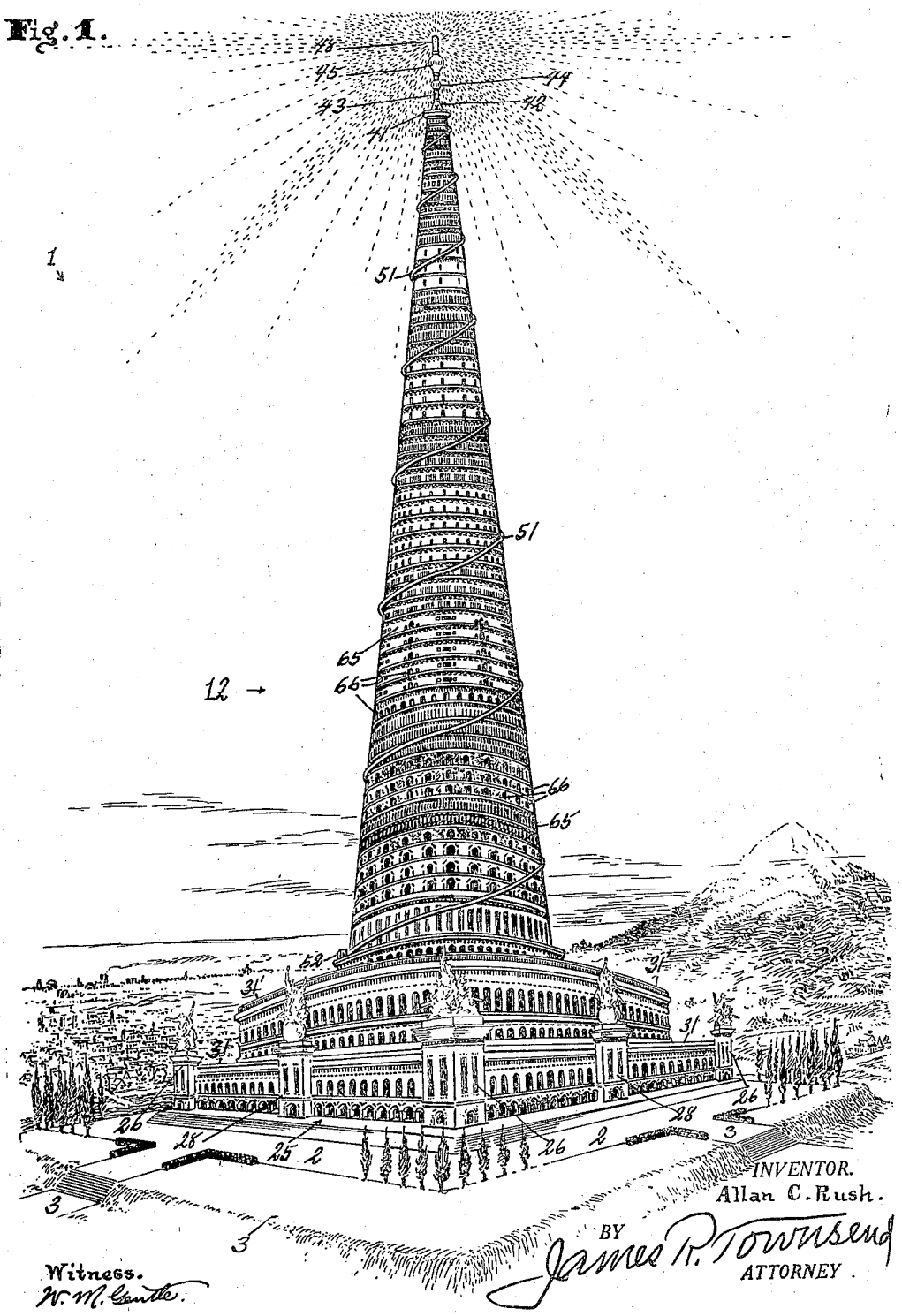
Oct. 16, 1923. 1,470,935

A. C. RUSH

OBSERVATION, AMUSEMENT, AND UTILITY TOWER

Filed April 7, 1920 7 Sheets-Sheet 1

Fig. 1.



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BY James R. Townsend
ATTORNEY.

Witness.
W. M. Gantz.

Oct. 16, 1923. 1,470,935

A. C. RUSH

OBSERVATION, AMUSEMENT, AND UTILITY TOWER

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Fig. 2.

