

M. H. FOWLER.
Fire-Proof Mansard Roofs.

No. 148,944.

Patented March 24, 1874.

Fig. 1.

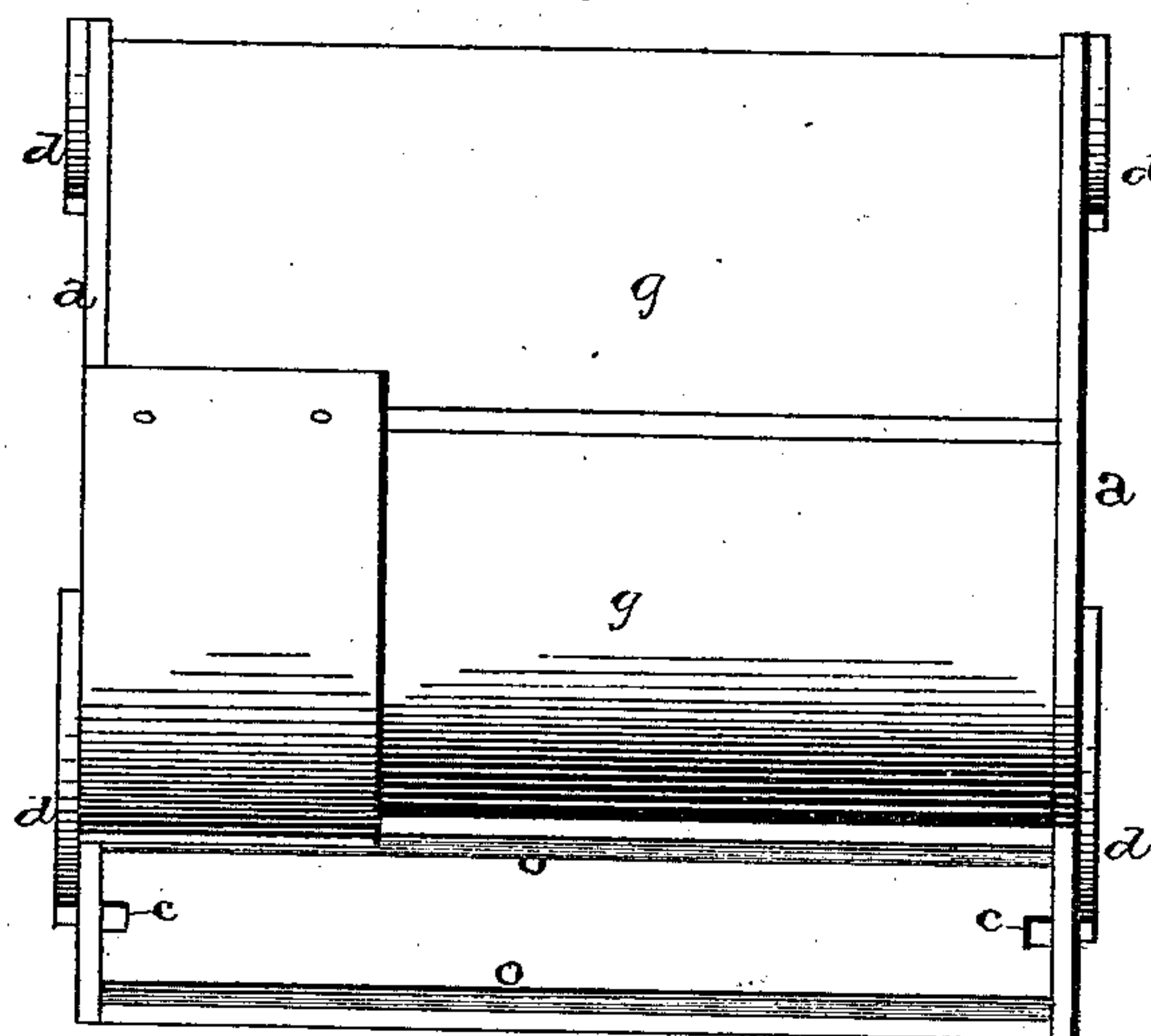


Fig. 2.

