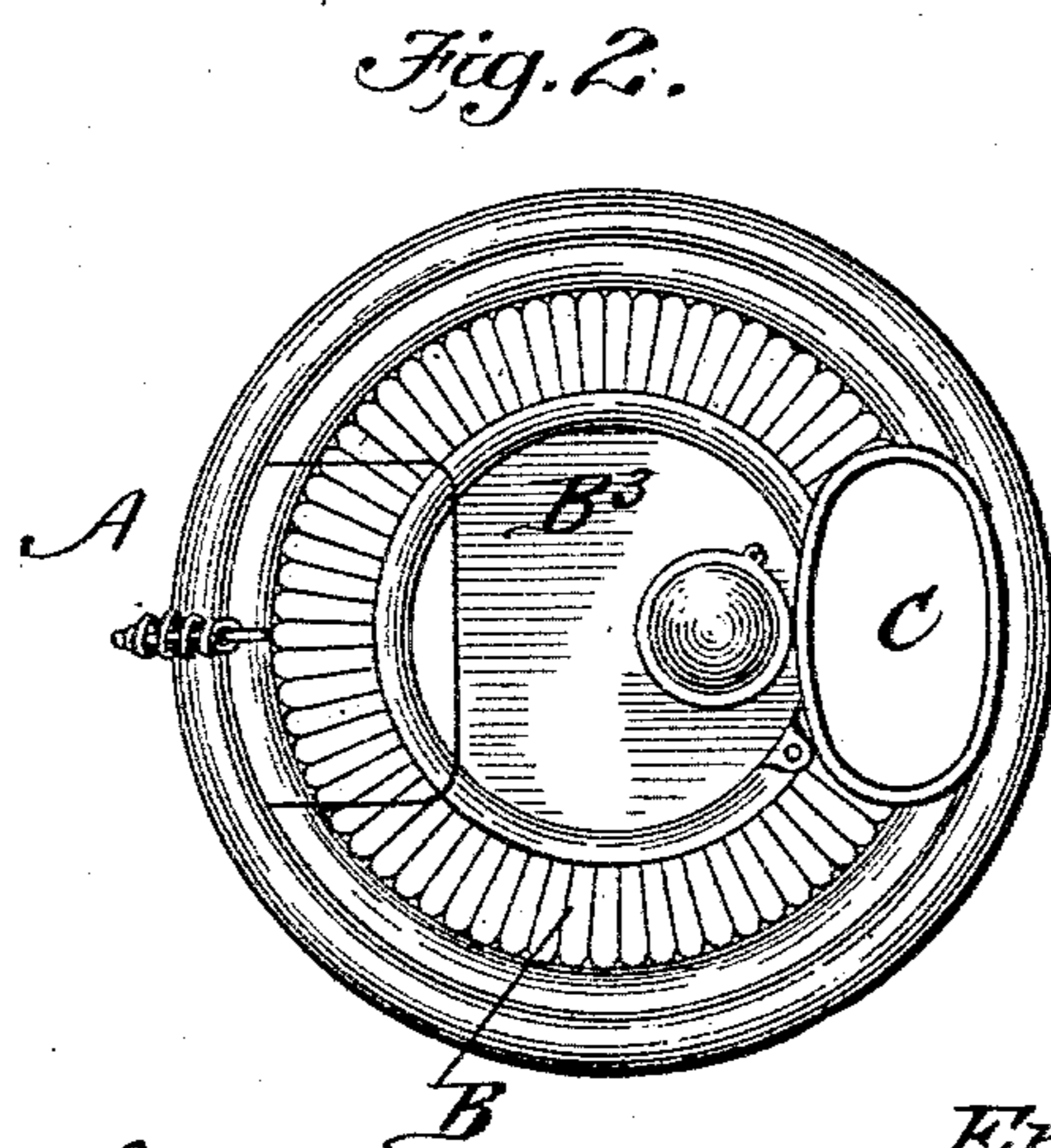
