

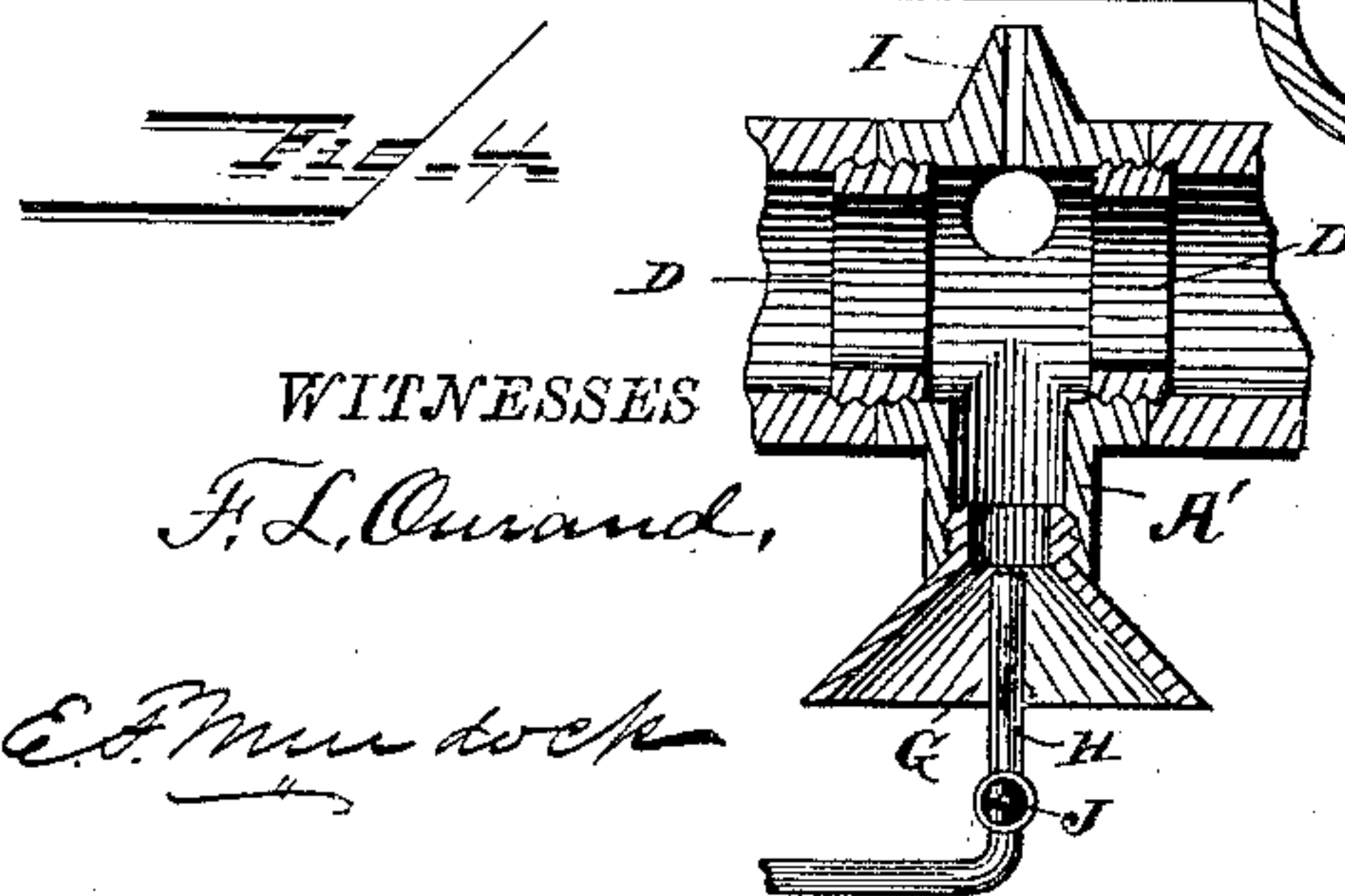
