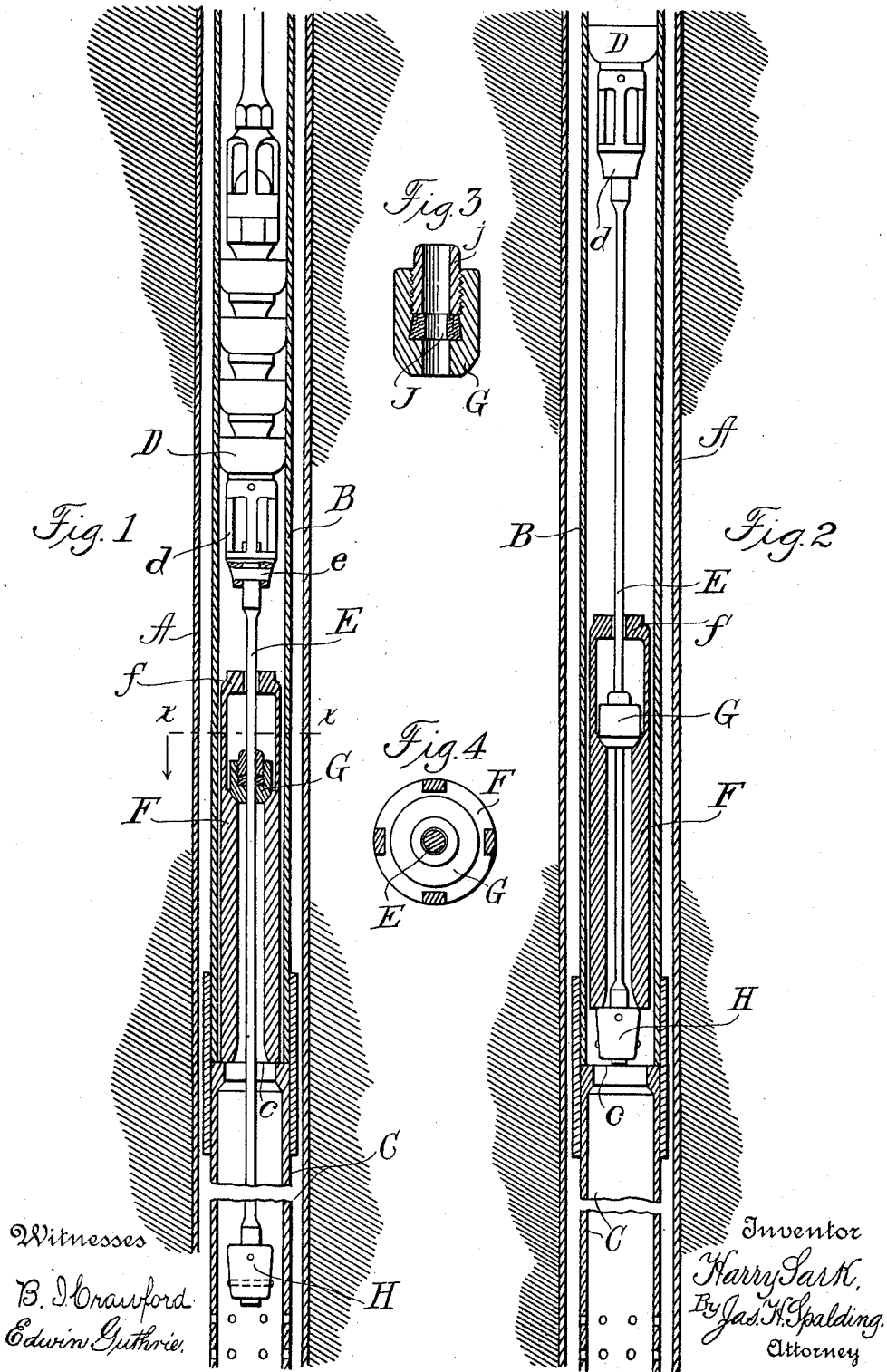


H. SARK.  
OIL WELL VALVE RAISER.  
APPLICATION FILED JUNE 20, 1910.

1,003,207.

Patented Sept. 12, 1911.



# UNITED STATES PATENT OFFICE.

HARRY SARK, OF BLUFFTON, INDIANA.

OIL-WELL-VALVE RAISER.

1,003,207.

Specification of Letters Patent.

