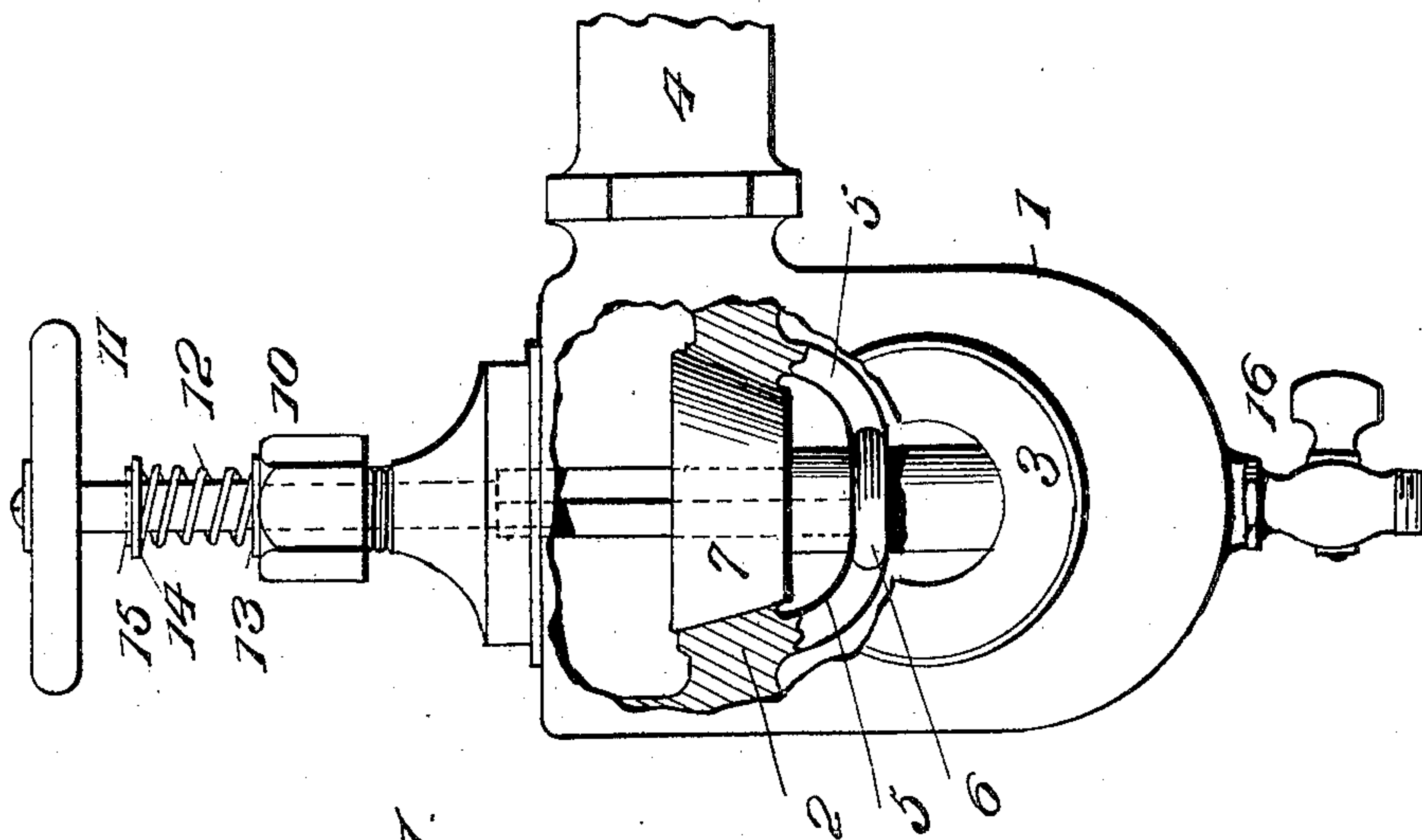