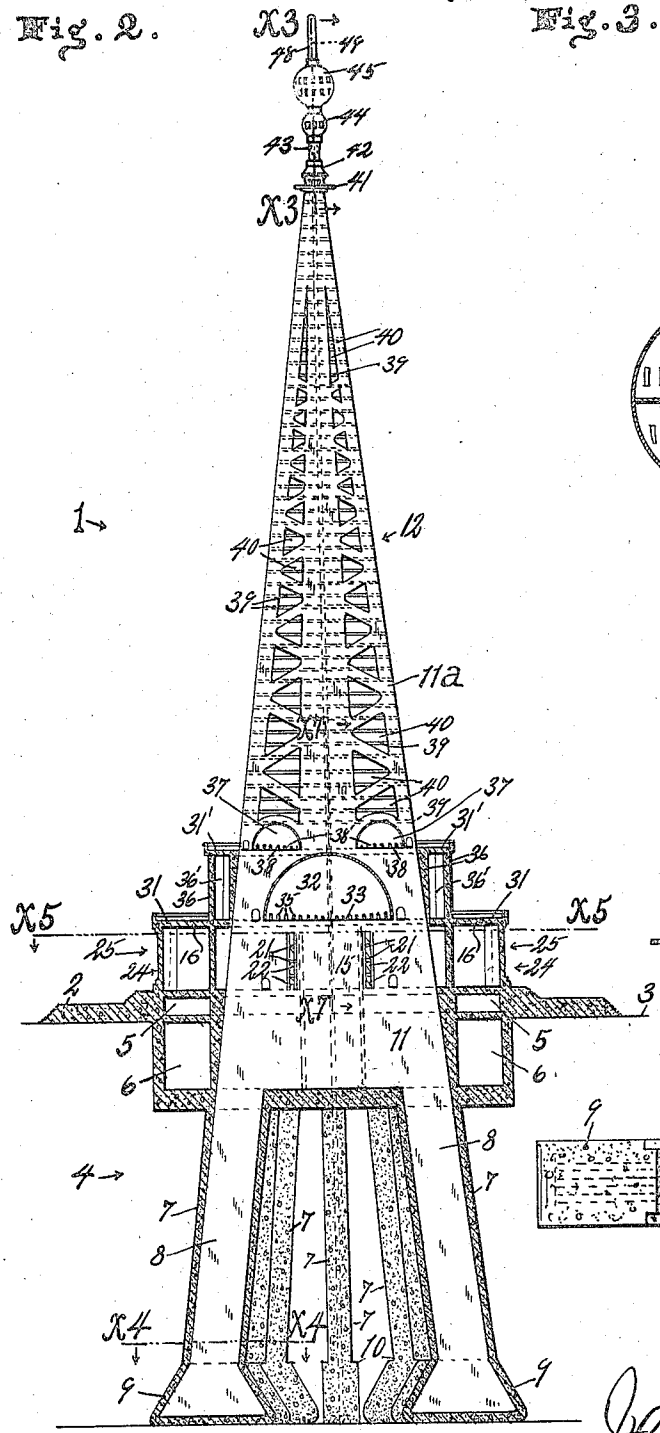


Fig. 3.

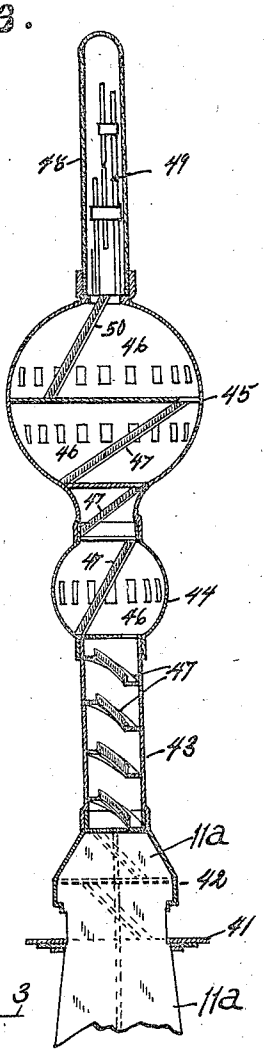
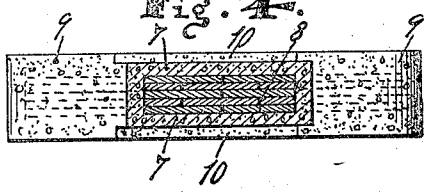


Fig. 4.



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Oct. 16, 1923. 1,470,935

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OBSERVATION, AMUSEMENT, AND UTILITY TOWER

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Fig. 5.

