No. 858,170. PATENTED JUNE 25, 1907.

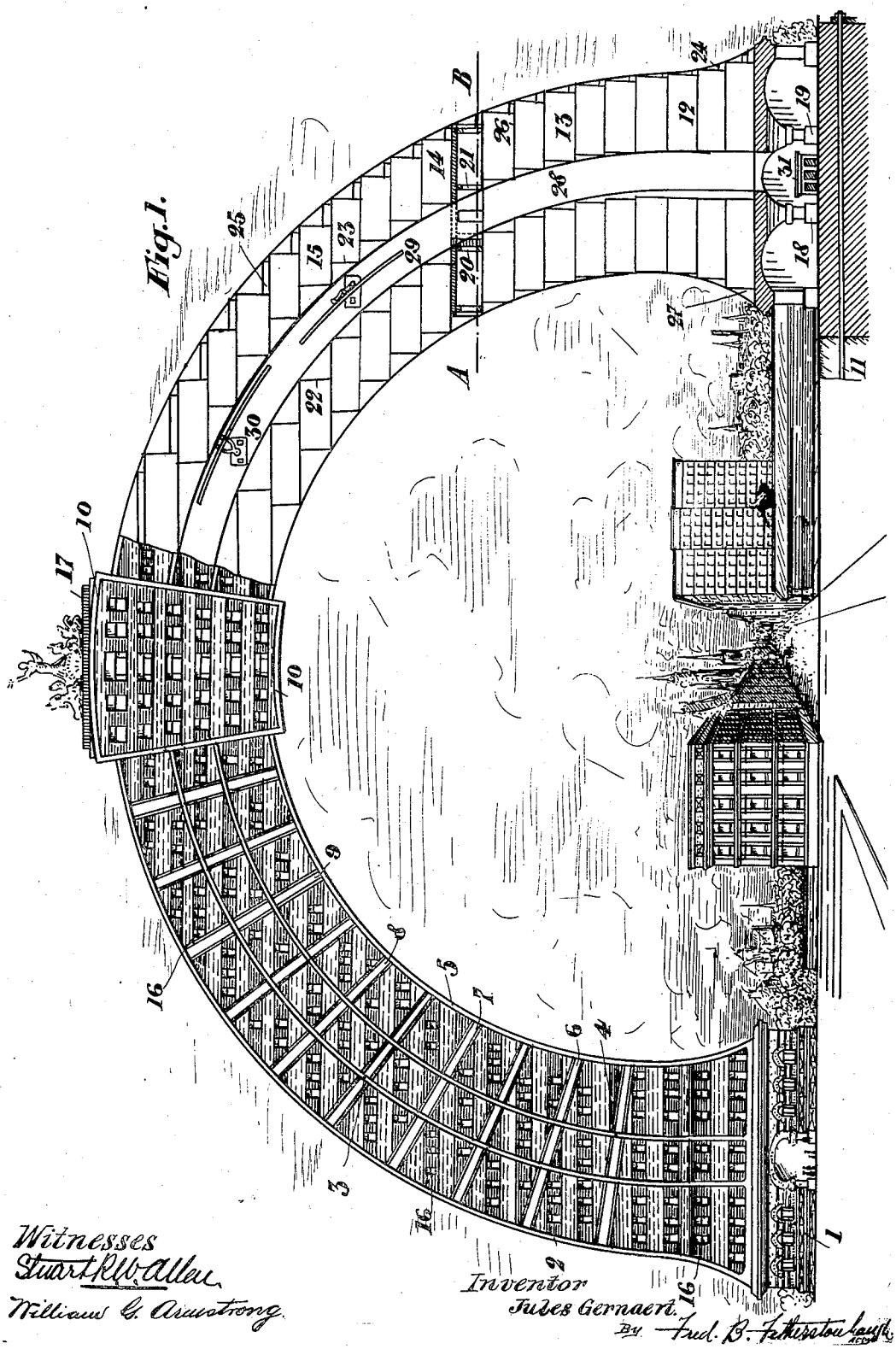
J. GERNAERT.

HIGH BUILDING.

APPLICATION FILED APR. 26, 1906.

