5 Sheets—Sheet 1.

T. R. TIMBY.

Gun-Turret.

No. 36,593. Patented Sept. 30, 1862.

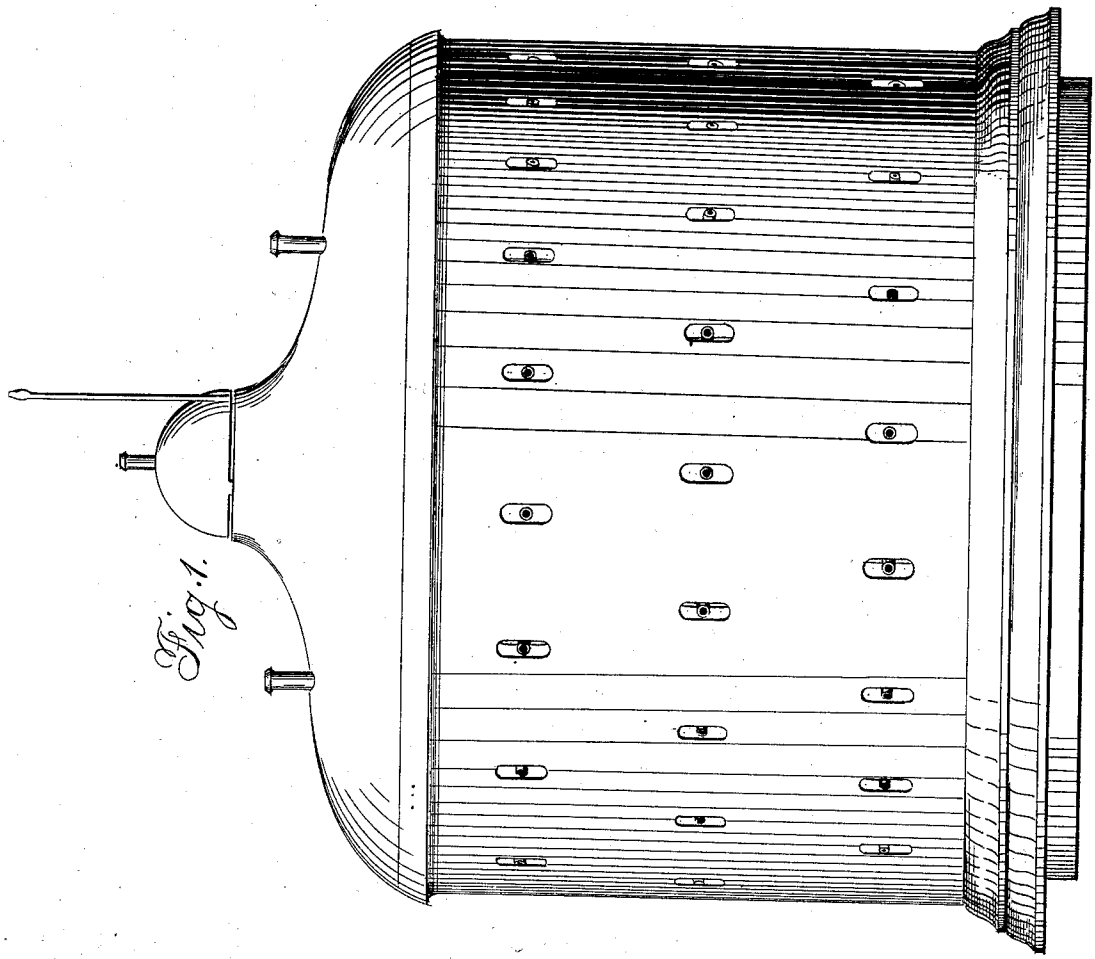

Fig. 1.

Witnesses:
Danl. H. Bowi.
A. Washington

Theodore R. Timby
Inventor.

