JOHN M. CORNELL.

(4.)

Improvement in Iron Buildings.

No. 122,709. Patented Jan. 16, 1872.

Fig 1

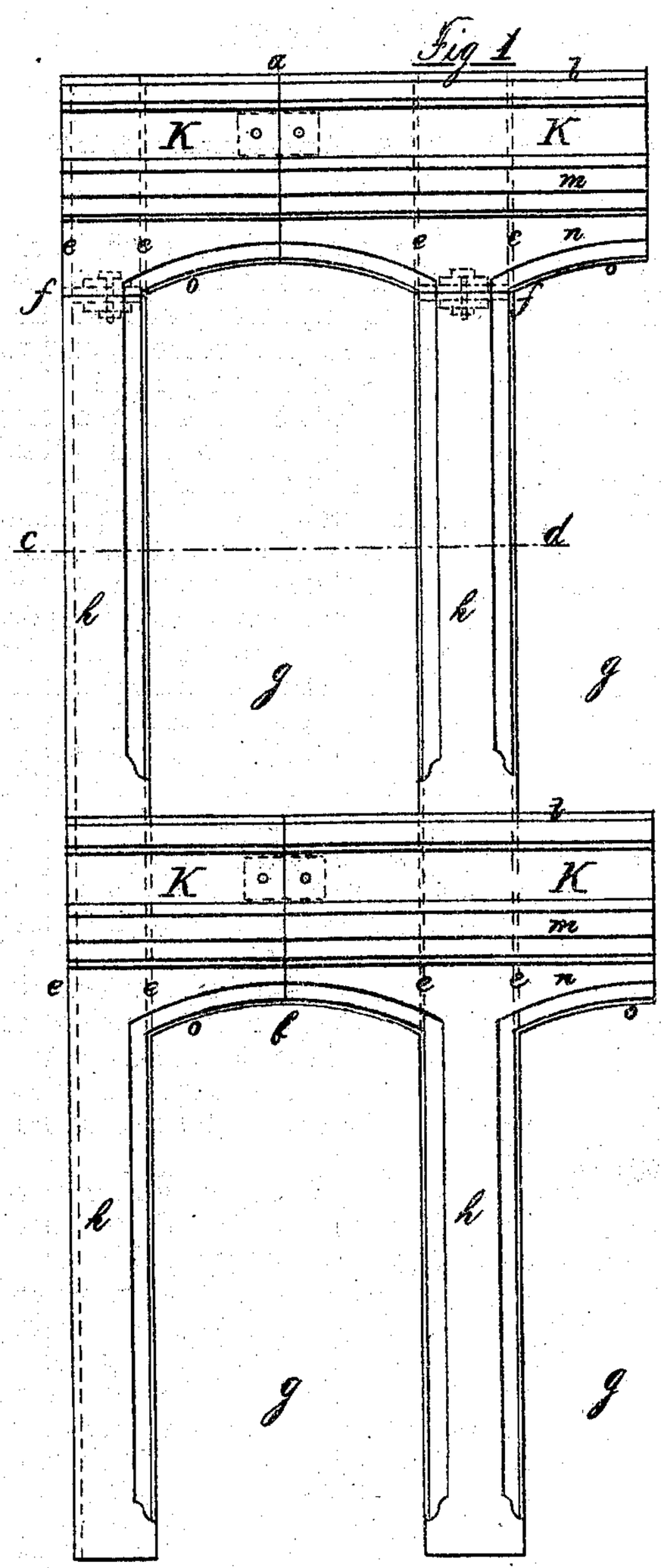


Fig 2

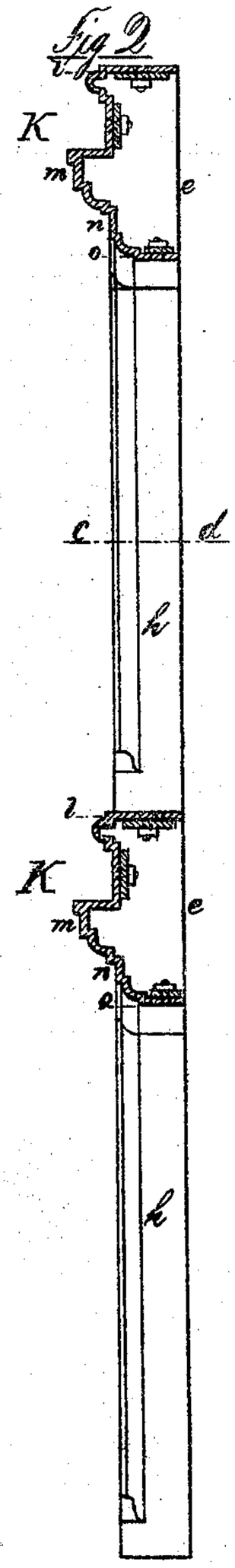
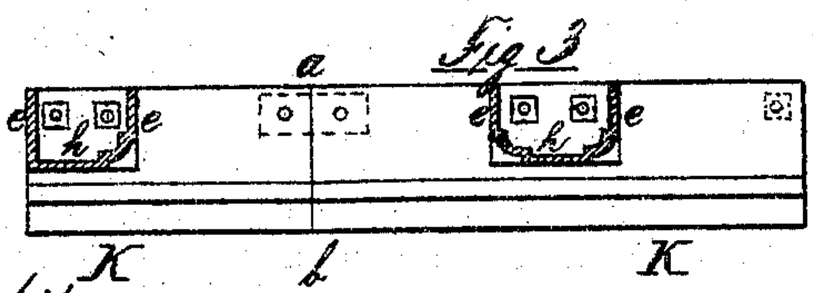


