

G. SWENSON.
Safety-Valves.

No. 139,209.

Patented May 20, 1873.

Fig. 1.

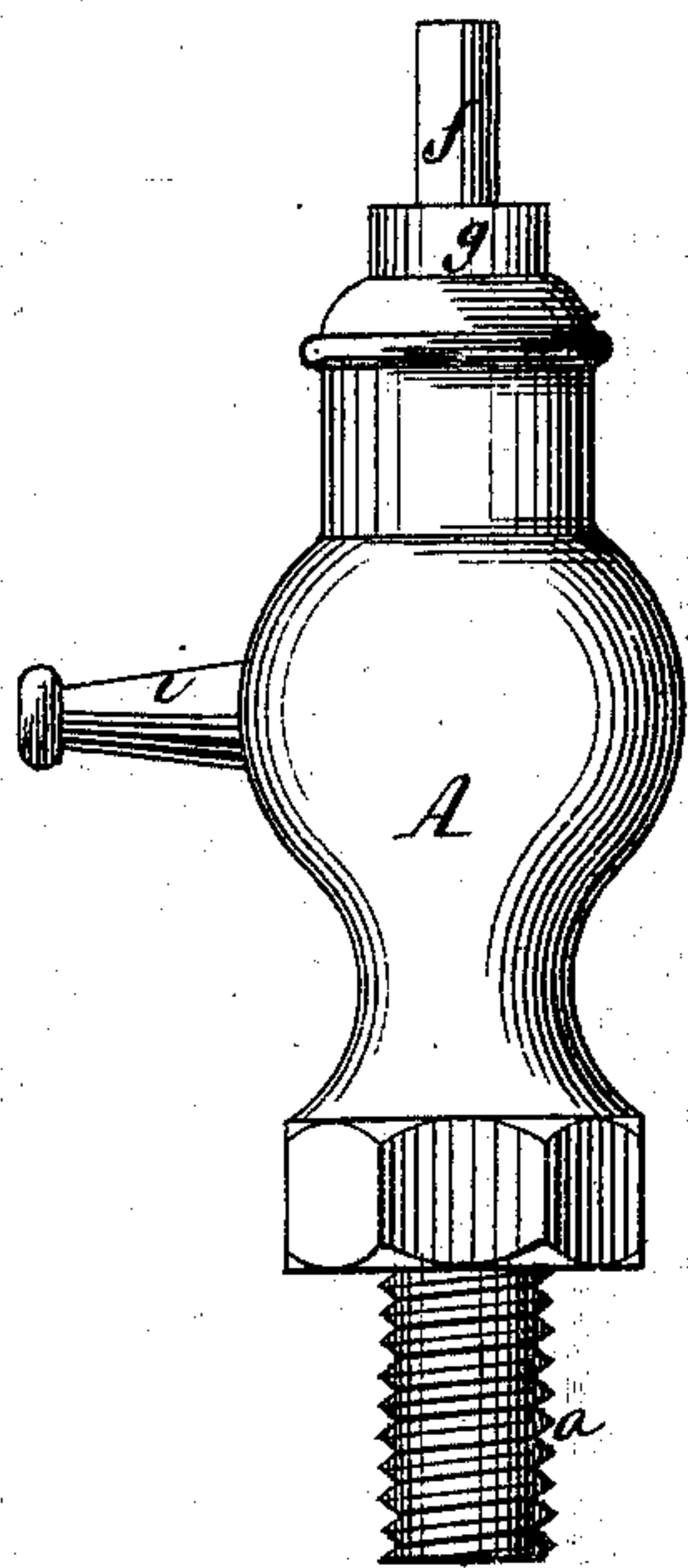
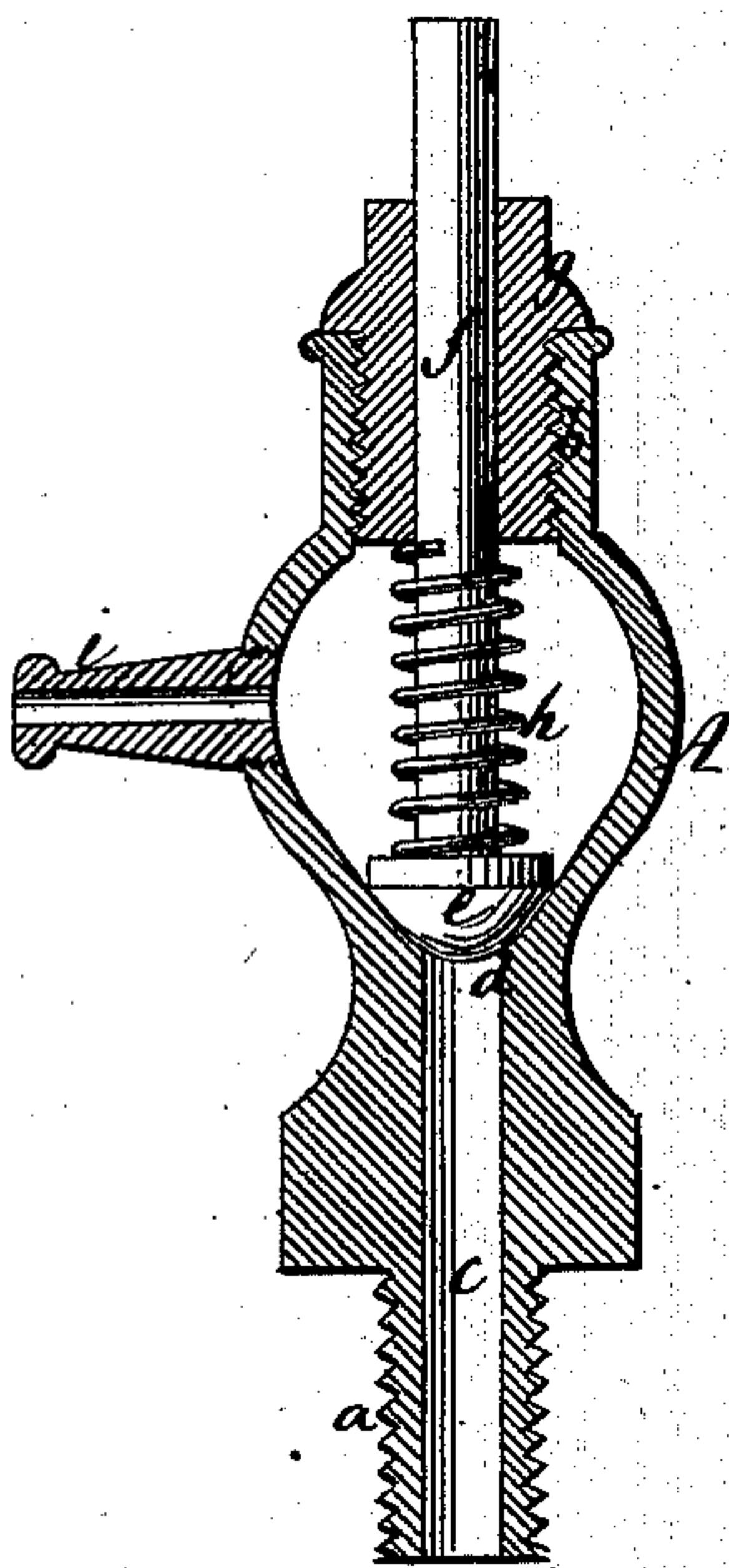


