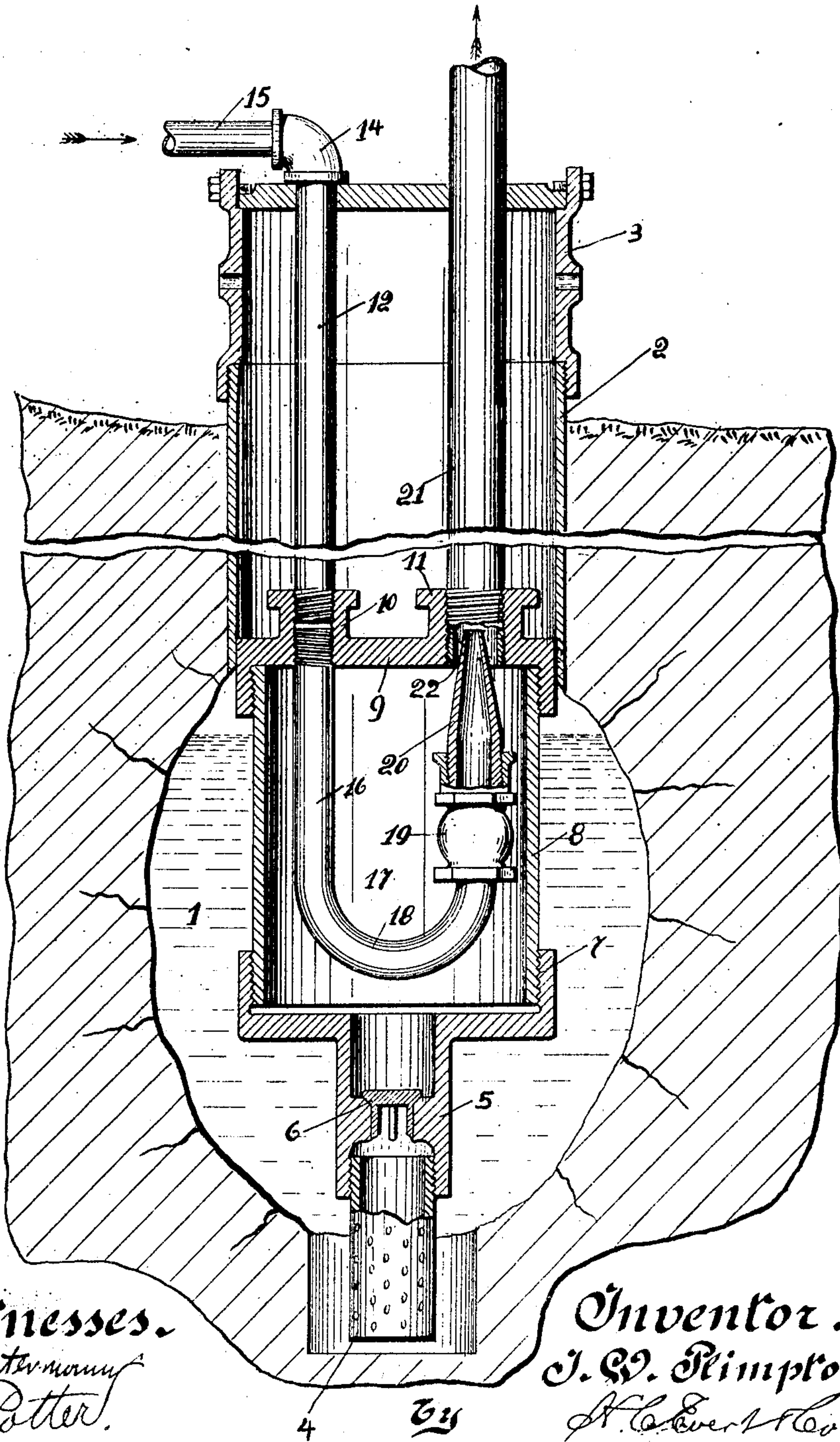


J. W. PLIMPTON.
EJECTOR FOR OIL WELLS.

APPLICATION FILED AUG. 1, 1904. RENEWED FEB. 3, 1909.

916,366

Patented Mar. 23, 1909.



Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES W. PLIMPTON, OF OIL CITY, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS,
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EJECTOR FOR OIL-WELLS.