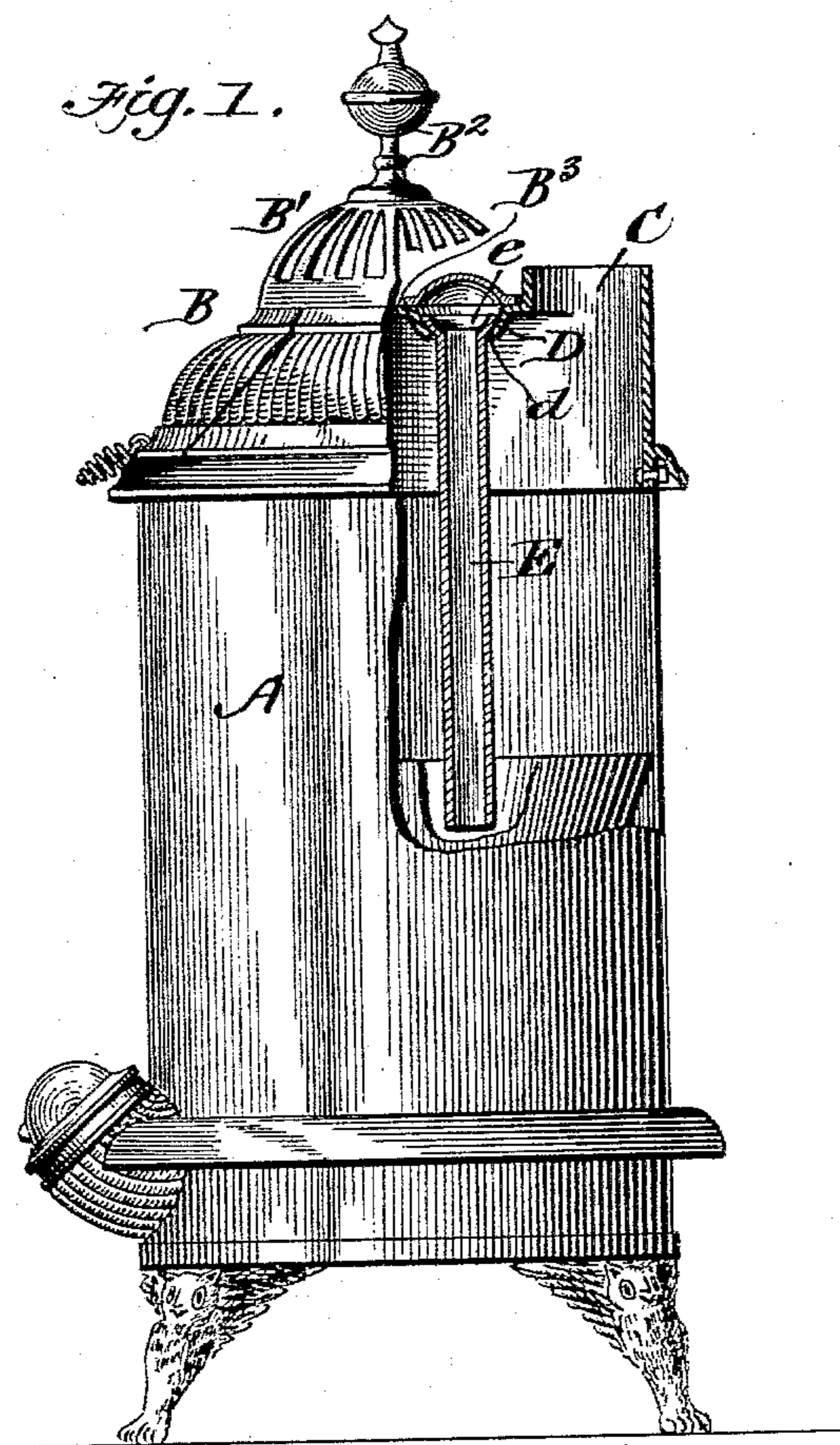