3 SHEETS—SHEET 1.

Fig. 1.



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3 SHEETS—SHEET 2.

Fig. 2.

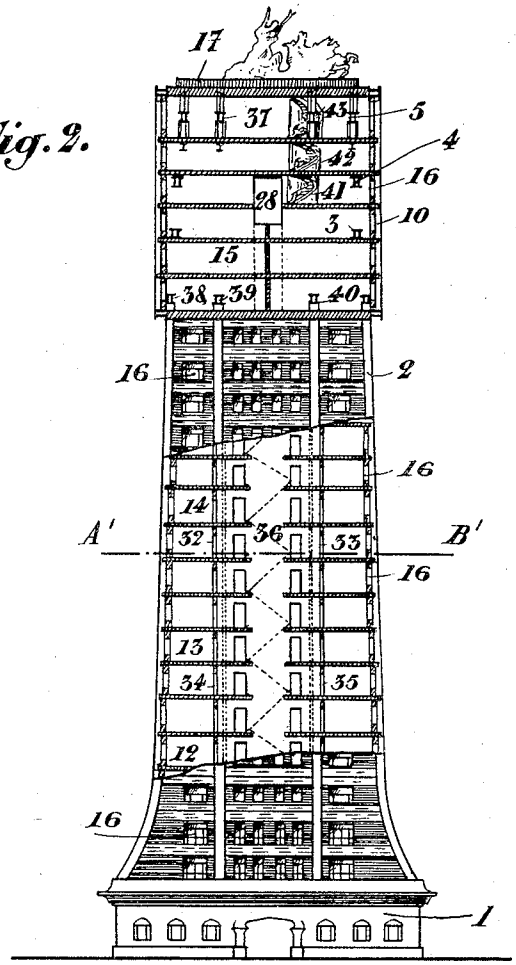
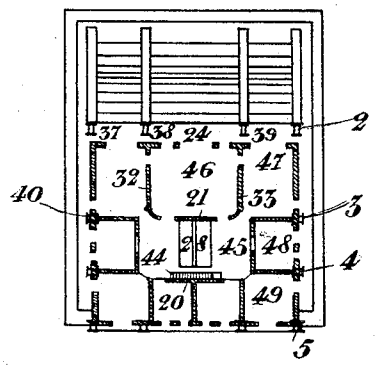


Fig. 3.



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3 SHEETS—SHEET 3.

Fig. 4.

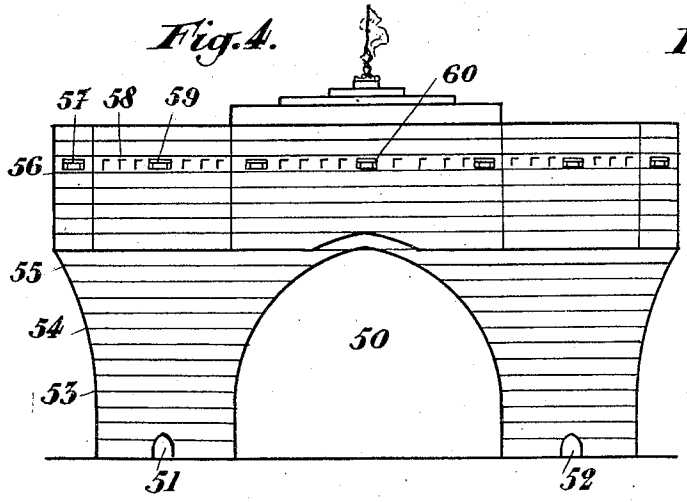


Fig. 5.

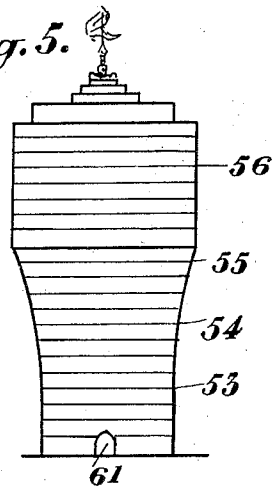


Fig. 6.

