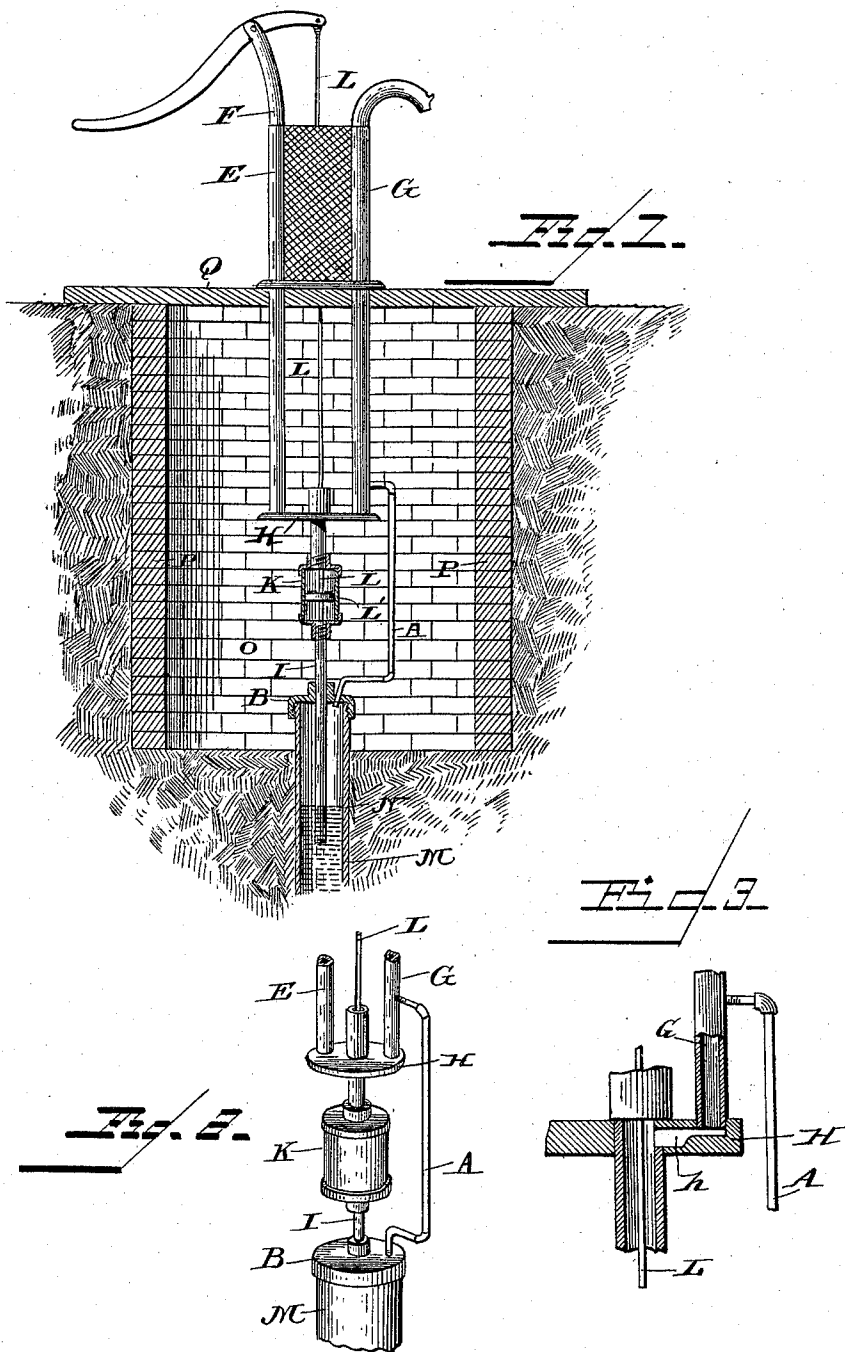


(No Model.)

G. O. SNYDER.
PUMP FOR TUBULAR WELLS.

No. 586,206.

Patented July 13, 1897.



WITNESSES
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UNITED STATES PATENT OFFICE.