(No Model.)

E. C. COLE.  
STOVE.

No. 584,209.

Patented June 8, 1897.



WITNESSES:  
*M. S. Blondel.*  
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# UNITED STATES PATENT OFFICE.

ERNEST CHAPIN COLE, OF COUNCIL BLUFFS, IOWA.

## STOVE.

SPECIFICATION forming part of Letters Patent No. 584,209, dated June 8, 1897.

Application filed April 11, 1896. Serial No. 587,179. (No model.)

*To all whom it may concern:*

Be it known that I, ERNEST CHAPIN COLE, residing at Council Bluffs, in the county of Pottawattamie and State of Iowa, have invented a new and useful Improvement in Stoves, of which the following is a specification.

My invention is an improvement in stoves, and seeks to provide simple constructions by which to secure a more perfect combustion of the fuel; and the invention consists in certain novel constructions, combinations, and arrangements of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a side view, partly broken away and part in section, of a stove provided with my improvements; and Fig. 2 is a top plan view, partly broken away.

My invention comprises the top tubular draft, as hereinafter more fully described, admitting of a swinging motion, the purpose of which is to prevent its being in the way in putting in fuel, to enable the draft to be pointed at any desired angle, or if a lump of coal or piece of wood were to fall against the draft it would swing to one side and cause the air-blast to be directed under the edge of the fuel, thus doing the most efficient work, such object being attained by the universal joint, as shown. So far as I am informed it is new to provide a movable swinging draft which will admit of the blast of air being thrown at any angle desired within the fire-pot, which is important, as it is well known that a strong draft soon burns up the fuel nearest thereto, leaving only partially-oxidized parts at the farthest extremity of the fire-box.

In the construction shown the body A supports the top B, which has the ornamental swing portion B', surmounted by an urn B<sup>2</sup>, and the stove also has a top plate B<sup>3</sup> and a nipple C for the connection of a suitable stovepipe. The top plate is provided with a concave or dished seat D, having a central opening *d*, and the air-tube E is passed through the opening *d* and has at its upper end a head *e*, coinciding with the concave D, so the air-tube may depend vertically within the body of the stove or may be adjusted to one side or the other to feed the air to different points

in the fire-pot and also to avoid any interference with the function of the air-tube by lumps of coal or other obstructions becoming clogged against the lower end of the hot-air tube, as will be readily understood. By the use of this hot-blast top-draft tube a concentrated current of oxygen heated in its downward flow is thrown directly on the top of the fire with enough concentration and force to fan to flame a slow-smoldering fire and then furnish the requisites to a union of the oxygen and gas—a flame to consume the ignited gases.

It is found by uniting the force of gravity—that is, the tendency of colder air to drop in a straight downward direction—with the suction of the stove by the aid of a straight downward pipe at or near the center of the fire a current of oxygen with a vortex motion can without additional force be thrown on the fire in such manner as to fan a flame into action in a slow-burning fire, and that such flame burns to a large extent the united gas and oxygen.

By supporting the hot-air tube universally, as before described, it does not in any way interfere with the infeed of fuel, and can be adjusted to supply the air to any desired point.

It is important that the air should be fed at or near the center in order to supply it uniformly to the fuel and also to secure what may be termed a "central" vortex action of the infeed air. In such arrangement of the tube it is important that it should be capable of swinging at its lower end in order that it may move out of the way of a lump of coal and also that it may when so moved feed the air under said lump and so fan the flame beneath the same, and also so it may be directed to feed the air to any point.

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

1. A stove substantially as described, provided with a top-draft tube and a universal joint at the upper end thereof substantially as shown and described.

2. A stove having an upper or top plate provided with a concave or socket and the hot-air tube having at its upper end a head fitting said concave or seat whereby the lower

end of said tube may be swung within the stove, substantially as shown and described.

3. In a heating apparatus the combination with the stove or body of a tubular air-inlet  
5 having its lower end arranged to swing freely whereby air-blast may be directed to any desired part of the fire-surface, the joint or con-

nection of the upper end of said air-inlet with the stove being practically closed at all times substantially as shown and described.

ERNEST CHAPIN COLE.

Witnesses:

FRANK M. SOUTH,

MARTHA GRUENHUT.