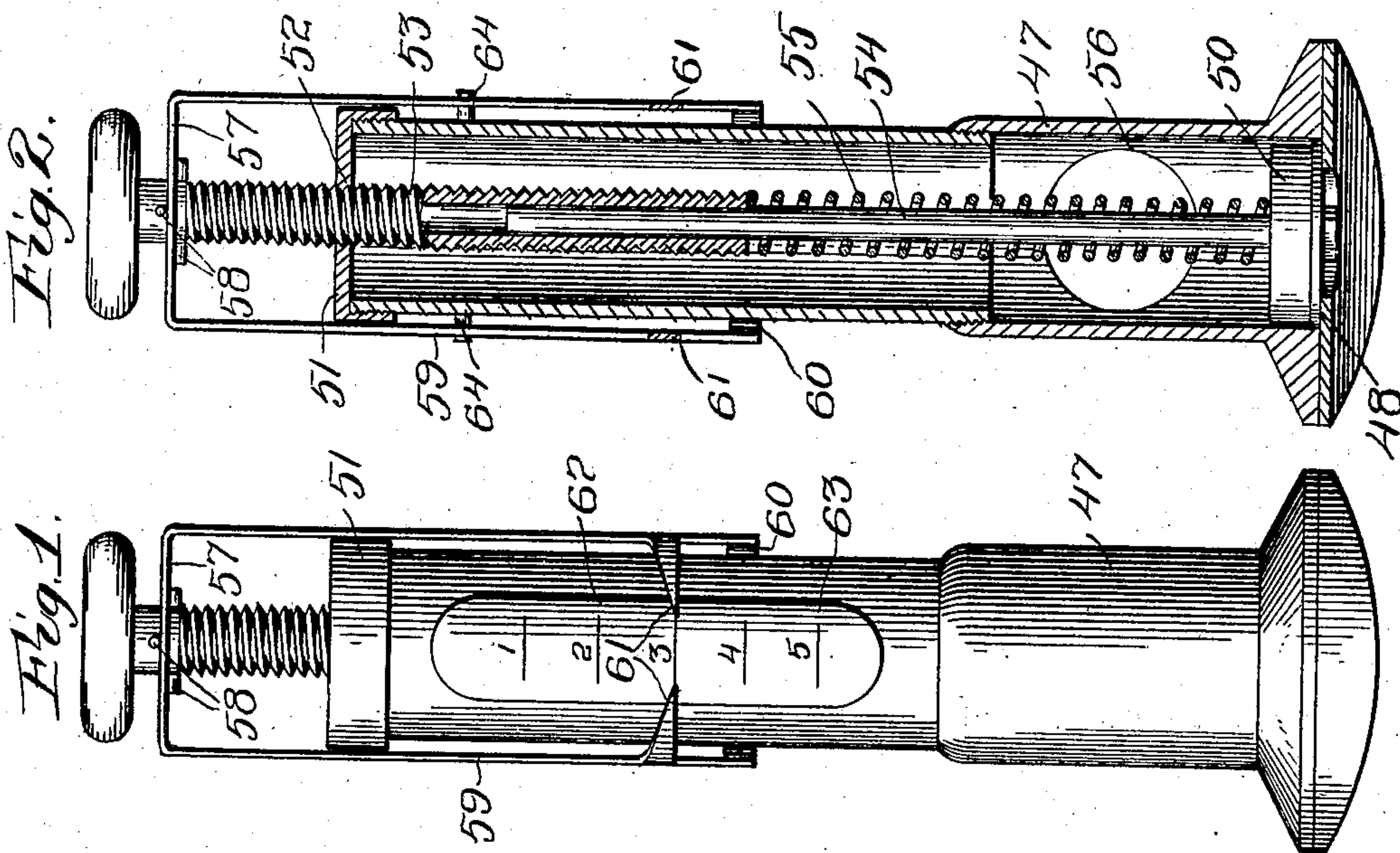


No. 858,810.

PATENTED JULY 2, 1907.

N. T. HANSON.  
SAFETY VALVE.

APPLICATION FILED DEC. 18, 1905.



Witnesses  
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By *[Signature]*

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# UNITED STATES PATENT OFFICE.

NELS T. HANSON, OF HAWARDEN, IOWA.

## SAFETY-VALVE.

No. 858,810.

Specification of Letters Patent.

Patented July 2, 1907.

Application filed December 18, 1905. Serial No. 292,202.

*To all whom it may concern:*

Be it known that I, NELS T. HANSON, a citizen of the United States, residing at Hawarden, in the county of Sioux, State of Iowa, 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.

This invention relates to valves and more particularly to safety valves and has for its object to provide a valve which may be easily adjusted to suit different conditions and which will be provided with means for indicating the pressure necessary to unseat the valve. Other objects and advantages will be apparent from the following description.

In the drawings forming a portion of this specification and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a side elevation of the present valve. Fig. 2 is a vertical section therethrough.

Referring now to the drawings, the present invention includes a hollow cylindrical member 47, and at its lower end, this member is provided with an upwardly directed valve seat 48 arranged to receive a valve 50. At its upper end, the member is provided with a cap 51 screwed thereupon and having a central threaded opening 52 in which there is engaged a hollow threaded rod 53 having a hand grip at its upper end and having an opening in its lower end in which there is engaged for sliding movement a stem 54, secured at its lower end to the valve 50. Engaged with the stem 54 between the valve and the lower end of the rod 53, there is a helical spring 55 which is thus arranged to hold the valve yieldably in its seat and it will be readily seen that the rod 53 may be screwed into and out of the member 47 to vary the tension of the spring.

Above the valve seat, the cylindrical member is provided with an outlet passage 56.

An indicator similar to that described in the first form of the valve is provided, to show the pressure necessary to unseat the valve. This indicator consists of a plate 57 having a central perforation in which the

rod 53 is engaged, above the member 47, and above and below this plate the rod is provided with laterally extending pins 58 which prevent longitudinal movement of the plate upon the rod, though permitting rotary motion thereof. The plate 57 has downwardly extending members 59 at diametrically opposite points thereof, these members being connected at their lower ends by a semi-circular band 60, extending horizontally at one side of the member 47, and at the opposite side of the member 47, pointers 61 extend toward each other from the members 59 and are curved to conform to the convexity of the member 47. A scale 62 is marked longitudinally upon the member 47 between these pointers 61, the scale being carried by a scale plate 63 secured to the cylindrical member and the pointers 61 indicate upon the scale the pressure necessary to unseat the valve 50. To prevent rotation of the plate 57 with the rod 53, the cylindrical member is provided with pins 64 against which the edges of the members 59 rest.

What is claimed is:

1. A safety valve comprising a hollow member having a valve seat at one end, a valve for the seat, a rod movably engaged in the member, a spring engaged between said rod and the valve arranged to hold the latter in its seat, said rod being operable to vary the tension of the spring, a plate connected with the rod for movement therewith, members carried by the plate, a scale, and fingers carried by the members and arranged for movement over the scale when the rod is moved.

2. A safety valve comprising a hollow cylindrical member having a valve seat at its lower end, a valve for the seat, said member having a threaded opening in its upper end, a threaded rod engaged in said opening, a spring engaged between said threaded rod and the valve and arranged to hold the latter in its seat, a plate revolubly connected with the rod for bodily movement therewith, downwardly extending members carried by the plate, a connecting band for the lower ends of said members, fingers carried by said members and extending over the first named member, and a scale carried by the first named member for indication by the fingers.

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

NELS T. HANSON.

Witnesses:

M. SEHON,  
JOSEPH WEBER.