

No. 655,255.

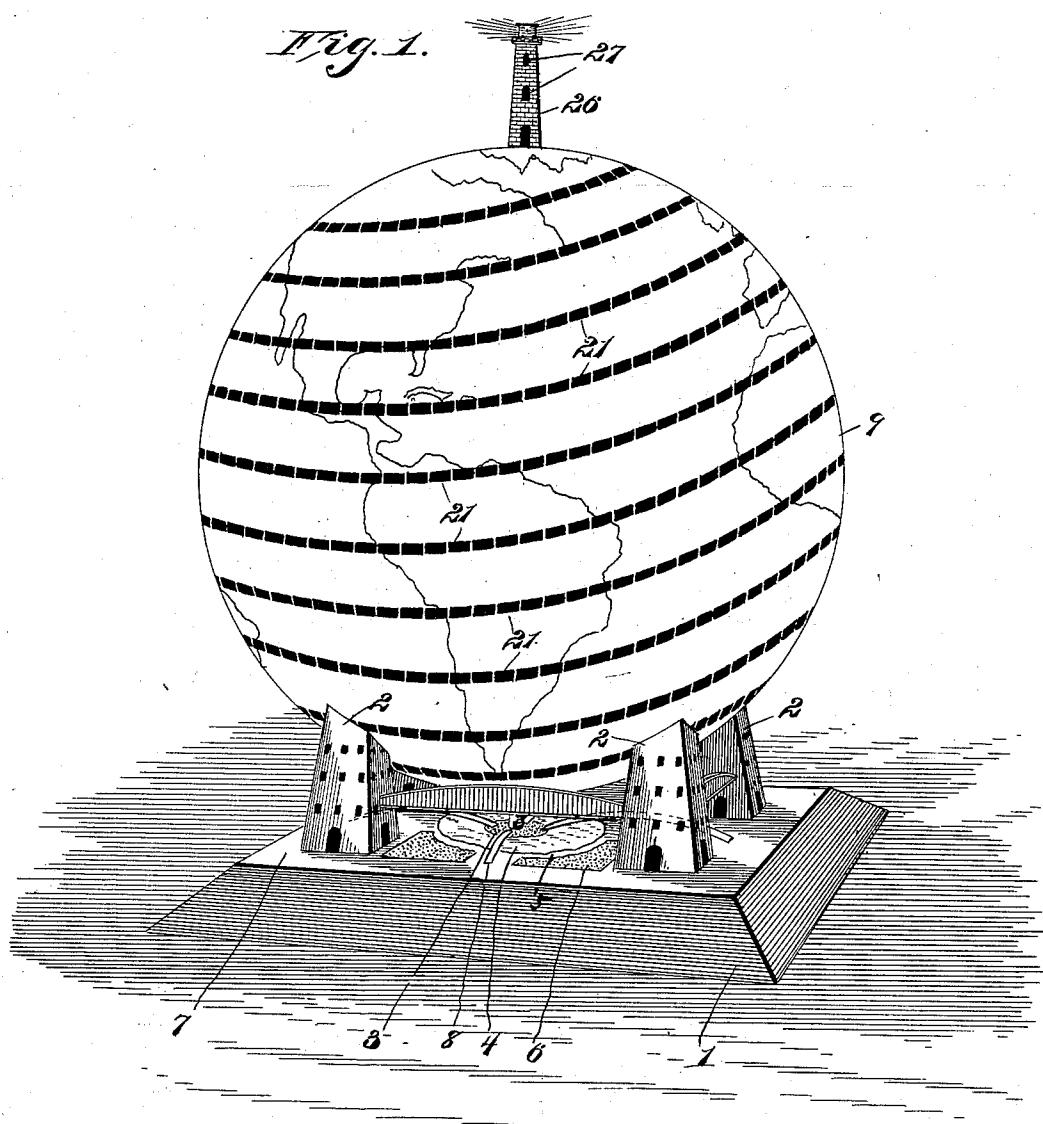
Patented Aug. 7, 1900.

H. F. W. LYOUNS.  
EXHIBITION STRUCTURE.

(No Model.)

(Application filed Aug. 12, 1899.)

