

A. GRIFFIN.
Pump-Piston.

No. 127,480.

Patented June 4, 1872.

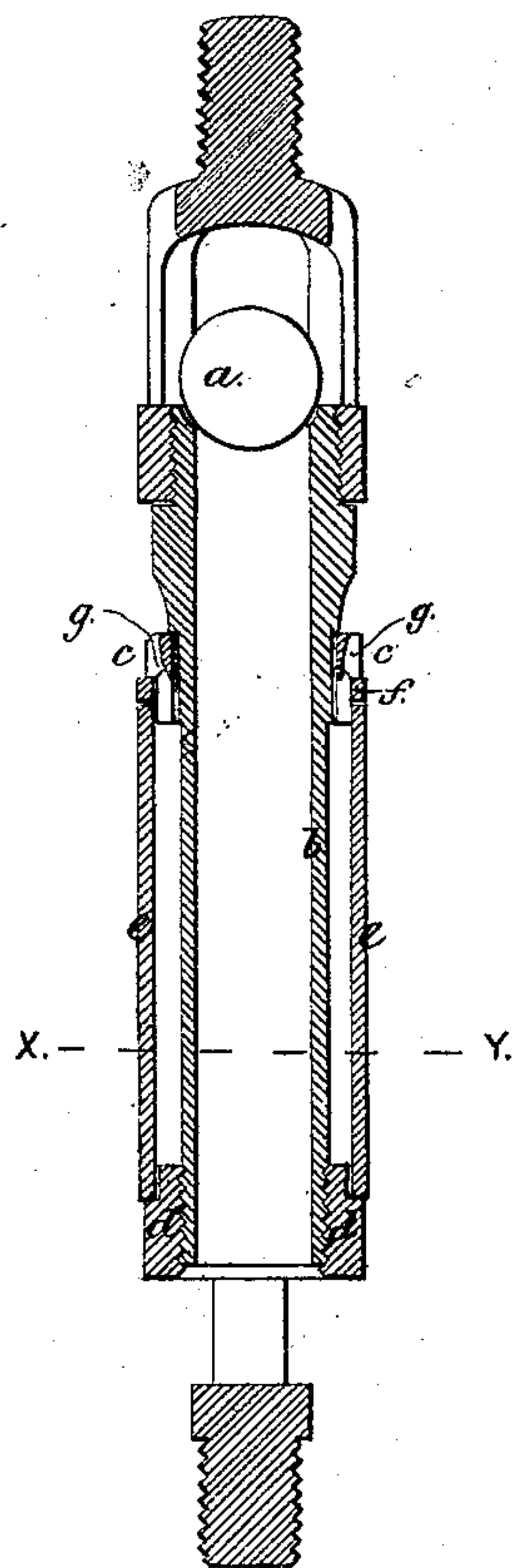


Fig. 1.

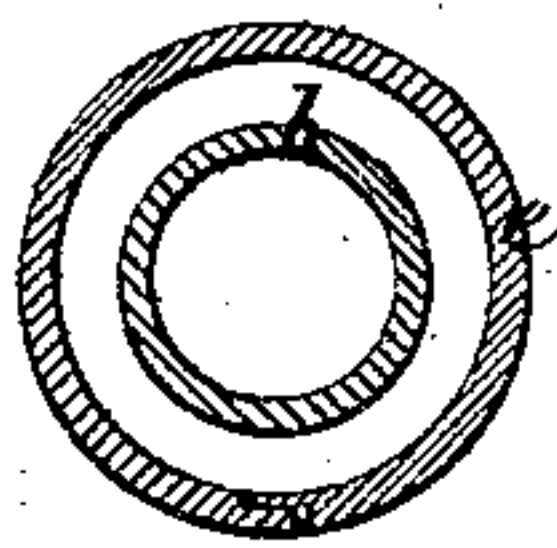


Fig. 2.