GEORGE O. SNYDER, OF GRAND LEDGE, MICHIGAN.

PUMP FOR TUBULAR WELLS.

SPECIFICATION forming part of Letters Patent No. 586,206, dated July 13, 1897.

Application filed January 15, 1894. Serial No. 496,926. (No model.)

To all whom it may concern:

Be it known that I, GEORGE O. SNYDER, a citizen of the United States, residing at Grand Ledge, in the county of Eaton and State of Michigan, have invented certain new and useful Improvements in Pumps for Tubular Wells; and I do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to tubular wells and pumps, being designed for use with that class of wells known as "tubular" wells, which are constructed by drilling to the required depth and then inserting a pipe of suitable diameter reaching down to the bottom of the opening thus drilled and through which the water flows up; and my invention consists in a pump which is especially designed for and adapted to be attached to tubular wells and which possesses new and valuable features, and the invention will be hereinafter fully described and claimed.

Referring to the accompanying drawings, in which the same letters of reference indicate corresponding parts in all the views, Figure 1 is a vertical sectional view showing my pump connected in operative position with a tubular well. Fig. 2 is a perspective detail view on an enlarged scale. Fig. 3 is a detail sectional view of the casting.

In the drawings, M indicates the upper part of the well-tubing, which is sunk or inserted in the well-opening after the latter has been drilled to the required depth, this iron pipe being usually about three inches in diameter, N indicating the water-level. The upper end of this pipe extends up into the circular space or pit O, which is dug to receive the lower part of the pump and to give ready access for connecting the pump to the top of the well-tubing. This pit is lined with brick walls P to prevent the earth from falling in and is covered by a surface platform Q, upon which the flanged ornamental upper part of the pump-stock is bolted.

The pump E is formed with a rear pillar F, in the upper end of which the pump-handle

is mounted, and with a vertical discharge-pipe G, having a spout at its upper end and having a casting H at its lower end, which is formed with a discharge-passage *h*, communicating with the tube G and with the vertical suction-pipe I. Instead of the pump proper being connected directly with the well-tube M it is provided with the small vertical suction-pipe I, which is inserted and passes down inside of the larger well-pipe M, as shown. This suction-pipe is provided with a brass lifting and force cylinder K, in which the piston L' of the piston-rod L works, thus raising the water when the pump-handle is operated. Just below the cylinder K a metal cap B is secured on the suction-pipe, having a threaded flange to adapt it to be secured upon the upper end of the well-tubing, which is threaded. A indicates the vent-pipe, which is arranged as shown, communicating at its upper end with the discharge-pipe G and with its threaded lower end passing down through a threaded opening in the flat top of the cap B.

The cap B is screwed upon the upper end of the well-tubing by turning the pump around and closes the top of the well-tube tightly and securely, effectually preventing any foreign substance or dirty water from entering it, while when desired it can be as readily unscrewed by turning the pump around, and the pump with all of its several parts can then be readily lifted out together. The vent or pipe A performs three functions, one of which is to drain all water from the pump as soon as the pumping ceases, thus preventing the pump from freezing in cold weather; secondly, it returns this water back into the well-tubing instead of allowing it to drip into the pit O, where it would freeze around the cylinder and pipe in cold weather, and in the third place the pipe A, by conveying the water in the pump above its upper end back to the water-level in the well-tubing, opens a free passage for the entrance of the outer air to the water in the well through the spout, the discharge-pipe, and the pipe A into the well-tubing, thus purifying the water and causing it to flow more freely by reason of the air-pressure on its surface in the tube.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

5 The combination with the pump-cylinder, having a detachable cap adapted to be secured to the upper end of the well-tubing, of the discharge-pipe, and the small pipe spanning the pump-cylinder, and connecting with the discharge-pipe and cap, to return the water left in the discharge-pipe to the well-tub-
10 ing, the whole arranged so as to permit the

pump to be placed in position and removed with its parts intact, substantially as specified.

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

GEORGE O. SNYDER.

Witnesses:

G. W. IRISH,

H. L. BIGELOW.