4 Sheets—Sheet 1.



WITNESSES

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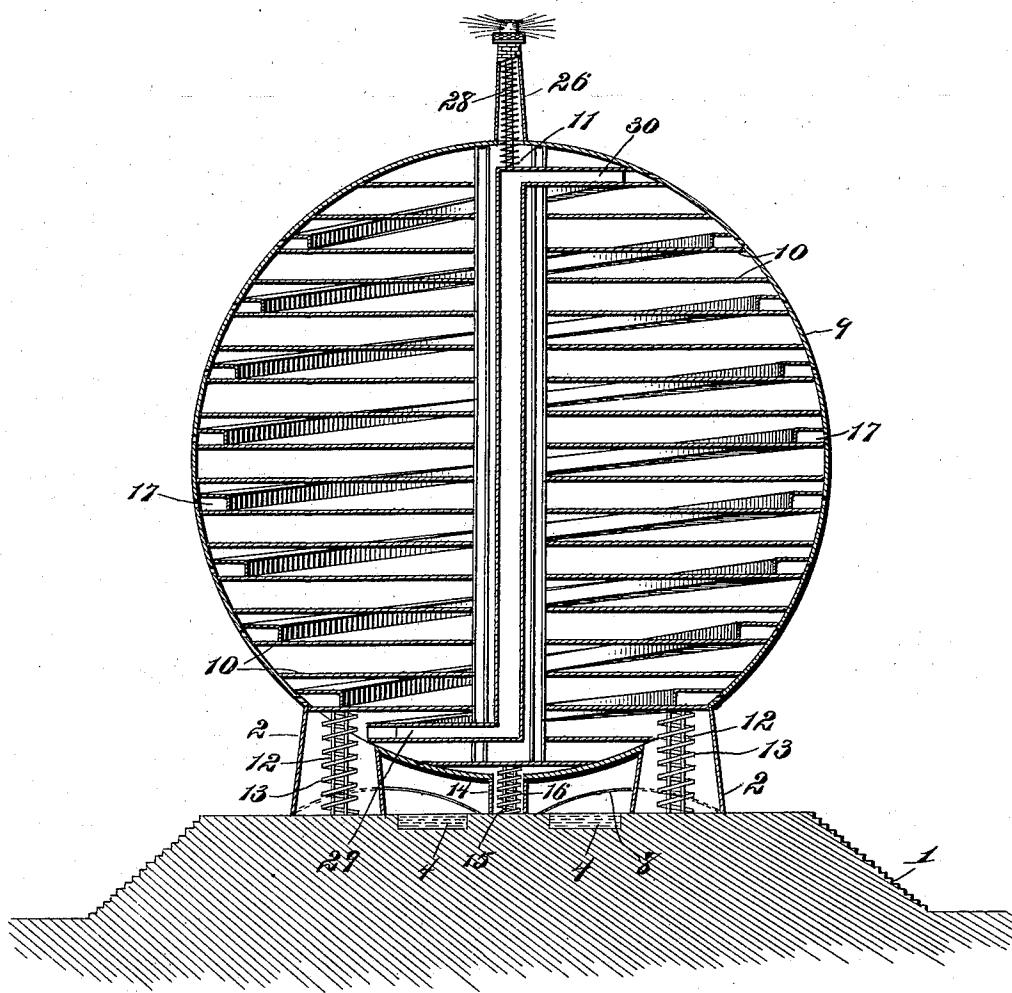
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Fig. 2.



