W. S. Wilkinson,

Oil Well,

No. 52,947. Patented Feb. 27 1866.

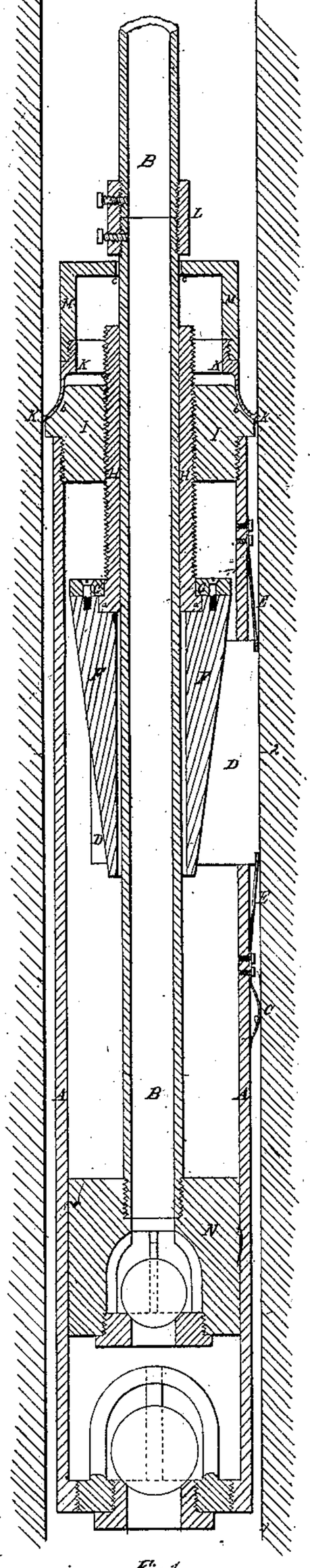

Fig. 1.

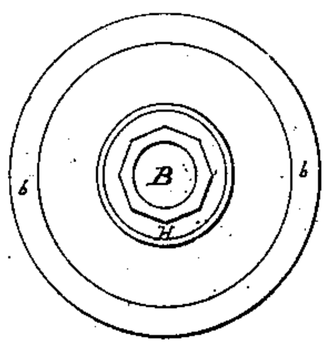

Fig. 3.

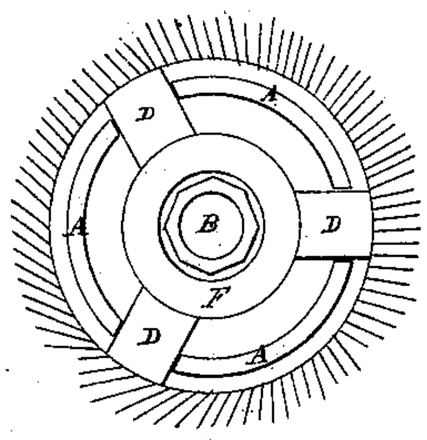

Fig. 2.

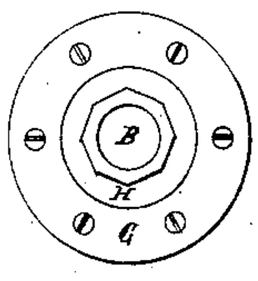

Fig. 4.

Witnesses.

H. Franklin Reigart

L. Sneks

Inventor

W. S. Wilkinson

UNITED STATES PATENT OFFICE.

WALTER S. WILKINSON, OF BALTIMORE, MARYLAND.

IMPROVEMENT IN PUMPS FOR OIL-WELLS.

Specification forming part of Letters Patent No. **52,947**, dated February 27, 1866.

To all whom it may concern:

Be it known that I, WALTER S. WILKINSON, of the city of Baltimore, county of Baltimore, and State of Maryland, have invented new and useful Improvements in Pumps; and I do hereby declare the following to be an exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

The nature of my invention consists in the use of a cone attached to a hollow screw operating on side wedges and a packing-cylinder for the purpose of fastening the pump in the well.

Figure 1 exhibits a vertical section of an oil-well and of my pump in position for pumping. Fig. 2 is a cross-section of the pump on the line 1 2 on Fig. 1, showing the position of the three wedges. Fig. 3 is a top view of the pump with the packing removed, showing the hollow screw and a cross-section of the piston-rod. Fig. 4 is a top view of the cone, showing the plate for fastening the hollow screw to it.

My invention is a self-fastening pump for Artesian, salt, and oil wells, described and operated as follows:

The barrel A of the pump is made nearly of the same diameter as the well into which it is to be inserted. Of the valves it is only necessary to say that they both open upward, that one is in the bottom of the pump and the other in the piston N. They may be constructed of any desired form.

The piston-rod B is tubular, and used as a pipe to conduct the liquid being pumped to the point at which it is desired to discharge it.

Three springs, C, are attached to the outside of the barrel for the purpose of preventing the barrel from revolving during the operation of fastening the pump.

The three wedges D, of hard wood or metal, are inserted through the side of the pump toward the center in three slots corresponding in length and breadth to the length and thickness of the wedges. The wedges are maintained in their position by means of the springs E pressing upon each end of them from the outside, and the cone F, resting between them on the inside.

The cone is attached by means of a plate, G, and flange *a*, or other simple device, to the hollow screw H, which has a thread cut on its outside the whole length of it, which thread works in a corresponding thread in the top of the pump I, which forms a nut for the screw. The hole through this screw is octagonal, or of some other angular cross-section, and the piston-rod B is made of a corresponding outward cross-section fitting in the screw, so as when the piston-rod is turned around it will cause the screw to turn also, at the same time allowing the piston-rod to move upward and downward in the operation of pumping without disturbing the screw in its position.

When it is desired to secure the pump in a well it is lowered to the point at which it is to be fastened. The piston-pipe B is taken hold of by a pair of ordinary gas-pipe tongs above the top of the well, and it is turned around to the right. This turns the hollow screw H in its nut I and causes it to descend with the cone F, which is attached to the lower end of the screw, the cone forcing the wedges D outward. The screwing is continued until the wedges are brought to bear against the wall of the well with sufficient force to maintain the pump in its position during the operation of pumping. The packing-cylinder K, of lead or other flexible metal, is then driven down on the circular head *b* of the pump by means of the coupling L of the piston-pipe, which rests upon the top of the cylinder M, to which the packing K is attached.

The driving down of the cylinder L is accomplished through blows given upon the top of the piston and pipe B at the top of the well. This driving is continued until the lead has been driven down and expanded sufficiently to form a joint with the wall of the well at the point K and prevent the passage of the water by the pump,

When it is desired to remove the pump from the well the piston-rod pipe B is turned toward the left until the cone F is drawn up from between the wedges D, when the springs E force the wedges D in toward the center of the pump. The turning of the rod and screw toward the left is continued until the upper end of the hollow screw H comes in contact with the under side of the head of the cylinder M and raises the packing K up from the seat *b* on the top of the pump, thus freeing the

pump from any serious impediment to its withdrawal from the well.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The cone F, attached to a hollow screw, H, in combination with two or more wedges, D, operated in the manner and for the purposes substantially as herein set forth.

2. The combination and arrangement of the packing-cylinder K and the screw H and the coupling L of the piston-pipe B, as herein described, and for the purpose set forth.

W. S. WILKINSON.

Witnesses:

I. FRANKLIN REIGART,

GEO. W. SHOWAEN.