

M. W. KIDDER.

Gas Stove.

No. 21,075.

Patented Aug. 3, 1858.

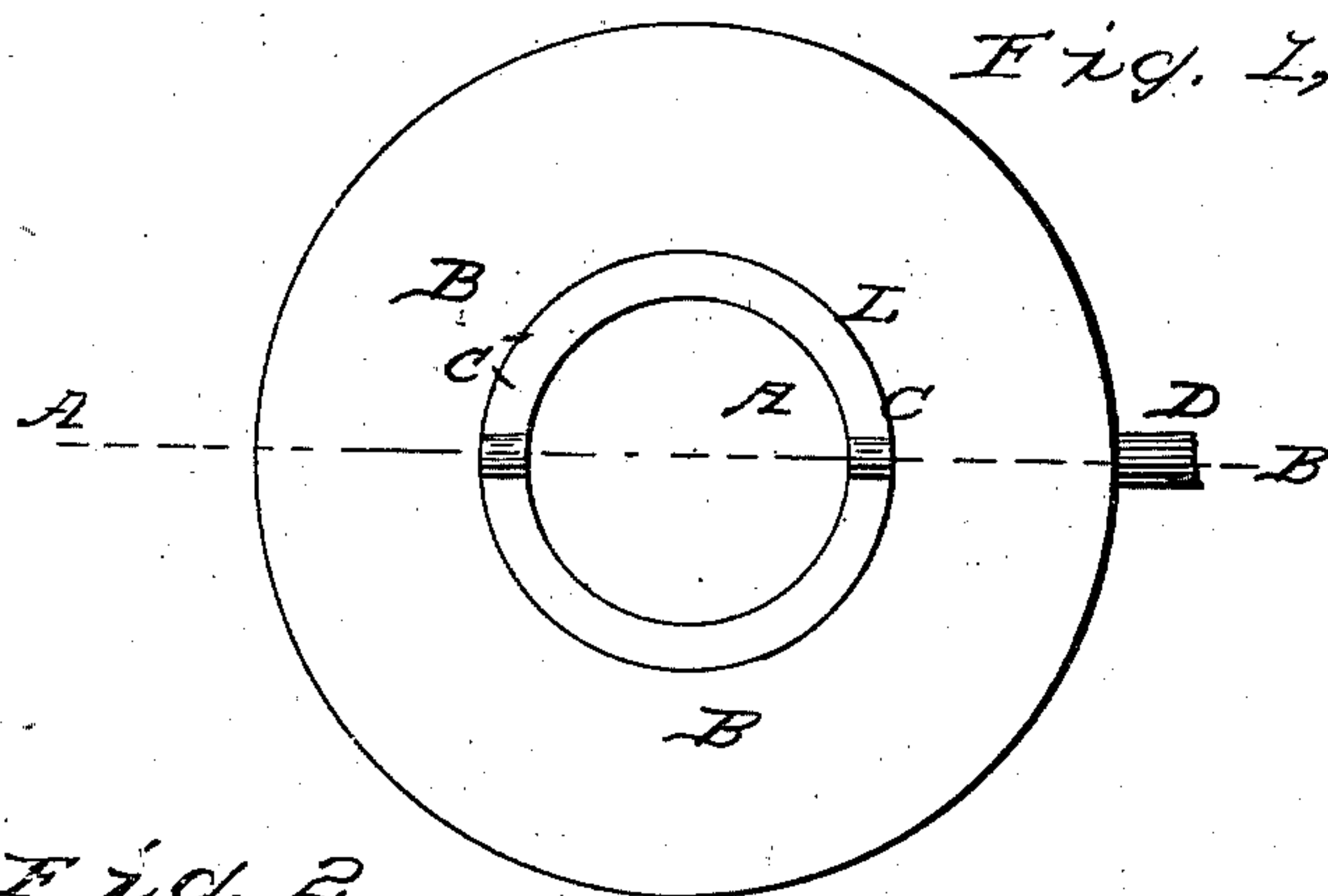


