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J. DAUBEN & F. M. RYAN.

FIREPROOF CHIMNEY.

APPLICATION FILED DEC. 2, 1905.

Fig. 1.

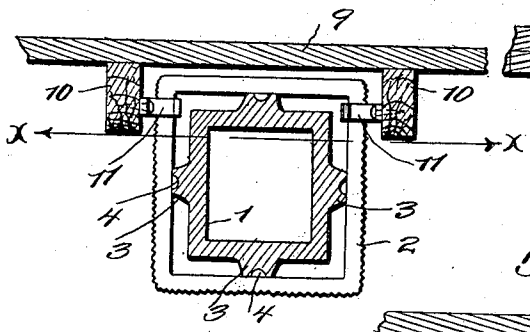



Fig. 3.

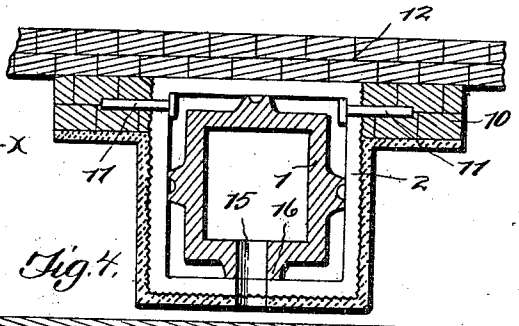



Fig. 4.

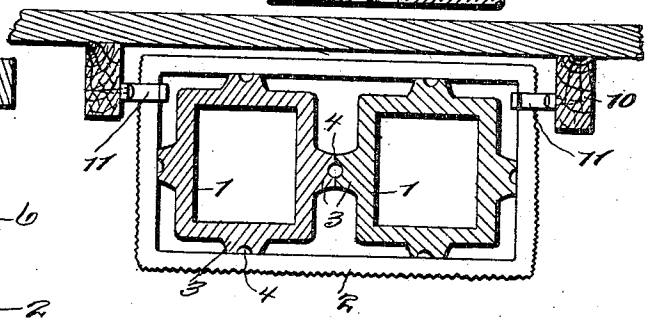



Fig. 2.

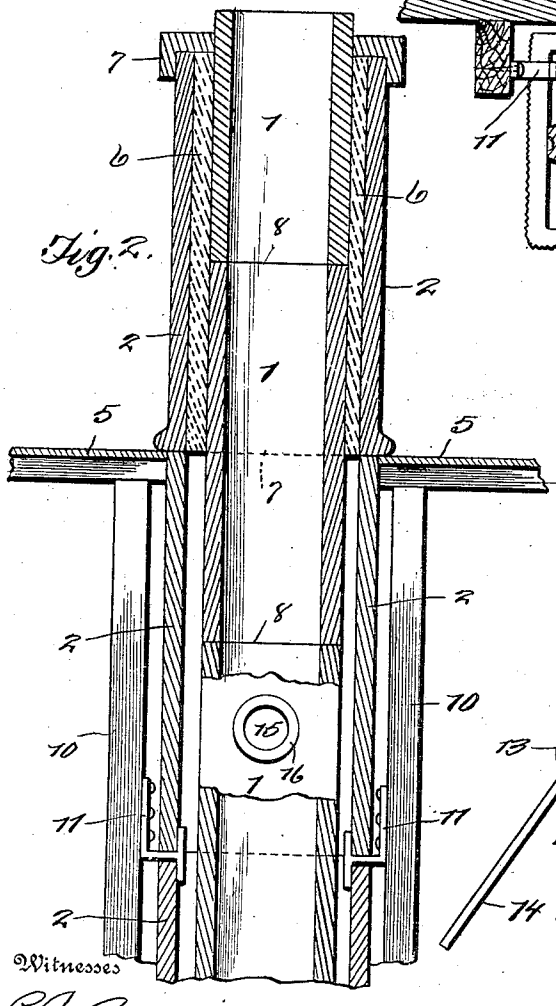



Fig. 5.

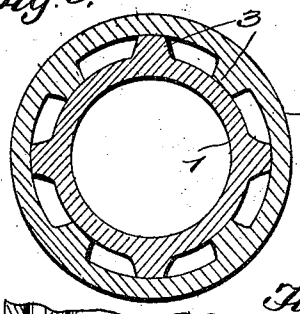
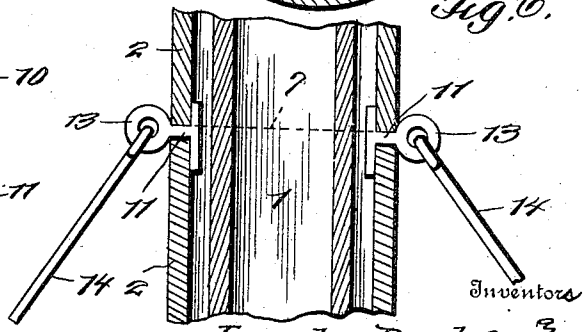



Fig. 6.




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# UNITED STATES PATENT OFFICE.

JOSEPH DAUBEN AND FRANK MICHAEL RYAN, OF COLUMBUS, OHIO.

## FIREPROOF CHIMNEY.

No. 843,797. Specification of Letters Patent. Patented Feb. 12, 1907.

Application filed December 2, 1905. Serial No. 290,038.

