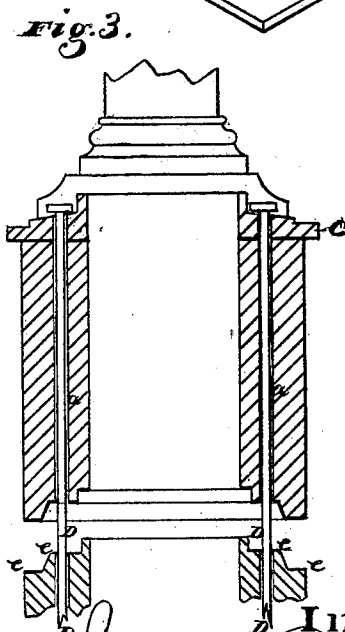
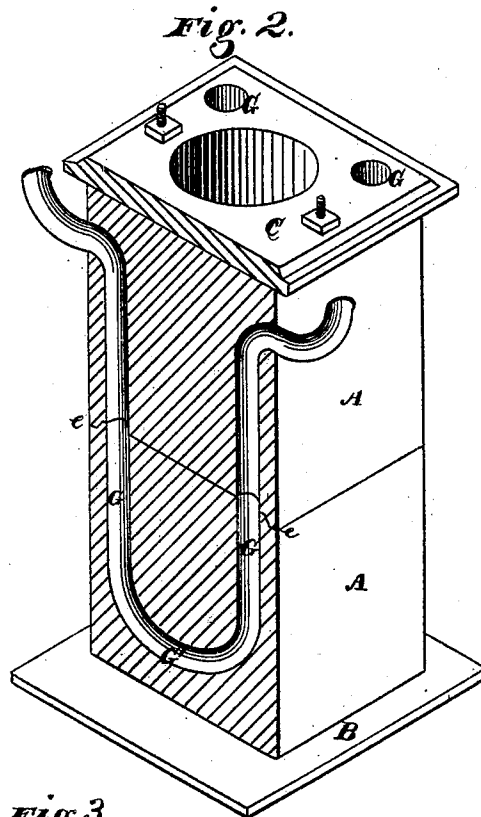
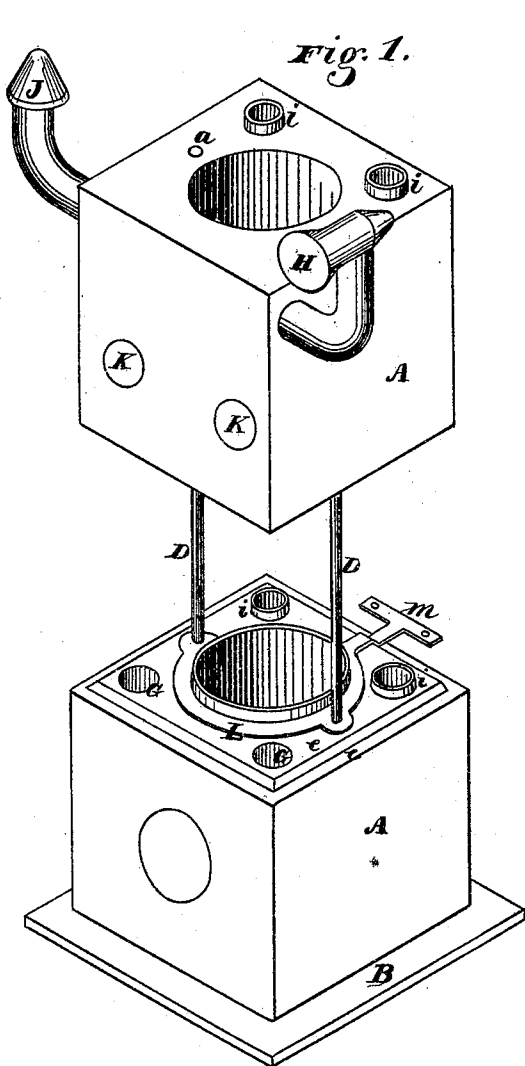


J. BROWELL.

CHIMNEY.

No. 175,920.

Patented April 11, 1876.



Witnesses
Geo. H. Strong.
John L. Bonnell

Inventor
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UNITED STATES PATENT OFFICE.

