ar-
ranged in the outer projection of the nose-cap,
combined substantially as and for the purpose
set forth. 35

5. In chimney-valves for hot-blast stoves, a
40 valve-body, a valve-seat fitted therein, pro-
vided with a cooling-channel, a hollow valve,
and a cooling-passage exterior to the valve-
body, combined substantially as and for the
purpose set forth.

VICTOR O. STROBEL.

Witnesses:

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