5 Sheets—Sheet 2

T. R. TIMBY.

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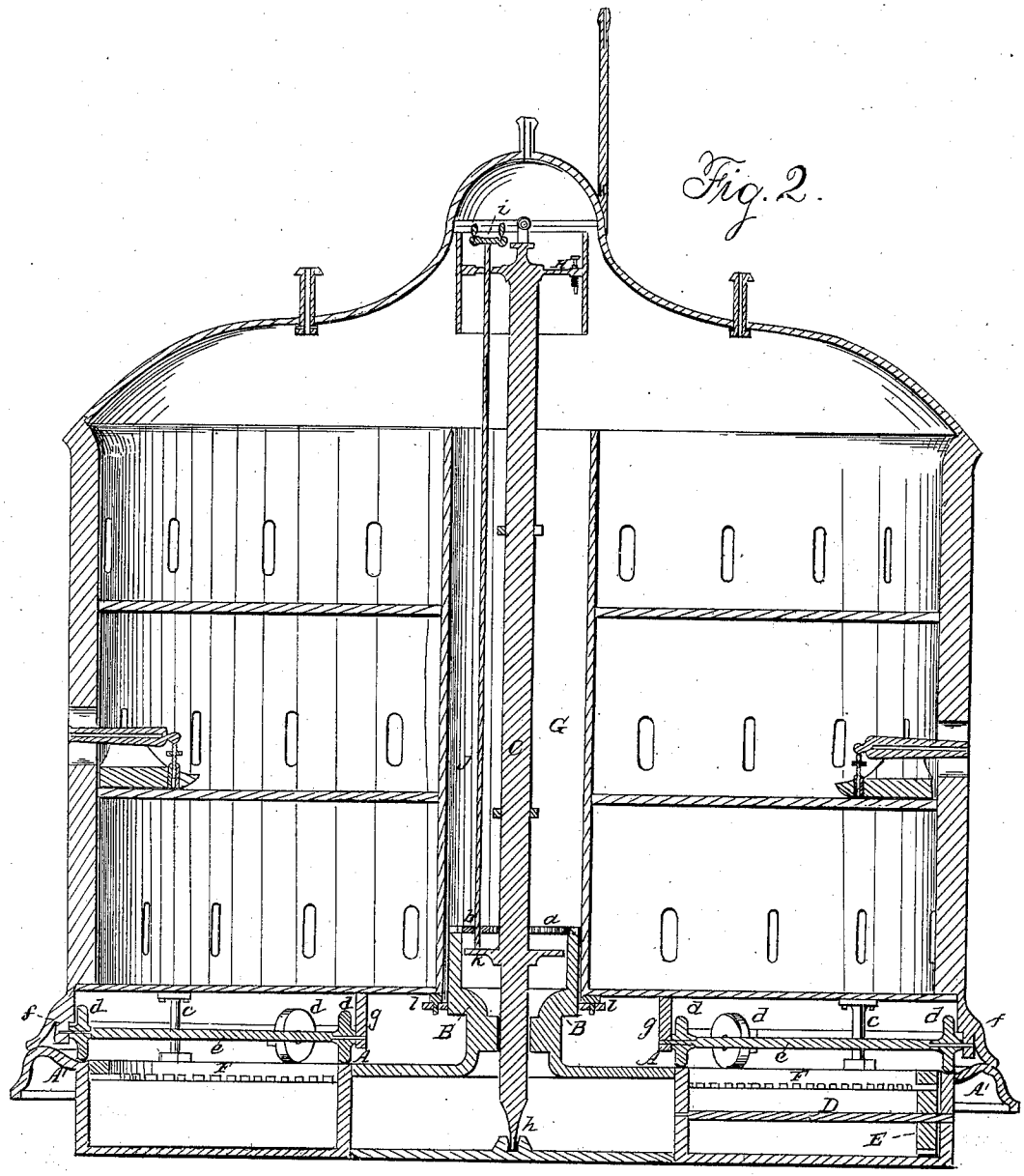
Fig. 2.



