J. P. FELL.

COMBINED SAFETY VALVE AND WASTE COCK.

APPLICATION FILED MAY 24, 1909.

956,062. Patented Apr. 26, 1910.

Fig. 1

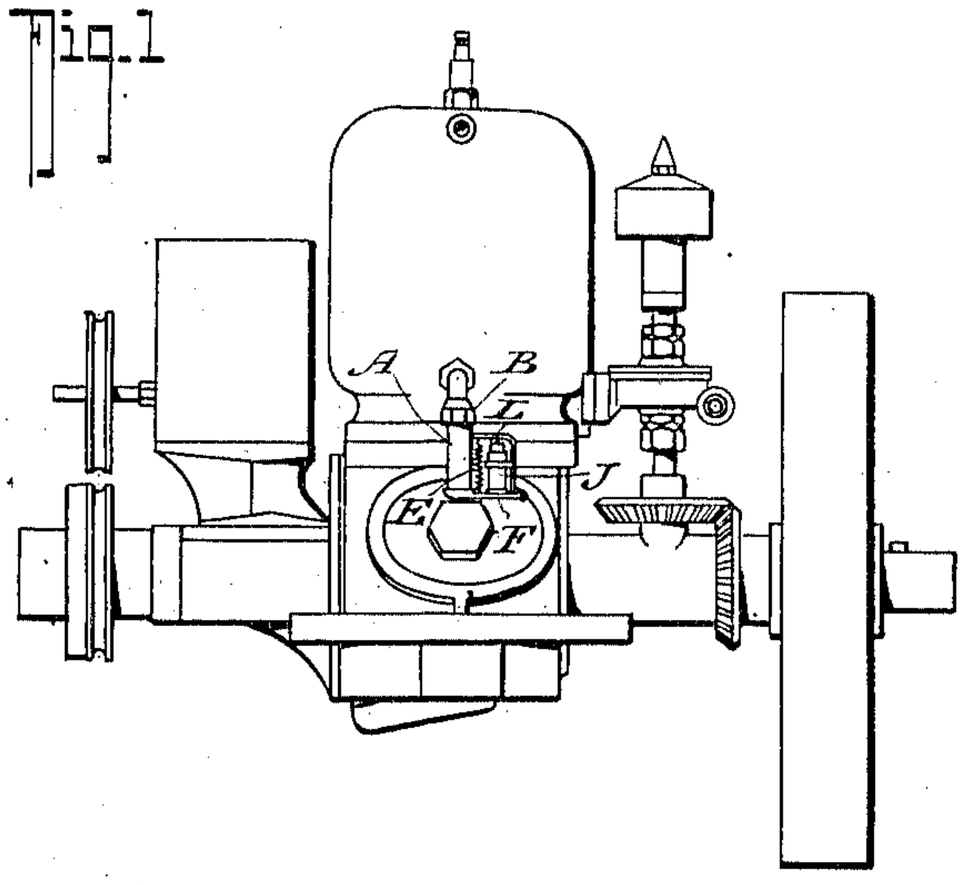


Fig. 3.

