

W. WALKER.

VALVE-COUPLER FOR OIL-WELLS.

No. 175,395.

Patented March 28, 1876.

Fig: 1.

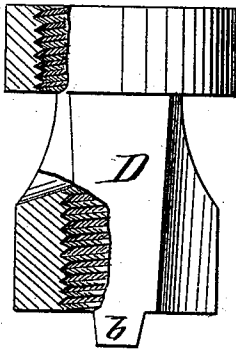


Fig: 2.

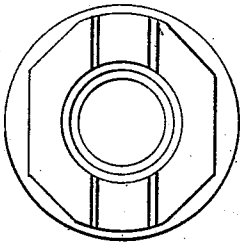
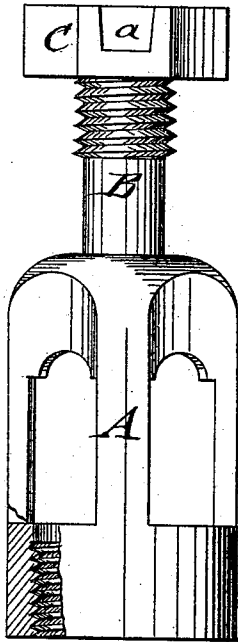
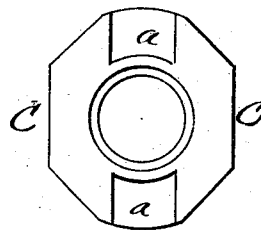


Fig: 3.



WITNESSES:

Chas. Nida
John Goethals

INVENTOR:

W. Walker
BY *Mumford*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM WALKER, OF BALDWIN, PENNSYLVANIA.

IMPROVEMENT IN VALVE-COUPERS FOR OIL-WELLS.

Specification forming part of Letters Patent No. **175,395**, dated March 28, 1876; application filed January 7, 1876.

To all whom it may concern:

Be it known that I, WILLIAM WALKER, of Baldwin, in the county of Butler and State of Pennsylvania, have invented a new and Improved Valve-Coupler for Oil-Wells, &c., of which the following is a specification:

In the accompanying drawing, Figure 1 represents a side elevation of the coupling sections of oil-well valves, being detached from each other, and Figs. 2 and 3, respectively, a bottom view of the coupling part of the upper valve, and a top view of the coupling part of the lower valve.

Similar letters of reference indicate corresponding parts.

The object of this invention is to provide a coupler or connection for the valves of oil or water wells, so that two or more valves may be coupled and worn out before the drawing of the sucker-rods is required. This reduces the loss of time and expense connected with the frequent drawing of the sucker rods from the well, and exposes the rig to less wear.

The invention consists of a coupling-section or cup screwed to the top of the lower plunger which is lowered into the barrel, and connected by a threaded top stem or shank, with an interior threaded section that is applied to the bottom part of the next plunger to be screwed to the lower section, when the reserve-valve is to be brought into operation. A jam-nut with notches is placed on the stem of the lower section, and engaged by lugs of the upper coupling section to be screwed down with the same, for connecting rigidly the sections.

In the drawings, A represents the lower section or cup of my improved coupling for oil-well valves. Section A is screwed by its lower part to the top of a working-plunger, which is dropped into the tubing until seated on the stationary valve of the working-barrel.

The lower section or cup A is provided with a threaded stem or shank part, B, at the upper end, along which a jam-nut, C, is readily turned. The lower part of the stem B immediately above the cup is of less diameter than its threaded part, and made smooth, to allow the running of the jam-nut when the same is lowered to the smooth part of the stem.

The jam-nut C is provided with two or more recesses or notches, a, into which the corre-

sponding lugs b, of the upper coupling-section D enter for turning the jam-nut, in connection with the sucker rods. The jam-nut C is screwed to a level with the stem, when the lower valve is dropped into the barrel for the purpose of serving as a guard against the dropping of the rods, by slipping or otherwise, to protect thereby the screw-threads of the coupling-sections from being injured.

The coupling section or cup D is screwed to the bottom of a second plunger that is screwed to the sucker-rods, and then inserted with the rods into the well-tube, in the usual manner, to within a short distance from the valve already lowered into the working-barrel. The pumping is first attended to with the valve fixed to the sucker-rods until the valve-cups are worn out.

The lower part of section D is provided with an interior screw-thread that is fitted to the threaded shank of the section A, so that when the upper valve is worn out, the sucker-rods may be lowered until the lugs b of sections D enter the notches of the jam-nut.

The coupling-sections may be firmly screwed together by turning the sucker-rods. The jam-nut is carried down along the shank until running free on the lower smooth part, which allows by the following of the upper section D the tight connection of the valve-sections, so that they are rigidly attached to each other. The lower valve may thus be worked with the sucker-rods, without the necessity of drawing the same and interrupting the pumping operations.

When the second valve is worn out, the valves are together withdrawn, the cups re-leathered, and then lowered separately to be successively worked, as described.

If desired, more than one valve may be lowered into the working barrel, according as the length of the barrel will permit, so that four and more valves may be attached and worked out one after the other.

The advantages of reducing the frequent drawing of the sucker-rods in oil-wells will be obvious, as not only by the coupling with the additional valves no time is lost in pumping, but also the injurious wear on the pumping-rig prevented.

Having thus described my invention, I claim

as new and desire to secure by Letters Patent—

1. A valve coupling or connection of oil-well valves, composed of a lower section plunger, and of an upper section or cup to be attached to the plunger, or cup attached to the valve at the end of the sucker-rods to be connected by screw-joint, while in the working-barrel, substantially in the manner and for the purpose set forth.

2. The lower coupling - section having a threaded stem or shank and a notched jam-nut traveling thereon, in combination with the up-

per interior-threaded section, having lugs to engage the jam-nut, substantially as specified.

3. The stem or shank of the lower coupling-section being threaded at the upper end and smooth at the lower end to admit the free running of jam-nut on smooth part, and the tight screwing up of the upper section, substantially as described.

WILLIAM WALKER.

Witnesses:

C. C. ALEXANDER,
GEORGE CAMPBELL.