A. S. PARKE.
Pump Valve.

No. 230,892. Patented Aug. 10, 1880.

Fig. 1.

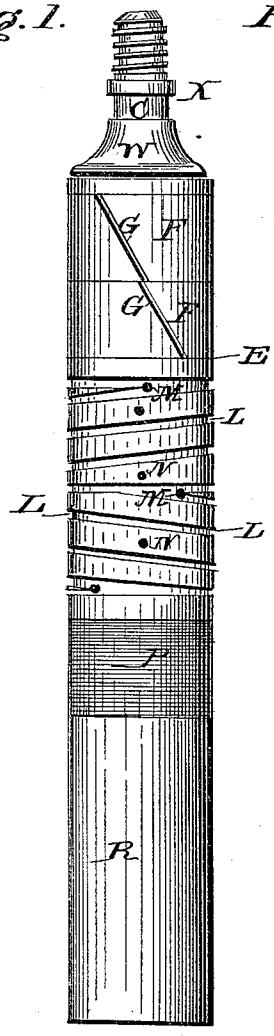
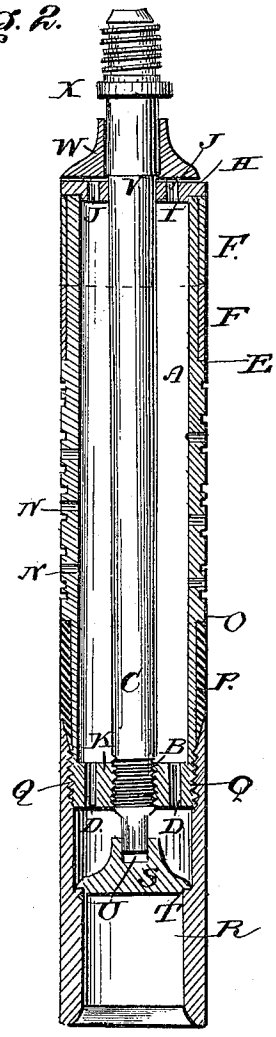


Fig. 2.



Witnesses:
Fred. G. Dieterich.
J. R. Sittell.

Inventor:
Amos S. Parke.
by C. A. Snow and Co.
Attorneys.

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

AMOS S. PARKE, OF BAY CITY, MICHIGAN.

PUMP-VALVE.

SPECIFICATION forming part of Letters Patent No. 230,892, dated August 10, 1880.

Application filed December 30, 1879.

To all whom it may concern:

Be it known that I, AMOS S. PARKE, of Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Pump-Valves; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

Figure 1 is a side view, and Fig. 2 is a vertical sectional view.

Similar letters of reference denote corresponding parts in both figures.

This invention relates to pump-valves; and it consists in certain improvements in the construction of the same, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, A represents the cylindrical body of my improved valve, the bottom of which, K, is provided with a central threaded perforation, B, for the valve-stem C, and perforations D D for the admission of fluid. At its upper end the cylinder A is turned down, forming a shoulder, E, above which one or more packing-rings, F, of steel or other suitable spring metal, are confined, said rings being provided with oblique slots G which permit them to expand in the well-tube.

The upper end of the valve-cylinder is closed by a cover, H, having a flange, I, which serves to confine the packing-rings F upon the cylinder. Said cover is also provided with perforations J for the escape of the fluid passing through the valve.

The cylinder or body A is provided with grooves L cut as right and left hand screw-threads, at the terminations of which perforations M are made in the cylinder. Additional orifices N are made in the sides of the cylinder for the purpose of enabling a small portion of the fluid which is being raised to pass out and pack the space between the valve and well-tube. The grooves L serve to retain said fluid, and also to take up any sand or grit which, owing to the spiral form of the grooves L, will gradually work out through the perforations M.

At its lower end the cylinder A is turned down to form a shoulder, O, below which a packing-ring, P, of leather or other suitable material, is placed. The lower end of cylinder A has an exterior thread, Q, by which it is screwed into a cylindrical socket, R, having a seat, T, for a valve, S, provided with a recess, U, enabling it to work upon the lower end of the valve-stem C. The socket R also serves to retain in its proper place the packing-ring P.

The valve-stem C extends upward through the valve-body A above the cover H, and is provided with a shoulder, V, which serves to secure the said cover upon the valve-body. A valve, W, closing the perforations in cover H, slides upon the valve-stem above said cover, and is confined upon the valve-stem by an annular flange, X, upon the latter. Above flange X the valve-stem is threaded for the attachment of the piston-rods.

I am aware that water-packing rings consisting simply of circular or annular grooves are old and well known. In such, however, sand and grit has had a tendency to accumulate without any chance of escaping until the valve has been withdrawn from the well-tube, thus increasing the friction and causing wear and injury to the valve. By making the water-packing grooves in spiral form, as by my improvement, any impurities are enabled to work through the said grooves around the body of the valve, and finally out through the perforations M, when they are carried off with the fluid passing through the valve.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The valve-cylinder A, having right and left hand threads or spiral grooves L, and perforations M at the terminations of said grooves, as set forth.

2. The combination, with the valve-cylinder A, having bottom K, with threaded perforation B, and detachable cover H, having flange I, of the packing-rings F and the valve-stem

C, having shoulder V, which, when said valve-stem is in position, serves to retain the cover and packing-rings, as set forth.

3. The herein-described improved pump-valve, consisting of the grooved cylinder A, having perforations M N, packing-rings F, flanged cover H, having perforations J, valve W, leather-packing P, socket R, having valve S, and the stem C, having shoulder V and annular flange X, all combined, arranged, and operating substantially as and for the purpose set forth.

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

AMOS SYLVESTER PARKE.

Witnesses:

D. C. SMALLEY,

I. M. CULLIS.