

**No. 677,868.**

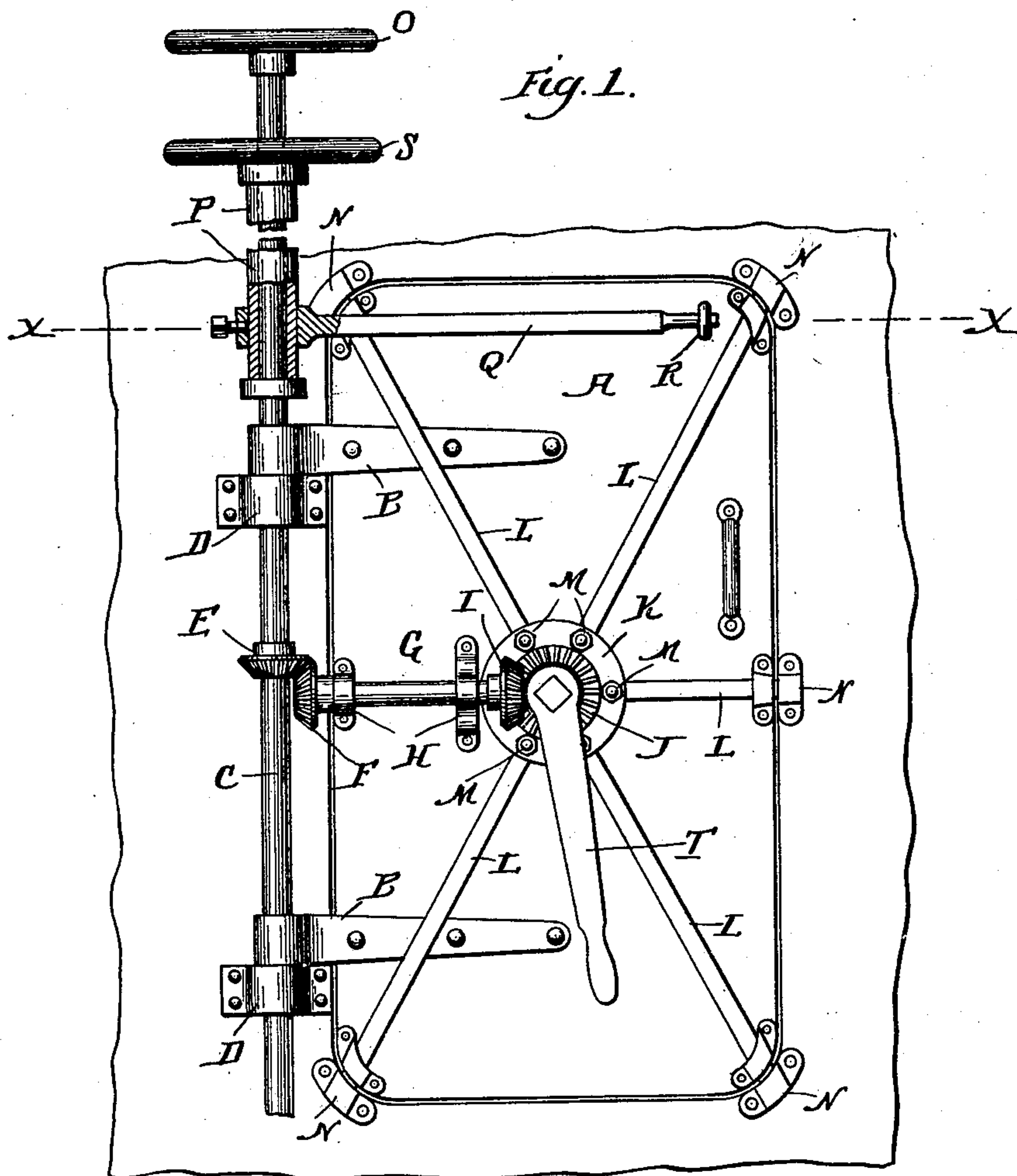
**Patented July 9, 1901.**

**J. A. KESSLER.**

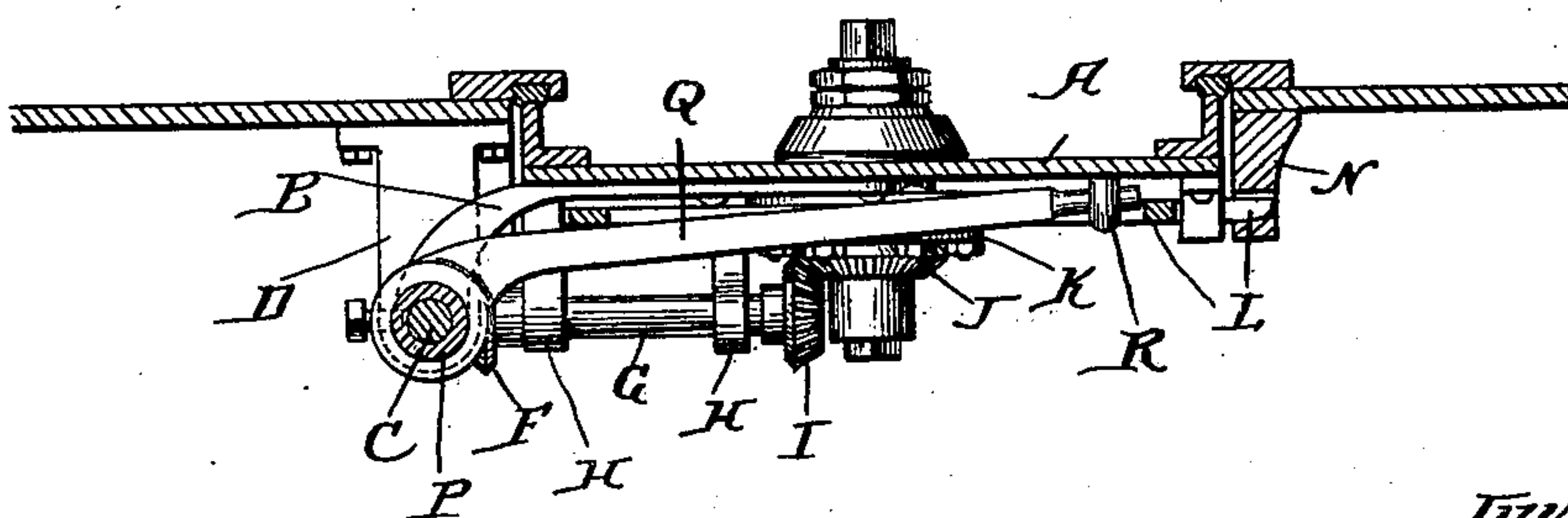
**SHIP'S DOOR.**

(Application filed July 26, 1900.)

(No Model.)



*Fig. 2.*



Witnesses:

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# UNITED STATES PATENT OFFICE.

JOHN A. KESSLER, OF PHILADELPHIA, PENNSYLVANIA.

## SHIP'S DOOR.

SPECIFICATION forming part of Letters Patent No. 677,868, dated July 9, 1901.

Application filed July 26, 1900. Serial No. 24,956. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN A. KESSLER, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Ships' Doors, of which the following is a specification.

My invention relates to a new and useful improvement in mechanism for operating ships' doors, and is intended as an improvement upon United States Patent No. 652,462, granted to me June 26, 1900, and has for its object to provide means for operating a ship's door from the decks of the vessel without interfering with the operation of such doors in the usual manner.

With this end in view this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, the construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is an elevation of a ship's door, showing the mechanism for operating the same; and Fig. 2, a section at the line  $x x$  of Fig. 1.

In carrying out my invention as here embodied, A represents the door, which is swung upon the hinges B, the latter being journaled on the rod C, said rod being journaled in the bearings D. A bevel-pinion E is secured upon the rod C and meshes with a corresponding pinion F, secured upon the short horizontal shaft G, which latter is journaled in the bearings H, projecting from the door A. Upon the opposite end of this short shaft is secured a bevel-pinion I, which in turn meshes with the bevel-gear J, the latter being secured to the bolt-disk K.

The several bolts L are pivoted to the disk K at M in the same manner and for the same purpose as that shown and described in the above-referred-to patent, from which it will be seen that when the vertical shaft C is revolved the noses of the bolts will be withdrawn from their keepers N through the action of the train of gears just described, and

as this vertical shaft may be extended through the decks of the vessel to any desired point and carries a hand-wheel O the door may be unbolted or bolted by the proper manipulation of this hand-wheel.

