

No. 670,883.

Patented Mar. 26, 1901.

J. KENNEDY.
HOT BLAST STOVE.

(Application filed Oct. 23, 1900.)

(No Model.)

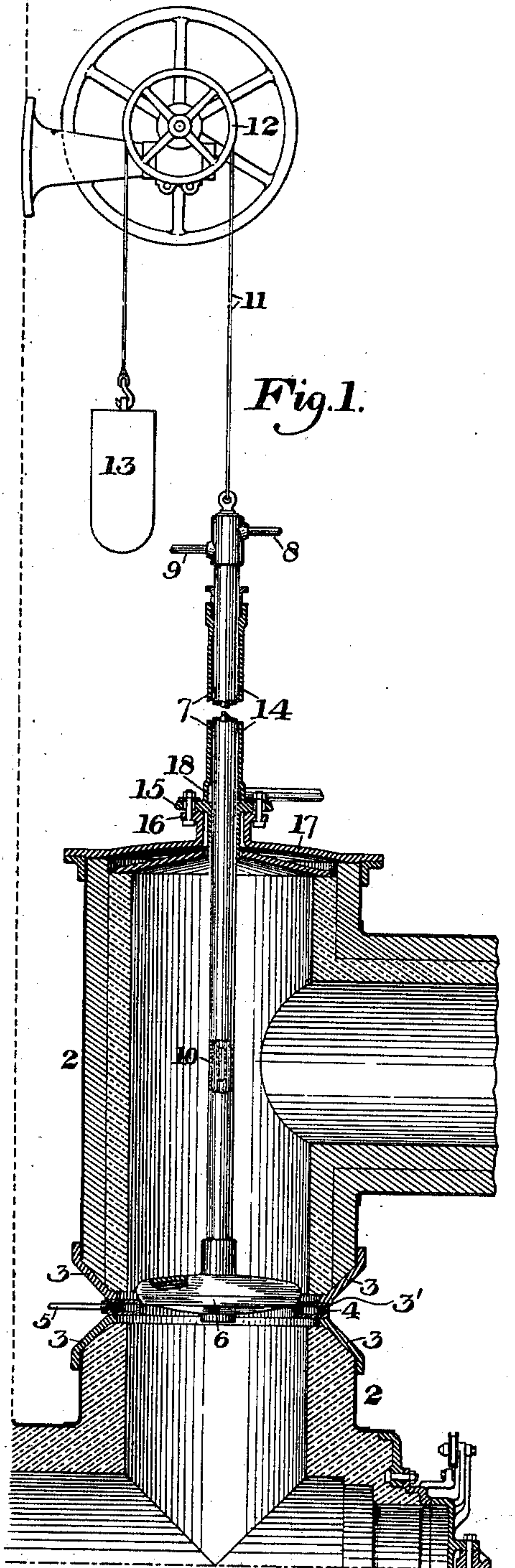


Fig. 1.

