

No. 677,569.

Patented July 2, 1901.

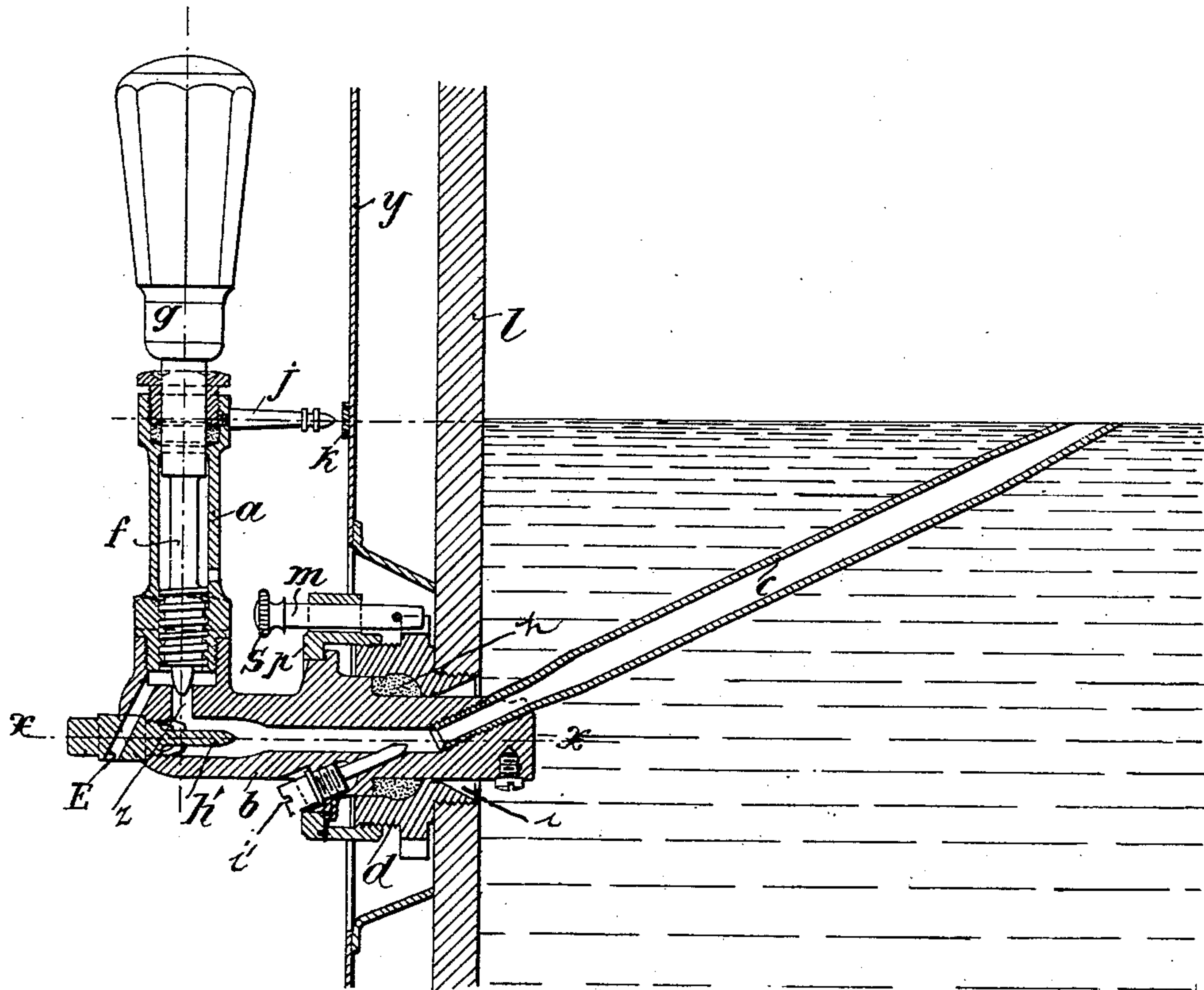
E. HAFNER.
TESTING VALVE.

(No Model.)

(Application filed Apr. 30, 1900.)

2 Sheets—Sheet 1.

Fig. 1.



