S. Wilmarth.
Turret.

No. 51,378. Patented Dec. 5, 1865.

Fig. 1.

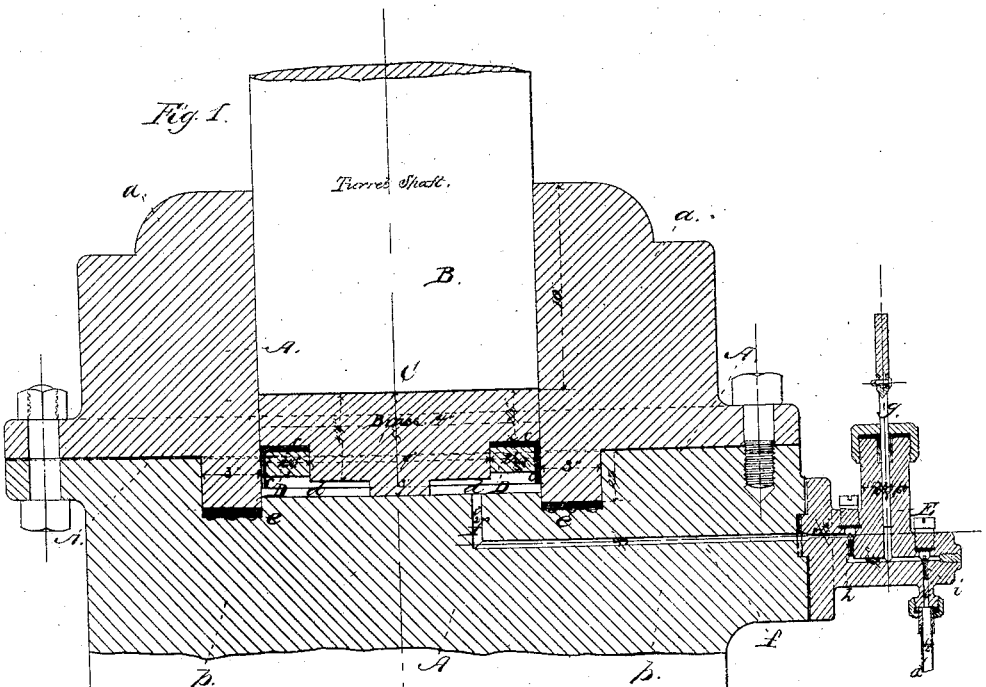
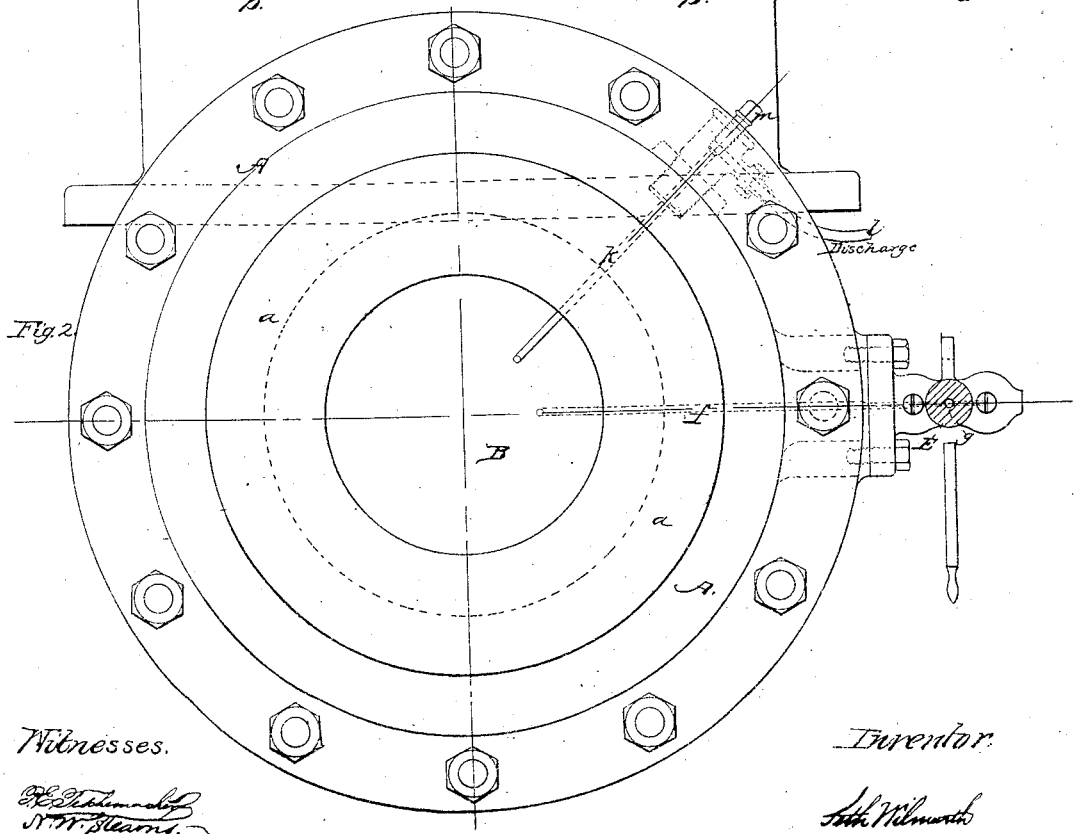