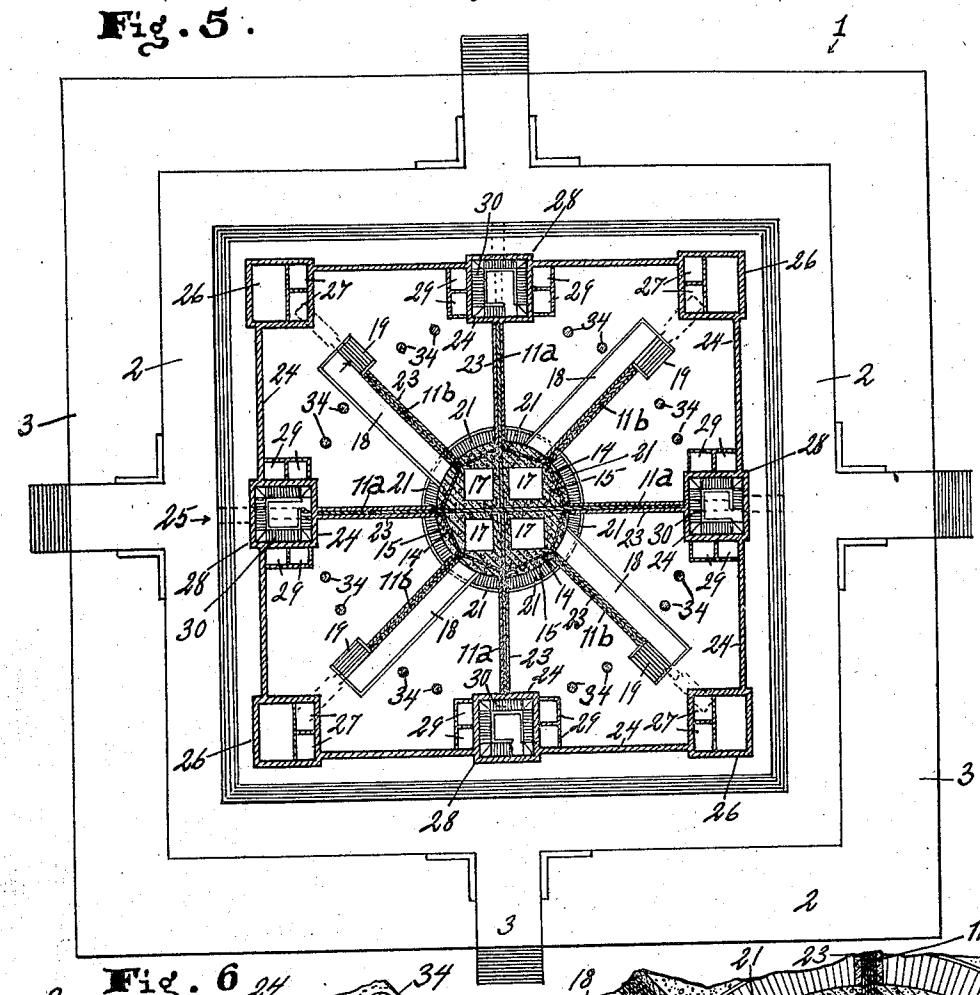
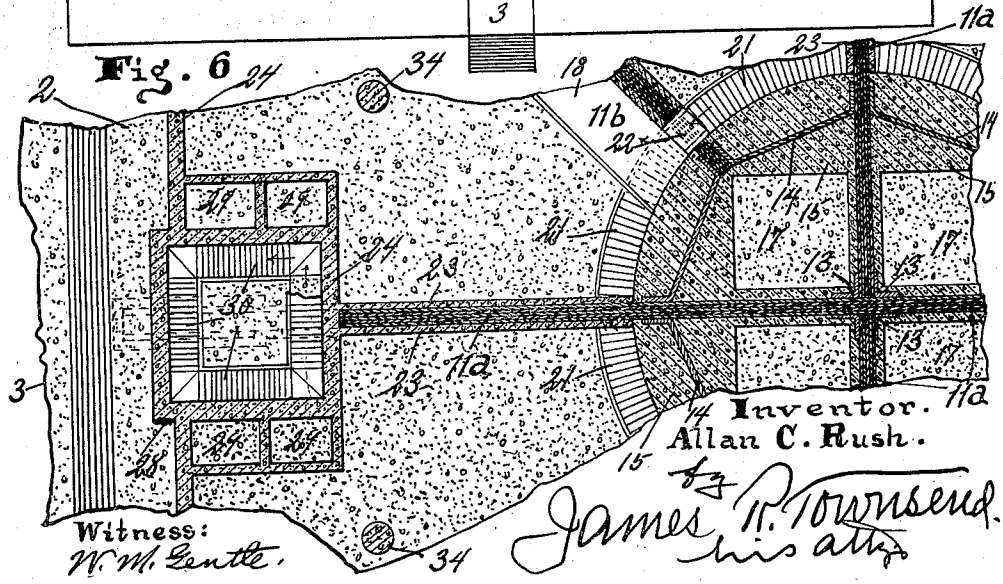


Fig. 6



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Oct. 16, 1923. 1,470,935

A. C. RUSH

OBSERVATION, AMUSEMENT, AND UTILITY TOWER

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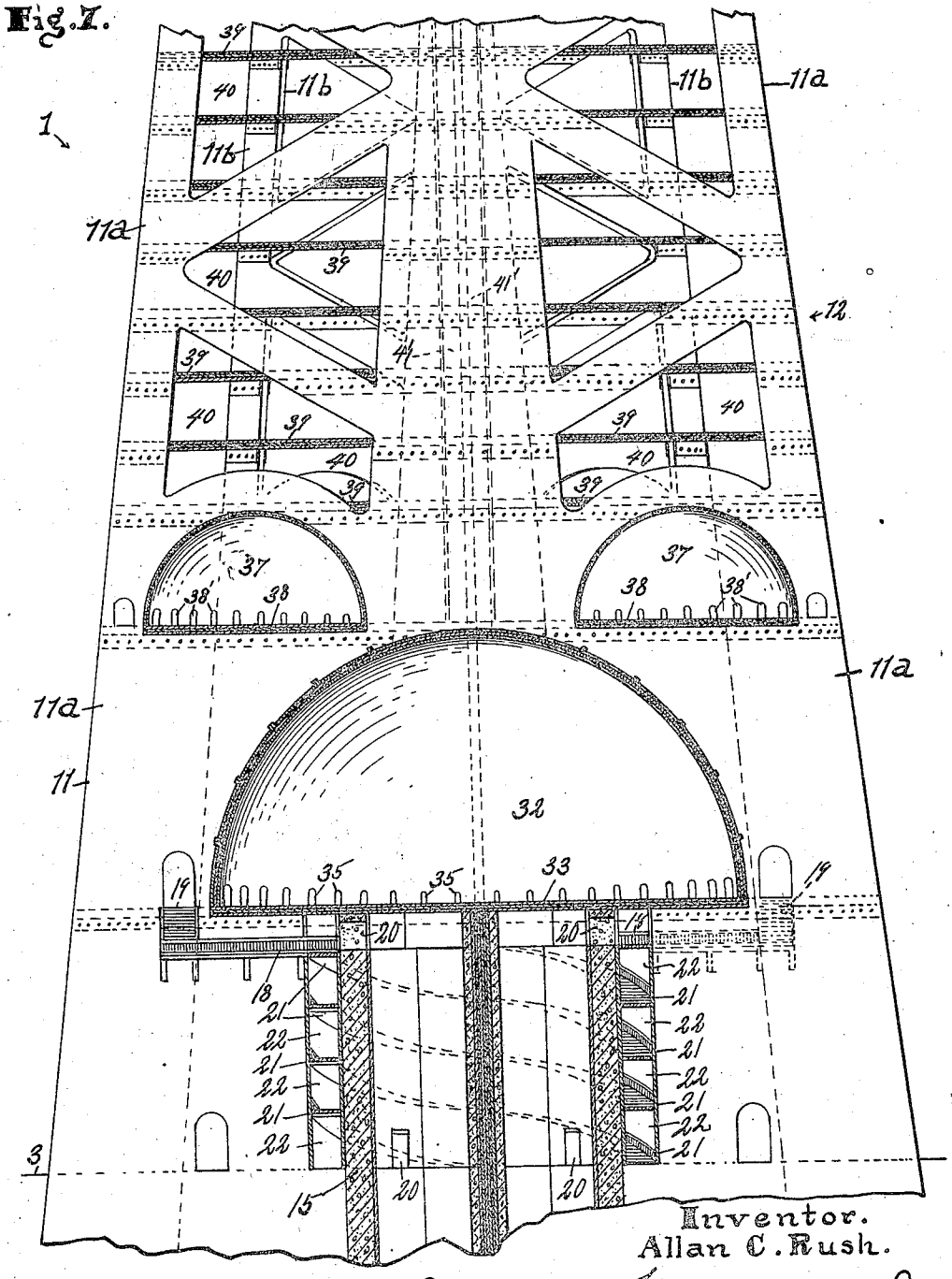
Fig. 1.



