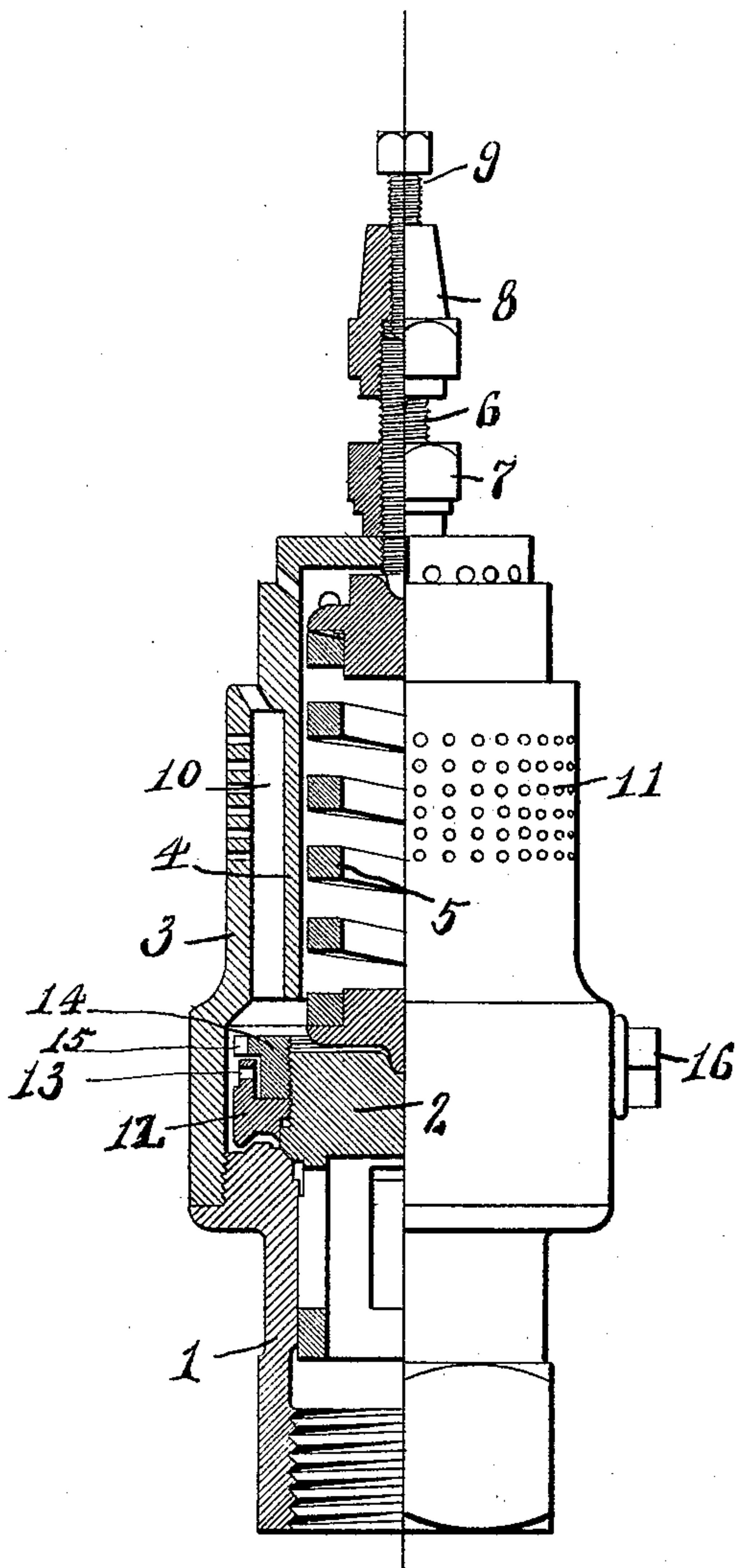


(No Model.)

F. SCHEUMANN.  
SAFETY VALVE.

No. 538,702.

Patented May 7, 1895.



Ferdinand Scheumann

Witnesses:

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# UNITED STATES PATENT OFFICE.

FERDINAND SCHEUMANN, OF LOGANSFORT, INDIANA.

## SAFETY-VALVE.

SPECIFICATION forming part of Letters Patent No. 538,702, dated May 7, 1895.