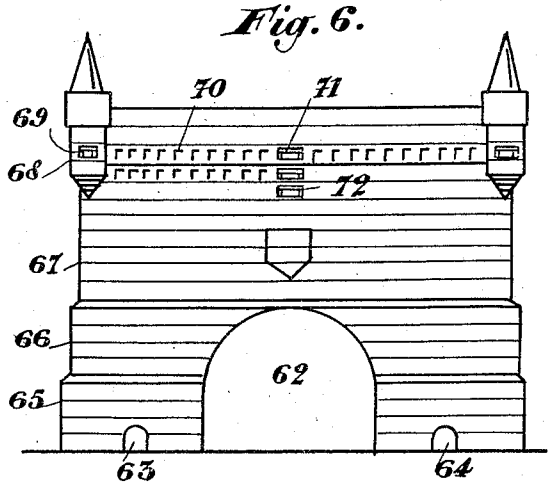


Fig. 7.

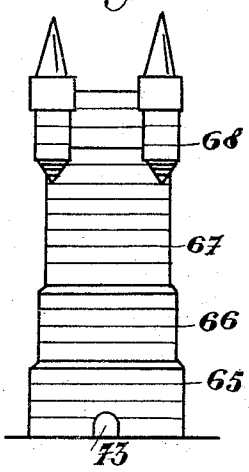
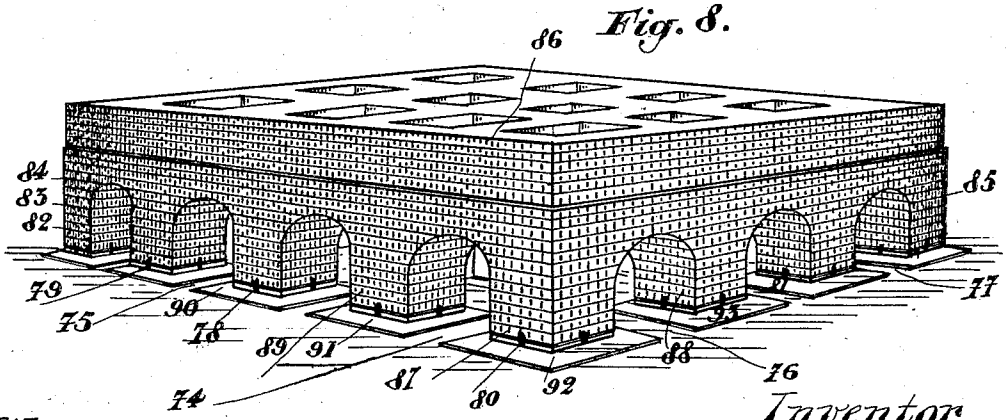


Fig. 8.



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UNITED STATES PATENT OFFICE.

JULES GERNAERT, OF BRUSSELS, BELGIUM.

HIGH BUILDING.

No. 858,170. Specification of Letters Patent. Patented June 25, 1907.

Application filed April 26, 1906. Serial No. 313,748.

To all whom it may concern:

Be it known that I, JULES GERNAERT, engineer, a subject of the King of Belgium, residing in Brussels, Belgium, 13 Rue Ducale, have invented certain new and useful Improvements in Gernaert's High Buildings; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked therein, which form a part of this specification.

This invention relates to improvements in building construction, and is especially adapted for use in the thickly populated districts of large cities.

The main object is to erect a structure that will occupy a minimum area of ground space and at the same time afford the maximum area for residence or business occupation.

A further object is to construct a building that will not greatly interfere with street traffic and that will afford the greatest possible amount of light and ventilation to its occupants.

In the drawings which illustrate my invention:—Figure 1 represents a front elevation, partly in section, of a building having the form of an arcade and built up with a metal framing. Fig. 2 represents an interior side elevation, partly in section, of the same building. Fig. 3 is a horizontal section taken on the lines A—B and A^1 B^1 of Figs. 1, and 2. Fig. 4 is a front elevation of an alternative form of construction. Fig. 5 is a side elevation of Fig. 4. Fig. 6 is a modification of the structure represented in Fig. 4. Fig. 7 is a side elevation of Fig. 6. Fig. 8 is a general perspective view representing a number of buildings combined according to my invention.

