

(No Model.)

W. H. AVEY.
GUNBOAT TURRET.

3 Sheets—Sheet 1.

No. 461,517.

Patented Oct. 20, 1891.

Fig. 1.

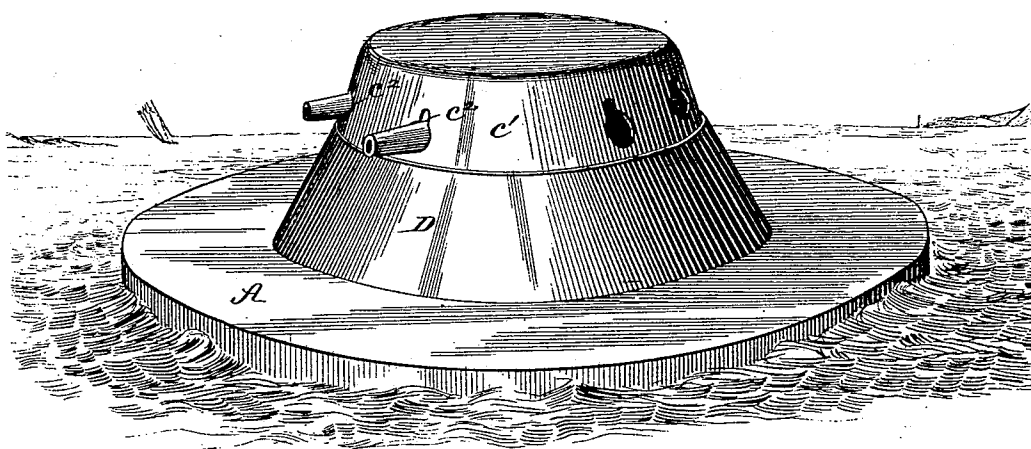
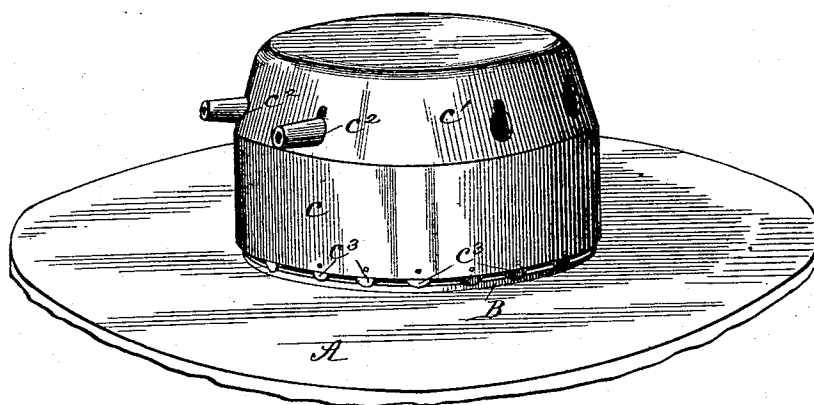


Fig. 2.



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Fig. 3.