Fig. 2,

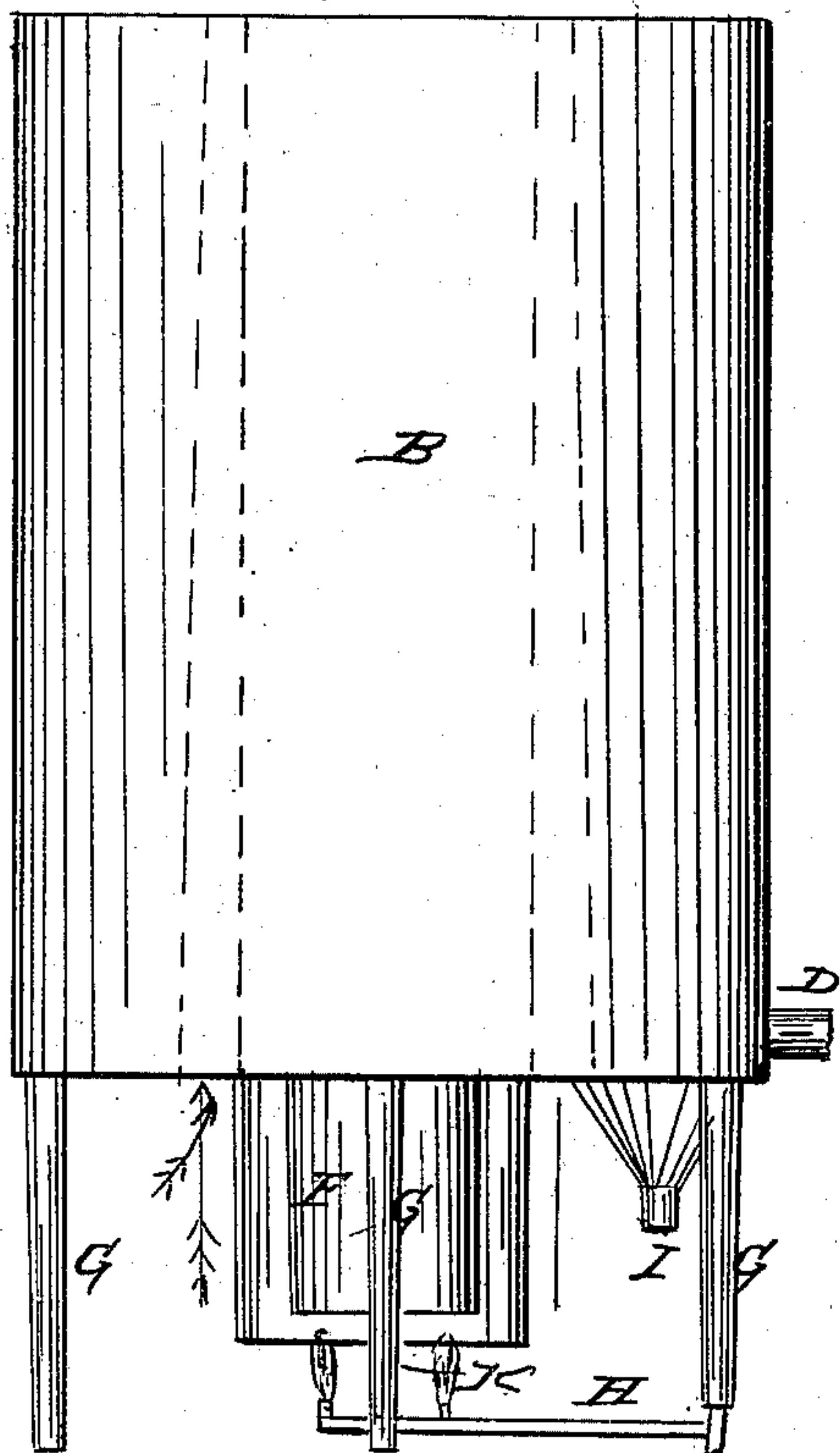
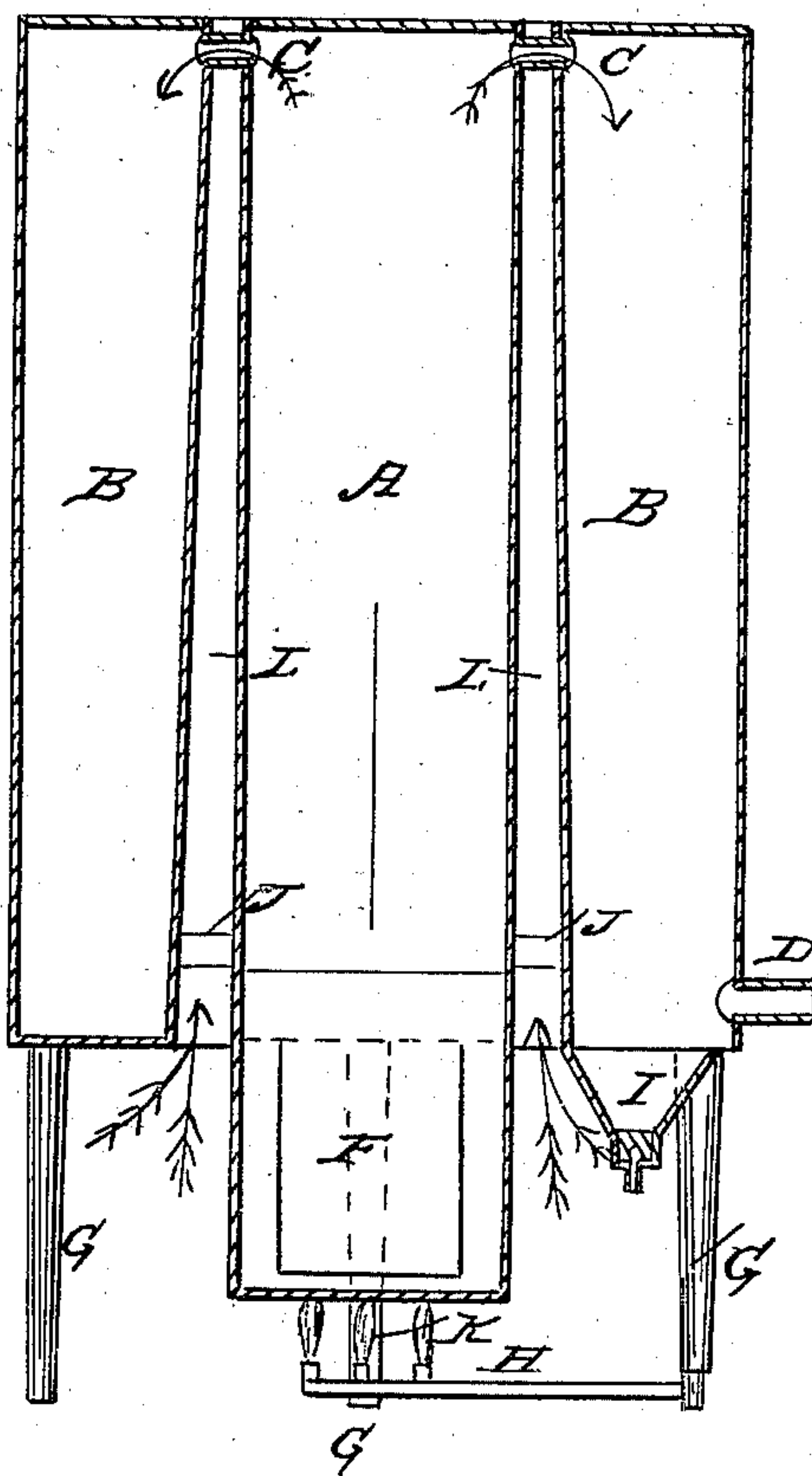


