

(No Model.)

T. CRANEY.
AIR FEEDING DEVICE FOR FURNACES.

No. 518,054.

Patented Apr. 10, 1894.

Fig. 1.

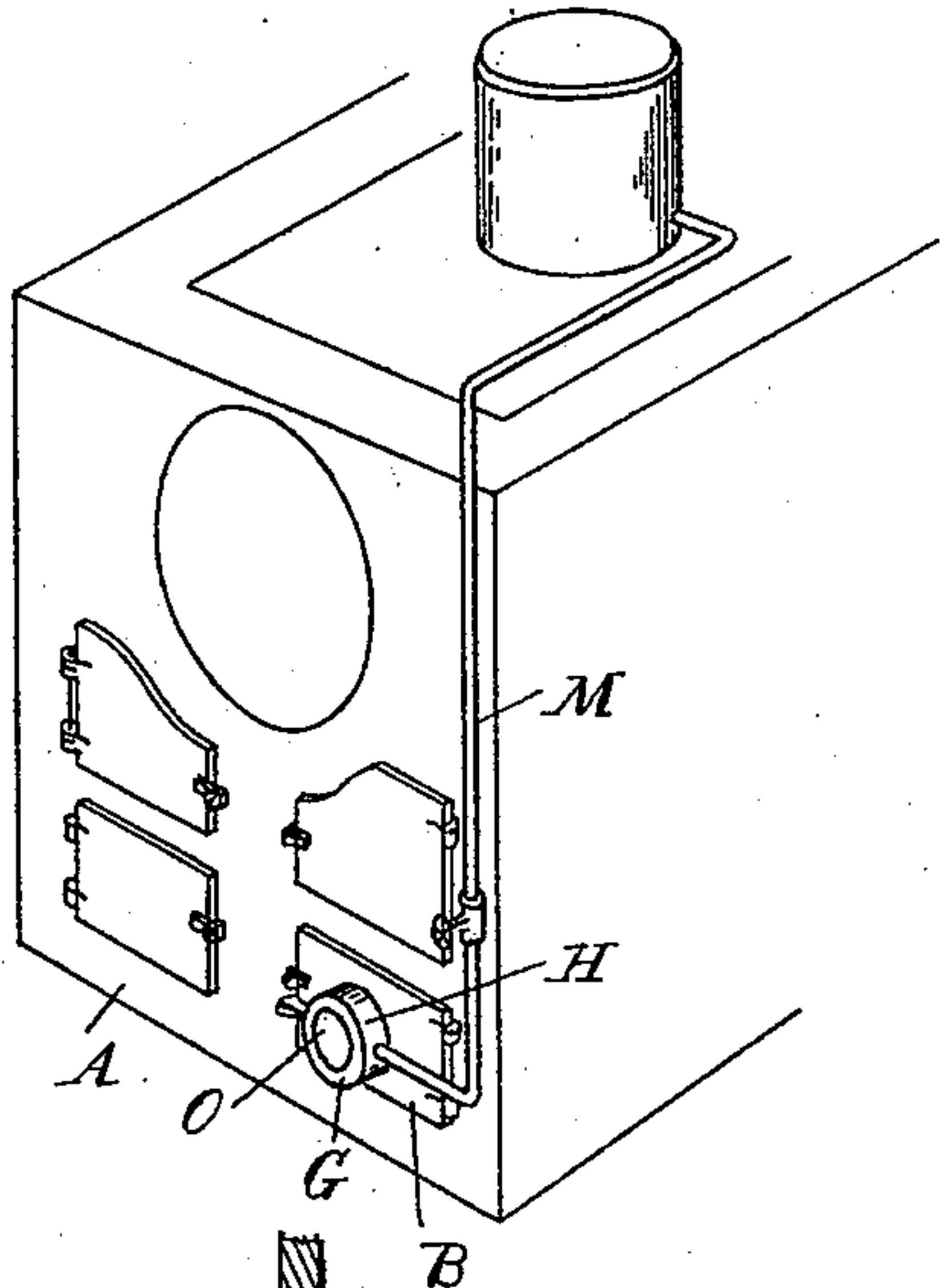


Fig. 1.

