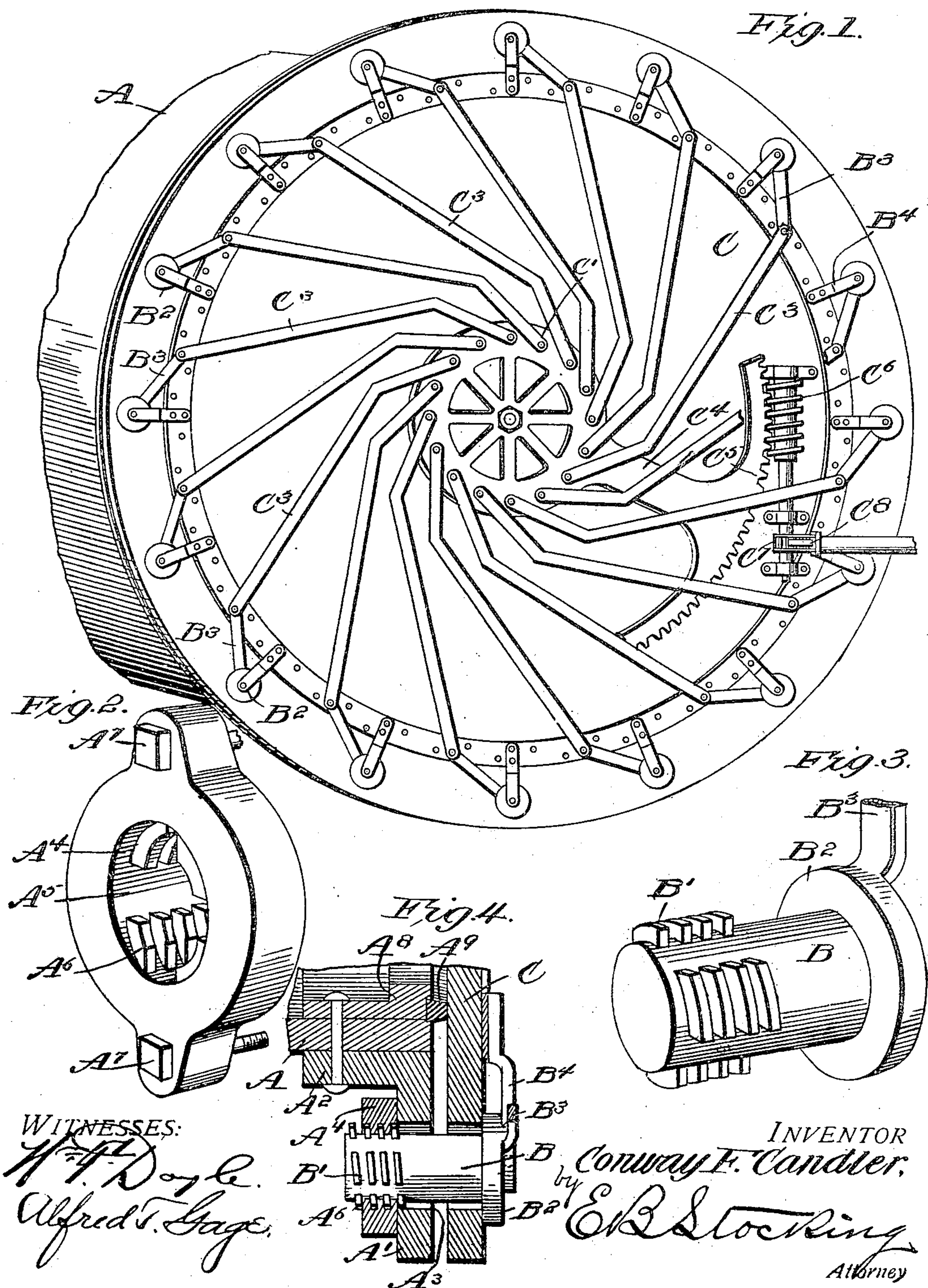


No. 801,213.