Fig. 2.



Witnesses.

E. E. Hebbard
N. W. Stearns

Inventor.

Seth Wilmarth

UNITED STATES PATENT OFFICE.

SETH WILMARTH, OF BOSTON, MASSACHUSETTS

IMPROVED MEANS OF RAISING MONITOR-TURRETS BY HYDRAULIC PRESSURE.

Specification forming part of Letters Patent No. **51,378**, dated December 5, 1865.

To all whom it may concern:

Be it known that I, SETH WILMARTH, of Boston, in the county of Suffolk and State of Massachusetts, have invented a Method of Raising the Turrets of Iron-Clad or Wooden Vessels by Hydraulic Pressure, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a central longitudinal section through the step in which the turret-shaft revolves, together with the hydraulic apparatus for raising the shaft, the lower end of which is shown in elevation. Fig. 2 is a plan of the same.

The ordinary device employed in raising the turrets of monitors or other iron-clad or wooden vessels when they are required to be revolved is that of a wedge operated by a screw. The removal of this wedge when the turret is to be lowered is attended with very great labor and inconvenience, and causes the turret to fall so suddenly as to occasion very considerable jarring or concussion on the decks and surrounding parts.

To overcome these difficulties is the object of my invention, which consists in the application of hydraulic pressure to the turret, either at the step or foot of the shaft upon which the turret revolves, or elsewhere, whereby I am enabled to raise or lower the turret uniformly in an expeditious manner, without the possibility of jarring or straining the parts in connection therewith.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawings, A is the step in which revolves the turret-shaft B. The step A is made in two pieces, *a b*, Fig. 1, so as to allow of raising the upper piece, *a*, for the purpose of adjusting the packing *c*. The lower end of the turret-shaft B rests upon a disk, C, of brass, which is turned down so as to leave a space or chamber, *d*, into which oil or other liquid is forced, in a manner presently to be described. The packing *c* is held in place by means of a metallic ring, D, which fits over the lower portion of the disk C, as seen in Fig. 1, the packing *c* extending below the ring, and being pressed forcibly, by the liquid in the chamber *d*, against the inside of the step A, thus forming a perfectly tight joint. A packing, *e*, is also interposed between the pieces *a* and *b* of the step A to prevent the escape of the liquid in this direction. *f* is a passage connecting with a hydraulic pump, E, which is provided with a piston, *g*, and valves *h i*, of the ordinary construction, and is supplied through the suction-pipe *j*, which leads to a cistern containing the liquid to be employed.

On operating the pump E, the liquid is drawn up through the pipe *j*, and forced through the passage *f* into the chamber *d*, raising the disk C and with it the turret-shaft B, which can then be revolved as required.

k is a passage (seen dotted in Fig. 2) leading from the chamber *d* to the discharge-pipe *l*, through which the liquid in the chamber *d* is allowed to escape by turning the stop-cock *m*, when it is desired to lower the turret-shaft B, which is thus effected gradually and without any sudden jar.

Instead of the turret-shaft resting on a disk, C, as shown, the disk may be dispensed with, and the lower end of the turret-shaft turned down and provided with packing, in a similar manner to the disk. The method first described, however, is that which I prefer.

The above-described apparatus is of simple construction, and may be easily and rapidly operated by one man, while the jarring and concussion heretofore experienced is entirely avoided.

When great dispatch is required, one or more additional pumps may be employed, having a piston or pistons of greater diameter, the larger pump or pumps being used until the pressure is too great, when the operation may be completed by working the smaller pump E.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Raising the turrets of iron-clad or wooden vessels by means of hydraulic pressure, substantially as and for the purpose set forth.

2. Packing the foot of the turret-shaft B by means of the disk C, packing-ring D, and packing *c*, in combination with the hydraulic pump E, inlet-passage *f*, and outlet-passage *k*, operating substantially as described

SETH WILMARTH.

Witnesses:

P. E. TESCHEMACHER,

N. W. STEARNS.