

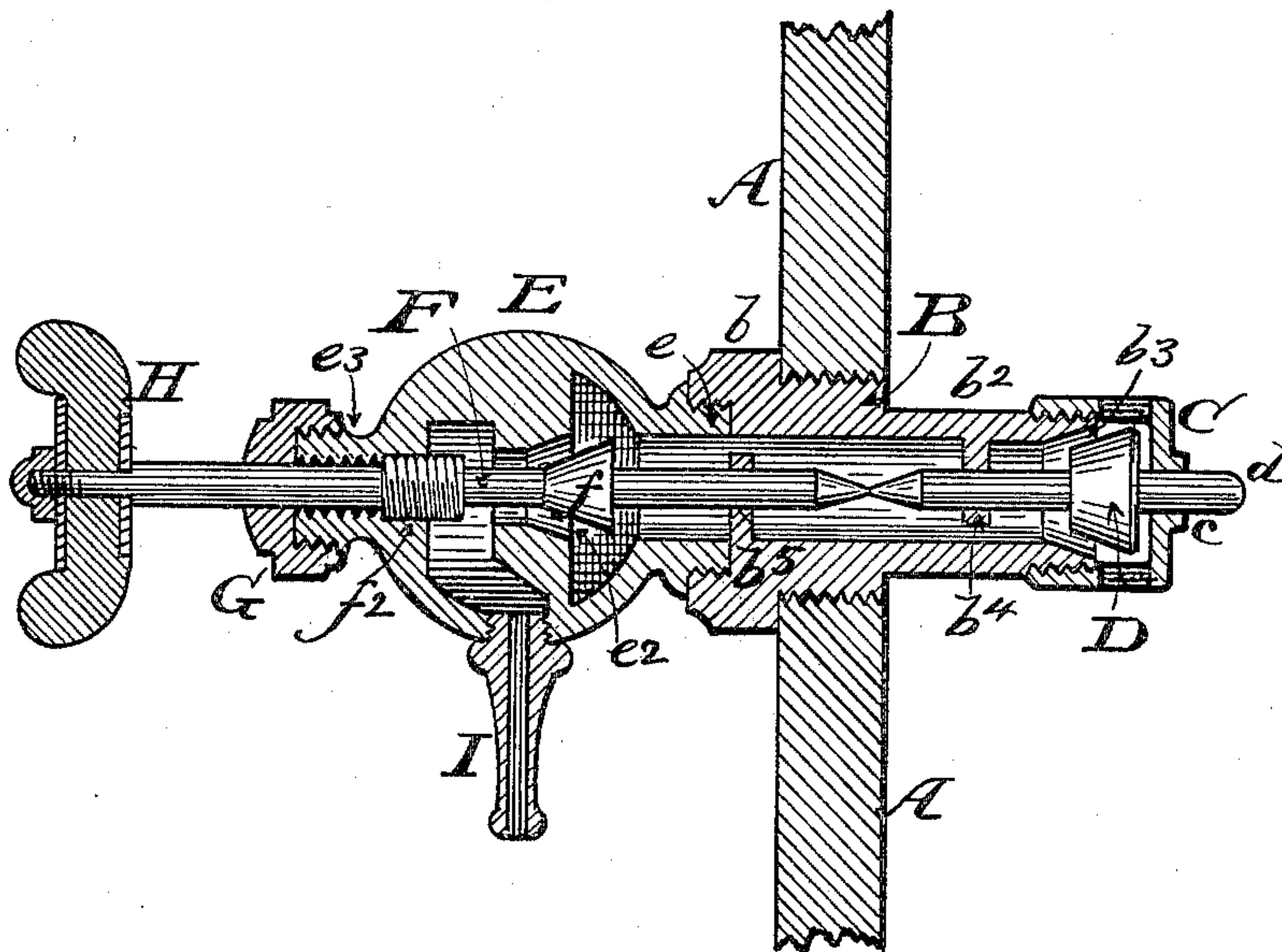
(No Model.)