PATENTED OCT. 10, 1905.

C. F. CANDLER.  
CYLINDER HEAD.

APPLICATION FILED FEB. 4, 1905.





# UNITED STATES PATENT OFFICE.

CONWAY F. CANDLER, OF CANDLER, NORTH CAROLINA.

## CYLINDER-HEAD.

No. 801,213.

Specification of Letters Patent.

Patented Oct. 10, 1905.

Application filed February 4, 1905. Serial No. 244,218.

*To all whom it may concern:*

Be it known that I, CONWAY F. CANDLER, a citizen of the United States, residing at Candler, in the county of Buncombe, State of North Carolina, have invented certain new and useful Improvements in Cylinder-Heads, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to a cylinder-head, and particularly to a structure adapted for convenient rapid removal and replacement to permit access to the cylinder.

15 An object of the invention is to provide a removable cylinder-head for that class of devices in which articles are placed within the cylinder and subjected to steam or other vapor for the purpose of treating the same, which head by means of its simultaneously-operated 20 attaching and securing means is adapted for convenient and immediate removal to permit access to the cylinder.

25 Other and further objects and advantages of the invention will be hereinafter set forth, and the novel features thereof defined by the appended claims.

30 In the drawings, Figure 1 is a perspective of the invention; Fig. 2, a similar view of one of the disks or taps secured to the cylinder-flange; Fig. 3, a perspective of the screw-bolt coöperating with said tap, and Fig. 4 an enlarged vertical section through the screw and tap when assembled.

35 Like letters of reference refer to like parts in the several figures of the drawings.

40 The letter A designates the body of a cylinder, tank, or steam-chest, which may be of any desired dimensions or configuration and is provided at one end with a flange A', secured thereto by any desired means extending through the angle-plate A<sup>2</sup>, carried by said flange. This flange is provided with a series of apertures A<sup>3</sup>, adapted to coöperate with the screw-bolts B of the head C. Opposite each of the apertures A<sup>3</sup> a disk or tap plate A<sup>4</sup> is disposed and the interior of aperture A<sup>5</sup> thereof provided with cut threads A<sup>6</sup>, disposed to coöperate with similar threads B', carried upon the screw-bolt B. As usual in 50 this character of device, the spaces between the threads of the tap are sufficient to permit the passage therethrough by a longitudinal movement of the threaded sections upon the bolt, so that the parts may be slipped together and then thrown into threaded relation by a rotation of the bolt. This tap or disk is secured

to the rear face of the flange A' in any preferred manner—for instance, by means of bolts A<sup>7</sup> at its opposite sides—while the screw B is provided with a head B<sup>2</sup>, having extending therefrom a lever-arm B<sup>3</sup>. These screw-bolts are suitably supported in centered position by means of a bracket B<sup>4</sup>, Fig. 1, secured to the head C, and this head is provided with a centrally-disposed wheel or circular plate C', pivotally mounted at C<sup>2</sup> and connected, by means of the arms C<sup>3</sup>, with each of the levers B<sup>3</sup>, extending from the heads. For the purpose of rotating this circular plate or wheel C' the same may be provided with an arm C<sup>4</sup>, extending therefrom and provided with a segmental gear C<sup>5</sup>, disposed in mesh with a worm-wheel C<sup>6</sup>, journaled upon the head and provided at its lower portion with a ratchet-wheel C<sup>7</sup>, adapted to coöperate with an operating-lever C<sup>8</sup>, provided with the ordinary construction of double pawls to permit the operation of the worm-shaft in either direction by means of its handle. Any desired form of packing may also be used between the head and the end of the cylinder, and one form thereof is illustrated in Fig. 4, wherein a plate A<sup>8</sup> is suitably attached to the inner face of the cylinder at its open end and formed with a socket adapted to receive a dovetail packing-strip A<sup>9</sup>, as shown in Fig. 4.

