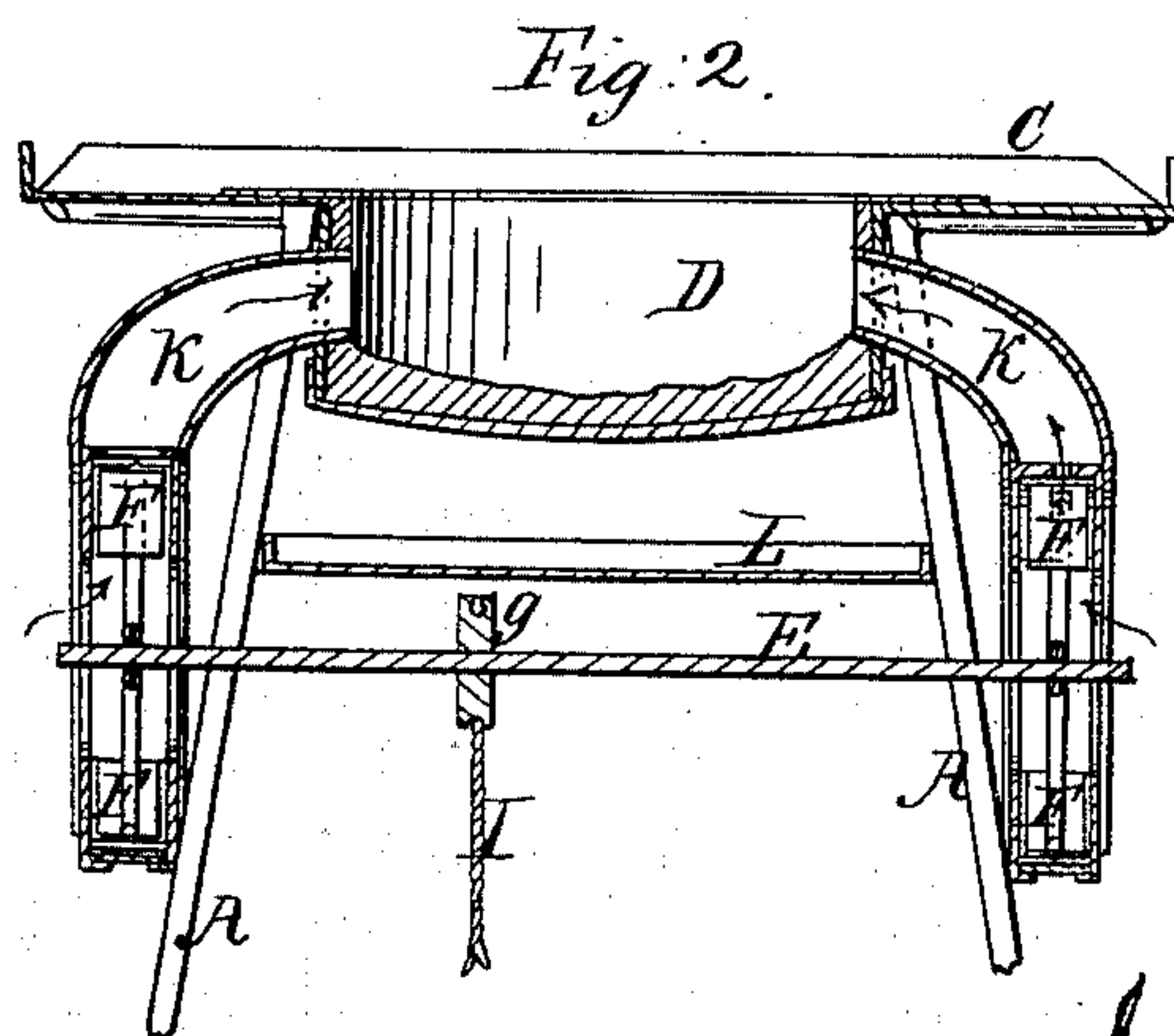