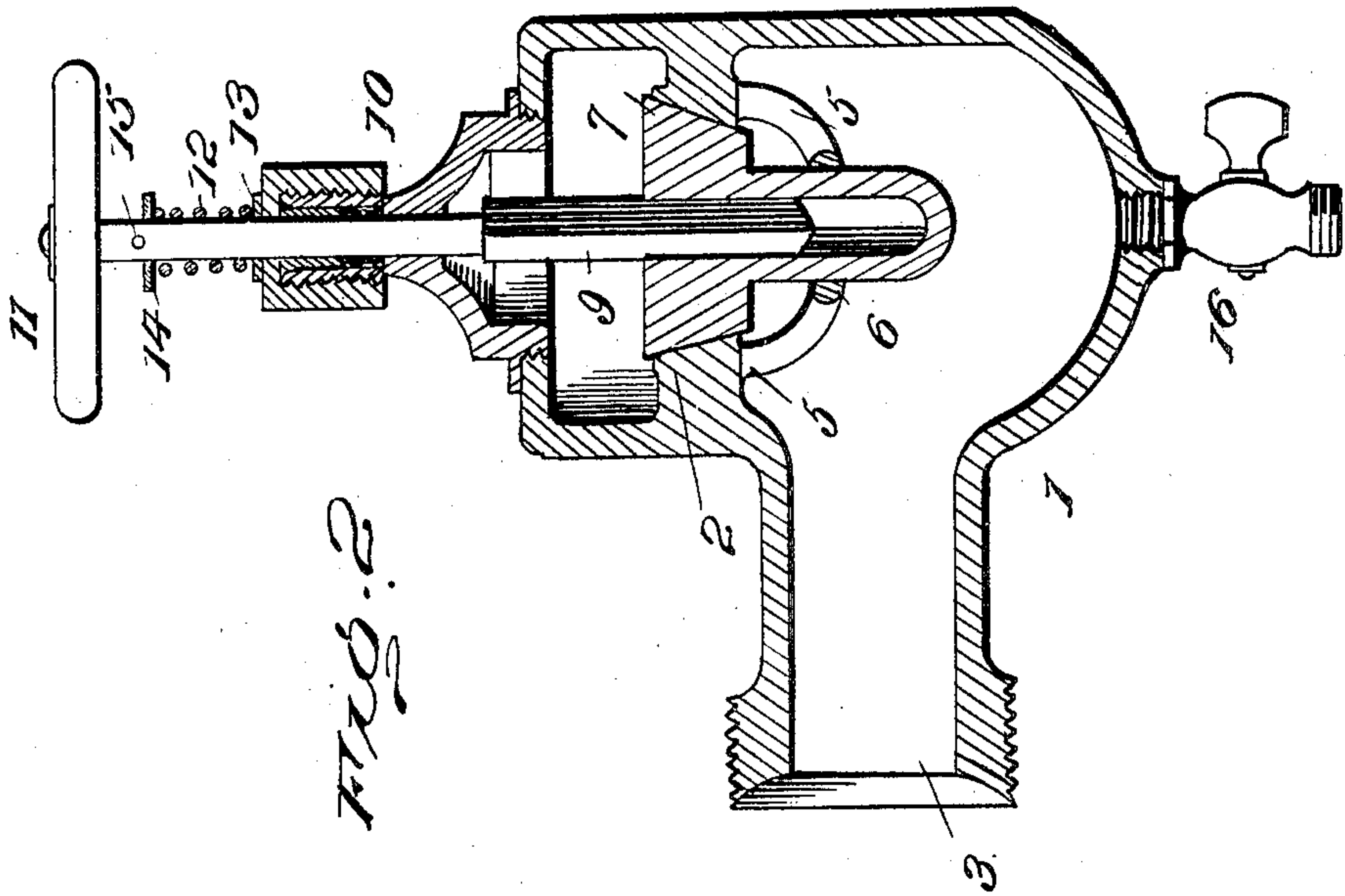