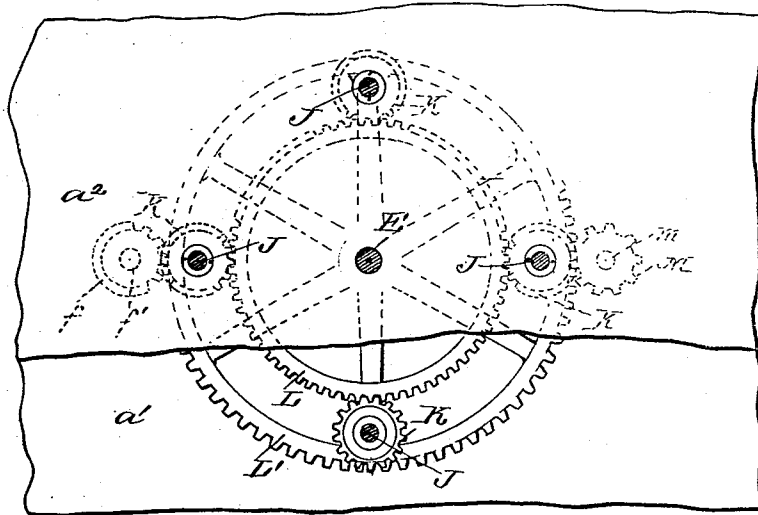
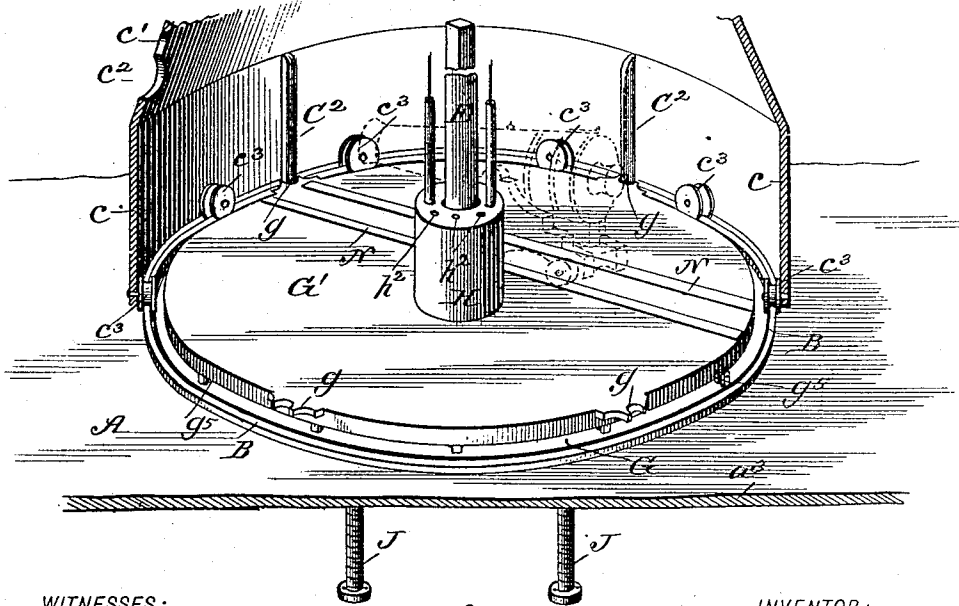


Fig. 5.



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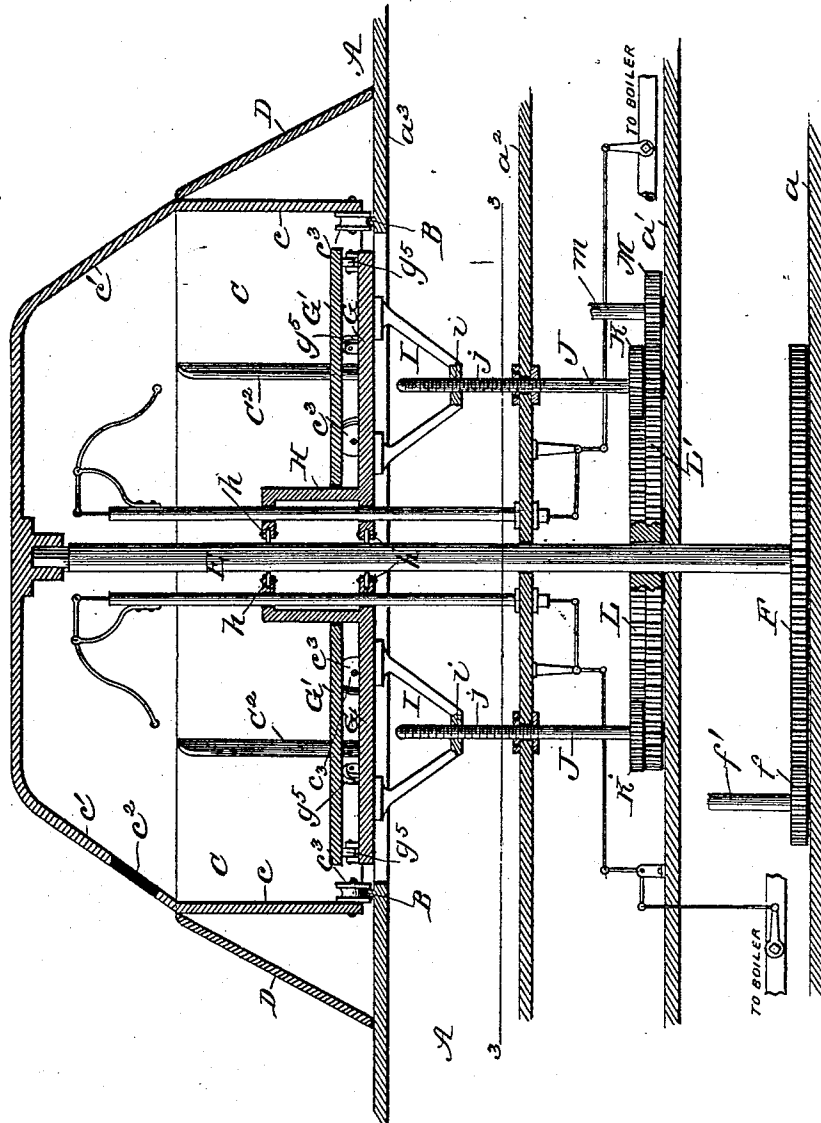
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Fig. A.



