S. J. GOLD.

Founders' Patterns.

No. 163,010. Patented May 11, 1875.

Fig. 1.

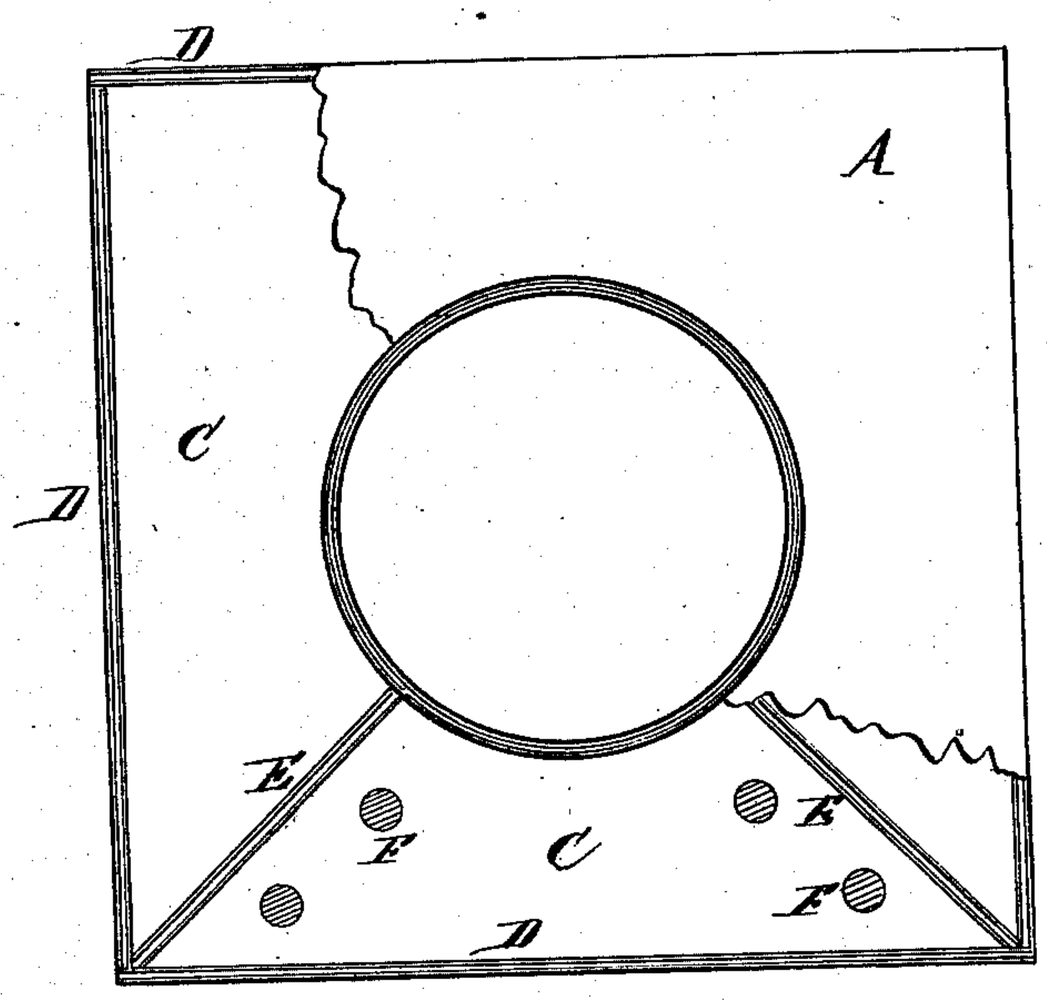


Fig. 2.

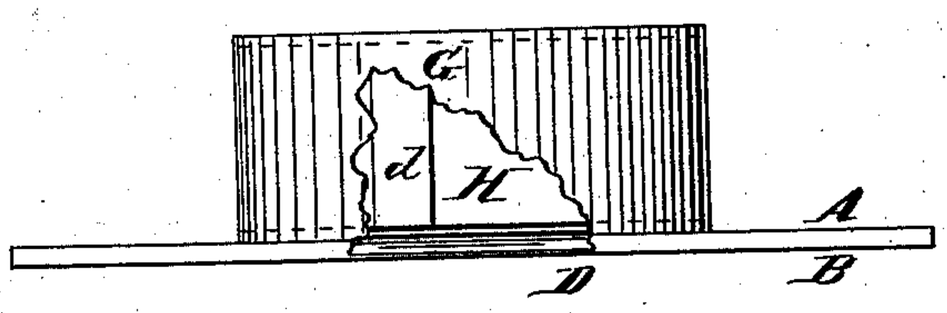
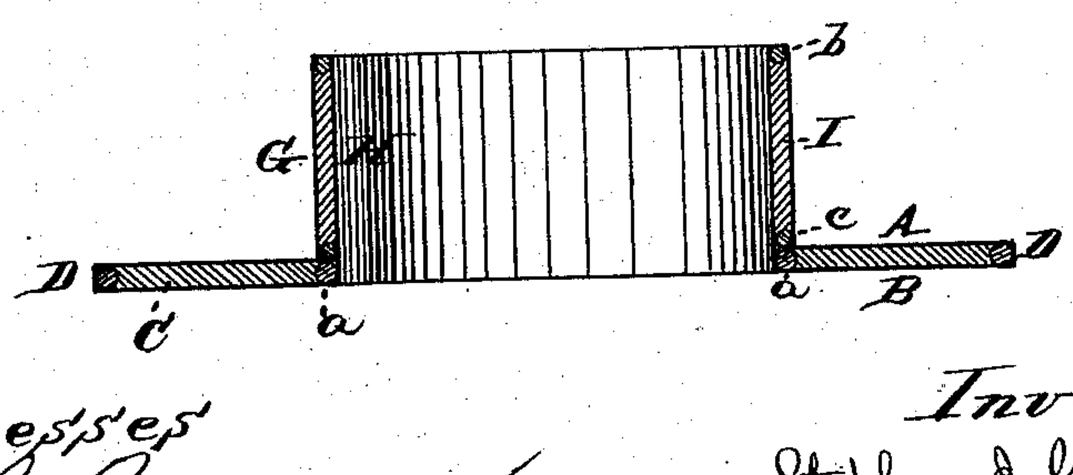


Fig. 3.