F. MEARS.

SAFETY VALVE ATTACHMENT FOR GAGE COCKS.

No. 409,217.

Patented Aug. 20, 1889.



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UNITED STATES PATENT OFFICE.

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SAFETY-VALVE ATTACHMENT FOR GAGE-COCKS.

SPECIFICATION forming part of Letters Patent No. 409,217, dated August 20, 1889.

Application filed June 27, 1889. Serial No. 315,771. (No model.)

To all whom it may concern:

Be it known that I, FRANK MEARS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Safety-Valve Attachments for Gage and other Cocks, of which the following is a specification.

This invention relates to water or steam gage-cocks; and it consists of an auxiliary valve attachment to the main valve, operating in conjunction with the main valve, but may operate independently in case of an emergency, the object of the invention being to provide an automatic and independent means of closing the opening into a boiler in case the cock should become broken and steam or water liable to escape.

My invention consists in the peculiar construction and combination of the several parts of the valve device, whereby simplicity and economy of construction and operation are resultant, as hereinafter fully described, and pointed out in the claims, and illustrated in the accompanying drawings, in which the figure is a longitudinal section of a gage-cock constructed on my plan.

A represents a boiler-plate.

B is a hollow screw-threaded plug screwed into said plate, having a flange *b* bearing against the outside face of the plate A, and is provided with a nipple *b*², extending inward, and in the end of which is made a tapering valve-seat *b*³.

C is a bail having a ring screwed onto the end of the nipple *b*², and has a hole *c* in its cross-arm opposite to the valve-seat, forming a bearing-support for the valve-stem.

D is a tapering valve having a stem *d*, one end of which plays in the aforesaid bearing *c*, the other or inner end playing in a bearing-lug *b*⁴ in the bore of the plug B, and the inner end of said stem *d* is taper-pointed.

E is the main-valve chamber having a screw-threaded neck *e*, by which it is attached to the aforesaid plug B. In a partition-wall is made a tapering valve-seat *e*².

F is a valve-stem having a tapering valve *f* formed upon it, and a screw-threaded portion *f*² playing in the screw-threaded neck *e*³ of the chamber E, and a cap G covering said neck. The inner end of the valve-stem F

plays in a bearing-lug *b*⁵ in the bore of the plug B, and the inner end of the valve-stem F is also made with a tapering point bearing against the point of the valve-stem *d*. The outer end of the valve-stem F is provided with a suitable handle or knob H.

I is an escape-nozzle attached to the chamber E.

The operation of this device is as follows: The auxiliary valve is operated in conjunction with the main valve for opening it by the main-valve stem F pushing against the stem *d*, the pressure of steam or water closing it whenever said pressure is withdrawn by the closing of the main valve. Should the main valve become broken, bent, or deranged, the main-valve stem being bent out of line, the auxiliary valve would immediately close, because its taper-pointed stem could pass by the point of stem F whenever the said points ceased to be in contact, and thereby prevent any escape of steam or water, and the consequent dangers liable therefrom.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a valve of the character described, the chambered body E, having necks *e* and *e*³ and a partition having valve-seat *e*², the valve-stem F, having valve *f* and screw-threaded portion *f*² playing in neck *e*³ and cap G, and having its inner end pointed and playing in lug *b*⁵ of plug B, the handle H, and nozzle I, all constructed, combined, and operating substantially as described.

2. In combination, the hollow plug B, having nipple *b*² and valve-seat *b*³, the bail C, secured onto nipple *b*², the valve D, having pointed stem *d* and playing in the bail C, and lug *b*⁴ in plug B, the chambered body E, secured in plug B by neck *e* and having partition provided with valve-seat *e*², and nozzle I, the valve-stem F, having valve *f*, and screw-thread *f*² playing in neck *e*³ and cap G, and in lug *b*⁵ of plug B, and having handle H, all constructed and arranged to operate substantially as and for the purpose specified.

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Witnesses:

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