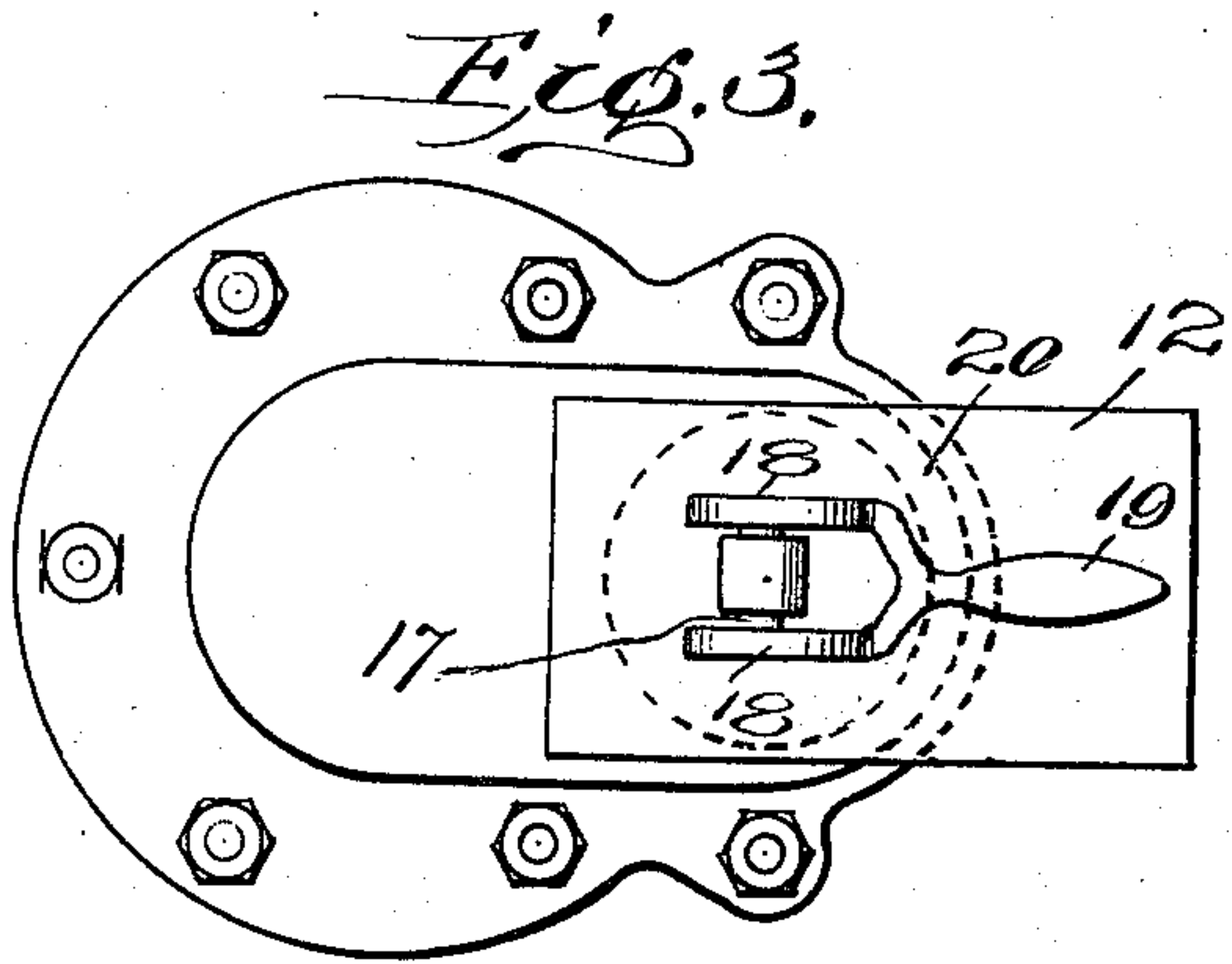
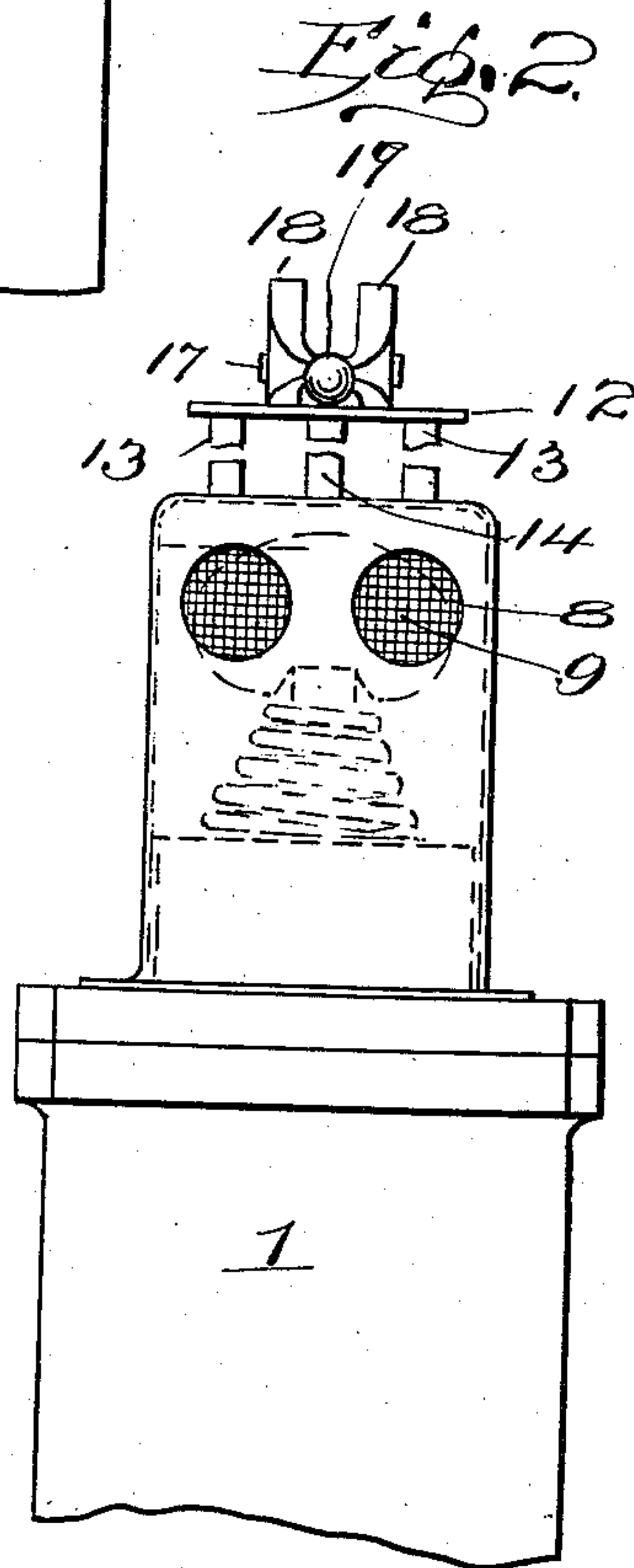
