

C. BUCKLAND.
 FEED CHECK VALVE FOR BOILERS.
 APPLICATION FILED MAY 22, 1913.

1,120,901.

Patented Dec. 15, 1914.

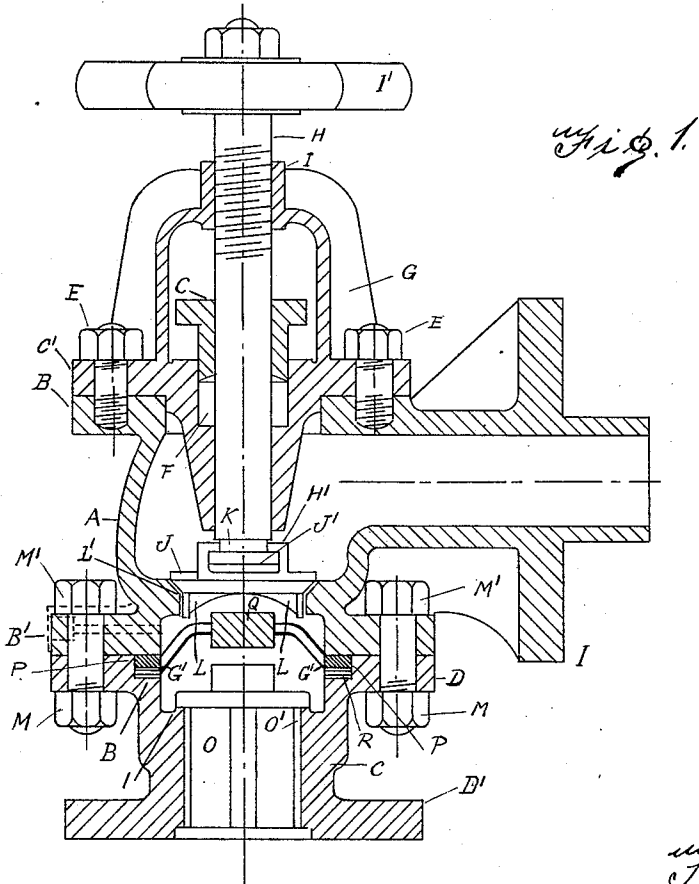


Fig. 1.

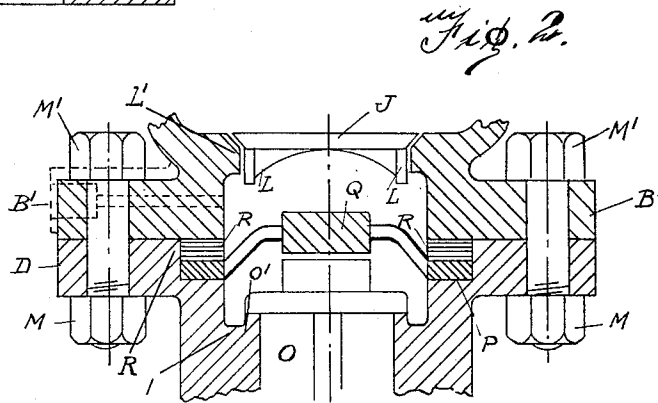


Fig. 2.

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UNITED STATES PATENT OFFICE.

CHARLES BUCKLAND, OF GREAT YARMOUTH, ENGLAND.

FEED-CHECK VALVE FOR BOILERS.

1,120,901.

Specification of Letters Patent.

Patented Dec. 15, 1914.

Application filed May 22, 1913. Serial No. 769,283.

To all whom it may concern:

Be it known that I, CHARLES BUCKLAND, residing at Great Yarmouth, Norfolk, England, subject of the King of Great Britain, have invented certain new and useful Improvements in Feed-Check Valves for Boilers, of which the following is a specification.

The invention relates to feed check valves for boilers.

The object of the invention is to provide means for regulating the lift of the check valve independently of the movement of the main valve and the valve spindle and to enable the lower portion of the valve casing to be disconnected from the upper portion when the main valve is closed down so as to permit the removal and replacement of parts located in the lower casing.

The further object of the invention is to insure the valve to be closed down true on its seat when required to be shut and to introduce means which will prevent the canting of the valve when the same is fully open.

My invention will be fully understood by reference to the accompanying drawings wherein—

Figure 1 represents one practical embodiment of a feed check valve for boilers constructed in accordance with my invention and Fig. 2 is a view showing the lower portion of the valve detached.

The valve consists of two separate flanged casings—a casing *a* having upper and lower flanges *b b'* and a casing *c* with top and bottom flanges *d d'*. The cover *e* which is bolted by screw bolts *e* to the upper flange *b* of the casing *a* is formed integral with stuffing box *f* and bridge *g*.

The valve spindle *h* which screws through a central boss *i* in the top of bridge *g* is controlled by a hand wheel *i'* but instead of being fitted with a rigidly secured valve it loosely carries at its lower extremity a valve *j* fitting over an enlarged head *j'* of the spindle *h*. The valve *j* is provided with an inturned flange *h'* which fits over the enlarged head *j'*. By this arrangement of the loose valve *j* on the spindle *h* the latter cannot get set fast in the stuffing box. The valve *j* when full open does not allow the wings *l* to be lifted clear of the valve seat *l'* formed in the upper casing *a*. Therefore the back pressure cannot cant the valve over

thus insuring it to be closed down true on its seat when required to be shut.

The top flange *d* of the lower casing *c* is attached to the lower flange *b'* of the casing *a* by bolts *m* passed through the respective flanges and fixed by nuts *m'* screwed upon their extremities.

Instead of the spindle *h* regulating the lift of the feed check valve *o* the latter which normally rests upon the seating *o'* of the lower valve casing *c* is independent of the control of the valve spindle *h*.

The flange *d* of the lower valve casing *c* has its edge formed with a circular groove or recess *p* within which is fitted the rimmed edge *g'* of the bridge piece *q* and also one or more collars *r*.

When it is desired to restrict the lift of the feed check valve *o*, it is simply necessary to remove one or more of the collars *r* from their position in the recess below the bridge piece *q* and place them on the top of same as shown in detached view Fig. 2 the lift of the valve *o* being thus independently obtained and regulated so that when the valve *j* is closed down, the casing *c* can be disconnected from the casing *a* allowing the loose bridge piece *q* and the feed check valve *o* to be taken out and adjusted while the valve *j* in casing *a* withholds the pressure.

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

1. A device of the class described comprising a body, said body comprising an upper and a lower casing, a valve positioned within said lower casing, said lower casing provided with a circular groove formed in the inner edge thereof adjacent the upper casing, a bridge piece provided with a rimmed edge loosely fitting within said groove, and removable collars placed adjacent said rimmed edge whereby the movement of the valve may be regulated, substantially as described.

2. A device of the class described comprising a body, said body comprising an upper and a lower check valve casing, a valve positioned within said lower casing, said valve casings provided with flanged edges, means passing through the flanged edges of said casings for securing the same together, a cover carried by said upper casing provided with an integral bridge, said cover provided with a stuffing box, a valve spindle vertically adjustable through said bridge

and stuffing box, a valve loosely fitting at the extremity of said valve spindle, said valve provided with wings for guiding it to its seat, said lower valve casing provided
5 with a circular groove upon its inner edge adjacent the upper casing, a bridge piece provided with a rimmed edge loosely fitting within said groove, and removable collars placed adjacent said rimmed edge whereby

the movement of the check valve may be 10 regulated, substantially as described.

In witness whereof I have signed this specification in presence of two witnesses.

CHARLES BUCKLAND.

Witnesses:

ALBERT EDWARD MILBURN,
THOS. STONES OTLEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."