(No Model.) 2 Sheets—Sheet 1.

J. GRAVES.

SHEET METAL MANTEL.

No. 524,714. Patented Aug. 21, 1894.

Fig. 1.

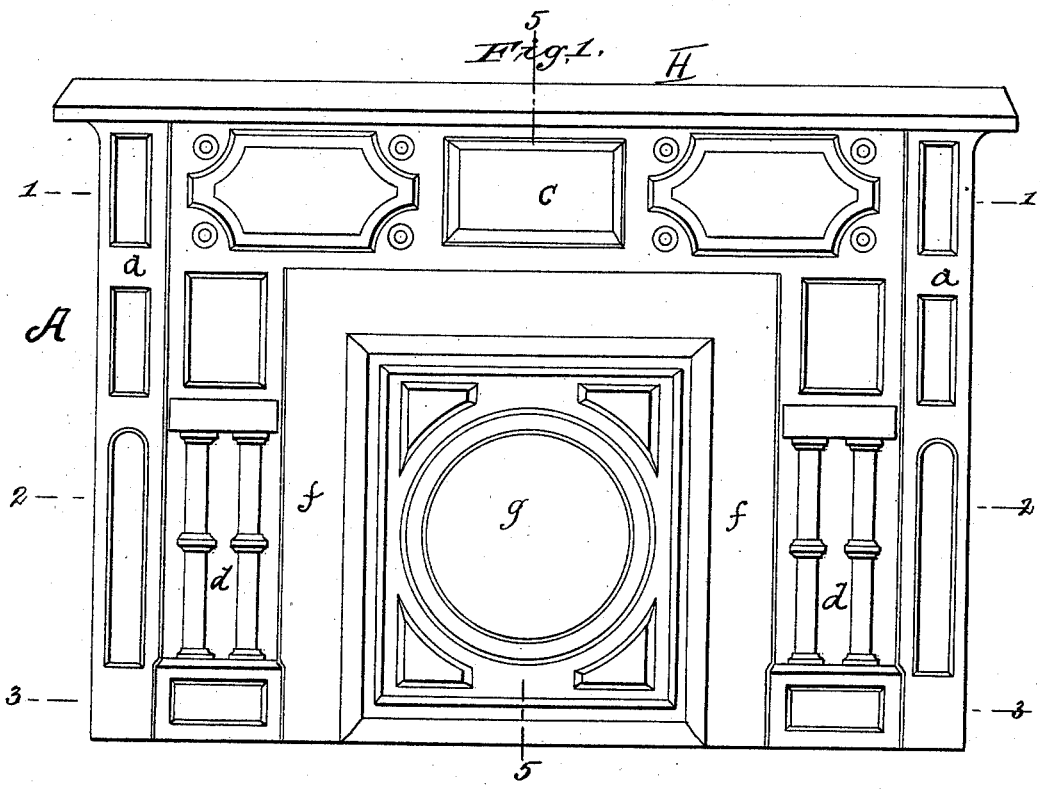


Fig. 2.

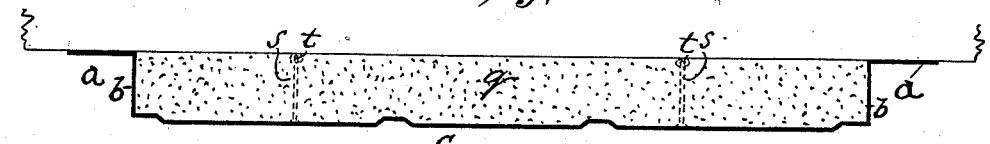


Fig. 3.

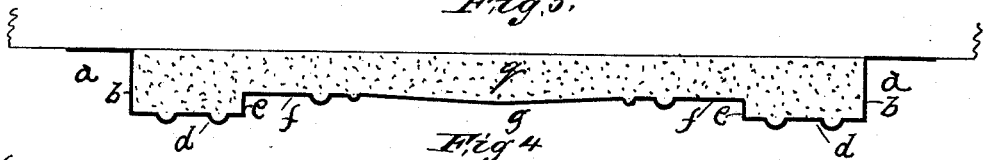
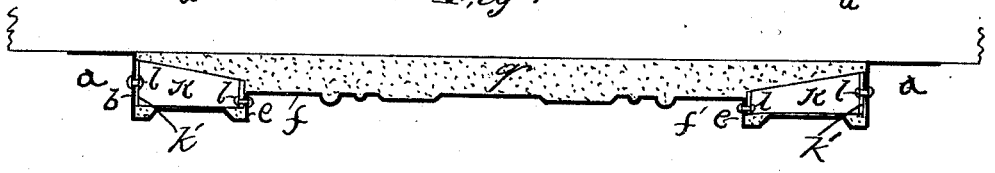


Fig. 4



Attest:
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(No Model.) 2 Sheets—Sheet 2.