Fig. 2.



Witnesses.

Ernst Bilhuber.
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UNITED STATES PATENT OFFICE.

GUSTAF SWENSON, OF HACKENSACK, NEW JERSEY.

IMPROVEMENT IN SAFETY-VALVES.

Specification forming part of Letters Patent No. **139,209**, dated May 20, 1873; application filed January 30, 1873.

To all whom it may concern:

Be it known that I, GUSTAF SWENSON, of Hackensack, in the county of Bergen and State of New Jersey, have invented a new and useful Improvement in Safety-Valves; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming part of this specification, in which drawing—

Figure 1 represents a side view of this invention. Fig. 2 is a vertical central section of the same.

Similar letters indicate corresponding parts.

This invention relates to a safety-valve, the shell of which is provided with a cone-seat at the inner end of a passage that connects with the water back of a cooking-range, or with the steam space of a boiler of any description, while from the side of said shell extends a spout for the discharge of the waste steam, and through its end opposite the cone-seat is introduced a cone-valve, the stem of which is guided in a screw-plug that fits the open end of the shell, and also serves to act on a spring which has a tendency to depress the valve in its seat with more or less power, while the tension of this spring can be regulated by means of a screw-plug in such a manner that a simple, cheap, and compact safety-valve is obtained, which can be applied to water-backs of cooking-ranges or to other boilers, and which can be easily adjusted in any desired position.

I am aware of the construction and arrangement of parts shown in the safety-valve in the application of M. Woodbury, rejected and withdrawn July 25, 1854; the same is therefore by me disclaimed. The chief features of my invention are its simplicity, ease of construction, and facility with which the parts can be removed and repaired.

In my safety-valve, the valve-stem passes up through and out of the stuffing-box, while at the extreme lower end is formed the semi-spherical valve, which fits a correspondingly-formed seat, while directly between said semi-spherical valve and the stuffing-box is the reacting spring *h* surrounding the valve-stem,

so that said spring is always guided in its movement; and furthermore when the stuffing-box is removed, the valve, together with its spring, can be lifted out as an entirety by taking hold of the projecting valve-stem, thus facilitating repair or regrinding of the valve; and further, by making the valve semi-spherical and arranging it directly upon the lower or extreme end of the valve-stem, the steam entering the inlet channel *c* is not interrupted, as it would be if the valve-stem extended down into said inlet or channel.

In the drawing the letter *A* designates the shell of my valve, which is provided at one end with an external screw-thread, *a*, and at its opposite end with an internal screw-thread, *b*. The screw-nipple *a* is bored out to form a passage, *c*, at the inner end of which is formed the seat *d* for a cone-valve, *e*. The stem *f* of this valve is guided in a hole provided for this purpose in a plug, *g*, that screws into the internal screw-thread *b*. Round the stem *f* is wound a spring, *h*, and as the plug *g* is screwed down, this spring depresses the valve in its seat. The tension of the spring can be increased or diminished by screwing the plug *g* in or out. From the side of the shell *A* extends a spout, *i*, to carry off the waste steam.

By these means a safety-valve is obtained which is very compact, and which can be readily secured in any desired place or position—such, for instance, as the water-back of a cooking-range—and by applying my safety-valve the danger of an explosion materially reduced.

What I claim as new, and desire to secure by Letters Patent, is—

The semi-spherical valve *e*, arranged upon the extreme lower end of the valve-stem *f*, the upper end of which projects through the stuffing-box in combination with each other, and with the spring *h*, shell *A*, and seat *d*, all constructed and arranged as herein shown and described, for the purpose specified.

This specification signed by me this 27th day of January, 1873.

GUSTAF SWENSON.

Witnesses:

W. HAUFF,
E. G. KASTENHUBER.