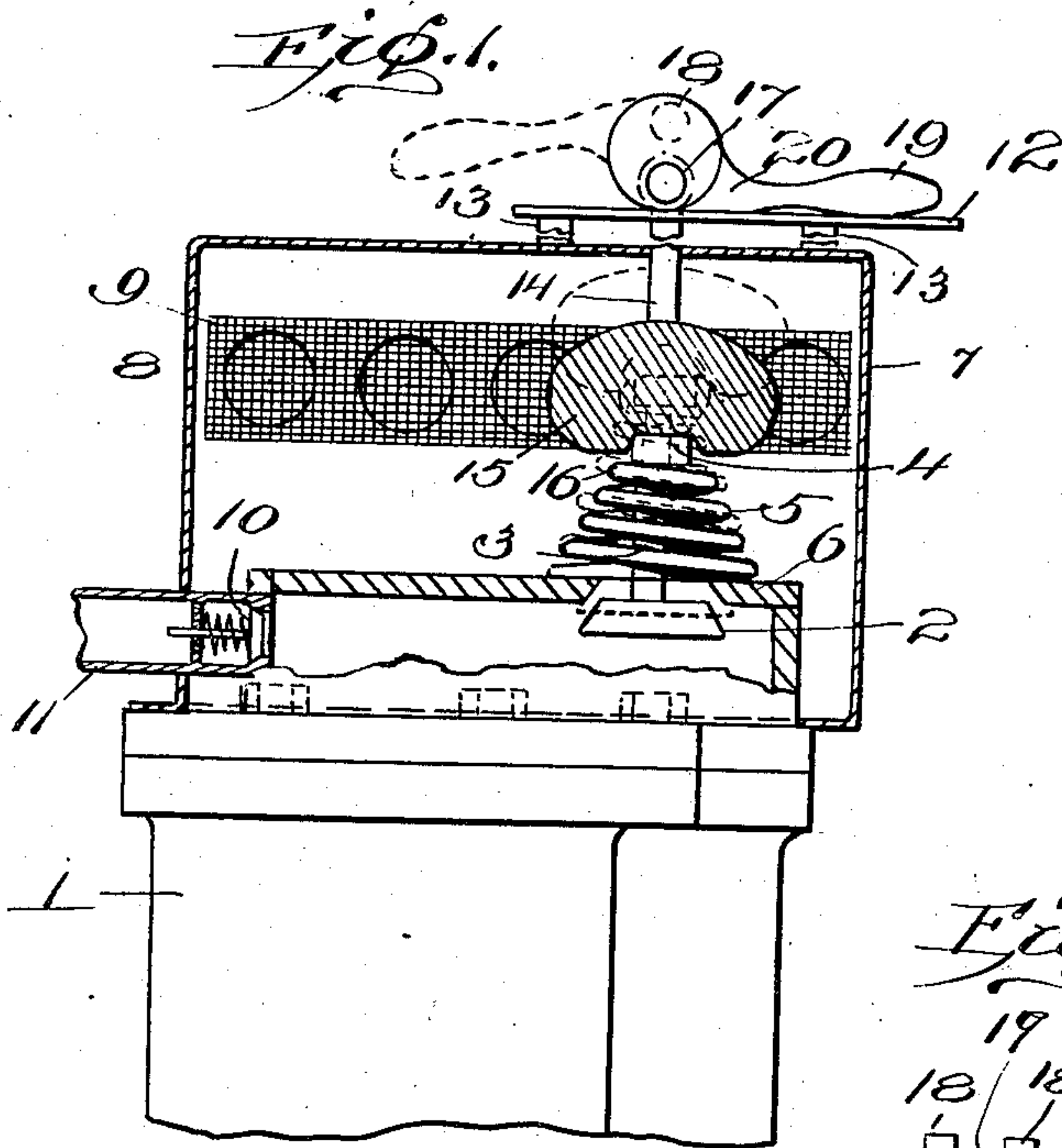


