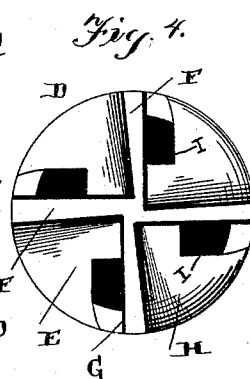
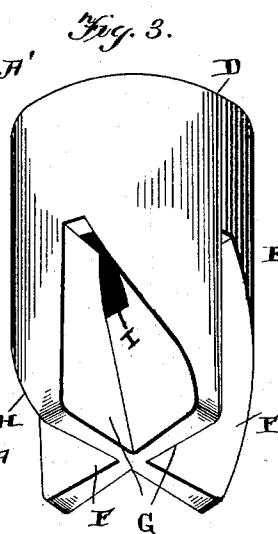
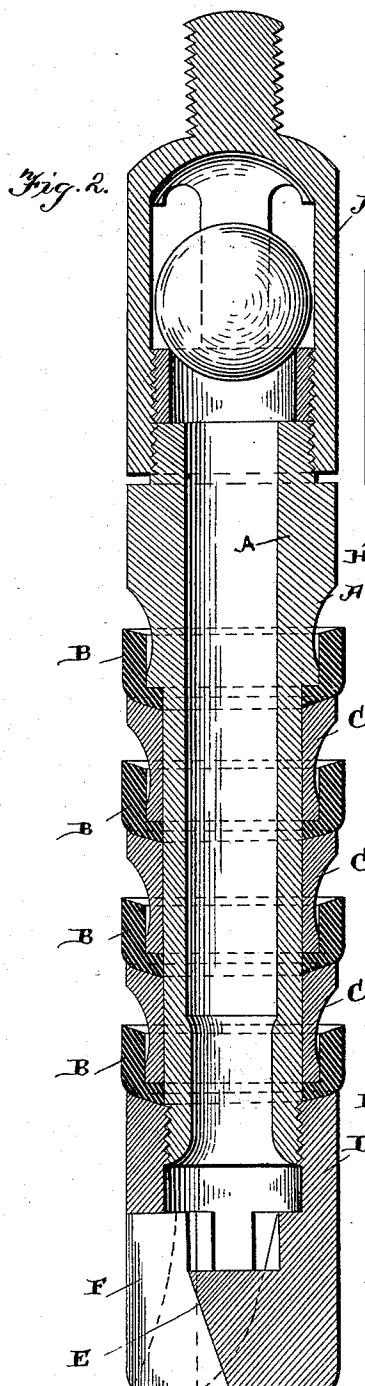
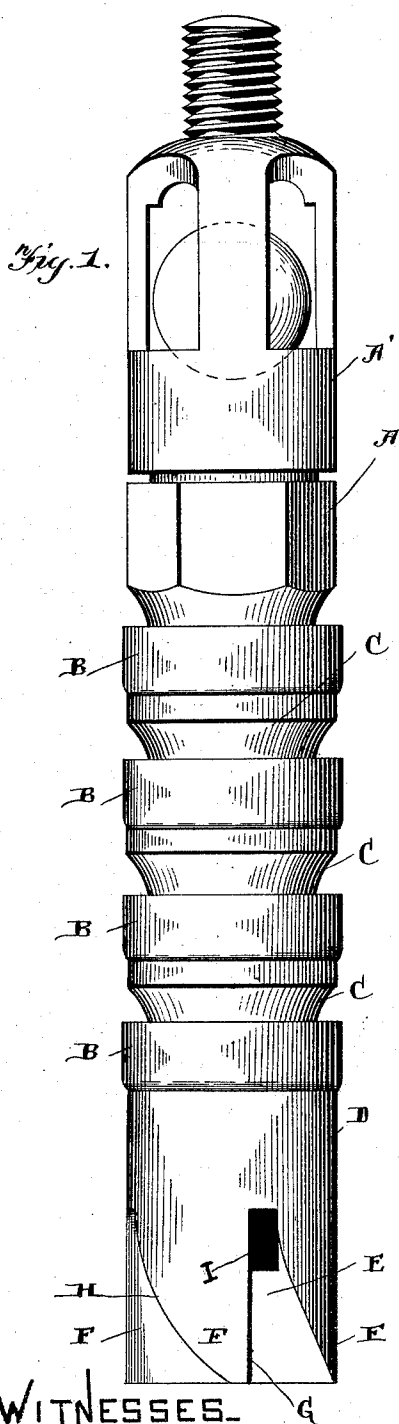


(No Model.)