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Oct. 16, 1923. 1,470,935

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OBSERVATION, AMUSEMENT, AND UTILITY TOWER

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Fig. 8.

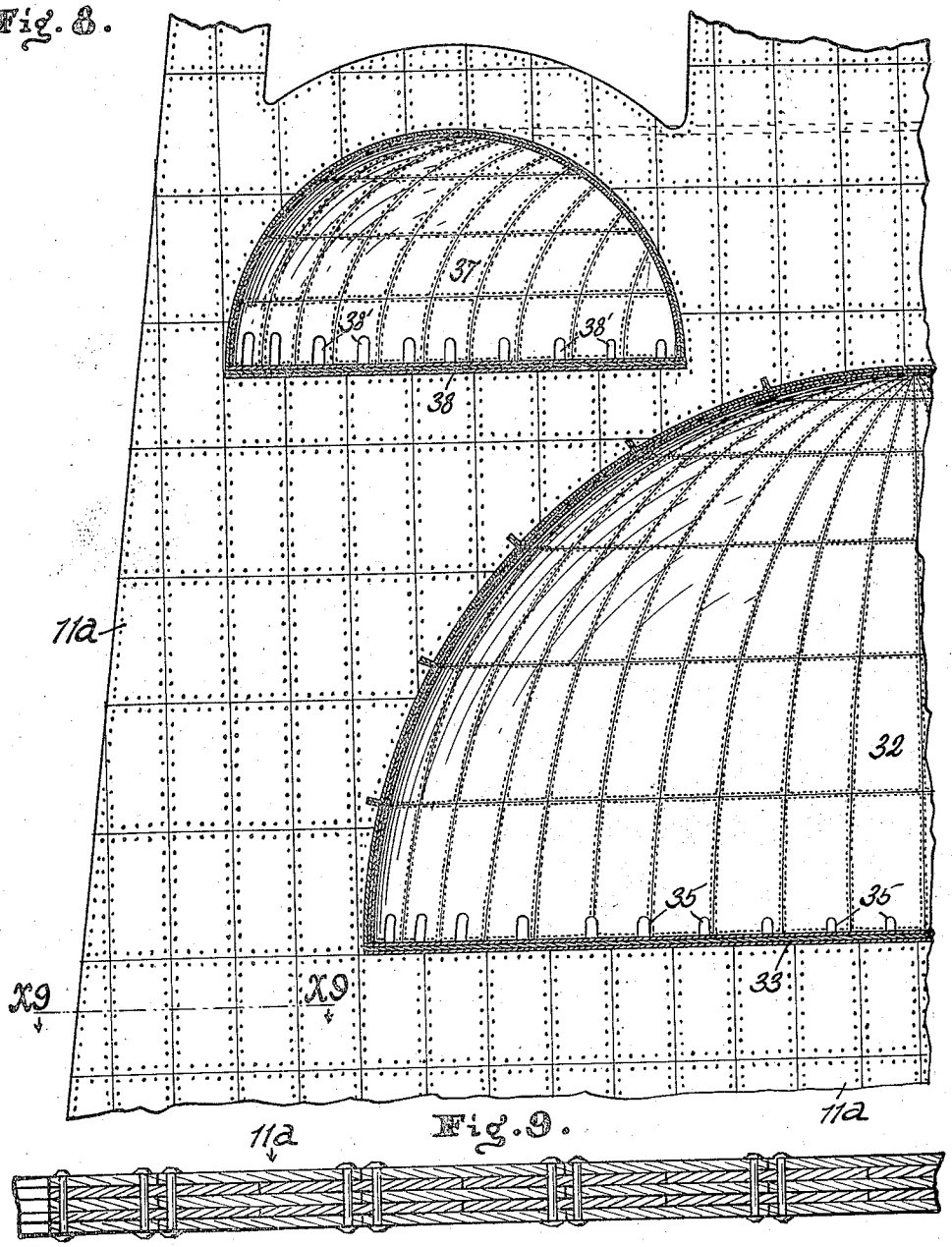
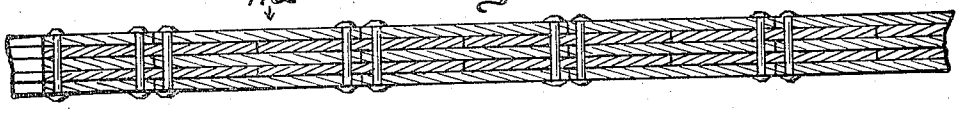


Fig. 9.



