

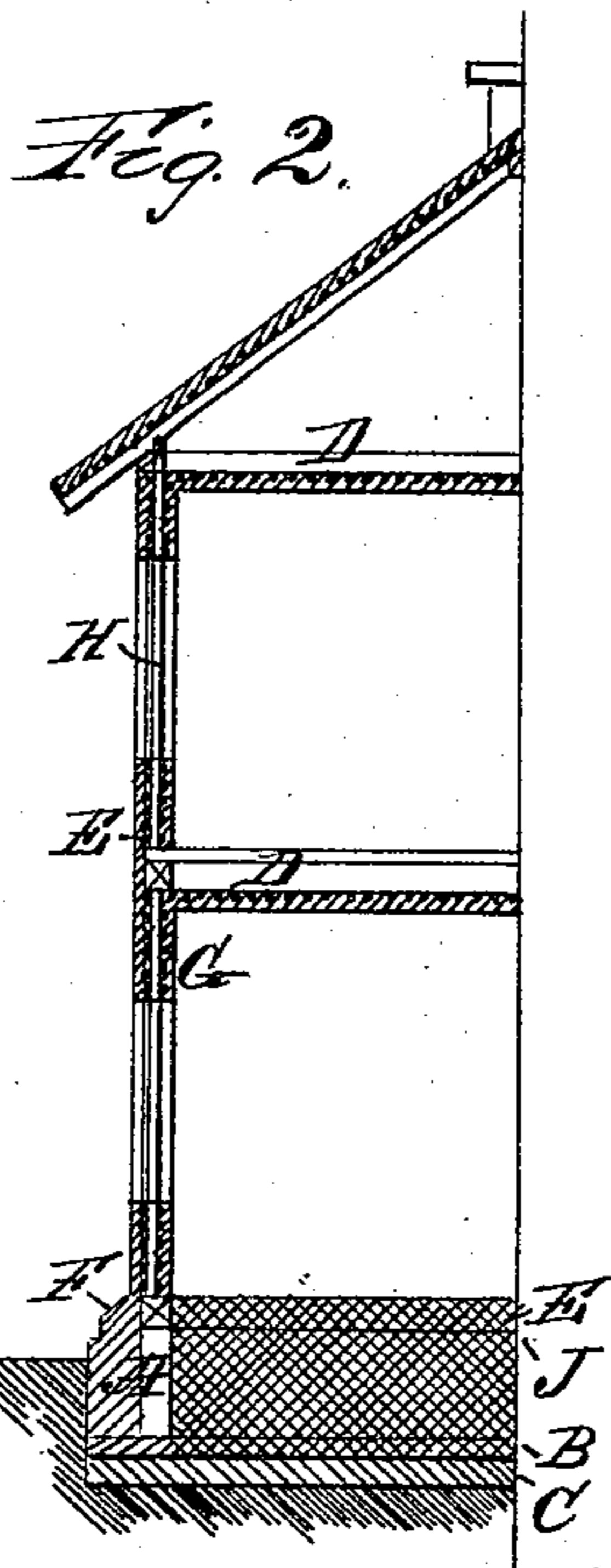
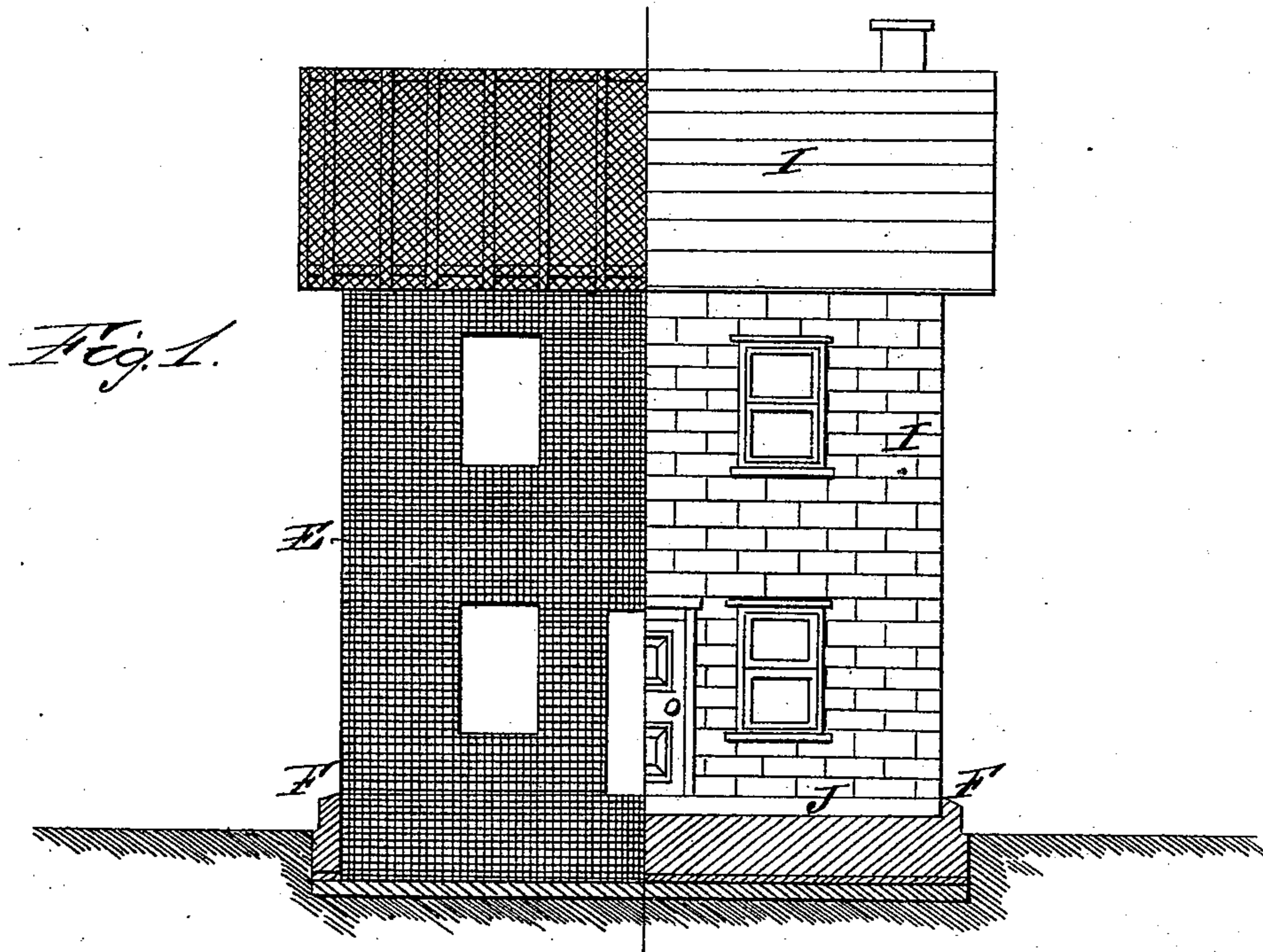
(No Model.)

