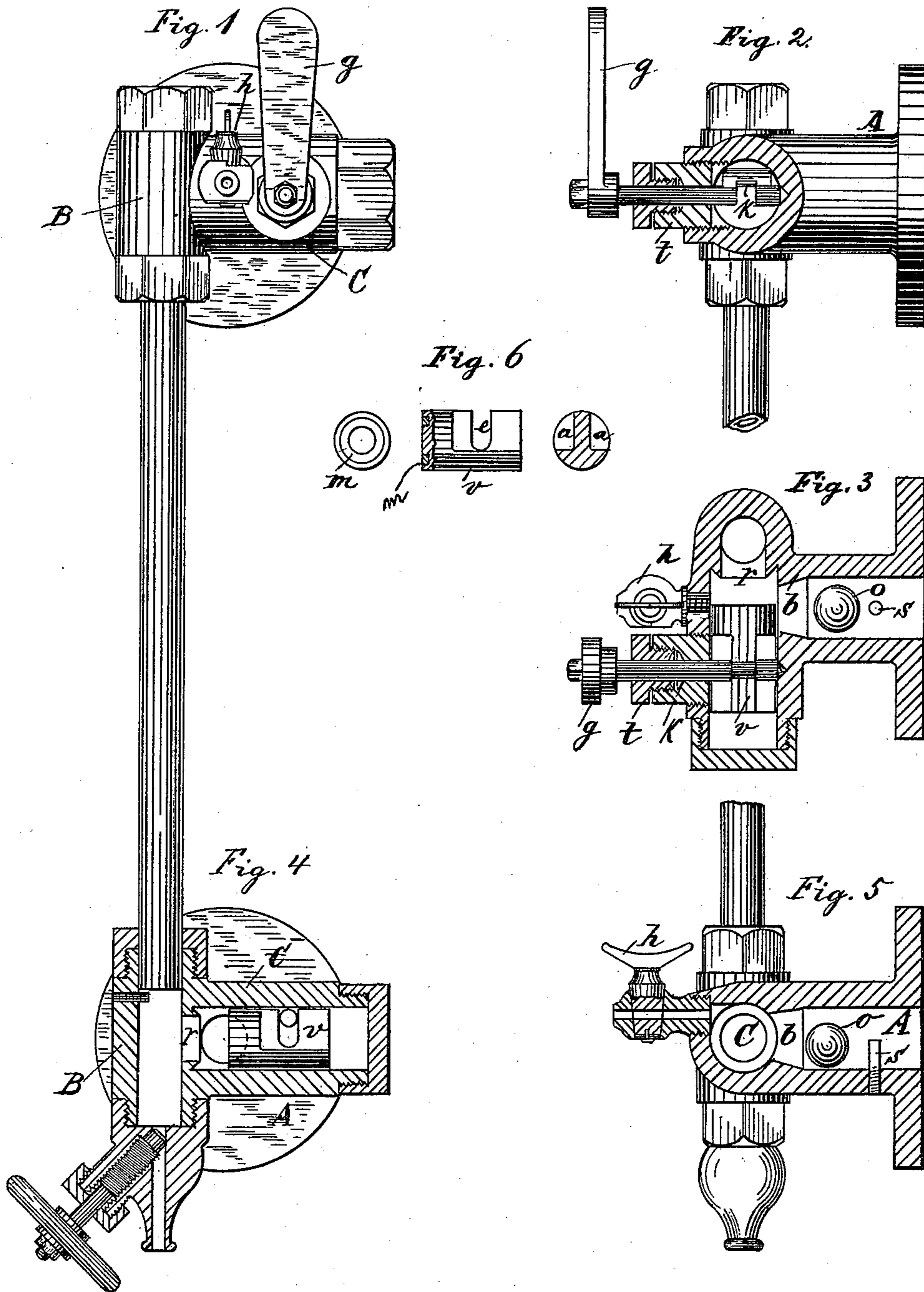


(No Model.)

F. H. T. THOMSEN.
SAFETY VALVE FOR WATER GAGES.

No. 464,049.