Witnesses
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Jules Simon

Inventor
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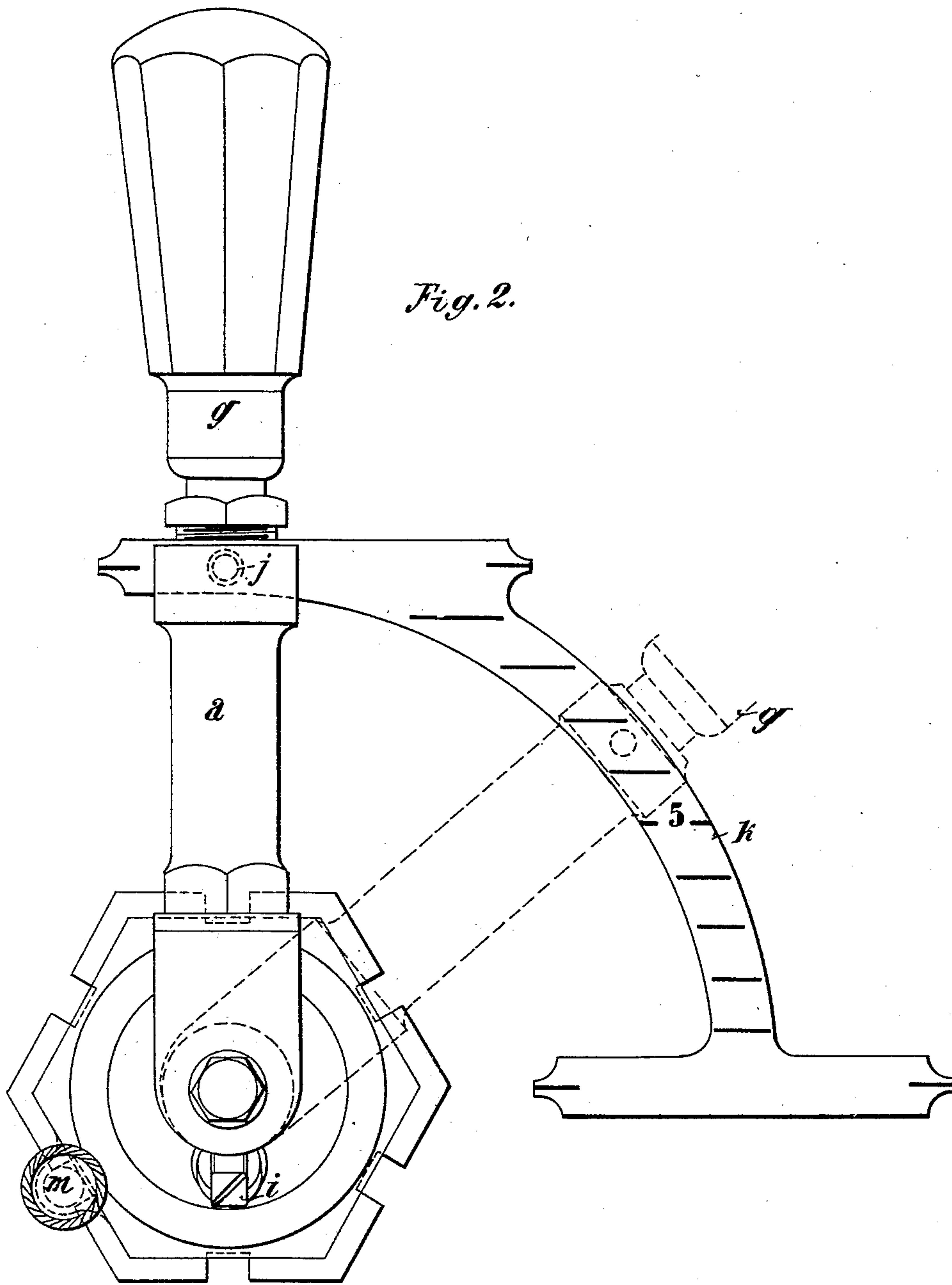
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Witnesses

Ernest G. Schlosser
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Inventor

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UNITED STATES PATENT OFFICE.

EMILE HAFNER, OF MÜLHAUSEN, GERMANY.

TESTING-VALVE.

SPECIFICATION forming part of Letters Patent No. 677,569, dated July 2, 1901.

Application filed April 30, 1900. Serial No. 14,903. (No model.)