Patented Sept. 12, 1911.

Application filed June 20, 1910. Serial No. 567,822.

*To all whom it may concern:*

Be it known that I, HARRY SARK, a citizen of the United States, residing at Bluffton, in the county of Wells and State of Indiana, have invented certain new and useful Improvements in Oil-Well-Valve Raisers, of which the following is a specification.

This invention relates to oil well valve raisers, more particularly, it belongs to those devices with which the plunger or "sucker" of a deep well pump is provided, for the purpose of raising the lower valve of the pump when the plunger is withdrawn, in order to save the time and labor of raising first the plunger and then lowering the rod again to catch and raise the lower valve. In such devices the usual play of the sucker rod up and down merely operates the lower valve in the ordinary manner. It is only when the sucker rod is drawn upwardly for some considerable distance that the lower valve is more than normally displaced.

The object of this invention is the production of a pump furnished with a lower valve and lower valve rod having parts of special construction and arrangement, whereby it is believed that greater simplicity is reached, the construction of the parts made cheaper and can be more readily repaired, and the operation calls for less power than in those contrivances for the same purpose now in common use.

The construction and arrangement comprising this invention are illustrated in the accompanying drawings, of which—

Figure 1 represents a vertical section of a well with this invention contained therein, the plunger or "sucker" being shown at the lowest point of its stroke. Fig. 2 is a similar section showing the plunger partly withdrawn and the lower valve being drawn out with it. Fig. 3 is a cross-section of the lower valve. Fig. 4 is a cross-section of the lower valve holder on broken line  $x-x$  of Fig. 1 and it is also a plan view from the top of the lower valve. The scale of drawing in Figs. 3 and 4 is slightly increased.

The same letter is employed to refer to the same part throughout the drawings and description.

Considering the drawings, the letter A designates the usual well casing, and B the pump barrel or tube, at the lower end of which is another length of pipe C, having at its upper end the annular shoulder  $c$ . The plunger or sucker is marked D, and to the

lower portion thereof,  $d$ , there is connected the lower valve rod E, by means of the key  $e$ . The additional or valve rod E passes downwardly through the lower valve holder F, and is guided by the head  $f$  thereof. The lower valve G is seated in the valve holder F as shown in Fig. 1, and the rod E passed centrally through the valve G. The valve holder rests upon the annular shoulder  $c$  of the lowest joint or strainer pipe C. At its lower end, the rod E has a cylindrical end-piece H, and, it is believed to be now made clear that if the sucker D be withdrawn as illustrated in Fig. 2, the end-piece D will raise the holder and the valve G also.

When the sucker makes its usual strokes up and down, the position of the end-piece H is always at a point lower—usually much lower, than the base of the lower valve holder F, which is not disturbed. The valve holder F is under ordinary circumstances of operation held down upon the shoulder  $c$  of the pipe C by its weight, which is made sufficient for the purpose. Therefore, although the packing J on the interior of the lower valve G, as best shown in Fig. 3, is held closely to rod E by the gland  $j$ , the valve G is raised only as high as the head  $f$  of the holder F, and is driven instantly to its seat as soon as the sucker D begins its downward stroke. The friction between the packing J and the rod E is never sufficient to raise the holder F and the valve as well. The adjustment of the packing is made with that end in view.

Having now described this invention and explained the mode of its operation, what I claim and desire to secure by Letters Patent of the United States is:—

1. In an oil well valve raiser, the combination with a pump barrel, of a lower valve holder movably fitting within said barrel and having a central passage, a lower valve arranged in the said holder and having a central passage, a piston within the barrel, a rod attached to the piston and extending downwardly through the said lower valve and said holder, and an end piece secured to the end of said rod below said holder, the said end-piece being larger in diameter than the passage through said holder.

2. In an oil well valve raiser, the combination with a pump barrel having an internal annular shoulder, of a lower valve holder movably fitting within said barrel and having a central passage, a lower valve ar-

5 ranged in the said holder and having a central passage, the said holder being constructed to rest upon said annular shoulder of the barrel, a piston within the barrel, a rod attached to the piston and extending downwardly through the said lower valve and said holder, and an end piece secured to the end of said rod below said holder, the

said end-piece being larger in diameter than the passage through the holder. 10

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

HARRY SARK.

Witnesses:

FRED B. DETTER,  
ROY DE HAVEN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."