Patented Dec. 1, 1891.



Witnesses.

Joel Winckelsett
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UNITED STATES PATENT OFFICE.

FERDINAND HEINRICH THEODOR THOMSEN, OF BREMERHAVEN, GERMANY.

SAFETY-VALVE FOR WATER-GAGES.

SPECIFICATION forming part of Letters Patent No. 464,049, dated December 1, 1891.

Application filed April 8, 1890. Serial No. 347,149. (No model.) Patented in Germany May 17, 1889, No. 48,016; in Belgium December 31, 1889, No. 88,850, and in Italy January 18, 1890, No. 26,688.

To all whom it may concern:

Be it known that I, FERDINAND HEINRICH THEODOR THOMSEN, a subject of the Emperor of Germany, and a resident of Bremerhaven, Germany, have invented a new and useful Improvement in Water-Gages, (for which I have obtained patent in Germany, No. 48,016, applied for February 18, 1889, and granted May 17, 1889; in Belgium, No. 88,850, applied for December 14, 1889, granted December 31, 1889, and in Italy, No. 26,688, applied for December 28, 1889, granted January 18, 1890,) of which the following is a specification.

This invention relates to water-gages, and has for its purpose to provide an improved valve device with automatic closing.

Reference being had to the accompanying drawings, in the various figures of which like letters indicate like parts, Figure 1 is a front view. Figs. 2, 4, and 5 are vertical sections; Fig. 3, a horizontal section of the improved device, while Fig. 6 represents details thereof.

The essential feature of the invention is the application of a ball-valve provided in the conic bore of the sleeves connecting a water-gage and a steam-generator, and of a device intended to admit of an instantaneous closing of the valve by hand. The connecting-sleeve A, destined to be connected with the steam-generator, and the tube-sleeve B, serving to receive the glass of a water-gage, the axes of which sleeves cross each other, communicate through a horizontal cylinder C, in the interior of which a valve-piston *v* is operated by means of a crank *k*. The valve-piston *v*, Fig. 6, is provided with a recess *e* for receiving the crank, and has, moreover, cuts *a a*, which admit of a free movement of the flanges of the said crank *k*. The face of the valve-piston *v* is provided with a soft-metal packing *m*, placed in a circular recess, and when pressed against the valve-rim *r* establishes the closing. That extremity of the shaft of crank *k* which projects through the stuffing-box *t* is fitted with a handle *g*, lying in the same plane with the crank. The

ball *o* contained in the sleeve A is prevented from falling out by pin *s* and enters into the conic bore *b*, when a difference of pressure is produced by the breaking of the glass or in any other manner, thereby producing an instantaneous closing—i. e., shutting off of the steam. The bore *b* is so determined in width as to allow a portion of the ball *o* to protrude into the hollow space of cylinder C. When the valve-piston *v* is moved from right to left past the bore *b*, by turning the handle *g*, and thereby the crank *k*, the ball must recede; consequently the ball closing is suspended; but immediately afterward the metal packing *m* is pressed against the valve-edge *r* and cuts off the steam or water supply, as the case may be, thus allowing the glass to be replaced. On blowing through, the handle *g* is placed in a vertical position, thereby causing the valve-piston *v* to assume its median position and to keep the ball *o* from closing the bore *b*. The little cock *h* serves as a passage for the tools used in knocking off the incrustation.

What I claim is—

In a ball-valve for water-gages, the combination, with cylinder C, connecting the steam-sleeve A with tube-holder B, of a valve-piston *v*, moving in cylinder C and having cuts *a a*, recess *e*, and metal packing *m*, crank *k*, with handle *g*, closing rim *r*, ball *o*, and a conic ball-seat *b*, the latter being so determined in size as to cause a portion of the ball to protrude into the cylinder C when the seat is closed, thereby allowing the valve-piston *v* when passing said ball-seat to push back the ball and suspend the closing at the steam-inlet, substantially as specified.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

FERDINAND HEINRICH THEODOR THOMSEN.

Witnesses:

FRITZ HAMMER,
CARL WEISS.