No. 849,916.

PATENTED APR. 9, 1907.

W. R. McKEEN, JR.  
UNLOADING DEVICE FOR PUMP INLET VALVES.  
APPLICATION FILED MAY 20, 1905.



Witnesses  
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# UNITED STATES PATENT OFFICE.

WILLIAM R. McKEEN, JR., OF OMAHA, NEBRASKA.

## UNLOADING DEVICE FOR PUMP INLET-VALVES.

No. 849,916.

Specification of Letters Patent.

Patented April 9, 1907.

Application filed May 20, 1905. Serial No. 261,387.

*To all whom it may concern:*

Be it known that I, WILLIAM R. McKEEN, JR., a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Unloading Devices for Pump Inlet-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 pumps, and is particularly directed to valve mechanism for controlling the supply of fluid-pressure from a pump.

One of its objects is to provide valve mechanism in a pump of such construction as to be placed in inoperative condition when the fluid-pressure in an inclosing chamber reaches a certain limit.

Another object is to provide a pump such that when the fluid-pressure in an inclosing chamber or tank supplied thereby reaches a certain limit the flow of fluid into said inclosing chamber or tank may be arrested without interfering in any way with the operation of the pump-piston.

A further object is to provide a continuously-driven pump of such construction as to be placed in an inoperative condition when the fluid-pressure in the inclosing chamber reaches a certain prescribed amount.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts which will be exemplified in the mechanism hereinafter described and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings, wherein is illustrated one of the various possible embodiments of my invention, Figure 1 is a vertical central sectional view showing the valve mechanism. Fig. 2 is an elevation of the same. Fig. 3 is a plan view thereof.