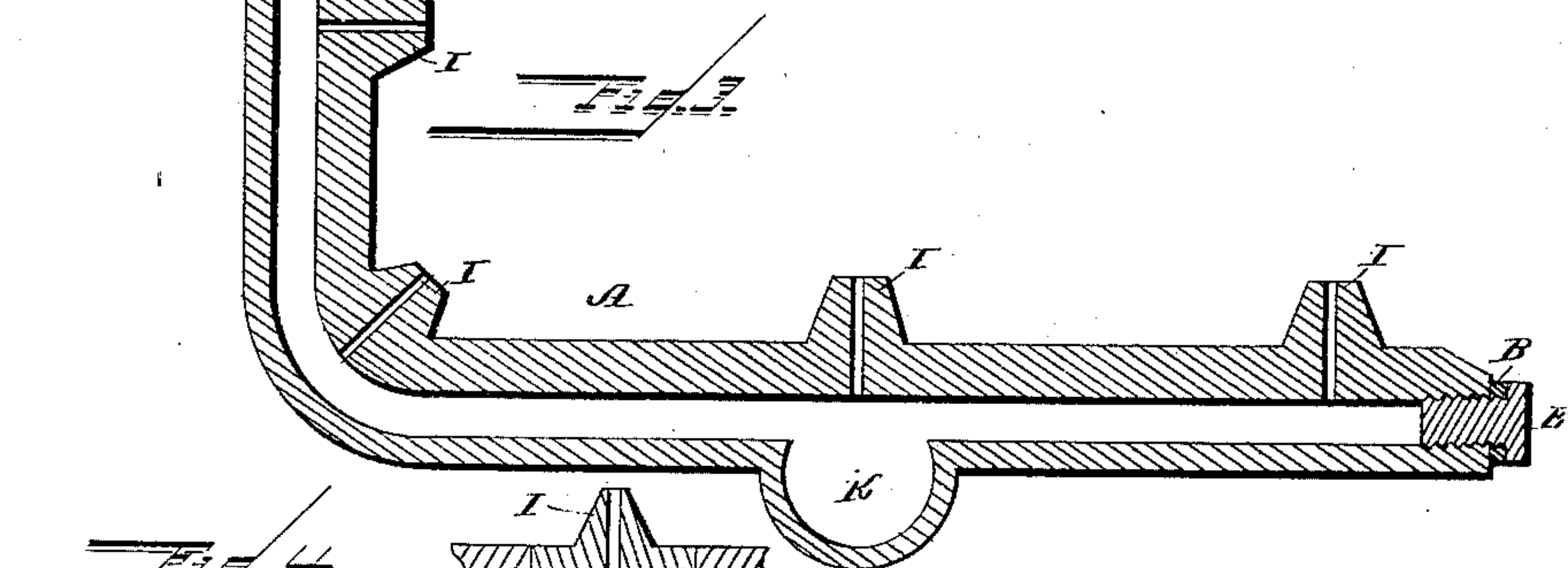
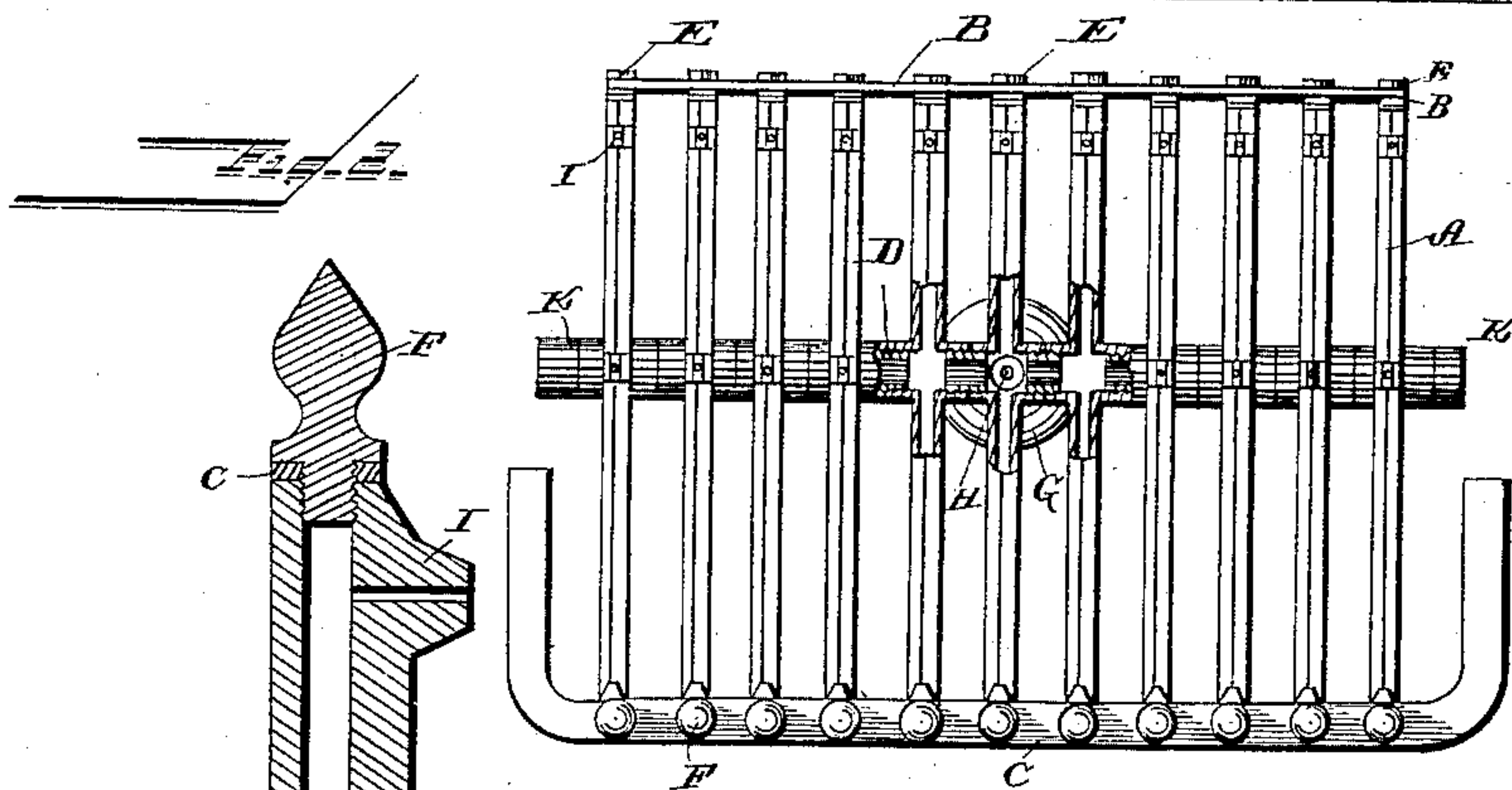