Fig 3



Witnesses;
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122,709

UNITED STATES PATENT OFFICE.

JOHN M. CORNELL, OF NEW YORK, N. Y.

IMPROVEMENT IN IRON BUILDINGS.

Specification forming part of Letters Patent No. 122,709, dated January 16, 1872.

To all whom it may concern:

Know ye that I, JOHN M. CORNELL, of the city and county of New York and State of New York, have invented certain new and useful Improvements in the art of Constructing Iron Buildings; and I do declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawing making part of this specification, in which—

Figure 1 represents a front elevation; Fig. 2, a sectional side elevation through *a b;* and Fig. 3, a sectional plan through *c d.*

The object of my invention is to lessen the cost of iron buildings, which I achieve by combining the various members in a peculiar manner never before accomplished.

The drawing represents one and a half window spaces in breadth, and two stories in height, this being sufficient to illustrate clearly my invention.

g g g g are the window spaces; *h h h h*, pilasters; and K K K K, the facing.

Like letters refer to like parts in all the figures.

To enable others skilled in the art to which my invention appertains to make and use the same, I will proceed to describe its nature and construction.

Iron buildings, like those of wood, have always had what may be termed their frame-work distinct from their facing, the one forming the strength of the structure, and the other completing the inclosure and furnishing the ornamentation. The facing is composed of the sill *l*, the cornice *m*, the fascia *n*, and the soffit *o*. These parts have always been cast separately and afterward fitted together.

Now, I cast them all in one piece, and furthermore combine them in one casting with the pilasters, so that I avoid the highly-objectionable feature of numerous joints, through which water may leak and rust the building below, and the great labor and expense of fitting so many parts together, and I obtain the desideratum of causing this facing, which heretofore has been a part of the load only, to form part of the strength of the frame-work.

The advantages arising from these combinations are very decided. Those of combining the facing into one casting instead of four result in requiring a less weight of metal, less labor on the part of the molder, less labor of fitting in the workshop and at the site of the building where it is erected, and the very important one of having none of those joints which permit the water to percolate through them and carry the iron-rust streaking down the front of the building below. Those of uniting the facing with the pilasters give the advantages of less weight of metal, because the metal of the facing forms part of the frame-work, and furnishes its due proportion of the strength of the structure, while heretofore it has been altogether a load to be carried. There is less labor of the molder in the foundry, and of the machinist in the workshop fitting the parts, and at the site of the building putting them together where it is erected. All these advantages tend to decrease the cost of this desirable class of buildings without detracting in the slightest from either their strength or their beauty.

The forms of the fronts of the pilasters may be in accordance with any designs of the architect; but I prefer to make them open in the inside, as shown in Fig. 3, so that they may be drawn from the sand and avoid the necessity of cores.

To accomplish my invention it is necessary that the jambs *e e e e*, &c., of the pilasters are essentially continuous right up from bottom to top, and cast with the facing where the latter occurs. An examination of the Figs. 1 and 2 will exhibit this feature, they being shown by dotted lines in Fig. 1. The entire pilaster may be cast with the facing, as shown in the lower story of the drawing, or only that part of them which is behind it, as shown in the upper story, the visible pilaster being in such case cast by itself and bolted to that which is back of the facing, as shown in Fig. 1.

A portion of the advantages of my invention may be obtained by casting, as described, the facing composed of the sill, cornice, fascia, and soffit in one piece, but separate from the pilaster to which it may be bolted; but, to secure all the advantages, this should be in one casting with the pilaster, or at least with that part of the pilaster which is within the facing.

It will be observed that the left-hand pilasters of Fig. 1 are for the corner or end of a

building, and that those on the right hand are intermediate ones, which may be repeated as often as there are to be windows less one, when the other side is to be completed at the other corner or end by the addition of a reversion of the left-hand pilasters shown.

Claim.

In the art of constructing iron buildings, the essential members of the facing cast together and to and with the frame-work, in such manner as to form part of it, substantially as described.

JOHN M. CORNELL.

Witnesses:
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