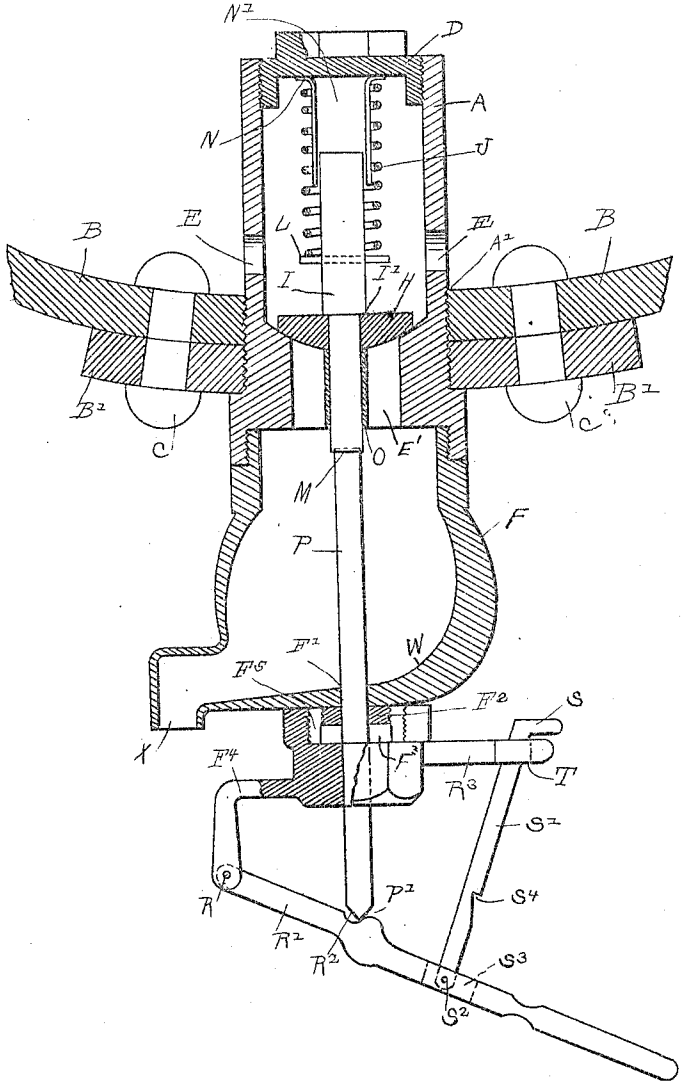
T. J. KYNE.

SAFETY VALVE.

APPLICATION FILED AUG. 27, 1913.

1,089,565.

Patented Mar. 10, 1914.




Witnesses
Philip R. Brough
J. N. Sherwood

Inventor
Thomas J. Kyne,

By Franklin D. Hough

Attorney

# UNITED STATES PATENT OFFICE.

THOMAS JOSEPH KYNE, OF LOUISVILLE, KENTUCKY.

## SAFETY-VALVE.

1,089,565. Specification of Letters Patent. Patented Mar. 10, 1914.

Application filed August 27, 1913. Serial No. 786,981.

*To all whom it may concern:*

Be it known that I, THOMAS J. KYNE, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented certain new and useful Improvements in Safety-Valves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in safety valves for engines and the object in view is to produce a simple and efficient device of this nature so arranged that the weak points of the valve will be positioned outside of the boiler, thereby affording means whereby, in the event of the same becoming broken off, the valve will automatically close and retain the water and steam within the boiler.

The invention is illustrated in the accompanying drawings, in which I have shown a central longitudinal sectional view through the valve apparatus and transversely through the wall of the boiler.

Reference now being had to the details of the drawings by letter, A designates a shell circumferentially threaded as at A′ and adapted to fit the threaded wall of an opening in the boiler B, and a plate B′ which is held thereto by means of the bolts C. Said shell is provided with a plug D at one end fitting the threads in the inner surface of the shell. Said shell has circumferential apertures E, and openings E′ in one end through which steam and water may escape to the bowl F which has its upper end shouldered and circumferentially threaded and adapted to engage interior threads at the outer end of the shell A.

A valve H, having convexed bottom, is mounted upon the valve stem I, the latter having a shoulder I′ against which the valve contacts to hold the same seated. A coiled spring J is mounted about the inner end of said stem and bears at one end against a pin L and its other end against a flaring end N of the shell N′, the tendency of said spring being to normally hold the valve seated. Said stem passes through an opening O formed in the bottom of the shell A and has its lower end recessed out as at M a slight distance, preferably one-eighth of an inch. A second stem section, designated by letter P, has a longitudinal play through an opening F′ in the bottom of the bowl F and passes through a suitable packing gland $F^2$ and also through a nut $F^3$ which has an interiorly threaded part which engages over the threads upon the circumference of a boss $F^5$ integral with the bottom of the bowl. The outer end of the stem P is tapered to a point as at P′. The nut F has a bracket arm $F^4$ projecting therefrom carrying a pivotal pin R upon which a lever R′ is pivotally mounted, said lever having a dished or concaved part $R^2$ engaged by the pointed end P′ of the stem section P. A second arm, designated by letter $R^3$, projects from the nut $F^3$ and has a slot T formed therein through which the angled end S of the bar S′ is adapted to pass, said bar S′ being pivoted to a pin $S^2$ mounted in the walls of a slot $S^3$ formed in the lever R′. Said bar S′ is notched as at $S^4$, which notch is adapted, when the bar is at its farthest inner throw, to engage over the edge of the slot T for the purpose of holding the valve away from its seat and also holding the spring J under tension. It will be noted that the inner surface, designated by letter W, of the wall of said bowl is inclined so as to allow any foreign matter which might lodge therein to be cleansed from the bowl and make exit through the opening X.

In operation, when it is desired to blow off the boiler, the lever R′ may be moved toward the boiler, causing the stem to unseat the valve and, by reason of the pitch of the wall of the bowl, which has threaded connection with the shell, cinders, dust or other foreign matter which would naturally collect therein would be blown out by the condensation of the steam or water from the boiler, thereby keeping the same at all times free from accumulation.

In the event of an accident whereby a boiler equipped with my improved valve should be caught in a wreck and the protecting parts broken off, the valve will remain seated and prevent the escape of steam or water from the boiler.

What I claim to be new is:—

A safety valve for boilers comprising a shell fitted in an opening in the wall of a boiler and having openings leading through one end thereof, a spring-pressed valve stem

movable through an aperture in one end of the shell, a valve on said stem and adapted to close the opening leading from the shell, a bowl fitted to said shell, a stem section movable through an opening in said bowl and engaging the outer end of the stem carrying said valve, a nut fitted about a threaded boss upon said bowl and through which the stem section passes, said nut having a yoke projecting therefrom, a lever pivoted to the yoke, a bar pivoted to the lever and having a notch in the edge thereof and one end angled, a slotted projection upon the nut through which the angled end of said bar is adapted to have a play, said lever being dished upon its inner edge, said stem section terminating in a point adapted to engage said dished part of the lever, as set forth.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

THOMAS JOSEPH KYNE.

Witnesses:

LULU KESSLER,

MARY GOSS.