J. GRAVES.

SHEET METAL MANTEL.

No. 524,714. Patented Aug. 21, 1894.

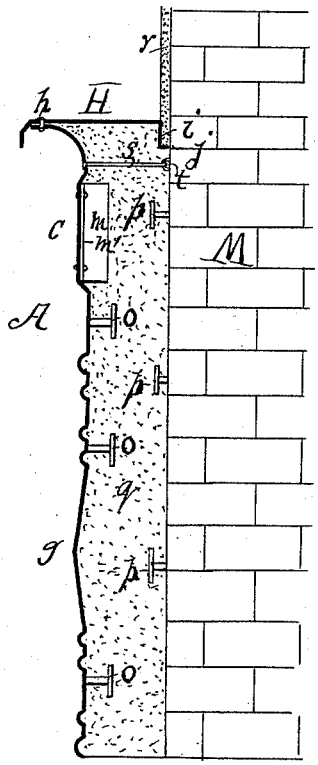

Fig. 5.

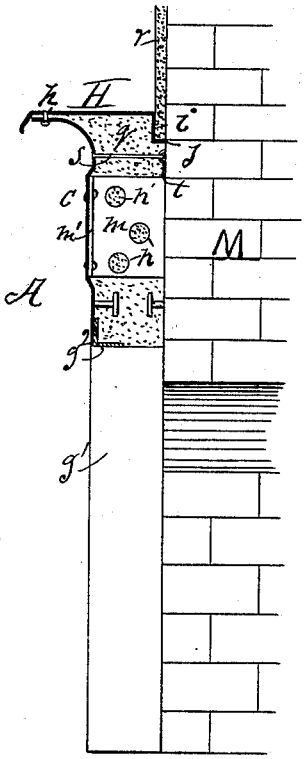

Fig. 6.

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UNITED STATES PATENT OFFICE.

JOHN GRAVES, OF BROOKLYN, NEW YORK, ASSIGNOR OF TWO-THIRDS TO GEORGE DEMETZ AND LOUIS MONJO, OF SAME PLACE.

SHEET-METAL MANTEL.

SPECIFICATION forming part of Letters Patent No. 524,714, dated August 21, 1894.

Application filed May 29, 1893. Serial No. 475,839. (No model.)

To all whom it may concern:

Be it known that I, JOHN GRAVES, a citizen of the United States, and a resident of Brooklyn, in the county of Kings, State of New York, have invented a certain new and useful Improvement in Sheet-Metal Mantels, of which the following is a specification.

My invention relates to improvements in sheet metal mantels, and it is the purpose of the invention to provide a mantel that has the frieze, pilasters, wall-plates, profiles, face-plates and all other parts of the mantel, excepting the shelf, formed of one single integral piece of sheet metal. In this manner of construction all joints are dispensed with, and a much cheaper and more elegant mode of construction is attained.

When sheet-metal mantels are made in several pieces which are united at the edges by bolts, rivets, or other fastenings, and the mantel is exposed to considerable changes of temperature, as when a grate fire is used, or when the flue of a Baltimore heater terminates in the summer piece of the mantel, the expansion and contraction of the different parts of the mantel cause the one part of the joint to work on the other, thereby rubbing off the japan or other finish of the metal, destroying the harmony of the lines of the ornamentation and plainly disclosing the joint.

It is, therefore, the first object of this invention to overcome these difficulties by the production of a jointless mantel.

The invention also relates to the devices for strengthening the mantels, for attaching them to the walls, and to the means for rendering them non-resonant.

Referring to the drawings which accompany the specification to aid the description, Figure 1 is an elevation of the face of the mantel. Figs. 2, 3 and 4 are respectively sections taken at the lines 1—1, 2—2, 3—3 of Fig. 1. Fig. 5 is a vertical section on the line 5—5 of Fig. 1, and shows the manner of attaching the shelf to the frieze and the mantel to the wall. Fig. 6 is a vertical section of a mantel arranged without a summer piece, and for an open fire, or Baltimore heater.