Referring to Figs. 1, 2, and 3, 1 designates the base forming the support for one of the piers of the arcade. The numerals 2, 3, 4, and 5 designate circular metallic ribs which are visible on the front of the arcade. The numerals 6, 7, 8 and 9 designate radial metallic joints by means of which the ribs are assembled and held in position. 10 designates the metallic framing which forms the key of the structure and which is visible from the front of the arcade. 11 represents a brace for strengthening the foundation. 12, 13, 14 and 15 designate some of the floors of the building which are constructed of any suitable material. The windows are designated by the numeral 16, while 17 represents a terrace at the top of the structure. 18 and 19 represent columns or pillars constituting a base for the circular ribs. 20, 21, 22, and 23 represent interior partition walls, and 24, 25, 26, and 27 represent balconies or landings extending adjacent the apartments. 28 designates a lift or elevator shaft, the elevator being carried upon a semicircular structure arranged centrally of the shaft as designated at 29, or at the outer circumference as shown at 30. 31 designates the elevator door at the ground floor of the building.

Referring particularly to Fig. 2, 32, 33, 34 and 35 designate partitions disposed vertically to those shown in Fig. 1, while 36 designates a vertical projection of the stairway. 37, 38, 39 and 40 represent transverse sections of the key frame 10. 41, 42, and 43 designate stairs leading to the floors to which there is no elevator access. 44 represents a horizontal projection of the stairs, while 45 designates the landings of the various floors. 46, 47, 48 and 49 designate the several rooms of the floor represented in Fig. 3.

Referring to Figs. 4, 5, 6, and 7, 50 and 62 designate large arcades over the street or avenue, while 51, 52, 61, 63, 64, and 73 represent gates leading to the various elevators. 53, 54, 55, 56, 65, 66, 67, and 68 are lines designating the separating partitions between some of the floors. 57, 58, 59, 60, 69, 70, 71 and 72 are windows represented in the structure.

In Fig. 8, 74, 75, 76, and 77 designate some of the large exterior arcades under which pass the streets or avenues necessary for the circulation of traffic, 78, 79, 80 and 81 designate gates leading into the ground apartments and elevators. 82, 83, 84, and 85 designate lines separating the floors, and 86, 87, 88 and 89 represent windows in the structure shown in Fig. 8. The pavements around the structure are designated by the numerals 90, 91, 92, and 93.

Figs. 1, 2, and 3, represent a building in the form of an arcade This form gives to the whole of the construction the mathematical proportions of a solid of equal resistance. The metallic framework is solidly anchored in the bases which are built up of material of high resistance and rest on strong foundations. These foundations are connected and strengthened by means of braces, such as

designated by the numeral 11. The circular metallic ribs of the structure are connected by means of either radial or transverse metallic ties and are securely held in position. The key 10 of the structure is formed of special metallic framing fixed to the circular ribs.

In Fig. 8 there is shown what may be considered an elevated town composed of a number of adjacent structures erected according to my invention. It will be seen that the air, light and sunshine have easy access through the large open spaces in the top of the structure.

This invention can be applied to advantage in large cities where the supporting bases of the high buildings can be located at the sides of the streets and the buildings erected without obstructing traffic on the streets above which they pass.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. A building of the character described comprising a plurality of bases, brace rods connecting said bases, circular metallic ribs connecting said bases and forming an arch between same, a column supporting each of said ribs, suitable walls closing the spaces between said ribs, and a framework inserted at the top of the arch and forming a key for same, substantially as described.

2. A building of the character described comprising a plurality of foundations, braces connecting said foundations, circular metallic ribs connecting said foundations and forming an arch between same, a column supporting each of said circular ribs, radial brace rods connecting said circular ribs, and a tapered framework at the top of said arch forming a key for same.

3. A series of buildings of the character described, united to form an elevated district, comprising a plurality of bases, brace rods connecting said bases, circular metallic ribs fixed to said bases and forming an arch between same, a column supporting each of said circular ribs, and a tapered framework inserted at the top of said arch and forming a key for same.

In testimony that I claim the foregoing as my invention, I have signed my name in presence of two subscribing witnesses.

JULES GERNAERT.

Witnesses:

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GREGORY PHELAN.