E. GILBERT.

CONSTRUCTION OF BUILDINGS.

No. 300,861.

Patented June 24, 1884.



Witnesses  
John W. Ripley  
H. L. Pennem.

Inventor.  
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# UNITED STATES PATENT OFFICE.

EDWIN GILBERT, OF GEORGETOWN, CONNECTICUT, ASSIGNOR OF TWO-THIRDS TO HENRY I. HOYT, OF NORWALK, CONNECTICUT, AND SOLOMON J. GORDON, OF SPRINGFIELD, MASSACHUSETTS.

## CONSTRUCTION OF BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 300,861, dated June 24, 1884.

Application filed December 26, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, EDWIN GILBERT, of Georgetown, county of Fairfield, State of Connecticut, have invented a new and useful Improvement in the Construction of Buildings, which is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a front elevation of a building constructed according to my invention, one part showing the wire-cloth on the framing and the other the same covered with cement. Fig. 2 is an end section of the same.

The object of my invention is to provide a structure substantially fire-proof, water-proof, and air-proof, of low cost, little liable to destruction by earthquakes, cyclones, and tornadoes, and in the event of serious damage or destruction by natural forces, not exposing its inmates to the fatal consequences attendant upon the fall of buildings of ordinary construction.

It consists, mainly, in the employment of metallic woven wire-cloth or metallic rods or strips applied to the exterior of a frame of metal or wood and securely fastened thereto by means adapted to the material of the frame and to a foundation constructed as hereinafter described.

In the drawings, A is the corner-post; B, the bottom board; C, the concrete; D, the floor-timber; E, the woven metallic exterior material; F, the water-table; G, the interior woven metallic lining; H, the air-space; I, the finished exterior; J, the sill.