No. 818,485.

PATENTED APR. 24, 1906.

J. C. THOM.
CHECK VALVE.

APPLICATION FILED JUNE 13, 1905.



Inventor

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Witnesses

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UNITED STATES PATENT OFFICE.

JOHN C. THOM, OF SOUTH AMBOY, NEW JERSEY.

CHECK-VALVE.

No. 818,485.

Specification of Letters Patent.

Patented April 24, 1906.

Application filed June 13, 1905. Serial No. 265,078.

To all whom it may concern:

Be it known that I, JOHN C. THOM, a citizen of the United States, residing at South Amboy, in the county of Middlesex and State of New Jersey, have invented certain new and useful Improvements in Check-Valves, of which the following is a specification.

This invention relates to improvements in check-valves for boilers, and has for its object to produce a device of this character in which a secure seating of the valve will always be insured and in which the valve can be readily ground upon the valve-seat in order to remove any scales or dirt thereon.

A further object is to create a valve which will be effective in operation, simple and durable in construction, and which can be manufactured at comparatively slight cost.

It consists, essentially, of a valve provided with a tubular stem having a telescoping and interlocking connection with the spindle.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a side elevation of the valve with parts broken away. Fig. 2 is a vertical sectional view through the valve.

Corresponding and like parts are referred to in the following description and indicated in both views of the drawings by the same reference characters.

The numeral 1 designates the casing, which is subdivided into two compartments by a diaphragm 2, having an opening therein which forms the valve-seat, the lower compartment having communication with the water-inlet 3, while the upper compartment has communication with the outlet 4, leading to the boiler. Pendent from the valve-seat are arms 5, which support a ring 6 and form a guide for the valve-stem. The valve itself comprises a disk 7, having beveled edges, so as to fit snugly against the valve-seat, and provided with a tubular stem with an angular opening therein and extending downward through the ring 6. The lower portion of the spindle 9 is made angular, so

as to fit into the opening in the valve-stem, while the upper portion passes through the packing-box 10, so as to have both a rotary and longitudinal movement, and is provided at its extremity with the usual handle 11. This spindle is normally held in a raised position by means of a spring 12, which surrounds the upper portion thereof and is interposed between a washer 13 on the top of the packing-box and a similar washer 14, held in position by a key 15, passing through the spindle. A drain-cock 16 may be attached to the lower chamber to enable any sediment to be withdrawn.

Owing to the fact that the spindle 9 is normally in a raised position, the feed-water can readily pass through the valve into the boiler, but any backflow thereof is prevented. When the valve is raised from its seat, it telescopes upon the spindle 9 and is hence prevented from tilting and will accurately fall back into position. The guide members formed by the pendent arms 5 also cooperate to insure a correct seating of the valve. Should any scale or dirt get between the valve and valve-seat, they can be readily removed under the pressure from the boiler by turning the handle 11 back and forth, which results in grinding the valve upon the valve-seat.

If desirable, pressure may be exercised in grinding the valve by pushing downwardly upon the handle 11 at the same time it is turned.

Having thus described the invention, what is claimed as new is—

In a check-valve, the combination of a casing having communication with an outlet-passage and an inlet-passage, a diaphragm extending across the casing and provided at approximately its central point with a valve-seat, a valve resting freely upon its seat and controlled in its movement by the difference in pressure upon its opposite faces, the edge of the valve being beveled so as to fit snugly against the valve-seat, a stem pendent from the valve and formed with an angular opening, a guide-ring surrounding the pendent stem, supporting-arms connecting the guide-ring to the diaphragm, a spindle mounted in

the casing so as to have a rotary and longitudinal movement, the inner end of the spindle having an angular formation and fitting within the angular opening in the stem pendant from the valve-seat so as to have an interlocking and telescoping connection therewith, and a spring normally holding the spindle out of engagement with the base of the

opening in the stem so as to permit the valve to move freely.

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

JOHN C. THOM. [L. S.]

Witnesses:

ROBT. E. LERMORGAN,
EPHRIAM H. GIFFIN.