5 Sheets—Sheet 3

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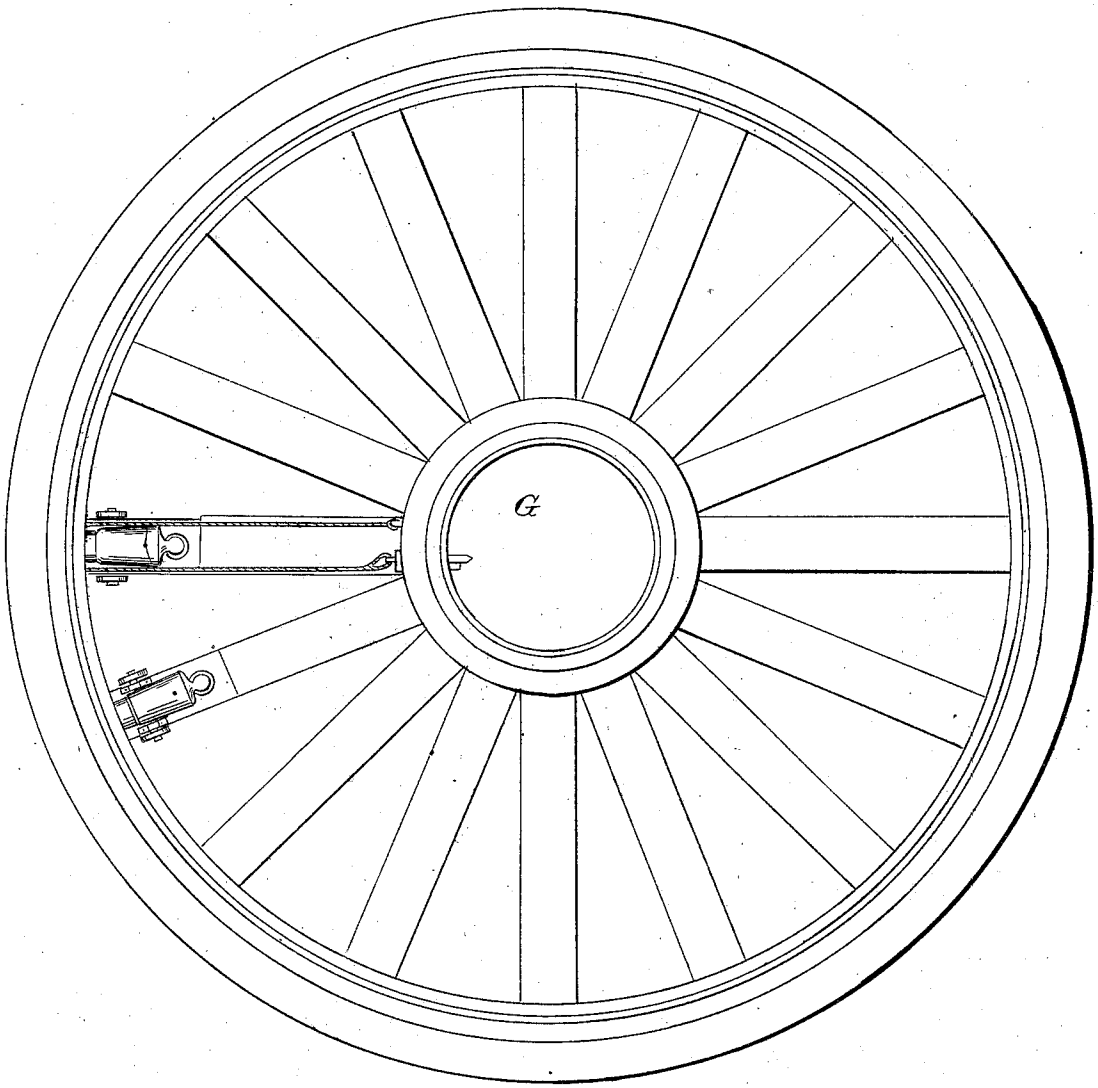
Patented Sept. 30, 1862.

Fig. 3.