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Oct. 16, 1923. 1,470,935

A. C. RUSH

OBSERVATION, AMUSEMENT, AND UTILITY TOWER

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Fig. 10.

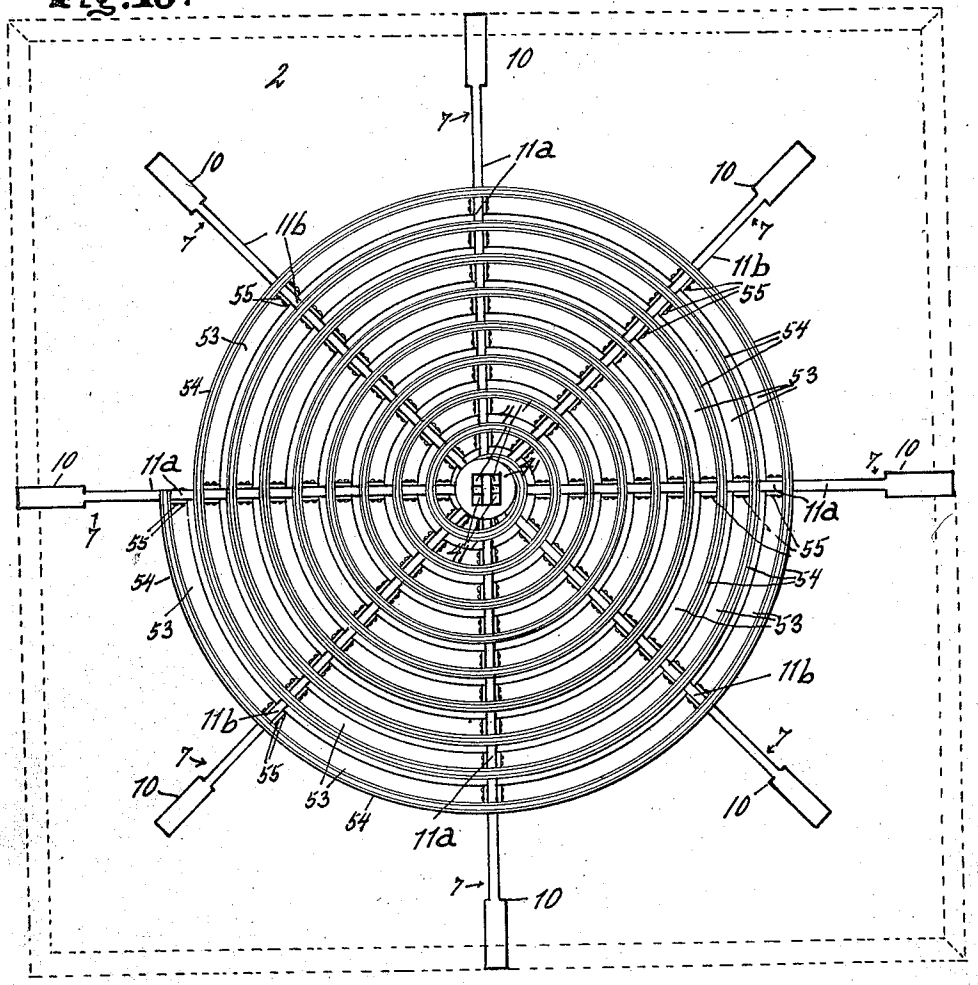
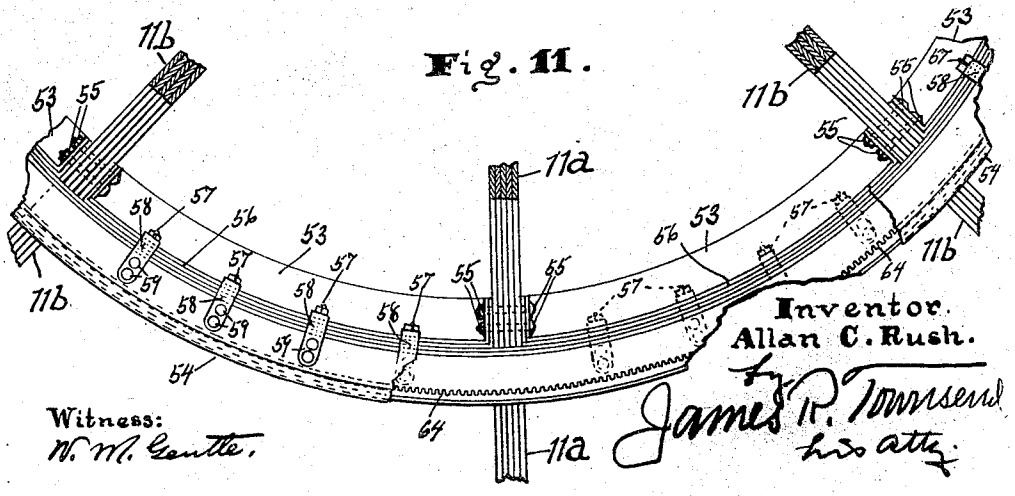


Fig. 11.



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Oct. 16, 1923. **1,470,935**

A. C. RUSH

OBSERVATION, AMUSEMENT, AND UTILITY TOWER

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Fig. 12.