Witnesses
W. L. Bennett
W. H. Isaacs.

Inventor
Stephen J. Gold
By Thos. D. Cowl
atty

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE

STEPHEN J. GOLD, OF CORNWALL, CONNECTICUT.

IMPROVEMENT IN FOUNDERS' PATTERNS.

Specification forming part of Letters Patent No. **163,010**, dated May 11, 1875; application filed March 8, 1875.

To all whom it may concern:

Be it known that I, STEPHEN J. GOLD, of Cornwall, in the county of Litchfield and State of Connecticut, have invented certain Improvements in Founders' Patterns, of which the following is a specification:

This invention relates chiefly to patterns for making castings which are designed to be wholly, or in a considerable portion thereof, of a uniform thickness, and is particularly adapted to the construction of patterns for casting stoves, furnaces, kettles, and other articles where a uniform thickness in the casting is required, and where the ordinary mode of construction would involve considerable expense. In such cases, and in some others involving conditions already mentioned, this invention is designed to supersede both the wood and metal patterns usually employed, and to furnish, at a cheap rate, patterns adapted to be continuously used by the founder in the same way that metal patterns are used.

The leading feature of this invention consists in forming the outer surface of the pattern of sheet metal, sustained by suitable filling, substantially as hereinafter described.

Another part of the said invention consists in the insertion of wire or its equivalent in such pattern to give it additional strength and firmness, as hereinafter described.

Another part of the said invention consists in connecting the sheet-metal plates of the pattern by rivets or solder, or equivalent means, substantially as hereinafter described, whereby they are prevented from springing away from each other.

Figure 1 is a plan of a pattern constructed according to my invention, the upper plate being partially removed to show the internal construction. Fig. 2 is a side elevation of the same pattern, a portion of the outside plates and filling being removed to show internal parts. Fig. 3 is a vertical central section of the same pattern.

In the form of patterns shown in the drawings the upper and under sides of the flat portion are made of flat plates of sheet metal A and B, preferably tin plate, inclosing a filling, C, of proper thickness to form with the plates A and B the proper thickness of pattern required.

I prefer to make the filling C of junk-board, which I find, on experiment, to possess the necessary qualities.

To close the edges of the pattern, attach the plates A and B to each other, and secure the filling C in place, I insert pieces of wire D between the plates at the edges, as shown, and solder them strongly and firmly to both of the plates A and B, and fill in the space between the edges of the plates and the wire with solder, so as to form an even and proper edge for the pattern, as shown.

Other wires, E E, may be inserted in the pattern between the plates where additional strength is necessary, and soldered or not to the plates A and B through holes in the plates. The plates A and B may also be prevented at any point from spreading apart by rivets or solder connecting the one to the other, as shown at F F. The flat portion of the pattern is also represented in the drawings as being further strengthened by a wire, *a*, surrounding the aperture which is cut through it to open communication with the cylindrical portion of the pattern. The cylindrical portion of the pattern is made in a manner similar to that described for the flat portion, the outer and inner sides being made of plates of tin G and H, or other sheet metal, with a filling, I, of junk-board or other appropriate material, and strengthened by wires *b* and *c*, as shown, and filled in and secured with solder, as described in relation to the flat portion of the pattern.

To secure a smooth and uniform surface, the plates G and H are joined edge to edge, and, to give strength to the joint, a strip or scrap of tin is soldered across that side of the joint which is inside of the pattern, as shown at *d* in Fig. 2. This mode of joining should be observed wherever two plates of the pattern meet in the same plane.

Whenever it is necessary to form narrow tapering ledges upon the casting to receive other plates, as is commonly the case with reference to stove and furnace plates, these can be readily formed upon the pattern by folding a strip of tin into the form of the ledge required, and soldering it to the main plate in the proper form and position; or any other mode of forming or attaching such or other projections that may be preferred may be used.

Patterns made in the manner described are found to possess the requisite stiffness and other qualities necessary to fit them for use in the place of metal patterns, and can be made at a trifling cost compared with that of the construction of even wooden patterns, for most of the purposes to which this construction is adapted. This construction also insures a uniform thickness in the different parts of the pattern, which is very desirable and even essential in patterns for stoves, furnaces, hollow-ware, and like castings. It also gives a smoother and more satisfactory surface than is easily attainable in either wood or metal patterns, as usually constructed for the same work. These patterns are also light and easy to handle.

I claim as my invention—

1. A founder's pattern, the principal surfaces of which are made of sheet metal and combined with an inner filling, substantially as hereinbefore set forth.

2. A founder's pattern, embodying the combination with the sheet-metal shell or sides, and a filling between them, of strengthening-pieces inserted between the edges or other portions of the outside plates, substantially as hereinbefore set forth.

3. The combination, with the said outside plates and filling above described, of the connections F, connecting the outside plates to each other, substantially as hereinbefore set forth.

STEPHEN J. GOLD.

Witnesses:

THOS. P. HOW,

EDWIN M. DONNELLY.