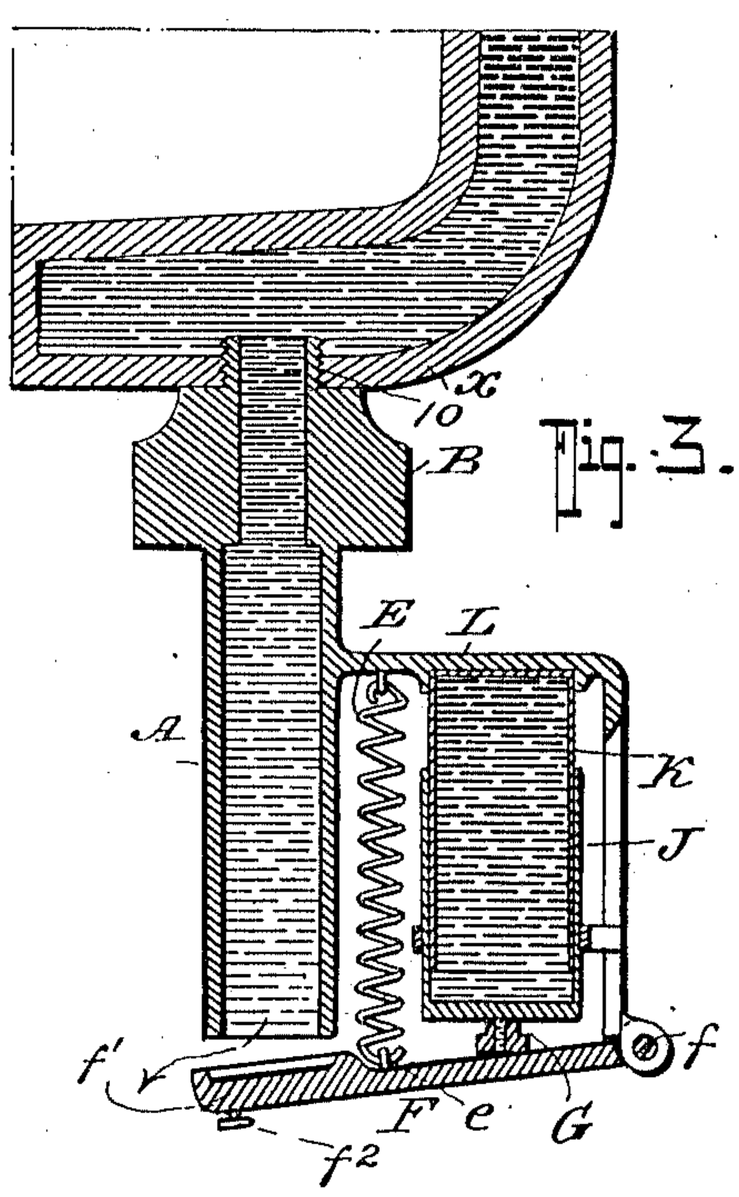


Fig. 2.