W. H. DOWNING.
PISTON FOR ARTESIAN OR OIL WELLS.

No. 518,490.

Patented Apr. 17, 1894.



WITNESSES.
Geo. C. Trech,
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By Schmitt & Co. Attys

UNITED STATES PATENT OFFICE.

WILLIAM H. DOWNING, OF GOODELL, PENNSYLVANIA.

PISTON FOR ARTESIAN OR OIL WELLS.

SPECIFICATION forming part of Letters Patent No. 518,490, dated April 17, 1894.

Application filed May 13, 1893. Serial No. 474,055. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. DOWNING, of Goodell, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Pistons for Artesian or Oil Wells; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to improvements in pistons for Artesian or oil wells, and the object of the same is to provide a bottom section for the same which will remain securely in position at all times while operating in the working barrel, thus preventing the removal of the packing rings from the valves, and the obstruction of the barrel as a consequence of such displacement.

Referring to the accompanying drawings; Figure 1, is a side elevation of an ordinary oil well piston having my improved bottom section applied thereto. Fig. 2, is a vertical sectional view. Fig. 3, is a detached perspective view of the bottom section. Fig. 4, is a bottom plan view of the section.

A designates the piston body having secured to its upper end the ball valve casing A', of ordinary construction, and removably secured on the piston are the leather washers or cups B separated by the removable sleeve C, all of the ordinary and well known construction.

For holding the cups and the sleeves upon the piston, so as to prevent their removal while in operation, I provide the bottom section D, which is removably secured to the lower screw threaded end of the piston body as shown. The lower end of this section is solid and formed therein are the several longitudinal depressions E, which form the ribs F, radiating from the center of the section. Each of these ribs is formed, as shown, with one straight side G and one curved side H, the latter being all curved in the same direction to form propeller blades which have a tendency to revolve the said bottom sec-

tion when the valve is forced downward in the fluid being pumped, so that as the fluid rushes up through the depression E and passages I into the valve, as the latter is being forced downward, acts upon the curved surfaces of the blades with the effect as before stated. The direction in which the bottom section tends to revolve is such a one that will screw tightly the section upon the screw threaded end of the piston. Thus I am enabled at all times to hold the bottom section securely on the piston with the washers or cups in their proper position without the slightest danger of their removal as it is quite impossible for the said section to work loose. On the other hand if the said valve is put into the working barrel and set in operation, with the bottom section merely started upon the screw threads of the valve stem and not run to its place the action of the fluid against the curved blade will revolve the section and run it up tightly into place.

My improved device is very simple in construction and may be applied to the valves now in general use.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of a piston, washers thereon, a bottom section adapted to be secured on the lower end of the piston for holding the washers in place and which is formed with one or more fluid passages, and deflecting blades at the lower end of the said bottom section for engaging the fluid being operated upon thus revolving said section and screwing it into position and there holding it, substantially as shown and described.

2. The combination with a piston, washers thereon, a bottom section adapted to be screwed on the lower end of the piston for holding the washers in place and which is formed with one or more fluid passages, and depending deflecting blades integral with the bottom section for engaging the fluid being operated upon, thus revolving said section and screwing it into position, and there holding it, substantially as shown and described.

3. The combination of a piston, washers
thereon, a bottom section adapted to be
screwed on the lower end of the piston for
holding the washers in place, deflecting blades
5 carried by the said section for the purpose
stated, which taper toward their lower ends,
thus forming depressions E, the bottom sec-
tion being formed with passages I which

place the said depressions in communication
with the piston, substantially as described. 10

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

WILLIAM H. DOWNING.

Witnesses:

J. J. CARDOT,
JAMES GEORGE.