WITNESSES

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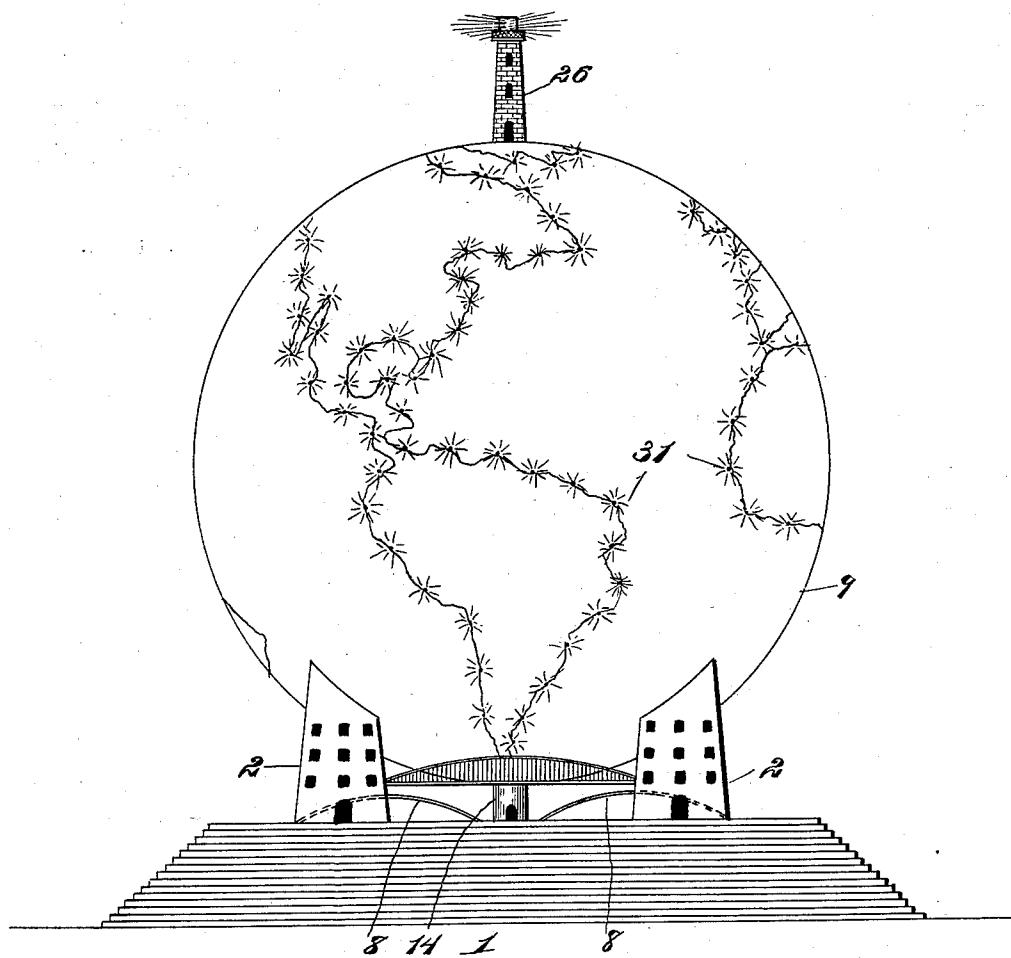
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*Fig. 3.*



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Fig. 4.

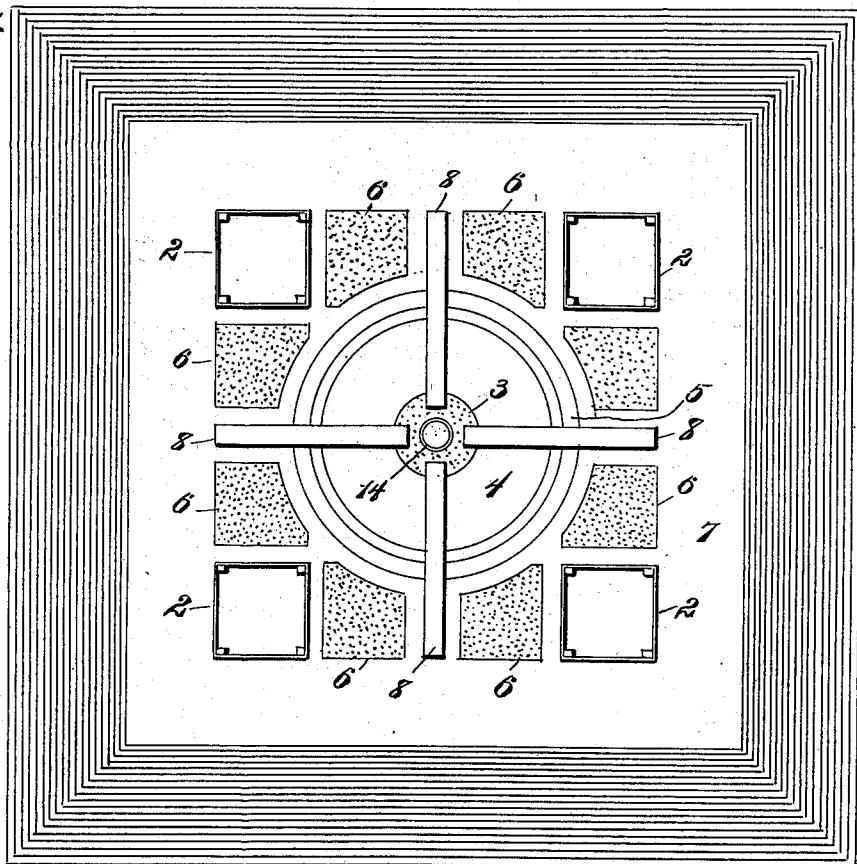
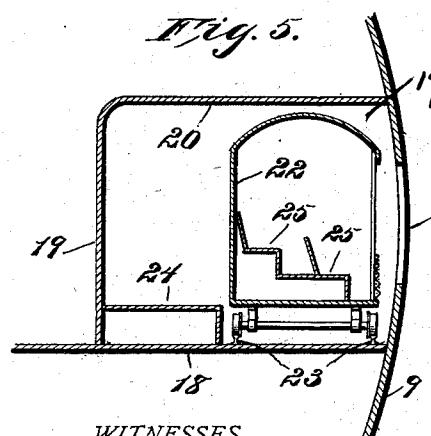