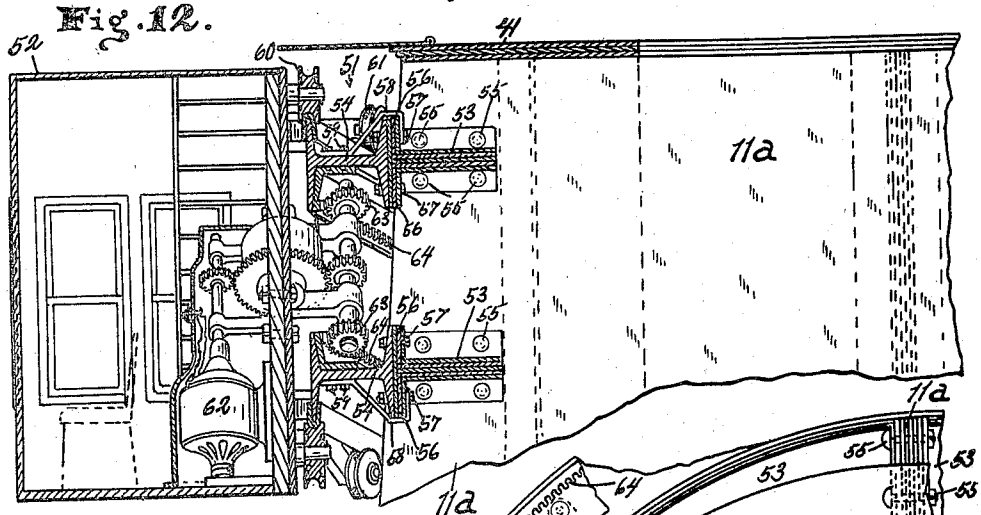
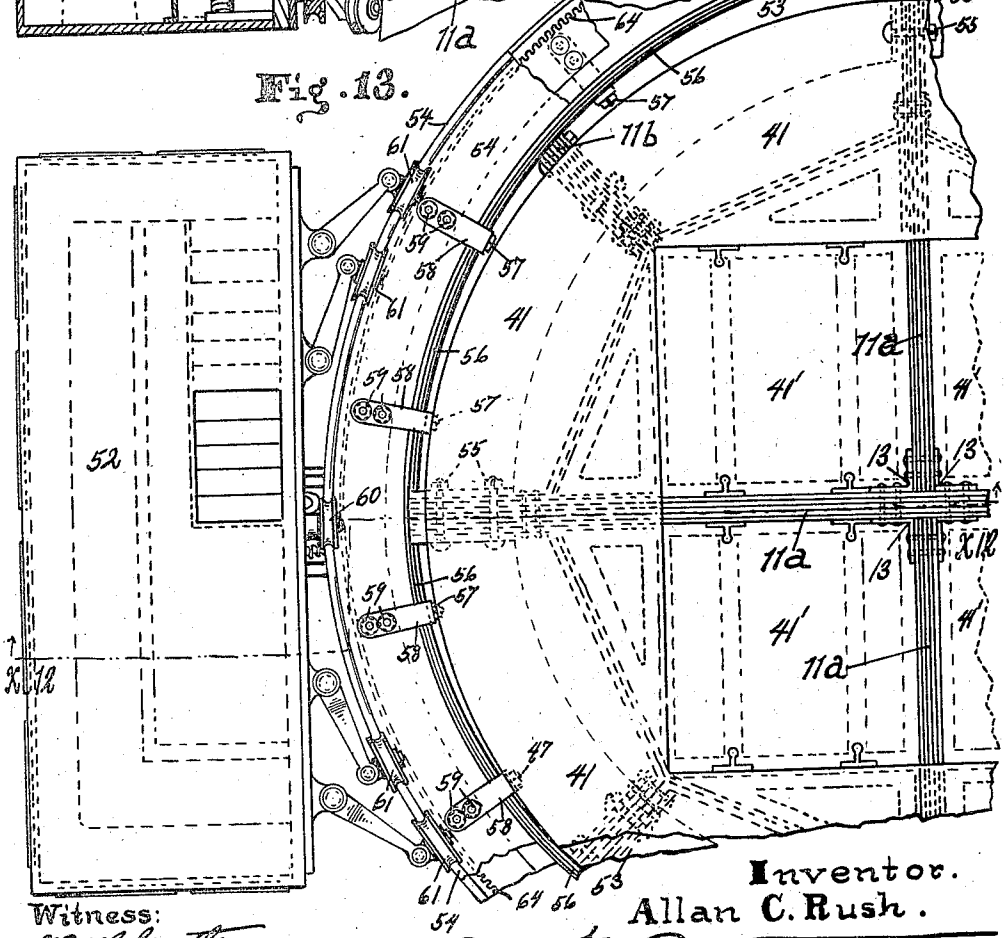


Fig. 13.



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Patented Oct. 16, 1923. 1,470,935

UNITED STATES PATENT OFFICE.

ALLAN C. RUSH, OF LOS ANGELES, CALIFORNIA.

OBSERVATION, AMUSEMENT, AND UTILITY TOWER.

Application filed April 7, 1920. Serial No. 373,928.

To all whom it may concern:

Be it known that I, ALLAN C. RUSH, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Observation, Amusement, and Utility Tower, of which the following is a specification.

An object of this invention is to provide an elevated structure of great strength and permanently adapted to surmount structures heretofore made and to be free from liability of destruction from wind pressure or storm.

Another object of the invention is to provide within this structure compartments exceeding in structural dimensions any enclosed rooms heretofore provided including an auditorium with great capacity for seating people, and in this connection I provide a room which consists of a half spherical dome, the wall of which has great acoustical properties.

In carrying out this invention I provide within the structure a circular track of great extent that is enclosed by a ring dome of large proportion in which spacious enclosure exhibitions of world's art, manufacture or products may be displayed; and also in which international contests of athletic skill may be staged.

