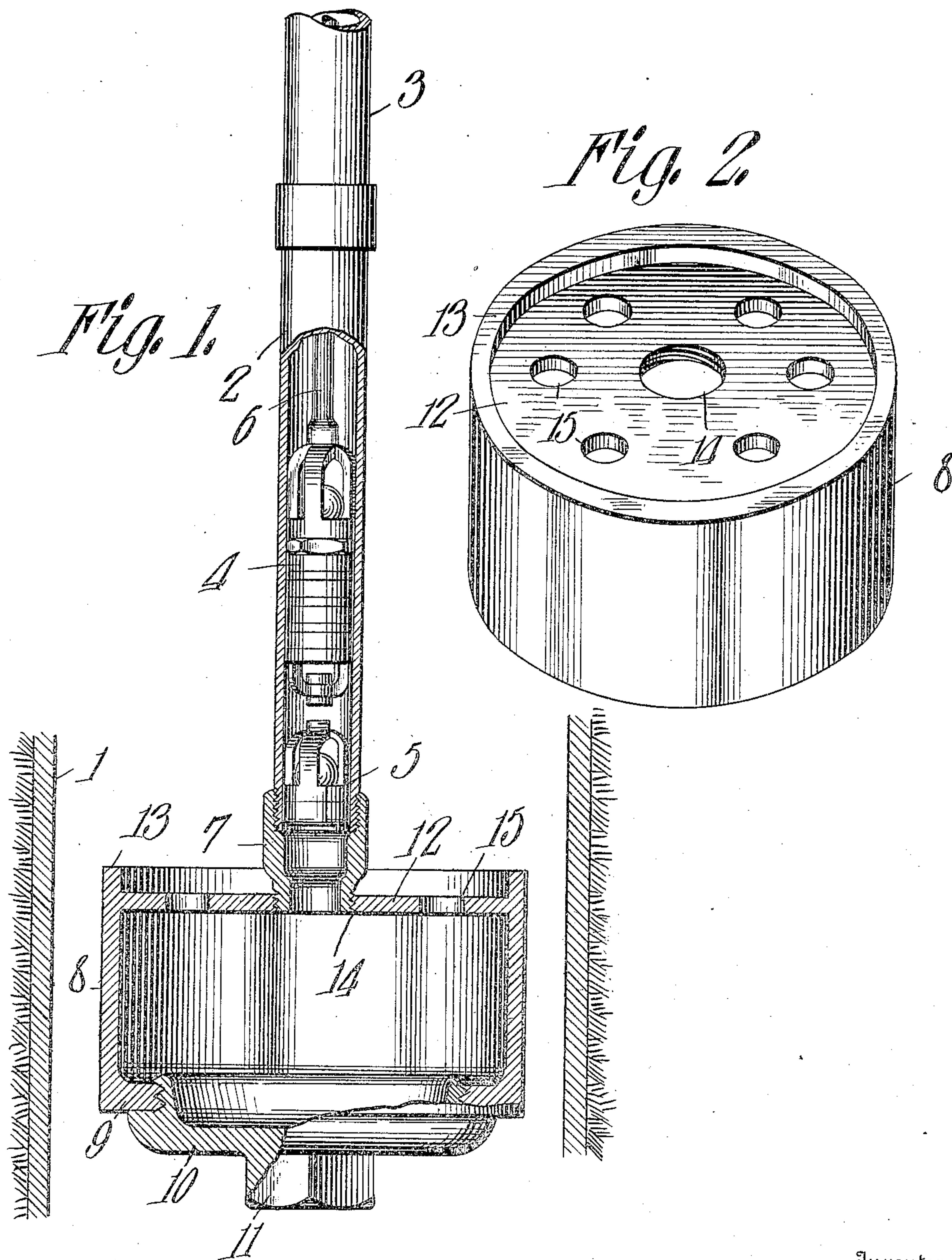


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R. C. BAKER.  
GAS TRAP FOR OIL WELLS.  
APPLICATION FILED SEPT. 18, 1907.



Witnesses  
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# UNITED STATES PATENT OFFICE.

REUBEN C. BAKER, OF COALINGA, CALIFORNIA.

## GAS-TRAP FOR OIL-WELLS.

No. 896,967.

Specification of Letters Patent.

Patented Aug. 25, 1908.

Application filed September 18, 1907. Serial No. 393,522.