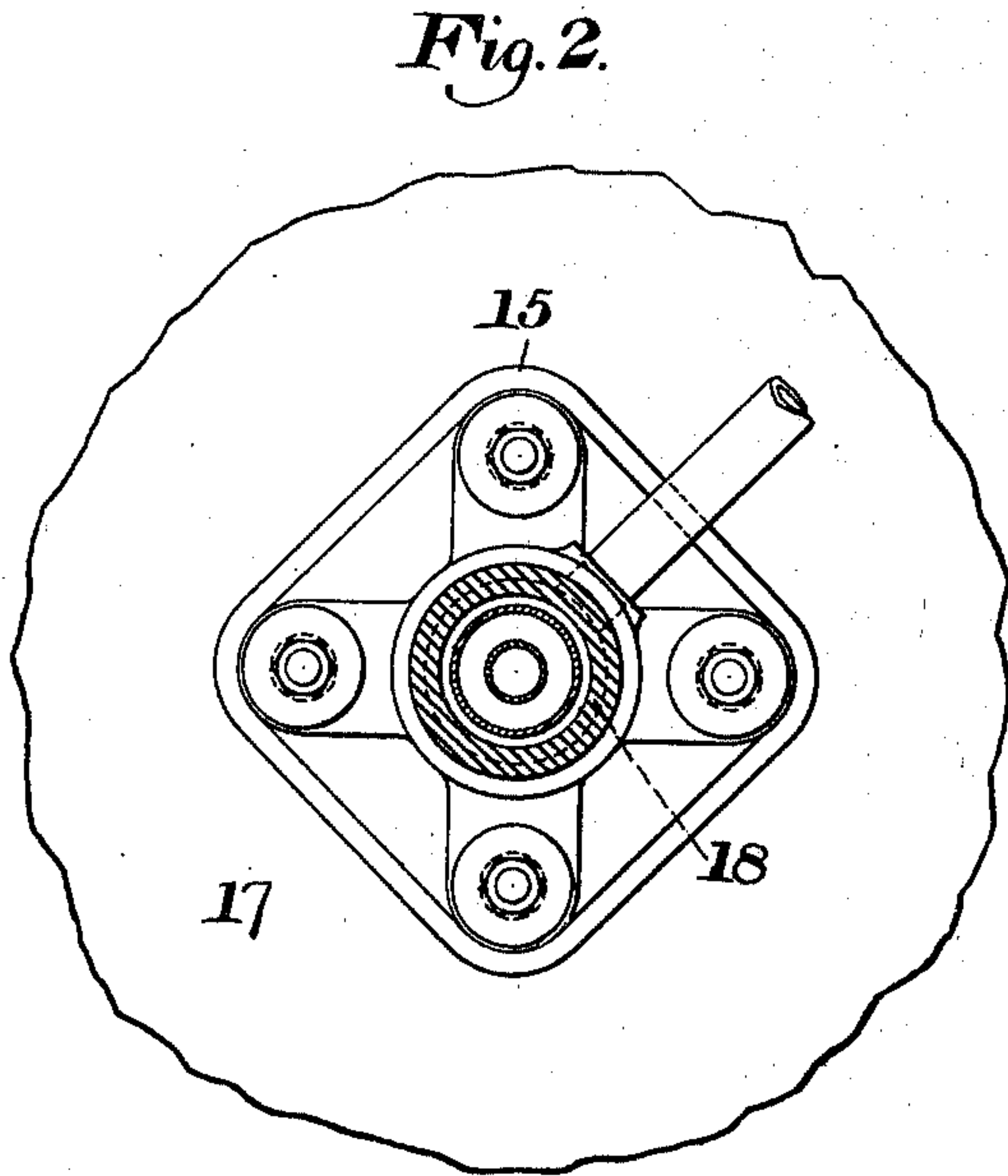


Fig. 2.