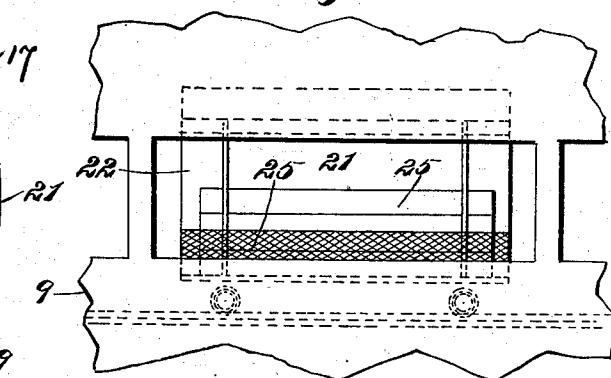
Fig. 5.



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Fig. 6.



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# UNITED STATES PATENT OFFICE.

HERBERT F. W. LYOUNS, OF BOSTON, MASSACHUSETTS.

## EXHIBITION STRUCTURE.

SPECIFICATION forming part of Letters Patent No. 655,255, dated August 7, 1900.

Application filed August 12, 1899. Serial No. 727,046. (No model.)

*To all whom it may concern:*

Be it known that I, HERBERT F. W. LYOUNS, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Exhibition Structures, of which the following is a specification.

My invention relates to an exhibition structure which combines a number of coöperating features with a scenic railway and other means for traversing the structure and for illuminating it.

The construction of the invention will be fully described hereinafter and defined in the appended claims in connection with the accompanying drawings, which form a part of this specification.

In the drawings, Figure 1 is a view in perspective of the invention as an entirety. Fig. 2 is a central vertical section thereof, showing the elevator-shafts and spiral stairways. Fig. 3 is a side elevation illustrating how the outlines of geographical divisions of land are to be illuminated. Fig. 4 is a plan view of the supporting-base of the structure. Fig. 5 is a transverse detail sectional view of one of the cars employed, and Fig. 6 is a detail side elevation of one of the cars.

30 The reference-numeral 1 designates a base or foundation, from each corner of which rises a column 2. As shown in Fig. 4, it is designed to finish and ornament the base of the structure. At the center of the base is located a mound of earth 3, representing an island surrounded by a pond 4, which in turn is bounded by a circular pavement 5, constituting a promenade or walk. Suitable lawns or flower-beds 6 are located between the corner pillars or columns, and the island 3 is connected to the mainland (represented by the numeral 7) by radially-disposed bridges 8.

9 represents the superstructure of the invention, consisting of a hollow sphere of metal, preferably sheet metal, and supported upon the four columns 2.

Before describing the invention further it may be explained that the structure is designed as an attraction for large expositions, and it is proposed to construct the globe 9 of such size as to accommodate a spiral scenic railway, one or more elevators, and a variety

of exhibition-booths, &c. While of course the invention will not be restricted to any particular dimensions, in order to convey a clear understanding of its construction and utility it may be said that the entire structure would occupy a ground-space of about five hundred feet each way from the line formed by the external bases of the pillars 2, which support the globe. A portion of this space, as has been suggested above, can be devoted to an artificial lake and other decorative features.