105 In the operation of the invention it will be seen that the screw-bolts are simultaneously rotated for the purpose of engaging the threads thereon with the threads upon the tap, and thus drawing the head into close contact with the face of the cylinder or the packing carried thereby, and in the reversal of this movement the bolts are brought into such position that the threads thereon pass into the spaces between the threads of the taps, and thus permit a direct withdrawal of the head, thus rendering the invention particularly adapted for application to steam-chests, disinfecting or sterilizing apparatus, and to all uses wherein a frequent removal of the cylinder-head is necessary to obtain access to the contents thereof and in which a tight connection must be effected with a minimum expenditure of time for that purpose.

110 While a number of the bolts have been shown as connected to simultaneously operate, still it will be apparent that they may be varied in number, dependent upon the conditions present in the cylinder or chest upon which they are used.

It will be obvious that changes may be made



in the details of construction and configuration without departing from the spirit of the invention as defined by the appended claims.

Having described my invention and set forth its merits, what I claim, and desire to secure by Letters Patent, is—

1. In a cylinder-head, a plurality of rotatable securing devices carried by said head, co-operating members for said securing devices carried by the cylinder, and means carried by said head for simultaneously operating said securing devices.

2. In a cylinder-head, a plurality of circumferentially-arranged rotatable securing devices carried by said head, coöperating members for said securing devices carried by the cylinder in alinement therewith, a rotatable plate centrally disposed upon said head, connections extending therefrom to said securing devices, and means for oscillating said plate.

3. In a cylinder-head, a plurality of rotatable securing devices carried by said head and provided with operating-levers, coöperating members for said securing devices carried by the cylinder, a rotatable plate centrally disposed upon said head, connections extending therefrom to the levers upon said securing devices, an arm extending from said plate provided with a segmental gear, and a rotatable worm-shaft for operating said gear.

4. In a cylinder-head, a plurality of screws circumferentially mounted on said head to extend laterally therethrough, taps carried by a cylinder to receive said screws, and means for simultaneously operating said screws.

5. In a cylinder-head, a plurality of screws mounted on said head, taps carried by a cylinder to receive said screws and provided with cut threads to slidingly receive similar threads on the screws, and means for imparting a partial rotation to said screws.

6. In a cylinder-head, a plurality of screws mounted on said head, a tap carried by a cylinder to receive said screws and provided with

cut threads to slidingly receive similar threads on the screws, means for imparting a partial rotation to said screws, a packing-ring carried by said cylinder to engage the inner face of said head.

7. In a cylinder-head, a series of circumferentially-disposed securing-screws pivotally mounted upon said head, an apertured flange secured to a cylinder, and tap-plates secured to said flange in alinement with the aperture therein.

8. In a cylinder-head, a series of circumferentially-disposed securing-screws pivotally mounted upon said head, an apertured flange secured to a cylinder, tap-plates secured to said flange in alinement with the aperture therein, a sectional screw-thread disposed upon said screw and tap to permit a sliding movement of said parts into threading relation with each other.

9. In a cylinder-head, a series of securing-screws pivotally mounted upon said head, an apertured flange secured to a cylinder, tap-plates secured to said flange in alinement with the aperture therein, a lever carried by said screws, a rotatable plate carried by said head, and a connection from each of said levers to said plate.

10. In a cylinder-head, a series of securing-screws pivotally mounted upon said head, an apertured flange secured to a cylinder, tap-plates secured to said flange in alinement with the aperture therein, a lever carried by said screws, a rotatable plate carried by said head, a connection from each of said levers to said plate, a segmental gear carried by said plate, a worm-shaft for operating said gear, and an operating-handle carried by said shaft.

In testimony whereof I affix my signature in presence of two witnesses.

CONWAY F. CANDLER.

Witnesses:

CHAS. N. MALONE,

LAWRENCE W. YOUNG.