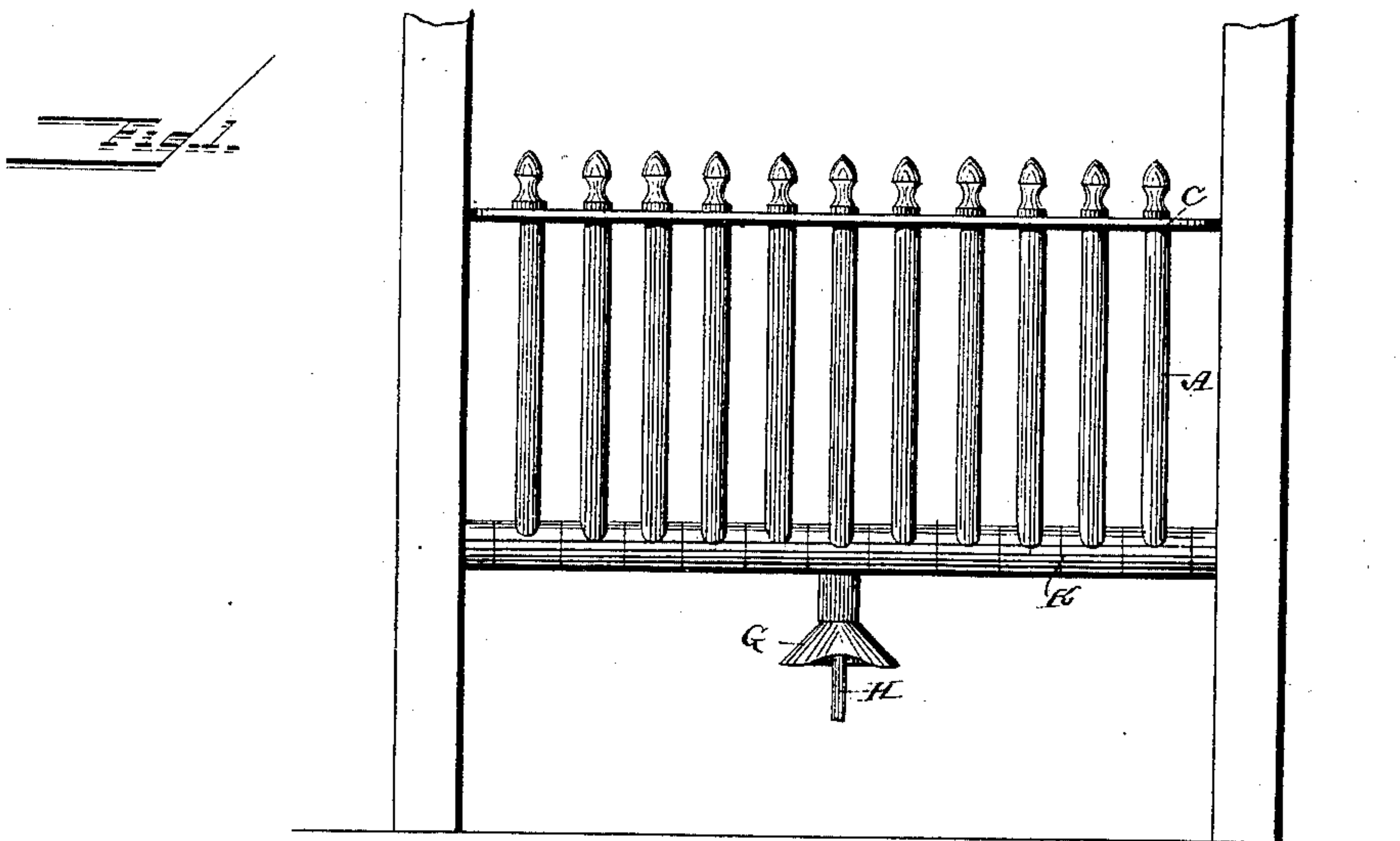
(No Model.)