The globe should be constructed of steel plates supported upon a steel framework, and its exterior surface is so formed as to present the surface of the earth in relief and painted to represent land and water. The globe should have a diameter of six hundred feet; but this diameter may be varied according to the amount of space available, and the dimensions of the pillars and other parts of the structure will be proportioned accordingly. The interior of the globe 9 is divided by horizontal partitions 10 into a number of floors or stories, and centrally through these floors extends an elevator-shaft 11, within which may be suitably arranged any required number of elevators.

Within each of the pillars or columns 2 is an elevator-shaft 12, surrounded by a spiral stairway 13. I also provide a central pillar 14, within which are also arranged an elevator-shaft 15 and spiral stairway 16.

17 designates a spirally-disposed tunnel or framework constituting the support or bed of a railway track or tracks, upon which trains of electrically-propelled cars are adapted to travel. The tunnel 17 consists of a floor or base 18, a side wall 19, and a top or cover 20. The shell of the globe constitutes the outer wall of the tunnel, and said shell is formed with openings 21, which are so relatively disposed as to describe a spiral corresponding to the spiral tunnel, thus permitting passengers on the trains to view the surrounding country as the trains ascend or descend.

In Figs. 5 and 6 I have shown a cross-section and elevation of a car 22, the wheels of which travel on the rails 23.

24 designates a platform or landing, it being designed to provide a number of stations at which passengers may alight to inspect the

interior of the globe, as will be further explained hereinafter.

The seats 25 in the cars will preferably be arranged lengthwise thereof and elevated one 5 above another, as shown in Figs. 5 and 6, thus affording an unobstructed view through the openings or windows 21 to all the occupants of the car.

At the center of the top of the globe, corresponding to the location of the North Pole, 10 I provide a tower 26, having a door and any desired number of windows 27. This tower is hollow and provided with a spiral stairway 28, above which an electric light or lights are 15 located to illuminate the tower.

The numerals 29 and 30 designate passageways through which access may be had to the central elevator-shaft.

As illustrated in Figs. 1 and 3, it is designed to represent upon the outer surface of the globe correct outlines of the hemispheres and continents of the world and, if desired, the location of the principal countries, cities, rivers, and mountain-ranges, and, as shown 25 in Fig. 3, the outlines of the continents will be illuminated by electric lights 31, thus imparting to the structure at night a brilliant and highly-attractive appearance.

The space within the globe will be divided 30 by suitable partitions into rooms, hallways, and exhibition booths or apartments, and an important feature of the invention is to locate these various rooms and apartments in such relation to the outlines on the outer surface 35 of the globe as to permit the products of any particular country or city to be exhibited adjacent to the location of such country or city upon the map delineated upon the surface of the globe. Thus an important educational 40 result is accomplished, the visitor being enabled to associate in his mind the peculiar products of different countries with the geographical locations of such countries.

It will be obvious, owing to the nature of 45 the invention, that a great variety of modifi-

cations in the details of the structure may be resorted to, the foregoing description and accompanying drawings being merely illustrative of the general plan involved, and hence I would have it understood that I reserve the 50 right to make all such changes, additions, and modifications as may fall within the scope of the appended claims.

I claim—

1. An exhibition structure comprising a 55 hollow sphere constituting a casing, having delineated upon its outer surface outlines or maps of continents, hemispheres, &c.; and a spiral railway-tunnel within the sphere, said casing being formed with openings spirally 60 disposed, following the spiral course of the tunnel within the casing.

2. An exhibition structure comprising a hollow sphere constituting a casing, having its interior subdivided into compartments, 65 and its outer surface provided with the outlines of continents, hemispheres, &c.; and a spiral support secured adjacent to the inner surface of the spherical casing, said casing being formed with openings disposed spirally 70 around the casing following the spiral course of the railway-tunnel within the casing.

3. An exhibition structure comprising hollow supporting-pillars; a hollow globe supported on said pillars and having its interior 75 divided into rooms or compartments; and a spiral tunnel or framework secured within the hollow globe adjacent to the inner surface thereof; said casing being formed with openings disposed spirally and following the 80 spiral course of the tunnel; and a plurality of electric lights arranged on the outer surface of the globe to form the outlines of continents, hemispheres, &c.

In testimony whereof I affix my signature 85 in presence of two witnesses.

HERBERT F. W. LYOUNS.

Witnesses:

LEWIS M. DAVIS,  
SIGFRID N. MELTON.