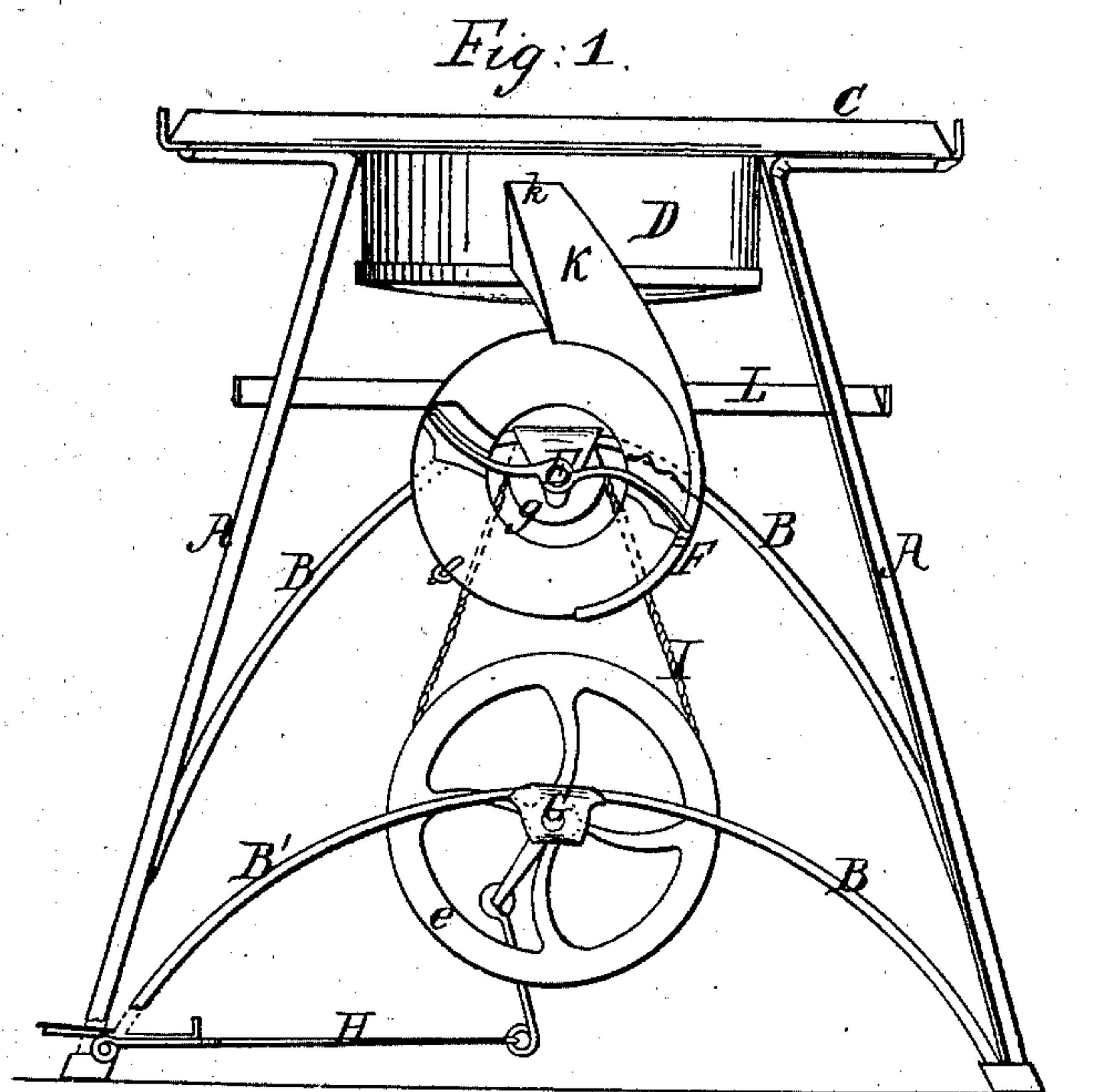