The mantel A is stamped out of a single piece of any suitable metal, preferably sheet steel, the dies which are of the usual description being so shaped that the mantel is provided with the wall plates *a*, *a*, profiles *b*, *b*, frieze *c*, pilasters *d*, *d*, returns *e*, *e*, facings *f*, *f*, and summer piece *g*, or any other suitable architectural and ornamental divisions.

The shelf H is preferably formed separately, and is secured to the mantel by bolts or rivets *h*, headed in countersunk holes. Said shelf H is also preferably provided with a drop *i* and tongue *j*, which latter is adapted to bear against the brick wall M.

Before the mantel is set up and usually before it is shipped from the factory it is braced by brackets *k k* which are struck out of sheet metal with flanges *k' k'*, and shaped to fit in the spaces behind the base blocks and capitals of the pilasters *d* and between the profiles *b* and returns *e*. The said brackets *k k* are fastened in place by copper rivets *l*, headed into countersunk holes in the said profiles and returns. It will be understood that there may be as many of said brackets *k* as are necessary and they may be placed in other suitable positions than those mentioned. Also, I may further stiffen the mantels by means of vertical braces *m* shaped to the inner contour of the mantel, provided with flanges *m'*, and secured to the mantel by copper rivets, as before explained, and these braces may be of such a width, if desired, as to bear against the wall when the mantel is set up. Also, I prefer to provide holes *n* in said braces in order that when the mantel is filled with composition, as will be hereinafter described, the composition will run through the holes *n*, properly fill all desired parts of the mantel, and when hard hold the braces firmly in position. Also, I may fasten buttons *o*, *o* on the inner face of the mantel and put screws *p*, *p* into the wall M. Then, when the composition is hardened, these buttons and screws will co-operate to tie the mantel firmly to the wall.

The mantel is set up in the following manner: First, the wall plates *a*, *a* are nailed or otherwise fastened to the wall M, the plaster not yet being on the wall. Next, I may fasten hooks S from the mantel to eyes *t* in the wall. Next, the space between the mantel and the wall M is filled with any suitable composition *q* of cement, or plaster, sand and water, in a sufficiently fluid condition to flow

through the holes *o* in the braces *n*, and finally the shelf H is put on and bolted to the mantel as shown. When the finishing plaster coat *r* is put on the wall, it over-laps the edge of the shelf and holds the same firmly in position.

In case the mantel is to be used with an open grate fire it is formed with an opening g' in the place of the summer piece, (see Fig. 6) and in this case, a flange g^2 is turned in around the sides and top of the opening, or an angle iron put around, as shown. A frame, not shown, will be placed inside to close the space between the mantel and the wall M at the top and sides of said opening g', and the cement composition being poured in between the mantel and the wall will be prevented by the frame from running into the said opening. When the cement is hardened, the frame will be removed, or it may be left if desired.

Now, having described my improvements, I claim as my invention—

1. A sheet metal mantel formed with the wall-plates, profiles, frieze, pilasters, returns and facings in a single integral piece of sheet metal, and having braces on the inside of the mantel which are conformed to the inner surface thereof, substantially as described.

2. The combination of a sheet metal mantel adapted to be fixed to a wall, and having its architectural divisions formed of one integral piece of metal without joints, keys on the wall and corresponding keys on the inner face of the mantel, and a filling of cement between the mantel and the wall, into which said keys enter and which forms a bond to tie the mantel to the wall, substantially as described.

3. The combination with a sheet metal mantel that is adapted to be fixed to a wall and is formed of one integral piece of sheet metal without joints, of brackets K arranged at the angle of the profiles, pilasters and returns, braces N adapted to stiffen the frieze and conformed to the inner surface thereof, keys on the wall and inner surface of the mantel, and a filling of cement which engages on the keys and ties the mantel to the wall, substantially as described.

4. The combination with a sheet metal mantel that is adapted to be fixed to a wall, of braces fixed on the inner surface of the mantel and having perforations adapted to permit of the flowing of a cement composition which is filled in between the mantel and the wall, and also to tie into the composition when the same is hardened, substantially as described.

5. The combination with a sheet metal mantel, of perforated braces, and a cement composition between the mantel and the wall, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 18th day of May, 1893.

JOHN GRAVES.

Witnesses:
DAVID WALTER BROWN,
D. T. WALDEN.