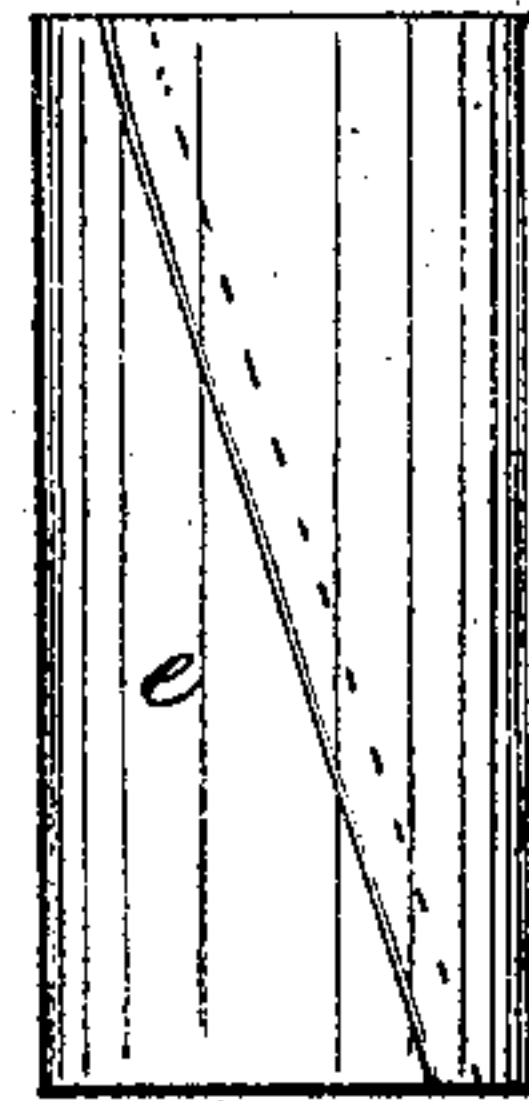


Fig. 3.



Fig. 4.

Eugene B. Frew
J. N. Beach } Witnesses.

Augustus Griffin.
Inventor.
by A. B. Howland,
Attorney.

UNITED STATES PATENT OFFICE.

AUGUSTUS GRIFFIN, OF SHAMBURG, PENNSYLVANIA.

IMPROVEMENT IN PUMP-PISTONS.

Specification forming part of Letters Patent No. 127,480, dated June 4, 1872.

SPECIFICATION.

Specification describing certain Improvements in Pump-Pistons, invented by AUGUSTUS GRIFFIN, of Shamburg, in the county of Venango and State of Pennsylvania.

My invention relates more particularly to the class of pump-pistons used in artesian wells, and in such other cases as require a considerable pressure in lifting or forcing; and consists in providing a long cylindrical split ring of sheet-steel or similar elastic metal, so arranged upon the piston that it is kept in close contact with the pump-barrel both by its own elasticity and by the pressure of fluid above it.

Figure 1 is a vertical section of my improved pump-piston; Fig. 2, a transverse section on line *xy*; Fig. 3, an external view of the packing-ring removed from the barrel; and Fig. 4, an enlarged section of the joint of said ring.

a represents the upper or working valve of the pump, which may be of any suitable style or pattern. *b* is a hollow tube forming a part of the piston, and connecting said valve with the lower end of the piston, and having thereon two collars or shoulders, *c* and *d*. A cylindrical split ring, *e*, made from sheet-steel or other hard elastic metal, is placed outside of the tube *b*, and between the collars *c* and *d*. The adjoining edges of said ring are halved together, as shown in Fig. 4, and the joint is inclined from the axis of the piston, as shown in Fig. 3, to prevent the cutting of the barrel at the line of the joint. A small split ring, *f*,

may be placed between the collar *c* and the upper end of the ring *e* to cover the joint in the latter, and a similar ring may be placed below, if required. The outer portion of the collar *c* is perforated or grooved out, as shown at *g*, to allow the fluid from above to enter between the tube *b* and ring *e* on the upward stroke of the piston. The parts above referred to form all the essential features of my invention.

The ring *e* should possess sufficient elasticity in itself to pack the piston when working under a comparatively light pressure; but it will be seen that on the upward stroke the fluid above enters and fills the space between said ring and the tube *b*, and gives an outward pressure upon the entire inner surface of the ring equal to the fluid pressure above the piston, pressing the ring firmly against the pump-barrel, the halved joint of the ring allowing it to expand or contract, within any required limits, without leakage.

I claim as my invention—

The described arrangement and combination of the elastic split packing-ring *e*, tube *b*, collar *d*, and perforated or grooved collar *c*, allowing of an internal fluid pressure upon the packing-ring, substantially as and for the purposes set forth.

AUGUSTUS GRIFFIN.

Witnesses:

THOMAS CARLIN,
C. L. POOR.