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UNITED STATES PATENT OFFICE.

WILLIAM H. AVEY, OF COLUMBUS, KENTUCKY.

GUNBOAT-TURRET.

SPECIFICATION forming part of Letters Patent No. 461,517, dated October 20, 1891.

Application filed August 29, 1891. Serial No. 404,155. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. AVEY, residing at Columbus, Hickman county, State of Kentucky, have invented a new and useful
5 Improvement in Gunboat-Turrets, of which the following is a specification.

My invention has for its object to provide a gunboat-turret in which the cannon platform or floor is adapted for vertical adjustment and which is held to revolve with the turret or shield proper; and it consists in the peculiar combination and novel arrangement of parts, such as will hereinafter be fully described in the annexed specification and particularly pointed out in the claims, reference
15 being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved turret. Fig. 2 is a similar view of the same with the flange or skirt removed. Fig. 3 is a horizontal section on the line 3 3, Fig. 4. Fig. 4 is a vertical longitudinal section, and Fig. 5 is a detail perspective view, of the cannon-supporting platform.

25 In the accompanying drawings, A indicates a portion of the framing of the boat, and a' a^2 a series of floors, and a^3 the main deck or iron platform upon which the turret mechanism is supported. By reference to Figs. 2 and 4 it will be observed that upon the main deck or frame a^4 is formed a circular guide-rail B, upon which is mounted the main turret-body C, which is formed of a straight vertical portion c and the cone-shaped top portion c' , which portion is provided with any
30 desired number of port-holes c^2 , as shown, said body C being supported upon a series of track-wheels c^3 , which fit the rail B, and are held to travel therein in a manner presently
40 explained.

By tapering the upper part of the turret-body, as stated, it will be observed that it will serve to deflect the projectiles which may be shot against it, and to further protect the
45 turret-body and to produce a still greater glancing-surface, a hood or skirt portion D is formed over the lower or vertical part c of the turret-body C, such skirt being flared out, as shown most clearly in Fig. 4, from
50 which it will be noticed that such skirt extends down to near the platform a^3 and effectually protects the rail-support of the turret C.

The said turret C is held to rotate with a central shaft E, which extends down through the several floors a' a^2 into the lowermost compartment, where it is provided with a large gear
55 or master wheel F, which is driven by the gear f on a drive-shaft f' , driven by suitably-arranged horizontal engines. (Not shown.) The upper end of the shaft E has secured to
60 it the hood or turret-body C, which rotates with the shaft, as will be understood from the drawings.