*To all whom it may concern:*

Be it known that I, REUBEN C. BAKER, a citizen of the United States, residing at Coalinga, in the county of Fresno and State of California, have invented a new and useful Gas-Trap for Oil-Wells, of which the following is a specification.

This invention has reference to improvements in oil well gas traps, and its object is to provide means for preventing the entrance of gas along with the oil into the oil pump.

It often transpires in oil wells that there is a large amount of gas mixed with the oil and when this mixture passes into the pump the gas will pocket in the valves of the pump and not permit them to seat regularly. In order to prevent this I have devised a trap past which the gas will flow toward the upper end of the well by reason of its buoyancy, while the oil will gravitate or be drawn into a chamber connected with the lower end of the pump through the top of said chamber, thus delivering to the pump oil that is practically free from imprisoned gas. In order that the separating chamber receiving the oil free from gas may be cleansed when so desired, its lower end is provided with a removable plug which may be unscrewed from the chamber and thus leave an ample aperture for access to its interior.

The invention will be best understood by reference to the following detailed description, taken in connection with the accompanying drawings forming part of this specification, in which,—

Figure 1 is a longitudinal section, partly in elevation, of an oil well pump with a separating chamber at its lower end, in place in an oil well; and Fig. 2 is a perspective view of the separating chamber removed from the pump.

Referring to the drawings, there is shown an oil well casing 1 which may be of the ordinary type, and in this casing is located a pump cylinder 2 on the lower end of a pipe 3 extending to the surface of the ground. Within the cylinder 2 there is located a pump piston 4 of ordinary type and which, therefore, need not be further described; while at the bottom end of the cylinder 2 there is a foot valve 5, also of the ordinary type and, therefore, needing no further description. The piston 4 is carried by the lower end of a pump rod 6.

Attached to the lower end of the pump cyl-

inder 2 by means of a coupling 7 there is a cylindrical case 8 having its bottom wall 9 perforated by a large threaded opening into which is fitted a screw-plug 10 provided with a central boss 11 shaped square or otherwise for the application of a wrench. Near the other end of the chamber 8 there is formed a head 12 in one piece with the chamber and located at a short distance below the upper end thereof, whereby there is formed an annular flange 13 surrounding the head 12. This head 12 has a central perforation 14 into which is screwed the nipple end of the coupling 7. Surrounding the central perforation 14 is an annular series of other perforations 15.

Now, let it be supposed that the pump cylinder 2 is properly located in the well below the upper surface of the oil, with the separating chamber 8 fast to the bottom of the pump. The natural tendency of the gas in the oil is to ascend toward the top of the well, while the oil itself remains practically quiescent. As the pumping proceeds the oil is drawn over the ledge or flange 13 and down upon the head 12, thence through the perforations 15 into the interior of the cylinder 8 and thence up through the pump in the usual manner. However, because of the upward tendency of the imprisoned gas in the oil this gas will not be drawn down into the interior of the cylinder 8 but will continue its upward course. This separation of the oil and gas is facilitated by the presence of the ledge or flange 13, which prevents the oil from immediately reaching the perforations 15 as it might do were the ledge not present and so carry some of the imprisoned gas with it; but because of the obstruction offered to the passage of the oil and the somewhat devious path it must take after passing up by the sides of the cylinder 8 and thence over the ledge 13 before it can reach the perforations 15, ample time is given for the buoyant action of the gas to overcome the tendency of the inflowing oil toward the interior of the cylinder 8 to carry the gas with it. The oil therefore which passes into the pump cylinder 2 is practically free from any imprisoned gas and hence the proper action of the valves of the pump is not at all interfered with and the pumping proceeds with the same facility as though there were no gas present in the oil in the well.

While not so shown in the drawings, the outer walls of the casing 8 may be provided

with spacing lugs for holding the same central with relation to the well casing 1 and also acting to steady the lower end of the pump.

I claim:—

- 5 A gas trap for oil wells comprising a cylindrical casing closed at the bottom and having a flat top provided with a central perforation for the attachment of the gas trap to the lower end of a pump casing, said top being  
10 provided with perforations between the central and the edge portions, and an annular

flange extending upward above the top co-incident with the walls of the cylindrical casing, said flange joining the upper surface of the flat top and at right angles thereto. 15

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

REUBEN C. BAKER.

Witnesses:

H. HENSHAW,

LOUIS T. TRUMBULL.