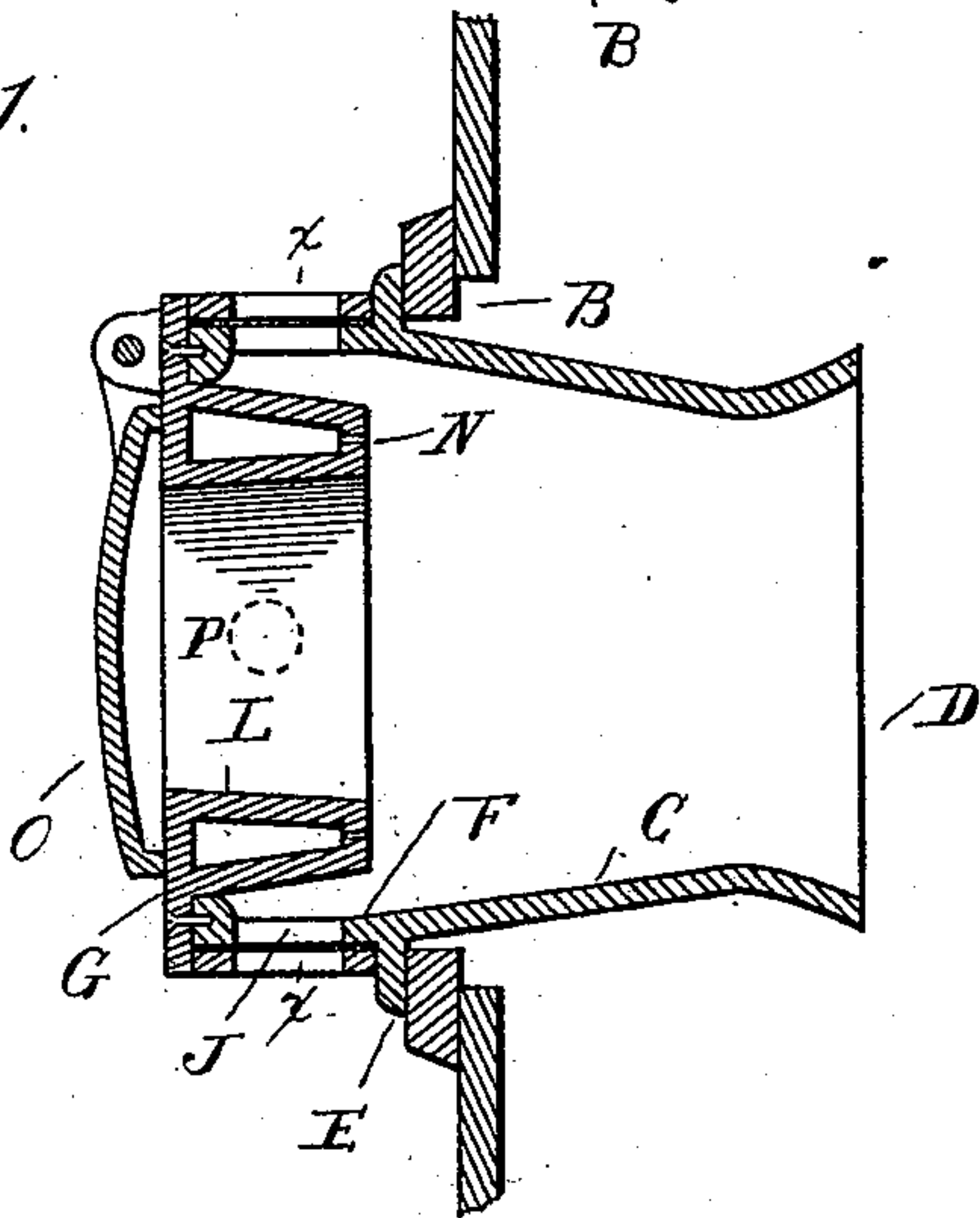


Fig. 3.