Application filed December 24, 1894. Serial No. 532,775. (No model.)

*To all whom it may concern:*

Be it known that I, FERDINAND SCHEUMANN, of Logansport, Cass county, Indiana, have invented certain new and useful Improvements in Safety-Valves, of which the following is a specification.

This invention pertains to improvements in that class of safety valves known as pop valves and my improvements will be readily understood from the following description taken in connection with the accompanying drawing which is an elevation, part vertical diametrical section, of a safety valve embodying my improvements.

In the drawings, 1, indicates the usual valve seat; 2, the valve seating as usual therein; 3, the casing screwing to the outer top portion of the valve seat and inclosing the valve and spring; 4, an annular wall within this casing, above the valve, and forming a cylinder concentrically over the valve; 5, the usual spring; 6, the abutment screw for adjusting the tension of the spring, this screw screwing through the top of the casing against the top of the spring structure; 7, a lock-nut on the abutment screw for locking it in adjusted condition of adjustment; 8, a nut screwed upon the top of abutment screw 6; 9, a set screw screwing through the top of nut 8 against the top of abutment screw 6; 10, the annular chamber formed in the casing between the outer wall of the casing and the inner wall 4; 11, perforations in the casing to permit the escape of the blowing steam from the annular chamber 4 into the atmosphere or into such of the usual mufflers as might be provided upon the structure; 12, the lip-ring threaded upon the body of the valve and capable of vertical adjustment thereon so that its lip will be closer to or farther from the valve seat; 13, pin-holes in the periphery of the lip-ring to permit of the insertion of a wrench-pin for turning the lip-ring upon the valve; 14, a lock-nut screwing upon the valve above the lip-ring and locking the lip-ring in adjusted position; 15, notches in the periphery of the lock-nut to permit of the insertion of a wrench-pin in turning the lock-nut; and 16, a plug opening in the casing which incloses the valve and at the general level of 13 and 15.

The cylinder formed by the inner wall 4 fairly fits the exterior of the spring and holds

it concentric with the valve when the structure is complete and also during the operation of putting the parts together, and most of the blowing steam goes out by way of the annular chamber 10 instead of in contact with the spring.

By loosening lock-nut 7 and applying the wrench to the head of set screw 9, abutment screw 6 may be adjusted to give the desired load-tension to the spring, after which lock-nut 7 is to be tightened, thus securing screw 6 against accidental displacement. Nut 8 is then held by a wrench and set screw 9 is to be slackened, whereupon nut 8 and set screw 9 may be entirely removed from the structure, thus leaving the safety valve authoritatively adjusted and unprovided with conveniences by means of which its adjustment may be disturbed by unauthorized persons. Thus, in railroad service, the load upon the valve may be adjusted by the master mechanic or some one authorized by him, and then the load cannot be conveniently altered by the engineer.

Lip-ring 12 is to be adjusted upon the valve till the relation of the lip-ring to the seat is such as to secure the desired popping effect, after which the adjustment is made permanent by tightening the lock-nut 14. These adjustments may be made, while the valve is under steam, by using the wrench pins through plug opening 16.

I claim as my invention—

1. In a safety valve, the combination, substantially as set forth, of a valve seat, a valve seating therein and provided at its top with an exterior thread, a lip-ring screwing upon such thread and having peripheral apertures for a wrench-pin, a lock-nut screwing upon the valve and over and within the lip-ring and having a flange peripherally notched for a wrench-pin, a spring over the valve, and an inner casing inclosing the spring having perforations at its upper end, and an outer casing having perforations in its side walls, and having a plug aperture opposite the lip-ring and lock-nut.

2. In a safety valve, the combination, substantially as set forth, of a valve seat, a valve seating therein, a spring over the valve, a cylinder inclosing the spring having perforations at its upper end, and an outer casing having perforations through its side walls rig-



idly connected with said cylinder and screwed to the valve seat.

3. In a safety valve, the combination, substantially as set forth, of a valve seat, a valve  
5 seating therein, a spring over the valve, a casing inclosing the valve and spring, a headless abutment screw for adjusting the tension of the spring, a lock-nut for locking the abut-

ment screw, a non-circular nut upon the top of the abutment screw, and a set screw in 10 said top nut impinging upon the abutment screw.

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