A feature of the invention is the provision of an observation station that will be peculiarly advantageous to astronomical observations.

Another object of the invention is to provide a tower with an elevated wireless station therein that will be especially adapted for successfully receiving or sending communications to greater distances than has heretofore been accomplished.

An object of the invention is the provision of an elevated tower that will be especially adapted to furnish educational amusement to the public; in providing them with a broader view of the world surrounding and to accustom them to a greater vision. To that end the tower is provided with a spiral railway which in traveling from near the bottom to the top of the tower makes eight complete revolutions; so that the passengers have an opportunity to view objects of surrounding country repeatedly from different elevations.

Another object of the invention is to provide in connection with the tower a public utility edifice adapted to centralize the business interests into one great body.

Another object is to so construct the spiral track that a car will be held thereon securely and will at the same time be permitted to hang out over the sides of the tower to give the passengers better observational advantages.

Other objects, advantages and features of my invention may appear from the accompanying drawings, the subjoined detail description and the appended claims.

The accompanying drawings illustrate the invention.

Figure 1 is a perspective view of the edifice illustrating the exterior appearance of tower and building as conceived by the inventor.

Fig. 2 is a central vertical section through the edifice, many parts shown diagrammatically and parts omitted; and the upper end of tower shown in side elevation.

Fig. 3 is an enlarged section, line x^3, Fig. 2, parts shown diagrammatically and broken away.

Fig. 4 is an enlarged section, line x^4, Fig. 2.

Fig. 5 is an enlarged section, line x^5, Fig. 2, showing parts in plan.

Fig. 6 is an enlarged detail of left hand center portion of Fig. 5.

Fig. 7 is an enlarged section, line x^7, Fig. 2, parts broken away and parts omitted.

Fig. 8 is an enlarged detail of left hand center portion of Fig. 7.

Fig. 9 is an enlarged section, line x^9, Fig. 8.

Fig. 10 is a plan of the steel supporting plates of the tower with spiral railway attached thereto, parts diagrammatically shown; also position of platform relative to supporting plates indicated by dotted lines.

Fig. 11 is an enlarged section through a portion of three of the supporting plates with a portion of the spiral railway track attached thereto, showing track in plan ele-

vation, parts omitted and parts broken away.

Fig. 12 is an enlarged section, line x^{12}, Fig. 13 showing a detail of spiral railway track with observation car attached thereto; parts are omitted, broken away and diagrammatically shown.

Fig. 13 is a plan of spiral railway track with observation car attached thereto; parts are omitted, broken away and diagrammatically shown.

In the illustration of the invention many minor details of construction such as intermediate wall partitions, bracings and decorating that are old and well known in the art have been omitted from the drawings for the sake of clearness; it being understood of course that the constructor will utilize the available arts adapted to making structures safe, convenient and attractive.

Owing to the colossal size of the structure many parts in the drawings are shown out of proportion to their actual size in order that they may appear clear in the illustrations, and for the same reasons many parts are diagrammatically indicated.

The structure 1 consists of a squared platform 2 that has the approaches 3 entering from parked grounds preferably located on elevated table land or mountain site, such as is afforded by Bunker Hill in the city of Los Angeles; which building site overlooks the entire city, the snow capped mountains and placid sea.

In the utility feature of this novel structure there is first a great ground platform 2 surrounding the edifice that in the instance illustrated is capable of receiving in mass formation nearly a hundred thousand people; and central from this spacious platform arises the structure that surrounds the lofty tower and on the top of the building in steps of one hundred feet each there are provided two spacious roof gardens capable of accommodating another fifty thousand people.

The tower is provided with fifty stories that can be utilized for office and living rooms for the world's artists, tourists, and business people.

This platform can be formed of any suitable material such as concrete; and extending below the platform and connected thereto is the base 4 that in depth over all is about six-hundred feet.

This base consists of the enclosed compartment 5 that is enclosed by platform 2; and below this compartment is a cellar 6 that is one-hundred feet in depth, and that can be sub-divided into as many floor spaces as seem best desirable for location of machinery and other operations or appliances for lighting, heating, ventilating and operating the elevators and cars of the building; the walls, floors and structure pertaining to this subdivision not being shown, as they are common in the art.

Extending downward about five hundred feet are eight anchor legs 7 that are preferably formed of sheet steel plates secured together and each enclosed in cement casing; and these eight legs are spaced equidistantly apart and converge toward a common center; and they form a substantial anchorage within the earth and rock that enclose them. As best shown in Fig. 4 these anchor legs 7 are formed of five sheets of steel 8 that are welded or secured together by any well known means and then enclosed in cement casing which at the base 9, 9 is enlarged to form holding extensions 10.

The steel sheets 8 of legs 7 are integrally connected to the bottom ends of the tapered wings 11^a and 11^b, and also to the king post 11 having the upwardly extending steel wings 11^a and 11^b that form the principal supports of tower 12, and they converge toward a common center and the wings 11^a are secured together by angle plates 13 that are connected thereto by any well known means preferably riveting and welding.

The wings 11^b extend an equal radial distance from the common center, and are connected to the other four wings 11^a by cross plates 14.

These cross plates 14 and part of the wings 11^a are enclosed by a cement column 15 that extends from platform 2 upward one hundred feet to bottom of second floor construction 16 of the structure.

Column 15 has therein the elevator shafts 17 that are connected to second floor construction 16 by gallery platforms 18 and stairways 19. The entrance 20 to elevator shafts 17 and to platforms 18 are shown in Fig. 7; and for the purpose of clearness the elevators and operating mechanism are omitted as they are old and well understood.