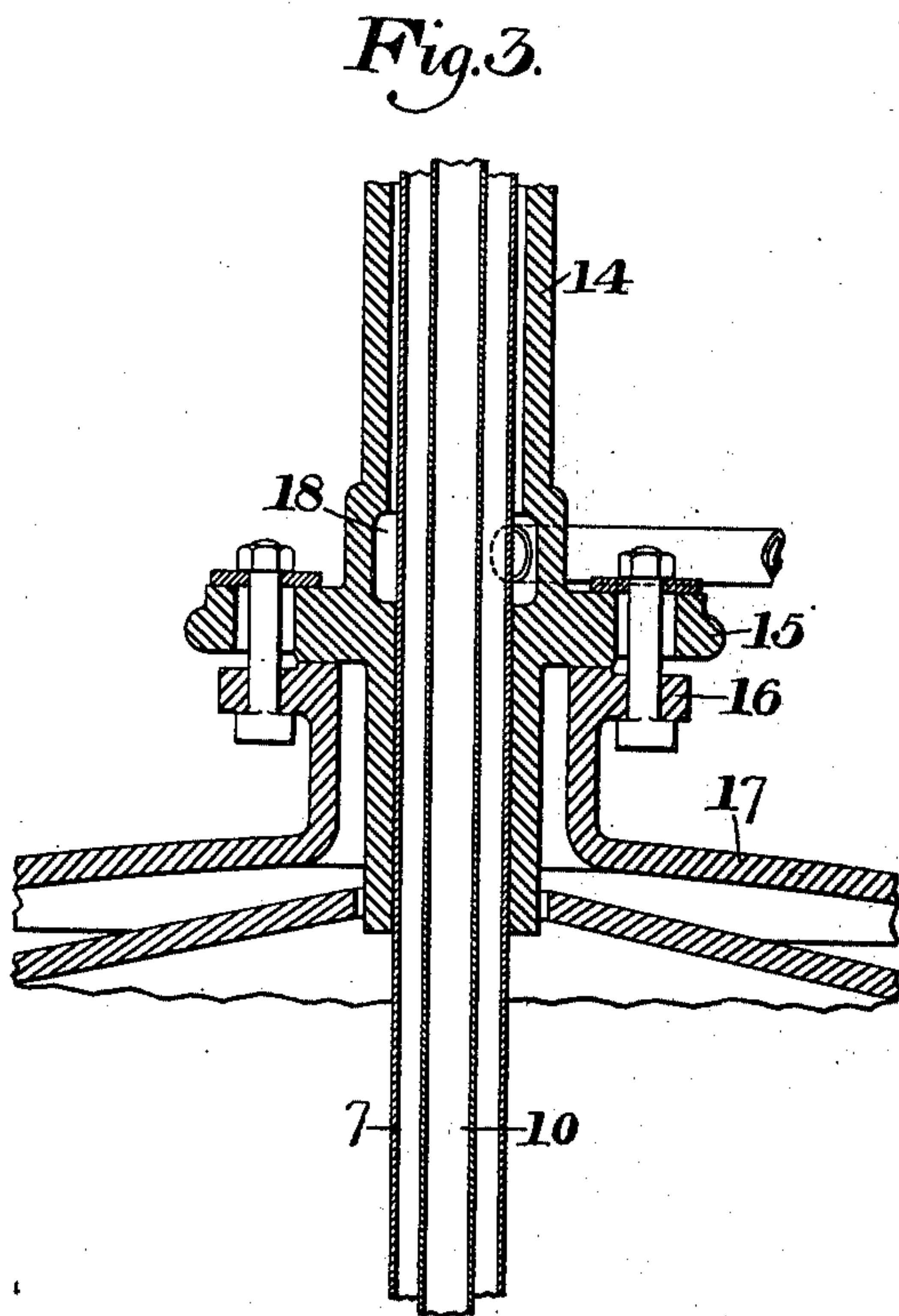


Fig. 3.

WITNESSES

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UNITED STATES PATENT OFFICE.

JULIAN KENNEDY, OF PITTSBURG, PENNSYLVANIA.

HOT-BLAST STOVE.

SPECIFICATION forming part of Letters Patent No. 670,883, dated March 26, 1901.

Application filed October 23, 1900. Serial No. 34,045. (No model.)

To all whom it may concern:

Be it known that I, JULIAN KENNEDY, of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Hot-Blast Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional side elevation, partly broken away, of my improved valve in closed position; and Figs. 2 and 3 are detail views, on a larger scale, of the guide and packing-box for the valve-stem.

My invention relates to the class of hot-blast valves which are moved back and forth at right angles to the seat; and its purpose is to avoid the straining of the valve-stem and imperfect seating of the valve due to expansion under heat.

In the drawings, 2 represents the valve chamber or casing, which is made in two parts, with end bearing-rings 3 3, between which is clamped the water-cooled valve-seat 4. This valve-seat consists of a flat hollow ring, to which leads a supply-pipe 5, and the upper bearing-ring 3 is provided with a lip or lips 3', which engage the upper edge portion of the ring and cause it to move with the upper section of the valve-chamber. The bearing-surface of the lower ring 3 is flat to allow the ring to slide upon it under expansion and contraction. The valve 6 is hollow and provided with a tubular stem 7, from the top of which leads the outlet-pipe 8. The inlet-pipe 9 for cooling fluid extends to an inner tube 10, extending downwardly through the tubular stem 7 to supply water to the interior of the hollow valve. The valve, as shown, is raised and lowered by flexible cord connection 11, leading over pulley 12 and having counterweight 13.

The tubular stem of the valve extends upwardly through a hollow guide 14, having a lower flange or square plate 15, by which it is bolted to the ring 16 of the cover-plate 17. The bolt-holes through the plate 15 are made larger than the bolts, so that as the seat and valve change position under the influence of heat by releasing the bolts, adjusting the guide 14 side-

wise, and then reclamping, the valve may seat properly and close the conduit. I have shown the guide as provided with an annular cavity 18, into which a pressure-pipe leads and by which a pressure-seal is thus afforded against the escape of gases; but this forms no part of my present invention, which consists, broadly, in adjusting the valve-stem sidewise to allow the hot-blast valve to conform to the position of the seat.

The advantages of my invention will be apparent to those skilled in the art, since the strain upon the valve and stem and the imperfect seating due to unequal expansion and contraction of the parts is overcome.

Many changes may be made in the form and arrangement of the valve and its seat and stem without departing from my invention.

I claim—

1. A hot-blast valve having a horizontal ring-shaped seat, a vertically-moving valve having a vertical stem projecting upwardly through the top of the valve-chamber, an annular packing device surrounding the stem and serving as the guide for the valve in its travel, and mechanism for adjusting the stem and packing device laterally and clamping the packing device in adjusted position; substantially as described.

2. A hot-blast valve comprising a valve-chamber having a horizontal annular valve-seat, a vertically-moving valve arranged to travel in planes parallel to the valve-seat in opening and closing, and having a stem projecting upwardly through the top of the valve-chamber, a tubular packing device and guide surrounding the stem at the top of the chamber and constituting the entire guide for the valve in its movements, said guide and packer being laterally adjustable, and bolts for clamping the same in any adjusted position; substantially as described.

In testimony whereof I have hereunto set my hand.

JULIAN KENNEDY.

Witnesses:

F. MCCLAIN,
H. W. RANO.