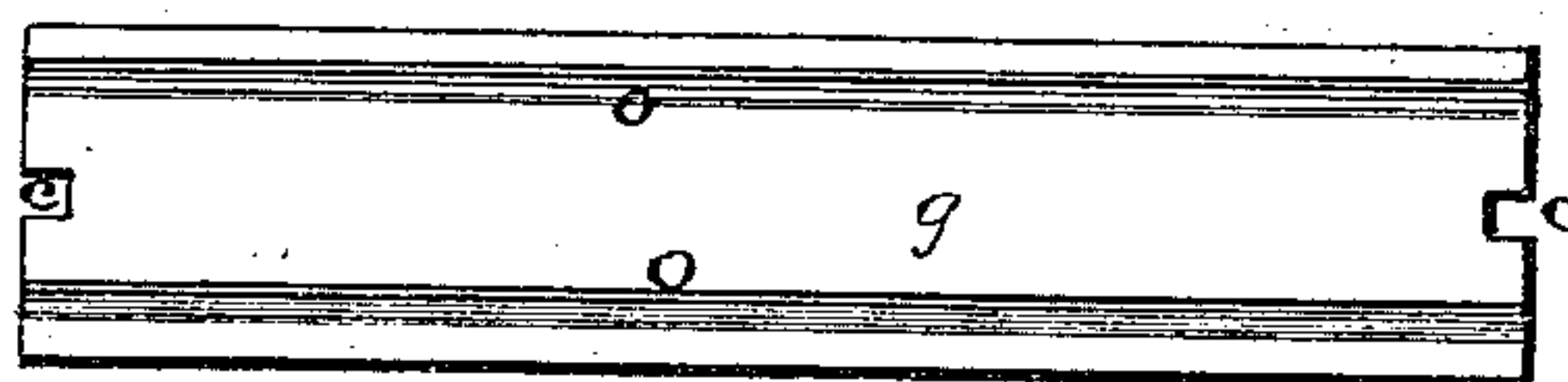
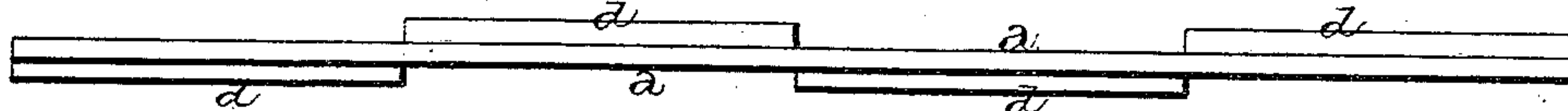


Fig. 3.



WITNESSES.

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MINARD H. FOWLER, OF NEW YORK, N. Y.

IMPROVEMENT IN FIRE-PROOF MANSARD ROOFS.

Specification forming part of Letters Patent No. 148,944, dated March 24, 1874; application filed February 24, 1874.

To all whom it may concern:

Be it known that I, MINARD H. FOWLER, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Mansard Roofs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

The nature of my invention relates to an improvement in mansard roofs; and it consists, first, in cast-iron rafters or beams which have alternate flanges on each side, upon which flanges the blocks of hollow tile are supported in position; second, grooves formed in the sides of the hollow tiles, so as to receive the mortar or cement, and prevent it from being forced out when the nails which hold the slate in position are driven in.

The accompanying drawings represent my invention.

a represent iron beams, of uniform thickness, which extend parallel up the side of the roof. At or near the center of each beam, on each side, are formed alternate flanges, of suitable length and thickness, placed in such relation to each other that one flange on one side stops just at that point where another flange on the other side begins. In the end of each tile *g*, which are of the same thickness as the beams, is formed a slot, *c*, into which the flanges *d* on the sides of the beams fit, so as to support the tiles in position. Between the ends of the flanges, on each side, there is left a space of just such a length that the tile can be lowered down between them, and then pushed into its proper place, cement having first been placed

along upon the sides of the beams, so as to make a tight joint. In between the tiles is placed a layer of mortar or cement, which not only binds the tiles together, but into which the nails for holding the slate in position are driven. Where the mortar or cement is placed in between the tiles without any other means of holding it in position, when the nails are driven in the mortar becomes cracked and broken, and the slate is held very loosely in place. In order to obviate this, a groove, *o*, is formed in both sides, near each edge, into which the mortar or cement settles, and not only helps to bind the two tiles together, but prevents the mortar from being cracked or shaken loose.

By means of the alternate flanges on the sides of the beams, the beams can be made of thin cast-iron without the danger of the beams warping, bending, or breaking, very light, and at a much less price than if the beams were made of wrought-iron.

Having thus described my invention, I claim—

1. The beam *a*, having alternate flanges upon each side, substantially as set forth.

2. The hollow tiles *g*, having the grooves *o* formed in their upper and lower edges, so as to prevent the mortar from being forced out or broken when the nails which hold the slate in position are driven in, substantially as shown.

In testimony that I claim the foregoing I have hereunto set my hand this 24th day of February, 1874.

MINARD H. FOWLER.

Witnesses:

F. A. LEHMANN,
W. W. J. MURPHY.