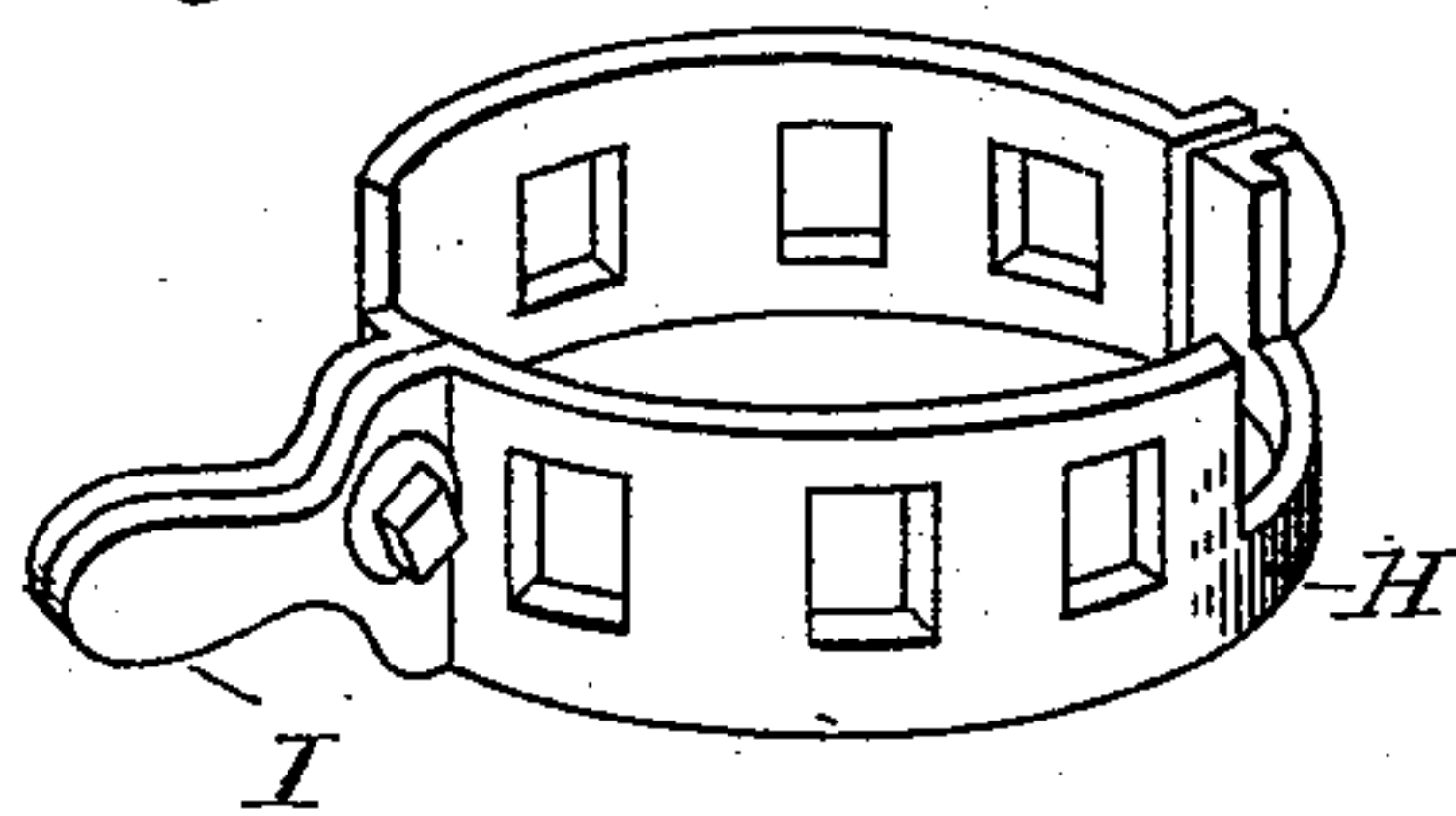
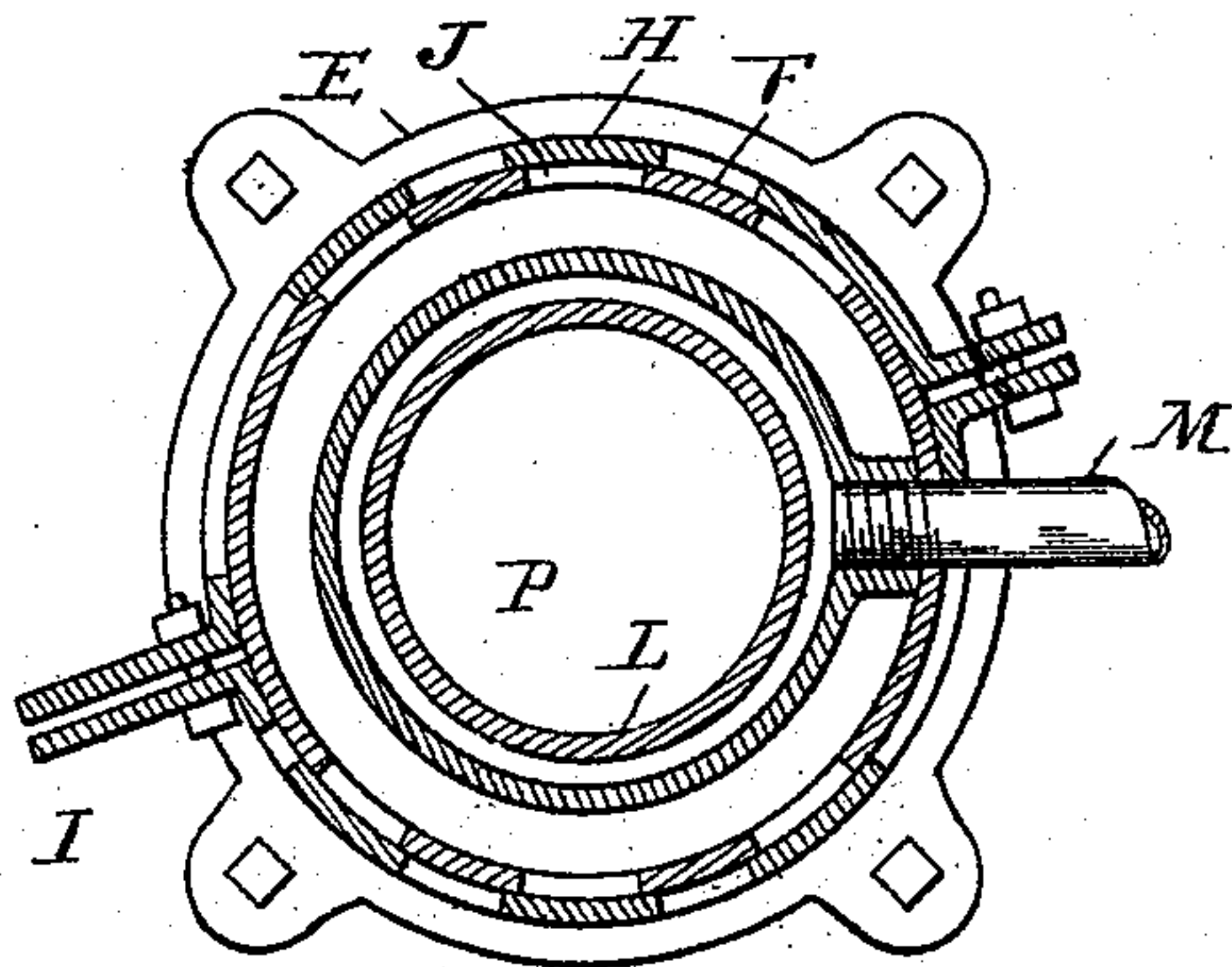