JEREMIAH BROWELL, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN CHIMNEYS.

Specification forming part of Letters Patent No. **175,920**, dated April 11, 1876; application filed February 23, 1876.

To all whom it may concern :

Be it known that I, JEREMIAH BROWELL, of San Francisco city and county, State of California, have invented an Improvement in Tubular Chimneys; and I do hereby declare the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention relates to certain improvements in the construction of chimneys or flues which are made in sections; and it consists, first, in constructing the flue or chimney of stone, cement, clay, or earthenware tubular blocks or sections, which are perforated longitudinally for the reception of binding-rods, and have their ends so formed as to be united in a smoke or gas tight joint.

My invention further consists in the formation, in these blocks, of a series of ventilating-flues, by which the chimney may be kept cool or the air which is introduced from the outside may be heated and conveyed to the apartments of the house, to warm them, if desired.

Referring to the accompanying drawing for a more complete explanation of my invention, Figure 1 is a perspective view, showing the sections separated. Fig. 2 is a view showing the ventilating-ducts. Fig. 3 is a vertical section.

A A are sections of my tubes, which are to be placed one upon another until the proper height for the chimney has been attained. The lower section rests upon a base-plate, B, usually above the fire-place, as described in a former patent issued to me; and at the top of the chimney is another plate or cap, C. The blocks A may be made of any suitable shape and material, and in their formation a large central flue is made and smaller holes, *a*, upon opposite sides, for the reception of rods D, which extend from the base-plate B to the cap C and are drawn tight by means of nuts, which screw upon the ends of the rods, thus binding the whole mass into a single solid block.

In order to make a tight joint where each of these sections meets the next one, I form one end of each section with a double pro-

jecting ledge or flange, *e e*, while the opposite end is provided with a corresponding double depression, so that the two parts in each section fit the adjacent sections and form a tight joint by the addition of a thin coating of cement or other fire-proof substance.

Instead of surrounding the tubes or sections with an outer tube to form a ventilating-space, as in my former patent, I prefer to form openings G in the substance of the sections. These openings are fitted together with projections *i* and corresponding depressions, in the same manner as described for the main flue, and I thus insure them from the entrance of the smoke or gas, which would contaminate the air contained within them.

In order to control and direct the currents of air which pass through these ventilating-passages, I unite any two of them at the bottom, as shown at G', so as to form a continuous passage. At the top of the chimney, or so as to extend slightly above the upper plate or cap, I place bonnets H and J, of such form as to receive the air and cause a current to flow through the tube from end to end, if intended to cool the chimney; but if the air is to be used for ventilating and warming purposes, the form of bonnet shown at H must be placed upon both ends of the tube. These will be directed so as to receive the air and, as it passes down both sides of the passage, it becomes warm and may be allowed to escape into any of the rooms near the flue, through passages *k*.

In order to prevent the blocks constituting the chimney from becoming spread, I employ rings L at each of the joints, through which the upright rods pass, as described in my former patent, and the whole is thus bound together and made solid and steady, while of sufficient lightness to be built upward from any floor without extra support from below.

The rings may have extensions *m*, which project out so that they serve as supports, being fastened to beams or cross-pieces near the line of the chimney.

The flues G will be of especial value in kilns, potteries, &c., as the heat from them may be utilized to dry the manufactured articles before they are baked.

Having thus described my invention, I do

not claim, broadly, the construction of chimneys of sections placed one upon the other; but

What I do claim as new, and desire to secure by Letters Patent, is—

1. In combination with the tubular sections A A, constructed as described, and the base and cap plates B and C, the binding-rods D D, passing through longitudinal holes *a* in the blocks or sections, substantially as and for the purpose herein described.

2. The chimney constructed of tubular blocks A A jointed and united, as shown, with the

binding-rods D, in combination with the rings L, with their extension *m*, to prevent the rods from spreading and to secure and steady the chimney, substantially as herein described.

3. The passages G G', united in pairs, and provided with bonnets H J, for the purpose of providing a cooling circulation by up and down draft and drying purposes, substantially as herein described.

JEREMIAH BROWELL.

Witnesses:

GEO. H. STRONG,
JOHN L. BOONE.