To all whom it may concern:

Be it known that I, EMILE HAFNER, a subject of the German Emperor, residing at 12 Zimmerleutgasse, in the city of Mülhausen, in Alsace, Germany, have invented a certain new and useful Testing-Valve, of which the following is a specification.

This invention has reference to testing-valves for indicating the water-level in boilers and the like, the device being so arranged that it combines the functions of the two or three testing-valves, as employed heretofore in boilers, in one.

My invention is illustrated in a preferred form of construction, by way of example, in the accompanying drawings.

Figure 1 is a longitudinal section of that part of the boiler embodying my invention. Fig. 2 is a front view on an enlarged scale.

In the drawings, *a* is a vertical tube, to the outer wall of which is fixed the indicator *j* and into which is fitted the spindle *f*, to the upper extremity of which is fastened the handle *g* and which may be screwed up and down by turning the said handle so as to open or close the vent *z*, which communicates with the exit-piping *E*. The said shaft *a* is attached at a right angle to a hollow horizontal shaft *b*, turning within a stuffing-box *d*, which is fitted into the walls of the boiler at *l*. The hollow shaft *b* is pierced at a certain angle by a straight inclined tube *c*, screwed into it, the mouth of which is at the water-level and at the same height with the indicator *j*. The said tube *c* will describe the frustum of a cone when the entire system is rotated about its horizontal axis *x x* by turning the handle *g*, as shown in Fig. 2 of the drawings. The bore of the hollow shaft *b* is in communication with the exit-port *E*, which may be either vertical or horizontal and allows to drain the system. The shaft *b* is secured in the wall of the boiler by a nut *p* and a suitable washer and is supported by the standards *y*. The indicator *j* plays on a graduated scale *k*, which is in some way connected to the wall of the boiler.

h and *i* are recesses around the hollow shaft *b*, in which the dirt can accumulate without interfering with the rotation of the shaft.

h' designates an extension on the inner end of the exit-plug *E* to facilitate the application

of said plug to the outer end of the shaft *b*, and the reference-letter *i'* designates a valve-screw closing a supplemental outlet in the shaft *b*.

s is a safety-screw whose shaft *m* serves to fix the position of the device by engaging with indentations on the said rotatable hollow shaft *b*.

The device operates as follows: In order to determine the water-level, the spindle *f* is first turned around its axis by means of the handle *g*, which will allow the dirt and the water contained in the pipes to drain out and clean the connections. Then the whole system is turned around the axis *x x*, as shown in Fig. 2 of the drawings, until the water from the boiler will flow out at *E*. The position of the indicator *j* will then register the exact water-level in the interior of the boiler.

With this device it is possible by giving simply a twist to the handle *g* to determine the exact level in boilers and in any other vessel filled with a liquid. It is apparent that the same device may also be used with advantage for decanting liquids from a precipitate, the liquid flowing out easily without disturbing the precipitate that might be at the bottom of the vessel.

I am aware that rotatable gage valves or cocks communicating with a pipe at the inside of the boiler are old and that the handle of the cock has been used for simultaneously opening the exit-port of the said rotatable valve and for turning the same. I therefore do not broadly claim the arrangement of such test or gage valves; but

What I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination with a boiler or other liquid-receptacle, of a nut arranged within an opening in the wall of the receptacle; a hollow shaft rotatably supported within said nut and provided with an outlet, an inclined tube within the boiler communicating with an inclined opening in the inner end of said shaft, a pipe communicating with the outer end of said shaft; a screw-valve within said pipe provided with a handle; an index-finger carried by said pipe; a stationary scale and means for securing the rotatable shaft at different positions.

2. The combination with a boiler, of a nut

arranged within an opening in the boiler-wall
and having internal annular recesses; a ro-
tatable hollow shaft supported within the nut
and provided with a discharge-plug; a hollow
5 pipe communicating with the outer end of the
shaft; a screw-valve within said pipe having
a handle by means of which the shaft is
turned; an inclined pipe within the boiler
communicating with an inclined opening at
10 the inner end of the shaft; a scale and index;

and means for securing the shaft at different
positions.

In witness whereof I have hereunto set my
hand and attached my name in the presence
of two witnesses.

EMILE HAFNER.

Witnesses:

ERNEST SCHLOSSER,
JULES SIMON.