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

THOMAS CRANEY, OF BAY CITY, MICHIGAN.

AIR-FEEDING DEVICE FOR FURNACES.

SPECIFICATION forming part of Letters Patent No. 518,054, dated April 10, 1894.

Application filed January 2, 1894. Serial No. 495,354. (No model.)

To all whom it may concern:

Be it known that I, THOMAS CRANEY, a citizen of the United States, residing at Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Air-Feeding Devices for Furnaces, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention consists in the peculiar construction of an air feeding nozzle designed to be placed upon the front of a furnace and particularly upon the door thereof, with means for supplying steam and air to the furnace in any desired amounts and proportions, all as more fully hereinafter described.

In the drawings, Figure 1 is a vertical, central, longitudinal section through my improved device. Fig. 2 is a vertical section thereof on line *x x*. Fig. 3 is a detached perspective view of the damper ring. Fig. 4 is a diagram perspective view of a furnace with my device applied thereto.

A is the furnace front, B one of the furnace doors leading into the combustion chamber and to which my improvement is applied.

C is a cone, contracting from its outer end toward its inner end and provided with a flaring mouth B. It is provided with a circumferential flange E, by means of which it is secured to the door. Beyond this flange and outside the door is a cylindrical extension F of the cone.

G is a head which is secured to the outer end of the cylindrical section or cone and projects slightly beyond the same. Between this projecting flange of the head and the flange E on the cone is secured a damper H, preferably made of two parts secured together and having the handles I formed integral with the sections as shown in Fig. 3 and adapted to control the apertures J through the cylindrical extension F of the cone.

The head G is centrally apertured and is provided around this aperture, projecting inward, with the steam ring L, to which steam is supplied by means of the steam supply

pipe M from the steam generator. This steam ring at its inner edge is provided with a series of discharge apertures N.

O is a door or damper controlling the central aperture P, through the steam ring.

The parts being thus constructed their operation is as follows: Steam being supplied through the pipe M into the steam ring will be discharged in a series of jets into the nozzle, and thence into the furnace. The suction thus created will draw air through the apertures J, the amount of which may be controlled by the damper H, and if it is desired still larger volumes of air with less pressure can be supplied by opening the door or damper O.

What I claim as my invention is—

1. In an air feed device for furnaces, the combination of the door, a contracting nozzle secured thereto projecting inside and outside the door, a head on the outer end of the nozzle, a steam ring on the head, having a central aperture, a door for the apertures in the nozzle around the steam ring, and a ring damper, controlling these apertures, substantially as described.

2. In an air feed device for furnaces, the combination of the door, the contracting nozzle the circumferential flange E by means of which the cone is secured to the door, the apertured cylindrical extension F outside the door, the head G secured to the end of the extension and projecting beyond the edges of the same, the damper H secured on the extension between the flange E and the extension of the head, the steam ring on the inner face of the head having jets at the forward edge, and an exterior door, controlling a passage through the ring, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS CRANEY.

Witnesses:

M. B. O'DOHERTY,
JAMES WHITTEMORE.