No. 916,366.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed August 1, 1904, Serial No. 219,104. Renewed February 3, 1909. Serial No. 475,922.

To all whom it may concern:

Be it known that I, JAMES W. PLIMPTON, a citizen of the United States of America, residing at Oil City, in the county of Venango and State of Pennsylvania, have invented certain new and useful Improvements in Ejectors for Oil-Wells, of which the following is a specification, reference being had therein to the accompanying

10 drawing.

This invention relates to certain new and useful improvements in ejector for flowing oil wells, and has for its object the provision of novel means whereby air pressure is employed which is conveyed through a suitable force pipe into an injector located in a hermetically sealed casing, for the purpose of creating a vacuum and suction that will convey the fluid in a continuous stream through a suitable discharge pipe to the top of the well.

Another object of my present invention is to provide simple and effectual means that may be easily secured in an Artesian or oil well, and readily removed therefrom when occasion requires; furthermore, to provide an apparatus that is not apt to get out of order or clog.

Heretofore, great difficulty has been experienced in providing devices wherein compressed air is used to force the fluid from the well, by reason of the extremely high pressure required for the purpose, and it is the aim of the present invention to overcome such difficulties by the use of a novel device that will be hereinafter more particularly explained and specifically pointed out in the claim.

In describing the invention in detail, reference is had to the accompanying drawings, the figure whereof represents a vertical sectional view of a portion of an Artesian well equipped with my improved device.

In this drawing, the various parts are indicated by reference numerals, as follows:—1 represents an Artesian or oil well which is provided with an upper casing 2, having secured thereupon a casing head 3. In the lower portion of the well is arranged a perforated inlet pipe 4 which is screw threaded into a reducer 5. In said reducer is secured a standing valve 6 which is a gravity valve of any suitable construction. The said reducer 5 is secured by means of

screwthreads 7 to a casing 8, carrying a cap 9, and having formed integral with said cap two screw threaded nipples 10 and 11 spaced apart; the said nipple 10 being adapted to receive an air pipe 12 extending through the casing head 3, and provided with a coupling 14 into which an air pipe 13 leads from an air compressor, not shown in the drawing. In the said nipple 10 is secured an air pressure pipe 16, extending into the chamber 17 formed by the casing 8, reducer 7, and cap 9; this chamber 17 is hermetically sealed, the pipe 16 terminating in a U-shaped portion 18 carrying check valve 19 to which is secured an injector 20, said injector extending into the nipple 11 to which is secured a discharge pipe 21, extending upwardly through the casing head 3. An annular space 22 is formed between the injector 20 and the interior walls of the opening which communicates with the nipple 11, and the discharge pipe 21.

The operation of my improved device for flowing oil wells is as follows:—The force pump being operated, forces air under a high pressure through the pipes 15, 12, 16 and 18, through the injector 20 into the pipe 21, thereby creating a suction that will open the standing valve 6, permitting the liquid to rise into the vacuum chamber 17, and thence through the opening 22 into the discharge pipe 21, wherein it will be carried to a suitable point of discharge at the upper end of the pipe. It will be understood that by the use of my improved device, a constant flow of the fluid may be produced, but that when the air compressor ceases operation, the standing valve then will automatically close and prevent any fluid which remains in the vacuum chamber from returning into the well. It will also be noted that all the parts may be easily taken apart and renewed should the occasion require; furthermore that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

In a device of the class described, a casing comprising spaced upper and lower caps and an intermediate tubular connecting member, said lower cap having an inte-

gral valve seat and said upper cap having
spaced threaded nipples, a valve bearing
upon said valve seat, a well casing inclosing
said upper cap and its nipples, a sleeve upon
5 the upper end of said casing, a closure de-
tachably engaging said sleeve and provided
with spaced guide ways, an air supply pipe
extending into said well casing and con-
nected into one of said nipples and project-
10 ing through one of said closure guide ways,
a discharge pipe extending through said
well casing and connected into the other of
said nipples and projecting through the

other of said guide ways, a U-shaped pipe
having a check valve and connected at one 15
end with the nipple into which the air sup-
ply is coupled and with an ejector nozzle at
the other end entering the nipple with
which the discharge pipe is connected.

In testimony whereof I affix my signa- 20
ture in the presence of two witnesses.

JAMES. W. PLIMPTON.

Witnesses:

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