The column 15 is about one hundred feet in diameter and circling this mammoth column are four spiral stairways 21 that have doorways 22 cut through the walls 23 enclosing steel plates 11; and these stairways land on platforms 18.

As best shown in Figs. 5 and 6 the walls 23 enclosing steel wings 11^a are integrally connected to column 15, and also have their outer ends connected to the walls 24 of building 25.

At each corner of building 25 are the towers 26 that have therein the elevator shafts 27; and on the upper ends of these towers 26 as well as on towers 28 are erected memorial monuments to the United States soldiers and sailors of the World's War.

Within the building 25 and on each side of towers 28 are elevator shafts 29; and inside of the towers are stairways 30, all of which tower elevator shafts and stairways lead to a roof garden 31.

Erected on a floor line with roof garden 31 and centered within the steel wings 11ª and 11ᵇ is the auditorium 32 that has its wall formed of sheet steel plates welded and riveted together as best shown in Figs. 7, 8, 9; and as seen therein this wall is the half of a sphere with an interior radius of one hundred feet; in other words the floor space of the auditorium is two hundred feet in diameter, and this room has a supporting floor 33 formed of sheet steel plates secured together; and this floor is supported by a plurality of columns 23 and center column 15; also additional supports will be furnished the floor in the subdivision of space below it into rooms as heretofore stated. A plurality of doors 35 are provided for entering the auditorium.

An inclined floor and provision for seating an audience, stage arrangement and decorating are intentionally omitted as they form no part of the invention.

A wall 36 encloses the wings 11ª and 11ᵇ surrounding the auditorium and connected with this wall are a plurality of elevator shafts 36′ that lead to a second roof garden 31′ and the floor of this garden is supported by the steel wings 11ª and 11ᵇ and dome of auditorium 32 and wall 36.

A ring room 37 is erected within the steel wings 11ª and 11ᵇ each of which has cut therethrough a half circle opening to fit the wall of this circular compartment; and the wall of this room is also formed of sheet steel plates riveted and welded together as shown in Fig. 8. The dome of this room is about forty feet from the floor; or a floor space in cross section of about eighty feet. This floor space forms an immense circular track about two hundred and thirty feet in diameter. The floor 38 of room 37 is formed of sheet steel plates secured together and attached to king post 11 by any well known means; this room is provided with doors 38′.

Above room 37 there are a series of floors 39 that are formed of sheet steel plates and attached to wings 11ª and 11ᵇ by any well known means; and these floors form spaces 40 for fifty stories that extend upward from room 37 to platform 41 near the top of the tower 12, and access to all these floors is had by elevators in shafts 41′ that extend from room 37 to top of platform 41, shown in plan Fig. 13.

Wings 11ª extend through platform 41 and attached thereto is the cap 42 to which is connected the steel cylinder 43.

At the top of cylinder 43 is the globe 44 that has above it the larger globe 45; in which globes are provided observation rooms 46 that are reached by stairways 47.

Above globe 45 is the casing 48 of arc light 49 that is shown diagramatically, and this light is reached by stairway 50, see Fig. 3. The parts 42, 43, 44, 45 are preferably formed of sheet steel plates secured together as are other parts, such as wings 11ª and 11ᵇ heretofore described.

Tower 12 is provided with a spiral railway 51 that connects stories intervening between floor 37 and platform 41; and this railway is provided with observation car 52.

Spiral supports 53 are provided for rails 54 of track 51 and these supports 53 are formed of sheet steel plates welded together and bent to proper form to contact with sides of wings 11ª and 11ᵇ and secured thereto by bolts 55 and also they are preferably formed with flanges 56 to which rails 54 are secured by bolts 57.

Rails 54 are also supported by brace plates 58, one end of which are secured on the inside flange 56 by bolts 57 and the other end attached by bolt 59 to rail 54, see Figs. 11, 12, 13.

Car 52 has at the top and bottom edges of side next to tower and about midway thereof wheels 60 that are adapted to support the car on rails 54; and also pivotally connected to this side of car are other supporting wheels 61 that adjust themselves to the continual change of pitch in the contour of spiral railway from top to bottom.

Car 52 is provided with motor 62 that is properly connected to control and drive gears 63 that mesh with spiral rack bars 64 secured to rails 54.

The construction and operation of motor 62 and associated parts are old and well known and are not described in detail.

Frame of tower 12 is enclosed with a wall 65 that can be of any desired material, preferably sheet steel and which can be ornamented as shown in Fig. 1; and through this wall are the window and door openings 66 that can be of any form or size and secured in place in any usual way.

I claim:

1. In an observation, amusement and utility tower, eight wings spaced equidistantly apart and extending radially from a common center, said eight wings formed of sheet steel plates secured together, a hollow center column securing the lower parts of said wings together, an auditorium above said center column and within openings through said wings, said wings and column supporting said auditorium, and other supports for said auditorium.

2. In an observation, amusement and utility tower, eight supports spaced equidistantly apart and extending radially from a common center, a center column securing the lower parts of said supports together, an auditorium above said center column, elevator shafts in said center column, stairways around said center column, and a passageway connecting said elevator shafts and stairways with said auditorium.

3. In an observation, amusement and util-

ity tower, eight supports spaced equidistantly apart and extending radially from a common center, a base and anchorage for said eight supports, a center column securing the lower parts of said eight supports together, an auditorium above said center column, elevator shafts in said center column, spiral stairways around said center column, and platforms and other stairways connecting said elevator shafts and spiral stairways with said auditorium.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 31st day of March, 1920.

ALLAN C. RUSH.

Witnesses:
JAMES R. TOWNSEND,
WILLIAM M. GENTLE.