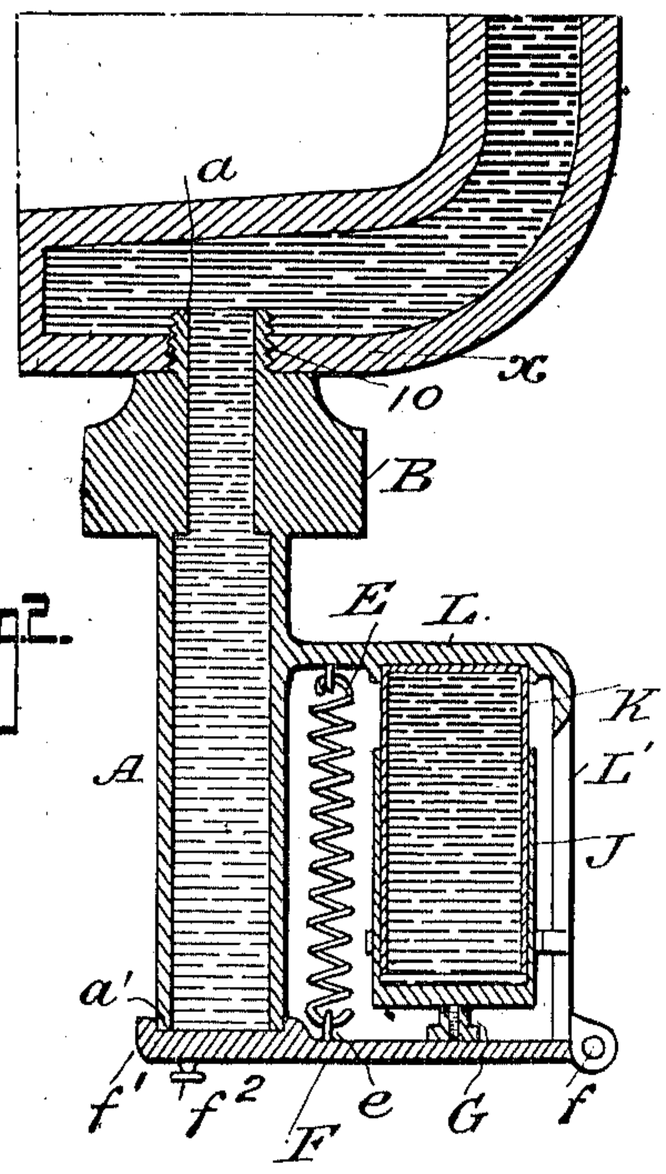
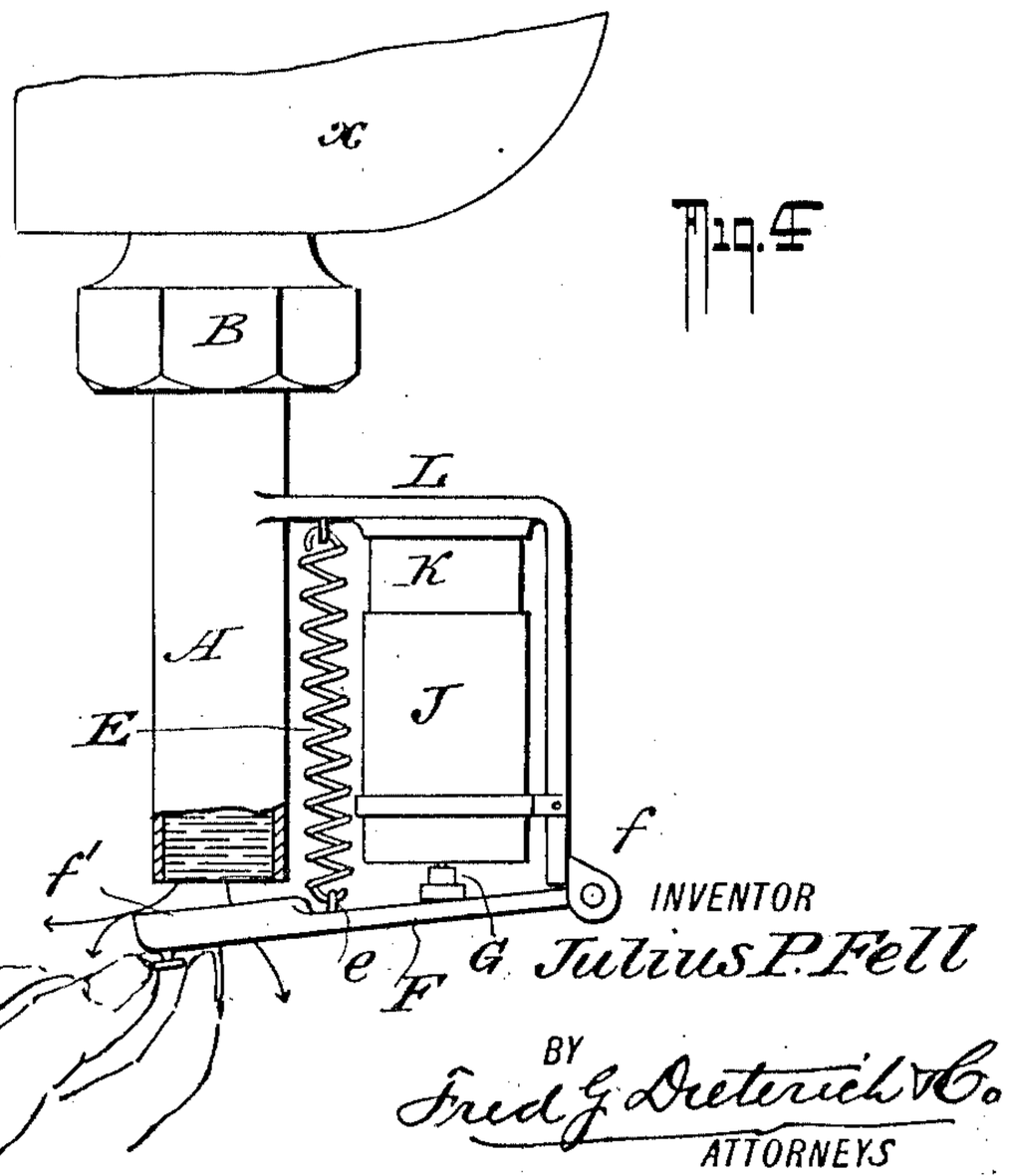


Fig. 4



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COMBINED SAFETY-VALVE AND WASTE-COCK.

956,062. Specification of Letters Patent. Patented Apr. 26, 1910.

Application filed May 24, 1909. Serial No. 497,975.

To all whom it may concern:

Be it known that I, JULIUS P. FELL, residing at Berclair, in the county of Goliad and State of Texas, have invented a new and Improved Combined Safety-Valve and Waste-Cock, of which the following is a specification.