E. BOURNE.

GRATE FOR BURNING NATURAL GAS.

No. 354,380.

Patented Dec. 14, 1886.



WITNESSES

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EDWARD BOURNE, OF ALLEGHENY, PENNSYLVANIA.

GRATE FOR BURNING NATURAL GAS.

SPECIFICATION forming part of Letters Patent No. 354,380, dated December 14, 1886.

Application filed January 13, 1886. Serial No. 188,469. (No model.)

To all whom it may concern:

Be it known that I, EDWARD BOURNE, of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Grates for Burning Natural Gas; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention consists in an improvement of fire-place grates for the burning of gas, said grates being constructed of a series of bars adapted to be united by couplings, whereby the whole series of bars are braced at a point between detachable end bars and forming a series of air and gas chambers communicating with each other and provided with outlets, said gas-chambers supplied with air and gas by a single inlet.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, Figure 1 is a front elevation. Fig. 2 is a plan view. Fig. 3 is a longitudinal section. Fig. 4 is a detail.

The grate consists of a series of hollow bars, A, bent at an angle and provided with conical projections I, opening toward the center of the grate. These conical projections are of a conical shape, leaving spaces between them for the reception of any articles desired. The bars A are formed with a circular enlargement, K, at the center of the horizontal portion, which has a screw-thread on either side or opening. Into these enlargements are screwed the coupling-pipes D, and upon these coupling-pipes are screwed the adjoining grate-bars. When as many as desired of the bars have been thus coupled, they are brought into position and held by the cross-bars B and C, which are attached to the bars by means of the small screw-bolts E and F. The bolts F,

being on the outside of the grate, are made ornamental.

The center one of the grate-bars A is provided with a depending nipple, *a'*, upon which is screwed the bell-shaped piece G. A gas-supply pipe opens into this nipple, and is provided with a regulating-valve J. The grate is filled with pieces of fire-brick or other suitable refracting material between the conical projections I. The gas is turned on and regulated by means of the valve J. It enters the nipple *a'*, at the lower end of the said nipple, by means of the pipe H. In entering the nipple at the rapid rate it does it causes a draft of pure air up through the bell-shaped piece G. This pure air mixes with the gas in the grate-bars A, and upon ignition the mixture of the two produces greater heat than would the gas alone. It then flows through the pipe K, formed by the couplings D, and into the hollow bars A, then through the perforated conical projections I, where it is lighted. The grate being furnished with suitable fire-brick, the flame will show between and above, making an imitation wood or coal fire, as desired.

What I claim is—

A fire-place grate consisting of a series of hollow bars forming a series of gas-chambers communicating with each other and having gas-distributing openings and projections, said bars held in position at each end by means of a bar and screw-bolts, and at a point between said end bars coupled together by means of hollow couplings, substantially as described.

In testimony whereof I have hereunto set my hand this 26th day of December, A. D. 1885.

EDWARD BOURNE.

Witnesses:

A. C. JOHNSTON,
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