In localities where stone or other suitable material for foundation and cellar walls is not abundant I construct such walls in the following manner: The excavation for the cellar should be from four to six inches larger on all sides than the exterior dimensions of the frame of the building to be erected, and the sides of the excavation as straight as they can conveniently be made. At each corner of the cellar-bottom I place a small body of concrete, for the ends of the corner-posts of the building, left of sufficient length to reach the cellar bottom, to rest upon. I then fasten woven wire-cloth to the inside of the posts the whole depth of the cellar. Upon the inside of this

wire-cloth I put a coat of mortar, prepared as hereinafter described, for the exterior walls of the building. As soon as this mortar becomes hard or sets, I fill the space between the sides of the excavation and the wire-cloth with a rough concrete composed of one part Portland cement and five parts gravel or coarse sand to the proposed level of the ground, above which line to the under sill of the building, where the exterior wall meets it, the mortar should have but three parts of sand to one of cement. From the line of the exterior wall of the building to the outer edge of the foundation-wall it should be beveled to form a water-table.

In situations where the ground is too wet to permit excavations for a cellar, or wherever a cheap and yet superior foundation is required, I excavate a trench one foot or more deep and eight inches wider than the square of the main-corner posts of the building to be erected, which should extend below the lower sill to the bottom of the trench. A thin layer of concrete is put on the bottom of the trench, upon which a board of any desired width is placed. Wire-cloth is fastened at one side to this board and the other side to the lower sill of the building, and at the ends of the wire-cloth to the corner-posts. The trench is then filled to the surface of the ground with the coarse cement concrete before mentioned, and up to the lower sill with the better concrete, and, meeting the exterior wall, is beveled to form the water-table.

Foundations of this description are cheaply constructed, and so bound together and to the building by the woven wire-cloth and concrete that it is impossible to separate the building from them or to lift it from its bed. The woven wire-cloth and the corner-posts are so entirely surrounded by and in such close contact with the cement concrete as to be hermetically sealed, and danger of rust and decay is obviated, as neither moisture nor air have access to them. Upon the exterior metallic woven wire-cloth covering of the building I apply a coating of what is technically termed "mortar," which for the first coat consists of the following or equivalent ingredients, in

about the following proportions, viz: one barrel of lime, one barrel of Portland cement, three barrels of sand, and four bushels of cattle's hair. These proportions should be varied slightly, to accord with the climate and the peculiarities of the sand used in making the mortar. When the exterior walls have been thoroughly covered with a coat of this mortar about an inch thick, and the mortar has slightly set, the inner surface of the exterior wall should be carefully smoothed or flattened and care taken to bring the mortar into close contact with the frame to secure a tight joint. When the exterior covering has partially set or hardened, a finishing-coat is applied, consisting, substantially, of the following or equivalent ingredients: one part cement, two parts sand. The exterior wall is finished over the sill down to the water-table. When this surface coating is prepared, coloring-matter may be introduced to imitate stone of any color or brick of any shade, marking it off in sections to represent the material imitated. The inside of the building may be finished with lath and plaster in the usual manner; but preferably I stretch wire-cloth or metallic strips upon the inner surfaces of the wall-strips and apply mortar, as when wooden laths are used.

To render the building stronger than it could possibly be if constructed in any other manner or of any other material, when putting in the partition-walls I extend the wire-

cloth or metallic strips through to the exterior wire-cloth and securely fasten them to each other before the mortar covering is applied, thus binding the building together in such a manner that it is braced in every direction, and cannot possibly be broken into fragments or fall, as stone, brick, or wooden buildings do in earthquakes and other violent disturbances of the forces of nature.

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

1. A foundation for buildings, consisting of corner and supporting posts, and wire-cloth and concrete, composed of cement and sand, substantially as set forth.

2. The combination, with the frame of a building, of metallic woven wire-cloth applied to the exterior thereof and serving as a ground or base for the surface-finishing material, as set forth.

3. The combination, with the frame of a building, of woven metallic wire-cloth applied upon the outside thereof, mortar adapted to serve as the ground or body work and the surface-finish, substantially as described.

4. In combination with the woven wire-cloth, exterior wall of wire-cloth and mortar applied to the interior of the exterior walls and to the partition-walls.

EDWIN GILBERT.

Witnesses:

H. J. HOYT,  
JOHN W. RIPLEY.