5 Sheets—Sheet 4

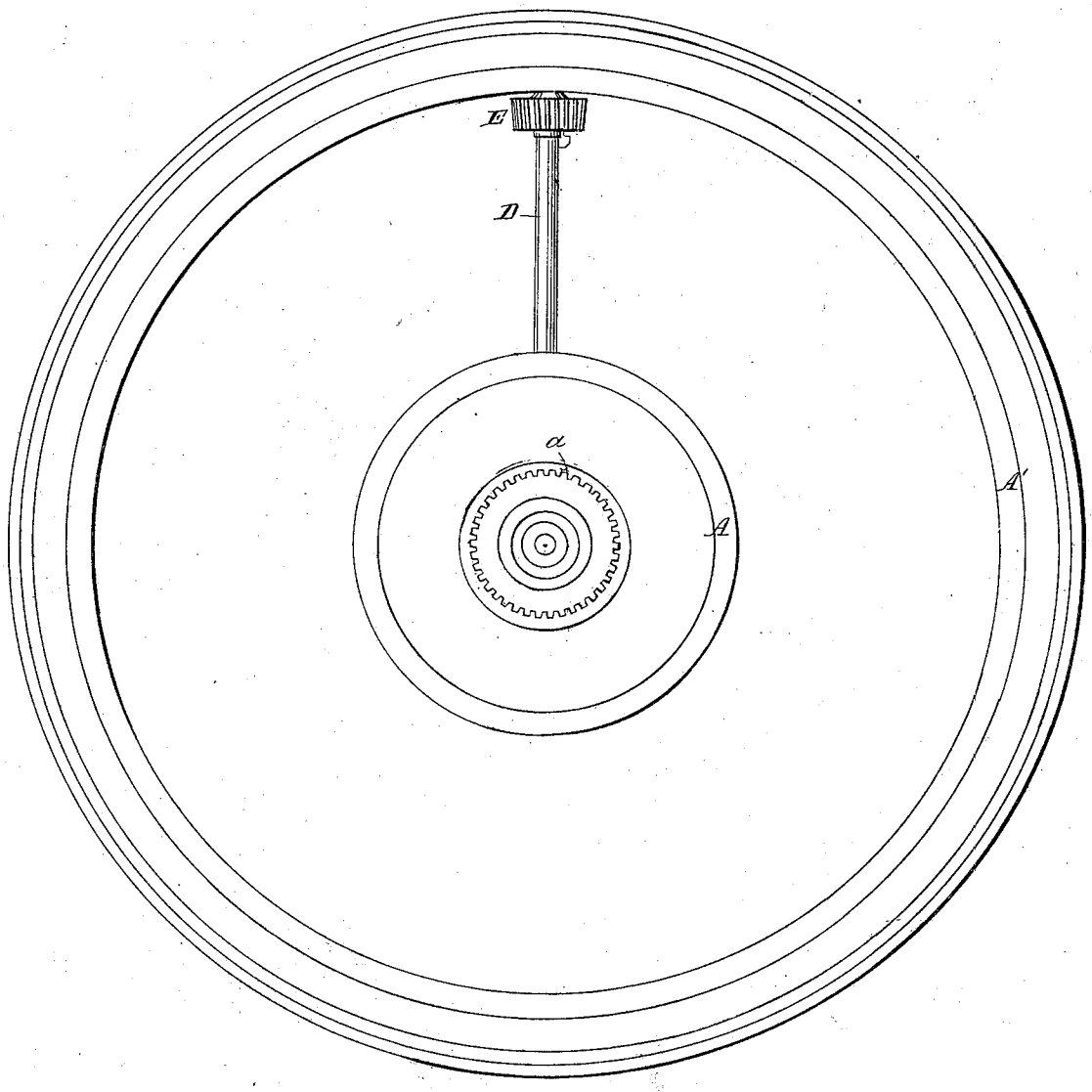
T. R. TIMBY.

Gun-Turret.

No. 36,593

Patented Sept. 30, 1862.

Fig 4.