Similar reference characters refer to similar parts throughout the several views of the drawings.

I employ in combination with any ordinary reciprocating pump 1 a valve 2, controlling the intake of air to said pump, said valve being provided with a stem 3, having a head 4. A spring 5 is interposed between the head 4 and the casing 6, constituting a

seat for the valve 2, said spring normally retaining said valve upon its seat, but being sufficiently weak to permit the valve to lift from its seat and admit air under the drawing action of the receding stroke of the pump-piston. The valve-casing 6 is preferably surrounded by any suitable housing 7, provided with apertures 8, covered by any preferred form of screening 9, designed to prevent the admission of foreign substances. Any ordinary check-valve 10 may be arranged for controlling the discharge of air through any form of discharge-pipe 11. A plate 12 is mounted on any suitable supports 13 above the housing 7. A vertical rod 14 extends through the plate 12 and is longitudinally movably mounted and extends downwardly through the casing 7 and carries at its lower end a relatively heavy weight 15, formed with a central depression 16 in its under surface, designed to fit the head 4. The rod 14 at its upper end is connected with the cross-bolt 17, extending through cams 18 18. The bolt 17 is rotatable with respect to the cams 18 or with respect to the rod 14 and may be rotatable with respect to both of said cams and rod, such mounting of the bolt 17 being designed to permit rotation of the cams 18. A handle 19 is bifurcated, as at 20, and fixed to or formed integral with the cams 18 and is designed to be operated manually for swinging the cams to the opposite extremes of their movement.

Having thus described my invention, its operation, which should be largely obvious, is substantially as follows: When it is desired to permit the pump 1 to operate and to supply pressure to the pipe 11, the parts are positioned, as indicated in dotted lines in Fig. 1, with the bolt 17 at its uppermost position and the rod 14 and weight 15, sustained thereby, in an elevated condition, so that the stem 3 is free to be acted upon by the spring 5. When it is desired to throw the pump out of operative condition, it is only necessary to swing the handle 18 to the position indicated in Fig. 1 in full lines, whereby the bolt 17 is lowered and the rod 14 and weight 15 permitted to move downwardly, which movement effects a compression of the spring 5 by the weight 15 and causes the valve 2 to assume an opened position. While in this condition the reciprocation of the pump-piston will effect an intake and discharge through the opening for the valve 2 and will not supply pressure to the pipe 11. It will accordingly



be seen that I have provided mechanism characterized by simplicity and efficiency, the several parts cooperating to achieve the advantageous results whereby the flow of the fluid to the storage-tank may be stopped at will without interfering in any way with the operation of the pump-piston.

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

1. In a pump-valve mechanism, the combination with an intake-valve of a pump, a spring normally pressing the said valve to its seat, and a weight suspended above the valve and adapted to be lowered into engagement with the stem thereof for overcoming the pressure of the spring.

2. In a valve mechanism, the combination with the intake-valve of a pump, a spring engaging the stem of said valve for normally maintaining the valve closed, a weight suspended above said valve and adapted to be lowered into engagement with the stem for overcoming the pressure of the spring, the said weight being adapted to interlock with the free end of the stem when engaging the same.

3. In a valve mechanism, the combination of the intake-valve of a pump, a spring en-

gaging the stem of the same for normally maintaining the valve closed, a cam mounted above the valve-stem, a weight supported by said cam and adapted to be lowered into engagement with the valve-stem for overcoming the pressure of the spring, and means for supporting said cam in position for permitting free bodily upward movement of the cam.

4. In a valve mechanism, the combination of an intake-valve of a pump, a spring engaging the stem thereof, and normally maintaining the valve in a closed position, a weight suspended above said stem, a cam supporting said weight, a handle projecting from said cam in position for being operated for raising or lowering the weight, the handle being so positioned as to lie substantially flat in one of the extremes of movement of the cam, and a support for the cam permitting the cam to move freely upwardly but retaining the same against downward movement.

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

WILLIAM R. McKEEN, JR.

Witnesses:

EDGAR M. KITCHIN,  
CHARLES L. DUNDEY.