*To all whom it may concern:*

Be it known that we, JOSEPH DAUBEN and FRANK M. RYAN, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented new and useful Improvements in Fireproof Chimneys, of which the following is a specification.

This invention relates to certain new and useful improvements in fireproof chimneys, of which the following is a full, clear, and exact description.

This invention provides a chimney which is formed of a plurality of interlocking sections, each section being formed of burnt clay, commonly termed "fire-clay."

Another object of this invention is the provision of a chimney having double walls, furnishing an air-space between the interlocking sections below the roof-line and a space to be filled with cement above the roof-line, whereby a substantially integral structure is formed, as stated, above the roof.

By this invention a chimney is produced which may be set into a brick wall or between the studding of a building and anchored by novel means to be hereinafter more fully set forth.

Besides being comparatively simple and inexpensive in its manufacture this chimney is highly efficient it its purpose and easy to erect.

Reference will be had to the accompanying drawings, forming a part of this specification, and in which like numerals of reference designate corresponding parts throughout the several views, in which—

Figure 1 is a horizontal section; Fig. 2, a vertical section taken on line $x$ $x$ of Fig. 1. Fig. 3 is also a horizontal section showing the chimney set into a brick wall and also illustrating the means for attaching the stove-pipe. Fig. 4 is a horizontal section of a compound chimney. Fig. 5 is a horizontal section of a circular construction, such as employed in stacks; and Fig. 6 is a vertical section thereof, showing its bracing means.

This chimney comprises inner and outer sections, the former being made up of tile-sections 1 and the latter being made up of tile-sections 2. The outer tile-sections are grooved exteriorly, so that a plaster coating will find a firm hold thereon if found necessary to apply.

The inner sections are formed with ribs 3, extending lengthwise thereof, preferably at diametrically opposite points on the exterior of such tile-sections. In the single-flue construction these ribs bear throughout their length against the inner face of the outer tile-sections and may be formed with longitudinal grooves 4, which, if desired, may be filled with some form of fireproof cement to form a bond between the inner and outer tile-sections. The adoption of these ribs other than establishing a union between the inner and outer tile-sections provides a space therebetween, which up to the roof-line 5 serves as an air-space and thereabove may be filled with cement 6. As formerly stated, plaster may be applied to the outer face of the outer section, as shown in Fig. 3, and this air-space serves to cool such outer section, the inner section absorbing the heat, of which but little is transmitted to the outer section by the said ribs 3 owing to their limited contact. By filling the space above the roof-line with cement 6, as stated, a substantially integral body is formed of the two sections. The top tile-section of the inner chimney-section will project above the outer chimney-section, and when a cap 7 is arranged thereon the chimney above the roof is given a pleasing appearance.

In Fig. 4 is shown a plural arrangement of inner flue-sections within a single outer section. This form is substantially the same as in the single construction, except that the adjacent ribs of the two inner sections abut, and, as in the single construction, the grooves may be filled with a suitable cement.

In Fig. 5, showing the stack construction, both the inner and outer chimney tile-sections are formed with ribs 3, which interfit, but leave the desired space between the sections.

In all of the forms the joints 7 between the outer tile-sections alternate with those, 8, of the inner sections, thus materially aiding in forming a rigid union between the inner and outer chimney-sections.

It will readily be seen from the foregoing that a chimney is produced which may be attached to a wall without the usual monopoly of space by any brick construction, as in the common practice, and, furthermore, a more sightly appearance is presented. In Fig. 1 the chimney is attached to a wall or partition 9 by being placed between studding 10 and there secured by means to be hereinafter described. In Fig. 3 the chimney is shown set into a brick wall. Between the outer tile-sections 2 2 headed ties 11 are placed, the

heads thereof residing in the air-space aforementioned and the ends projecting exteriorly from the outer section. These ends may be bent upwardly and secured to the studding 10 to hold the chimney in position or may be inserted between the bricks of the wall 12, as clearly shown in Figs. 1 and 3, respectively. In Fig. 6 these projecting ends are formed into eyes 13, to which the stack-stays 14 are secured.

The stove-pipe or other pipe connection with the chimney is accomplished through an opening 15, formed to register in the two chimney-sections. The inner section is formed with a boss 16, which abuts the outer section, preventing smoke from entering the air-space.

Of course it will be understood that it is not the intention to limit the invention to the details of construction, as various changes may be made therein wholly within the scope of the claim.

Having fully described the invention, what is claimed as new and useful, and desired to be secured by Letters Patent, is—

A fireproof chimney comprising inner and outer fire-clay flues each formed of sections and the joints of the outer flue-sections alternating with those of the inner flue-sections, the inner sections being formed with integral vertical ribs engaging the inner faces of and lapping the joints of the outer sections thereby spacing apart the inner and outer flue-sections to form an air-space therebetween, the upper edges of some of the outer flue-sections being formed with notches, headed stays seated in said notches with their heads in said air-space and their opposite ends suitably anchored, the inner and outer flue-sections being formed with registering openings, the inner flue-section being formed with an integral boss encircling the opening therein and engaging the inner face of the outer flue-section about its opening to establish communication between the openings, and said space between the inner and outer flues being completely filled above the roof-line with cement forming a substantially integral mass.

In testimony whereof we affix our signatures in presence of two subscribing witnesses.

JOSEPH DAUBEN.
FRANK MICHAEL RYAN.

Witnesses:
THOS. CLIFTON,
T. F. BUSHEY.