My invention which relates generally to means combined with engines in the nature of safety blow offs, more particularly has for its object to provide a new and improved appliance, more especially adapted for use in connection with the water or cooling jackets of internal combustion engines, and it comprehends, generally, a new article that can be easily attached to and placed in communication with the water jackets of the engine and adapted to be hand manipulated and adjusted so it will readily act as waste or drain cock and in which a supplemental expansible fluid actuated means is embodied for automatically opening the fluid in the jacket to atmosphere as the same begins to go to the freezing point.

My invention also comprehends as a new article of manufacture, a tubular member carrying means for locking upon and communicating with the water jacket of an engine, a closure member normally held to close off the tubular member from atmosphere and another means operable under fluid expansion for lifting the closure member at times.

In its more subordinate features, my invention consists of the peculiar arrangement and combination of parts, all of which will be hereinafter fully described, specifically pointed out in the appended claims and illustrated in the accompanying drawings, in which:—

Figure 1, is a view of so much of an internal combustion engine necessary to illustrate the practical application thereto of my invention. Fig. 2, is a vertical section of my invention, showing the same in connection with the water jacket of the engine, the parts being in their closed or normal position. Fig. 3, is a similar view showing the parts adjusted under hydraulic expansion to open up the water jacket to atmosphere. Fig. 4, illustrates the manner in which my invention is useful as a waste cock.

In the practical construction, my invention consists of a tubular member A; the upper end of which is threaded as at *a* whereby it can be conveniently secured in a threaded aperture 10 in the water jacket wall *x* which, in practice, is tapped through the said wall at the point it is desired to attach my invention, the upper end of the member A having a nut portion B below the threaded shank to receive a wrench or other clamping tool for securing the member A in position on the water jacket as will be clearly understood from the drawing, by reference to Figs. 2 and 3 of which it will be seen the lower end of the member A is open and it forms the overflow or waste cock.

K represents a tube like cup of very thin copper or brass, that is mounted in a bracket L that projects laterally from the member A and slidable over the cup K is an inverted tubular cup J also of very thin brass or copper that telescopically rides on the inner tube or cup K in the manner clearly shown in the drawing.

F indicates a lever that is fulcrumed at *f* on the lower end of a standard L′ that extends perpendicular from the bracket L and which carries a closure cap *f′* that is normally held on and closes the open end *a* of the tube A by a stout coiled spring E fastened at one end to the bracket L, its other end detachably engaging a hook *e* on the lever E, the latter having a knob f^2 at the outer end whereby it can be readily pulled down by hand to uncover the end *a* of the tube, when the spring E is disconnected from the hook *e*.

Cup J has a knob G that engages the lever E and which forms a hand-hold for pulling the cup J from the cup K when the lever F is swung back as will presently more fully appear.

The manner in which my invention operates is best explained as follows: The tubular cup K is filled with water and is closed by the tube J which telescopically engages the same and is held down by the weight of the lever F and the spring E, the lever also closing the tube or waste cock from the water jacket. The tubes K and J being of a much thinner metal than tube A and more exposed, the water therein will freeze prior to the water in the tube A and by reason thereof the expansion in tube K lowers the tube J where knob G engages and lifts the lever F that acts as a valve, from the tube A to allow the water in the tube A to waste and prevent the freezing thereof in the water jacket and the danger of said jacket bursting.

The knob G, it should be stated, is adjustably mounted on the tube J to operate quickly or slowly on the lever F, the said knob G also forming the lift for removing the member J from cup K when it is desired to fill the latter, it being understood that when this is desired the spring E is detached.

While I have shown my improvement as applied to the water jacket of an engine, it is obvious it can be as readily adapted for use on the radiator of an automobile.

Having thus described my invention, what I claim is:

1. A means for protecting water jacketed cylinders, comprising an outlet adapted to be tapped into the water jacket, a bracket on the outlet, a valve hinged to the bracket, means for swinging the valve to close over the outlet and a fluid holding member having a portion that extends as the fluid in the holder expands and engaging the valve device to open it, as set forth.

2. As a new article, a device for the purposes described; comprising a tubular member adapted to be tapped into the water jacket of an engine, a bracket projected from side of the tubular member, a lever valve hinged to the bracket to close and cut off the valve opening, a spring for holding the lever closed, a fluid holder mounted on the bracket that includes two telescopically mounted members, the lower or expansible one of which engages the lever valve to lift it, the valve also having a lifting rod provided with a finger piece.

JULIUS P. FELL.

Witnesses:
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W. O. BROWN.