In order that the door may be swung open or closed after it has been unbolted, I provide a hollow shaft P, which is journaled upon the vertical shaft C, and this hollow shaft has secured to its lower end the lever Q, the outer end of which is attached to the door, as indicated at R. A hand-wheel S is secured to the upper end of the hollow shaft, so that by revolving this wheel in one direction or the other the door may be swung open or closed, as the case may be.

From the foregoing description it will be seen that with the wheels O and S located in a convenient place above the decks the doors may be unbolted and swung open or closed and bolted without the necessity of a person going to the door, and this is of great importance in cases of emergency—as, for instance, where rapid leakage is taking place from accident or other cause and it becomes necessary to close the doors and direct access cannot be had thereto.

If desired, a number of the shafts may be coupled together by sprocket-chain or other suitable gearing and series of doors placed under the control of an operator from a single point, and if desirable the mechanism may be operated by a suitable motor. It is to be noted that each door may also be operated by the hand-lever or key T, since this lever likewise turns the bolt-disk K for operating the bolts.

Having thus fully described my invention, what I claim as new and useful is—

1. In combination with a ship's door, a central disk K, adapted to be rotated, a series of bolts pivoted to said disk to be operated by the turning of the latter, a bevel-gear carried by the disk, a pinion meshing with said gear, a short shaft on which said pinion is secured, a second bevel-pinion E, meshing with the last-named pinion, a shaft on which the pinion E, is secured, an arm for operating the door and means for oscillating the arm, as and for the purpose described.

2. In combination with a door of the character described, a train of gears arranged to

operate the bolt-disk for retracting or shooting the bolts, a vertical shaft journaled coincident with the hinging of the door, a gear carried by the vertical shaft meshing with  
5 said train of gears, means attached to the upper end of the shaft for operating the same, a hollow shaft journaled around the vertical shaft, an arm carried by the hollow shaft and connected with the door for swinging the latter upon its hinges, means attached to the

upper end of the hollow shaft for operating the same, as specified.

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

JOHN A. KESSLER.

Witnesses:

WM. D. NEES,  
EMMA M. NEES.