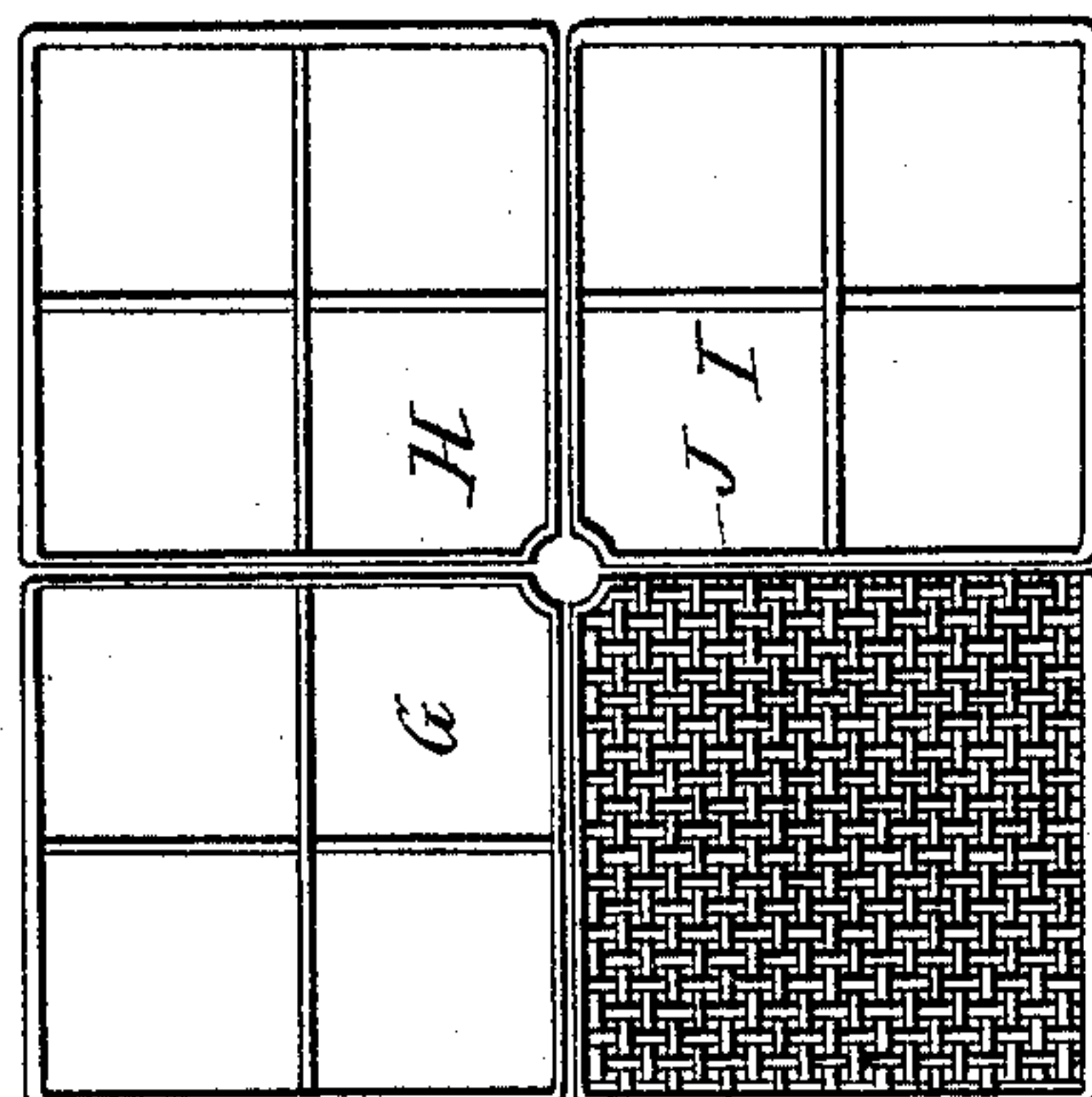


E. DUFFEE.  
Gas Purifier.

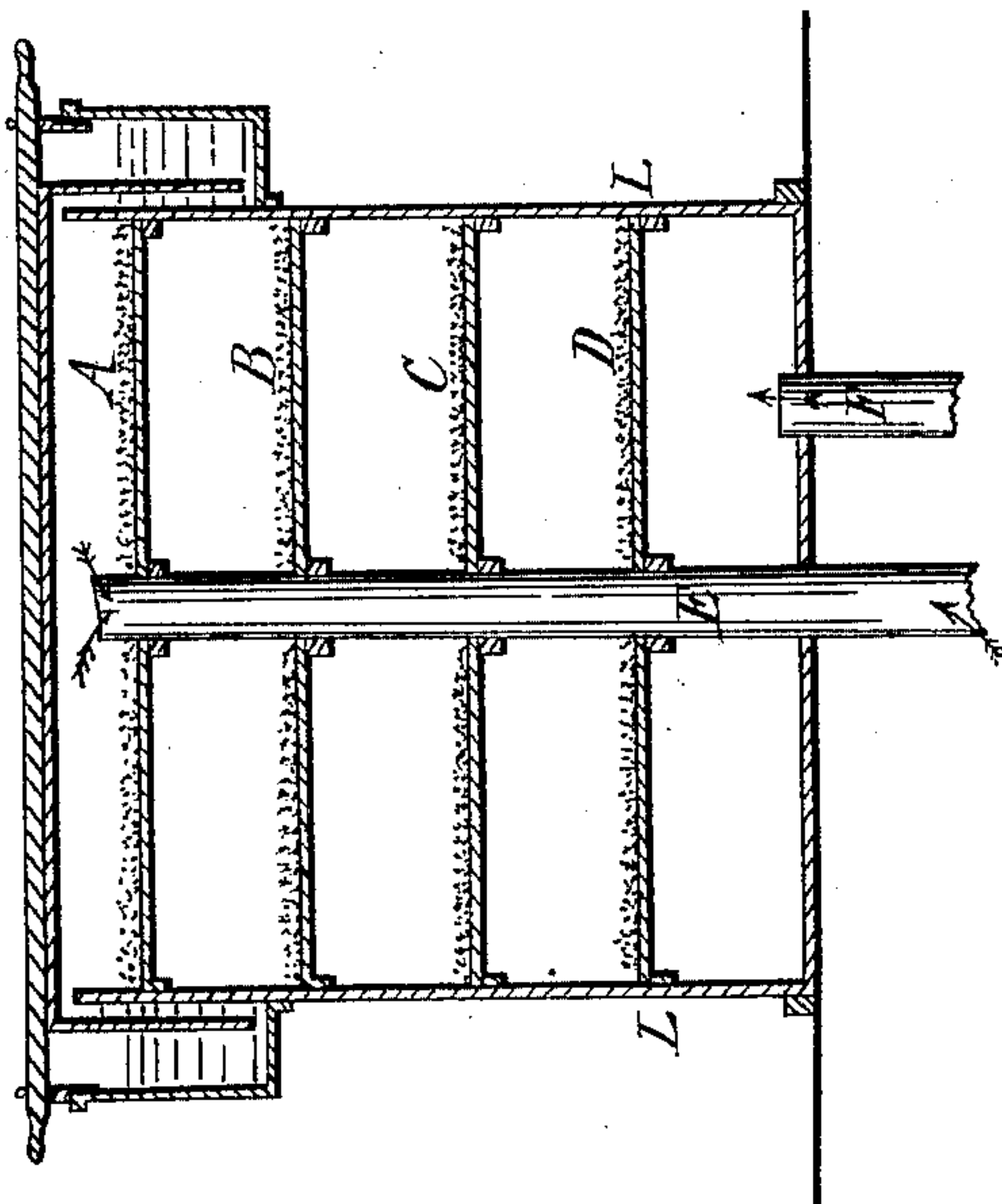
No. 56,490.

Patented July 17, 1866.

*Fig. 2.*



*Fig. 1.*



**Witnesses:**  
*Edmund Kimball*  
*N. Spofford*

**Inventor:**  
*Edward Duffee*

# UNITED STATES PATENT OFFICE.

EDWARD DUFFEE, OF HAVERHILL, MASSACHUSETTS, ASSIGNOR TO HIMSELF AND GEO. A. KIMBALL, OF SAME PLACE.

## IMPROVEMENT IN SCREENS FOR GAS-PURIFIERS.

Specification forming part of Letters Patent No. 56,490, dated July 17, 1866.

*To all whom it may concern:*

Be it known that I, EDWARD DUFFEE, of Havervill, county of Essex, and State of Massachusetts, have invented a new and Improved Screen for Dry Coal-Gas Purifiers, whereby a great saving of labor and also of gas is effected; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 represents a sectional view of an ordinary dry coal-gas purifier, A, B, C, and D being the screens, covered with lime; F, the inlet-pipe, and E the outlet-pipe.

The screens in common use are made of cast-iron, with numerous perforations to admit of the passage of the gas, which, entering through pipe F, passes up through each section of the screens, depositing its impurities in the lime, and finally passes out through the pipe E, as shown by the arrows. The impurities of the gas, in combination with the lime, form a cement which soon clogs or entirely fills up the perforations in the iron screens, thus causing back-pressure on the retorts and a consequent loss of gas, and, furthermore, requiring much labor to keep them clean.

My invention is designed to obviate this difficulty by using a screen constructed of narrow strips of thin wood crossing each other, either riveted together or interlaced in the form of basket-work, supported by a framework of metal, as shown in Fig. 2, which represents a horizontal section through L L, Fig. 1. Only the frame-work of the three screens C H I is shown, while J represents the frame covered with wood interlaced in the form of basket-work, thus making a light and durable screen, that admits a free passage of the gas, that never clogs or in any way causes back-pressure on the retorts, thus avoiding all waste of gas and the great labor of cleaning screens.

What I claim as my invention, and desire to secure by Letters Patent, is—

Constructing screens for dry coal-gas purifiers of strips of thin wood crossing each other, and either riveted together or interlaced in the form of basket-work, supported by a framework of metal or its equivalent.

EDWARD DUFFEE.

Witnesses:

EDMUND KIMBALL,  
N. SPOFFORD.