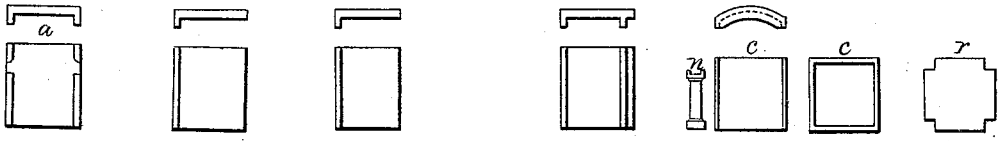
E. C. Woodman.

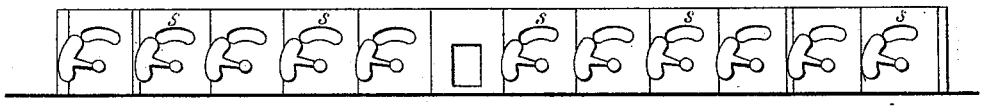
Iron Structure.

No. 2,928. Patented Jan. 27, 1843.

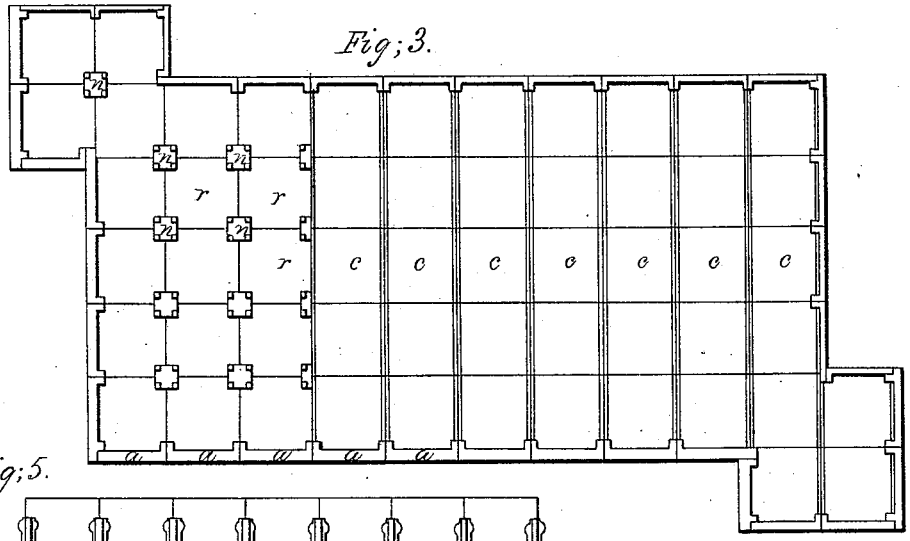
Figs; 1.



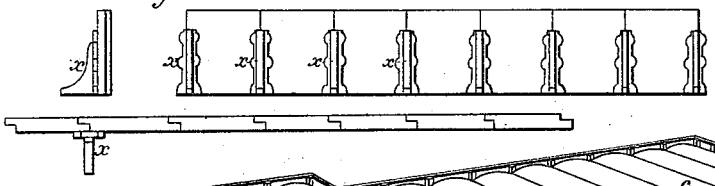
Fig; 2.



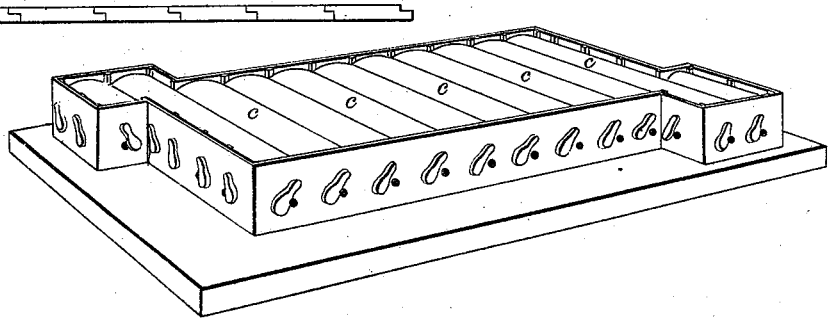
Fig; 3.



Fig; 5.



Fig; 4.



UNITED STATES PATENT OFFICE.

E. G. WOODMAN, OF LOWELL, MASSACHUSETTS.

CONSTRUCTION OF IRON FORTS.

Specification of Letters Patent No. 2,928, dated January 27, 1843.

To all whom it may concern:

Be it known that I, ELBRIDGE G. WOODMAN, of Lowell, in the county of Middlesex and State of Massachusetts, have invented an Improved Method of Constructing Fortifications; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—

Figure 1, are detached sections; Fig. 2, an elevation of a section of the rear of the fort; Fig. 3, a top plan of fort; Fig. 4, perspective view; Fig. 5, another mode of joining the front plates.

The nature of my invention consists in constructing fortifications of cast iron in such a manner as to combine cheapness, durability, and facility of erection, together with much greater convenience in their inteior arrangement than those of the ordinary construction. The fronts of my forts are composed of rectangular flat plates (*a*) of about one foot in thickness; each of the sides of which are rabbeted or have a flange cast on them; the top and bottom edge of these plates are planed straight; they are pierced in their center with an embrasure, which, in consequence of the plate forming the front walls being so thin, need not be as large as those made in stone-forts. The front plates are set up with the rabbets, overlapping each other; and they are secured by pilasters on the inside, which are firmly fixed to the floor. The roof of the fort is composed of arched plates (*c*), cast in sections, each side of which is about the length of the width of the front plates: these roof segments (*c*) are supported on pillars of iron, on each corner of the abacus of which, square studs project up, which hook into the flange surrounding the arch plates at the corner and bind them together. There are as many rows of these segments as it is desirable to have the parapet thick. If it is thought desirable to have the floor of iron, square plates (*r*) can be cast for that purpose. The embrasures are closed by means of a revolving shutter (*m*), having the shaft, to which it is attached pass through, the front plates and a lever (*o*) connected with it on the inside; or when sliding shutters are used, they are worked by means of a lever below.

In setting up this fort, the surface of the ground is prepared properly, and the front plates are set up, the rabbets overlapping each other (see Fig. 5), and bolted to the pilasters (*x*) at the joints; these pilasters having a part projecting back, to sustain them; or, when plates with flanges are used, the flanges of the two adjoining plates are bolted together. The pillars (*n*) are next set up, and the arch plates raised to their places, the front corners resting on the pilasters, (or notches cut in the flanges) and the back corners on the abacus of the pillars, the tops of the arches being below the upper edge of the front plates. The next row of arch plates rest on the first and second row of pillars; and their edges fit closely against those of the first row of plates; all the joints are made perfect by planing the edges, and they are held together by the projections on the corners of the abacus, taking hold of the flanges on the plates; the top is then covered with earth as in stone structures.

What I claim as my invention and desire to secure by Letters Patent is—

The method of making portable cast-iron forts by connecting sectional front plates forming the walls, and the sustaining pillars by means of the sectional roof plates in the manner described.

E. G. WOODMAN.

Witnesses:

HORATIO G. F. CORLISS,

LUKE EASTMAN.