Fig. 3,



UNITED STATES PATENT OFFICE.

M. W. KIDDER, OF LOWELL, MASSACHUSETTS.

GAS-STOVE.

Specification of Letters Patent No. 21,075, dated August 3, 1858.

To all whom it may concern:

Be it known that I, MOSES W. KIDDER, of Lowell, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Gas-Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

10 Figure 1 is a plan of my stove; Fig. 2, an elevation of the same; Fig. 3, a vertical section upon the line A B of Fig. 1.

In most of the gas stoves for heating purposes as heretofore arranged, the products of combustion have all been allowed to escape into the apartments which they were designed to heat, the atmosphere of which was thereby vitiated and rendered unwholesome and unfit to be breathed.

20 To remedy this inconvenience such stoves have been closed up tight, the products of combustion being conducted off to a chimney through a suitable pipe, in such cases however a loss has been experienced of nearly all the heat latent in the steam, produced by the combustion of the hydrogen.

To economize this heat and at the same time to avoid vitiating the atmosphere of the apartments by the carbonic acid, carbonic 30 oxid and other products resulting from the combustion of the gas is the object of my present invention which consists in the employment of a condenser, in which the steam and other condensable products are refrigerated and condensed, the liquid thus produced being allowed to escape through a suitable valve, while the uncondensed gases escape by another suitable conduit as will now be more fully described.

40 In the said drawings the combustion chambers or body of the stove is seen at A, at the bottom of which are the burners K, which are fed through the pipe H. The stove is surrounded by a chamber B, which is annular and cylindrical and is connected with the former at the top by the tubes C and at

the bottom by suitable stay rods J, the whole being supported by the legs G. Between the combustion chamber and the condenser is a passage or space L, which is open at both top and bottom. The interior chamber A descends lower than the condenser, the lower portion of it being of glass or other transparent material that the light of the burning gas may also be utilized.

55 The gas being lighted is consumed at the bottom of the chamber A, the products passing through the tubes C into the condenser B. This condenser is removed from immediate contact with the combustion chamber, a current of air through the space L conducting off the heat not only from the interior chamber but also from the inner surface of the condenser. As this condenser is of much greater capacity than the combustion chamber, and as it is surrounded upon all sides by the atmosphere of the room, it remains comparatively cool and the steam and some portions of the other products of combustion are condensed, their latent heat being given out into the room and made available.

At I is seen a trap through which the liquid passes off and at D a pipe through which the uncondensed gases escape. The heat which has heretofore been lost in the steam which escaped from the stove is thus economized at the same time that the atmosphere of the room is in no wise vitiated by the presence of unwholesome or noxious gases.

What I claim as my invention and desire to secure by Letters Patent as an improvement in gas heating stoves is—

The condensing chamber B, with its trap I and pipe D, in combination with a combustion chamber, operating in the manner substantially as set forth.

MOSES W. KIDDER.

Witnesses:

GEO. L. CADY,
E. W. SCOTT.