G indicates the cannon supporting or hoist floor, which is circular and fits inside the vertical portion of the body C, is held for vertical adjustment therein, and to turn therewith,
65 it being provided with a number of guide-flanges g g , with which engage vertical guide-flanges C^2 on the inside of the body C, which
70 serve the double purpose of guiding the vertical adjustment of the floor and for making a connection between the turret-body C and the floor, whereby the two are caused to rotate together.

75 G' indicates the cannon-floor, which is mounted on rollers g^5 on the hoist-floor, whereby it is capable of independent rotation on the hoist-floor.

H indicates a hollow sleeve, which has anti-friction bearings h h at its upper and lower edges against the shaft E, and extends up, through the cannon-floor, it being provided with apertures h^2 h^2 , whereby such sleeve will
80 effectually serve as a ventilator.

85 Upon the under side of the hoist-floor a number of brackets I I are provided, formed with screw-apertures i i , in which fit the screw-shanks j of the elevating-rods J, the lower ends of which pass through lubricated bearings in the floor a^2 and extend into the middle compartment, where they are provided with cog-gears K K, which mesh with a cog-wheel L, secured to or cast integral with a
90 larger cog-wheel L', loosely journaled in the main shaft E and driven by the wheel M on the shaft m , which in turn is driven by the engines held on the boat in any well-known manner. By this construction it will be seen that the hoist-floor can be quickly elevated
95 or lowered by the reversing of the shaft m , which in its movement will cause the several screw-rods J to rotate and lift the brackets I I and the hoist-floor.

In practice a pipe extends through the tube H down to the second compartment, which holds the hoist-power, in which a lever is arranged which can be operated from the turret-chamber, and which in turn will operate a suitably-arranged butterfly-valve, which will serve to reverse the motion of the hoist mechanism, as desired.

N indicates the rail upon which the cannon is run to or from the port-holes, such cannon being suitably supported in a truck-frame, as shown.

In operation when the floor is lowered the cannon is first drawn inward, and can be sighted, if desired, and it and the floor raised to the desired height, when the cannon will be moved so that its small end will project through the port-hole and close it.

It will be understood that, while I have not shown them, shutters or slides operated from the inside of the turret may be employed to close the ports.

From the foregoing description, taken in connection with the drawings, the advantages and operation of my improved turret will be readily understood. The same is exceedingly simple in its construction, easy to manipulate, and effective for the desired purpose.

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

1. The combination, with the deck α^3 , of the drive-shaft E, projected above said deck, the body C, mounted on the shaft E and held to revolve on the deck α^3 , and the hoist-platform G, arranged for vertical adjustment within the body C, and the cannon-floor G', connected with the body C and rotated thereby, substantially as and for the purpose described.

2. The combination, with the open deck α^3 and the drive-shaft E projected above the same, of the turret-body C, mounted on said

shaft and held to rotate on the deck, said body having a vertical portion c and an outwardly-flared skirt or flange D, arranged around and held from the said vertical portion c, as and for the purpose described.

3. An improved turret comprising a main deck α^3 , the drive-shaft E, projected above the deck, a turret-body C, mounted on the shaft and held to be revolved on the deck by the turning of said shaft, the hoist-floor G, operating within the body C, vertically adjustable therein, a cannon-supporting floor mounted on the hoist-floor to be connected with the turret-body C and arranged to be revolved on the hoist-floor, and means for adjusting the hoist-floor, substantially as and for the purpose described.

4. The combination, with the open deck α^3 , the drive-shaft E, the turret-body C, mounted thereon and revolved thereby, and the vertically-adjustable hoist-floor G, operating within the body C, of the cannon-floor connected with the body C to be turned thereby and supported on the hoist-floor, said hoist-floor G having a tube portion K surrounding the shaft and projected up into the body C, substantially in the manner and for the purpose described.

5. The combination, with the open deck α^3 , the drive-shaft E, and the turret-body held thereon and revolved thereby, provided with vertical guides C² on its inner face, of the cannon-floor G', having radial lugs arranged to engage and travel on the guides C², and the hoisting and driving mechanism, arranged substantially as shown and for the purpose described.

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Witnesses:

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