T. R. TIMBY.

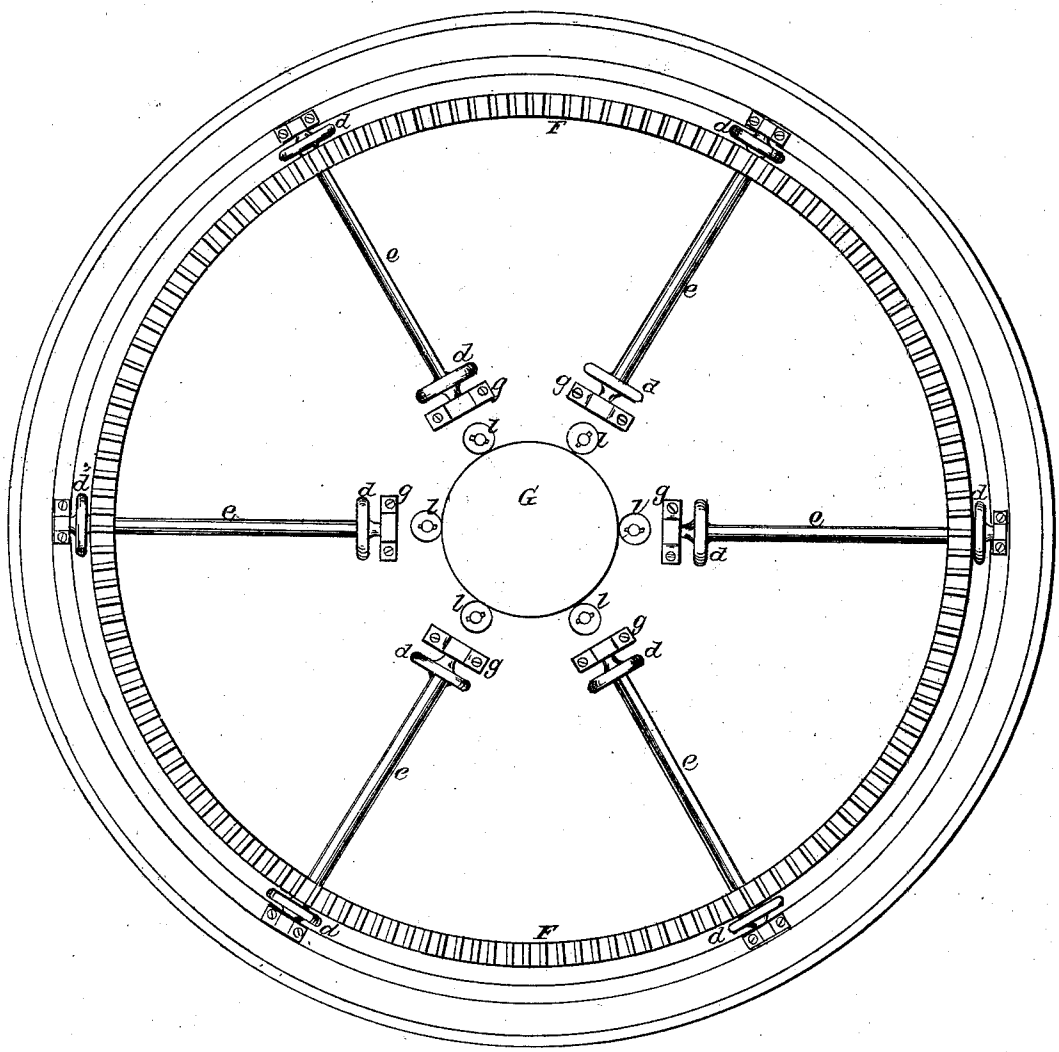
Gun-Turret.

No. 36,593

5 Sheets—Sheet 5

Patented Sept. 30, 1862.

Fig: 5.



UNITED STATES PATENT OFFICE.

THEODORE R. TIMBY, OF WORCESTER, MASSACHUSETTS.

IMPROVEMENT IN REVOLVING BATTERY-TOWERS.

Specification forming part of Letters Patent No. **36,593**, dated September 30, 1862; antedated July 8, 1862.

To all whom it may concern:

Be it known that I, THEODORE R. TIMBY, of Worcester, in the county of Worcester and State of Massachusetts, have invented a Revolving Tower, to be stationed on land or water, for defensive or offensive warfare; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is an elevation; Fig. 2, a vertical section of the same and its operating mechanism; Fig. 3, a plan of a tier of guns; Fig. 4, a plan of the foundation and railways, and Fig. 5 a view of the bottom of the tower.

Prior to my invention all permanent land-forts were made of stone, brick, or earth, and, being stationary, only a limited number of guns, compared with the whole, could be brought to bear upon a passing vessel or upon a land attack at the same time; hence, more especially since the introduction of steam for the propulsion of ships of war, it is no difficult matter to pass them, almost with impunity. A like remark is applicable to ships of war as constructed before and since the practical conception of my idea until a very recent period. Ships against ships, or ships attacking forts, can at most discharge but a single broadside, when an interval must elapse for reloading or for veering or wearing ship.

The object of my invention is to enhance the effectiveness of land-forts, floating-batteries, and ships of war; and I claim that I have done this to the extent of rendering them impregnable, when properly defended, against any engine of war or any mode of attack now known.