J. M. CAYCE.  
PORTABLE FORGE.

No. 67,845.

Patented Aug. 20, 1867.



Witnesses,  
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# United States Patent Office.

JOHN M. CAYCE, OF FRANKLIN, TENNESSEE.

Letters Patent No. 67,845, dated August 20, 1867.

## IMPROVEMENT IN PORTABLE FORGES.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN M. CAYCE, of Franklin, in the county of Williamson, and State of Tennessee, have invented a new and improved Portable Forge; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, and in which—

Figure 1 is a side elevation of my invention.

Figure 2 is a transverse vertical section of the same.

Similar letters of reference indicate corresponding parts in the two figures:

In this invention the blast is obtained from fans situated beneath the forge, and worked by a treadle.

In order that others skilled in the art to which my invention appertains may make and use the same, I will proceed to describe it in detail.

In the drawings, A A represent the legs of the table which holds the forge, strengthened by arched braces B B'. C is the table, which is made of iron or other suitable metal, and contains the fire-pot D. E is a shaft, running on bearings at the top of the arched braces B B, and carrying at its extremities the fan-wheels F F. G is another shaft, situated below the first, running in bearings at the crown of the arch B' B', and worked by a treadle, H, which extends across between the front legs of the table. A belt, I, connects the pulleys *g* and *e*, the former on the shaft G, the latter on the shaft E, communicating the power applied at the treadle to the fan-wheels. K K are pipes or ducts, extending from the upper part of the case which encloses the fans, to the sides of the fire-pot D at *k k*, and conducting the currents of air from the fan-boxes to the fire-pot. Beneath the table is a horizontal shelf, L, for convenience in holding tools, materials, &c., which are to be used about the forge. The outer plate M of the fan-boxes slides at one side under the edge of the wall of the tube K, and is confined at its opposite side by a button, *m*. By this means the plate M can be removed at any time for the purpose of adjusting or repairing the fans. The several parts of the frame of the forge thus constructed may be cast in one piece. The table C may be of sheet iron. The fans, boxes, and wind-tubes may be all of tin. The shelf L may be of tin or sheet iron. Thus all the parts of the instrument may be of the lightest and cheapest materials. The apertures *k k*, at which the air is discharged into the fire-pot, are designed to be opposite each other, and to discharge the currents in such a direction that they shall meet in the centre of the fire-pot.

I do not intend to limit myself to the use of two apertures *k k*, but may have any number, a dozen if I desire it, which upon experiment may prove to be best adapted to the efficient working of the forge.

Among the merits of a forge of this construction may be mentioned, not only its exceeding cheapness, lightness, and simplicity, all of which will be apparent at a glance, but the regularity with which the blast is generated, and the manner in which it reaches the fire. Two great defects in the portable forge worked by a bellows are, first, that the blast furnished by a bellows is always irregular, and especially so in a portable forge, where the apparatus is small, and can contain but little air at once; and, secondly, that, from the same reason, the apertures corresponding to *k k*, whence the blast is discharged upon the fire, must be small, and the stream of air that reaches the fire correspondingly small. In my forge these defects do not exist. The air is supplied with perfect regularity, and in any required quantities, and the apertures *k k* may be of any size required. I have found in practice that the heating power of my forge is very much greater than that of the common portable forges, for the reasons specified. Again, the bellows in most forges require the use of one hand of the operator, which seriously incommodes him in his work. With mine, on the contrary, both hands are at liberty, and the treadle, being made long enough, the feet may be shifted and rested at pleasure without the slightest interruption to the work. Either the fan-wheels or the pulley *g* may be made heavy enough to operate as fly-wheels if desired, or separate fly-wheels may be attached.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The arrangement in a portable forge of the fire pot D, the side tubes K K, discharging currents of air that meet at the centre of the fire-pot, with the fans F F, the treadle H, and the tool-shelf L, substantially as and for the purposes specified.

To the above specification of my improvement I have signed my hand this 24th day of May, 1867.

JOHN M. CAYCE.

Witnesses:

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