It consists in causing a tower, whether built on land or water, to revolve continuously or intermittently in either direction around its vertical axis, at the option of the commander, so that all its guns may be brought successively to bear upon the same point of defense or attack.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

My revolving tower, whether placed on land or water, is constructed entirely of iron or steel plates, of any desired thickness, either in the particulars or aggregate; or it may be backed up or lined with timber or other suitable material. Its form may be cylindrical or conico-cylindrical, a truncated cone, or a pyramid, and it may or not be covered with a bomb-proof roofing, having a lookout. In a ship's tower, however, the roofing should always be used when it may be dome-formed or something of the shape of a flattened bell, the barrel of which is intended to receive the commander's station or platform within it, and the lookout, which may be an interrupted slot or aperture through it, while its expanding periphery rests upon the outer wall or rampart. The tower may have one or more tiers of guns, but it will be found generally that one tier is all that a sea-going vessel will need or bear. The guns slide in and out of battery upon radial ways, as seen in Fig. 3, and of course their extreme number in each tier will be regulated by the circumference of the walls. The tower revolves upon its base or foundation around its vertical axis by steam or other power, and through the instrumentality of well-known or other mechanical agents, so that its guns may be directed to any point of the compass, follow a moving object, or attack a stationary one, the time occupied in the revolution of the tower being sufficient to allow the guns to cool sufficiently for repeated discharges.

Such is a general description of my revolving tower.

I shall now proceed to specify those parts (in connection with others) which give it the peculiarity I here claim as new. In the case of a land-tower, the ground is excavated for the purpose of receiving the strong masonry or iron foundation necessary to support the circular-railway tracks A A′; but for a water-tower, the tracks, consisting of two concentric castings, cast whole or in sections, are located about three feet below the deck, so that only about two-thirds of the altitude of the tower will be exposed above. From the center of this foundation, or from the center of the tracks, rises the pivot or short shaft B, which is cast or otherwise made hollow to receive the circular rack *a*, pinion *b*, and shaft C. The driving-shaft D, carrying the pinion E, has its bearings in the foundations upon which the railway-tracks are laid, as represented in Fig. 2, and extends to the motor, which is situated from under the tower a proper distance, and on land is locat-

ed in a bomb-proof vault. To the base of the tower is fastened the large wheel F, by means of the hangers *c*, having teeth upon its under face with which the teeth of the pinion E mesh. The tracks A A′ being of unequal radii, the friction-rollers *d* revolve, each series independently of the other, on the shafts *e*, whose bearings are in the base of the tower and in the hangers *g* and *f*. Friction-rollers *l* are also arranged around the bottom of the well G, bearing against the pivot or short shaft B to prevent lateral deflection of the tower, as well as to lessen friction. The well or curb G, which is constructed concentrically with the axis of the tower, receives at its base the hollow pivot or shaft B, and through it and the hollow pivot or shaft passes the shaft C, which is stepped at *h*, and carries upon its upper end the platform H, upon which the commander stands and turns himself to any desired point of the compass by means of the hand-wheel *i*, where working-shaft *j* is stepped in the fixed collar *k*, and carries the pinion *b*, which meshes with the circular rack *a*.

I intend to arrange a telescopic sight upon the platform H in the same horizontal plane with the lookout through the dome, and in the same vertical plane with a circuit closer and breaker connected with an insulated rod or wire attached to the shaft C, and communicating with one pole of an electric battery, so that when the sight is arranged at the will of the commander each gun, in the rotation of the tower, will be discharged as it comes in the same vertical plane with the sight, in consequence of a second circuit closer and breaker, which communicates with the other pole of the battery coming in contact with the first. But as this feature forms the subject of another application, it need not be here more particularly described.

The present application relates exclusively, as far as any claim is to be founded thereon, to the revolving tower, and from the description already given it will be perceived that power being communicated to the shaft D the pinion E imparts it to the circular rack F, when the structure revolves around the pivot B with a speed controlled by the commander on his platform by means of signals extending from the said platform to the engineer.

Although I have described certain mechanism for effecting the revolution of the tower, yet this is only by way of illustration. I wish it to be distinctly understood that I do not limit myself to any mechanical means for producing the revolution, nor to any form of tower, nor yet to the materials of which it may be constructed; but,

Having described my invention and the manner in which it operates, and having pointed out one method of practically carrying it into effect, what I claim therein as new, and desire to secure by Letters Patent of the United States, is—

A revolving tower for defensive and offensive warfare, whether placed on land or water.

THEODORE R. TIMBY.

Witnesses:
EDM. F. BROWN,
J. W. SHUGERT.