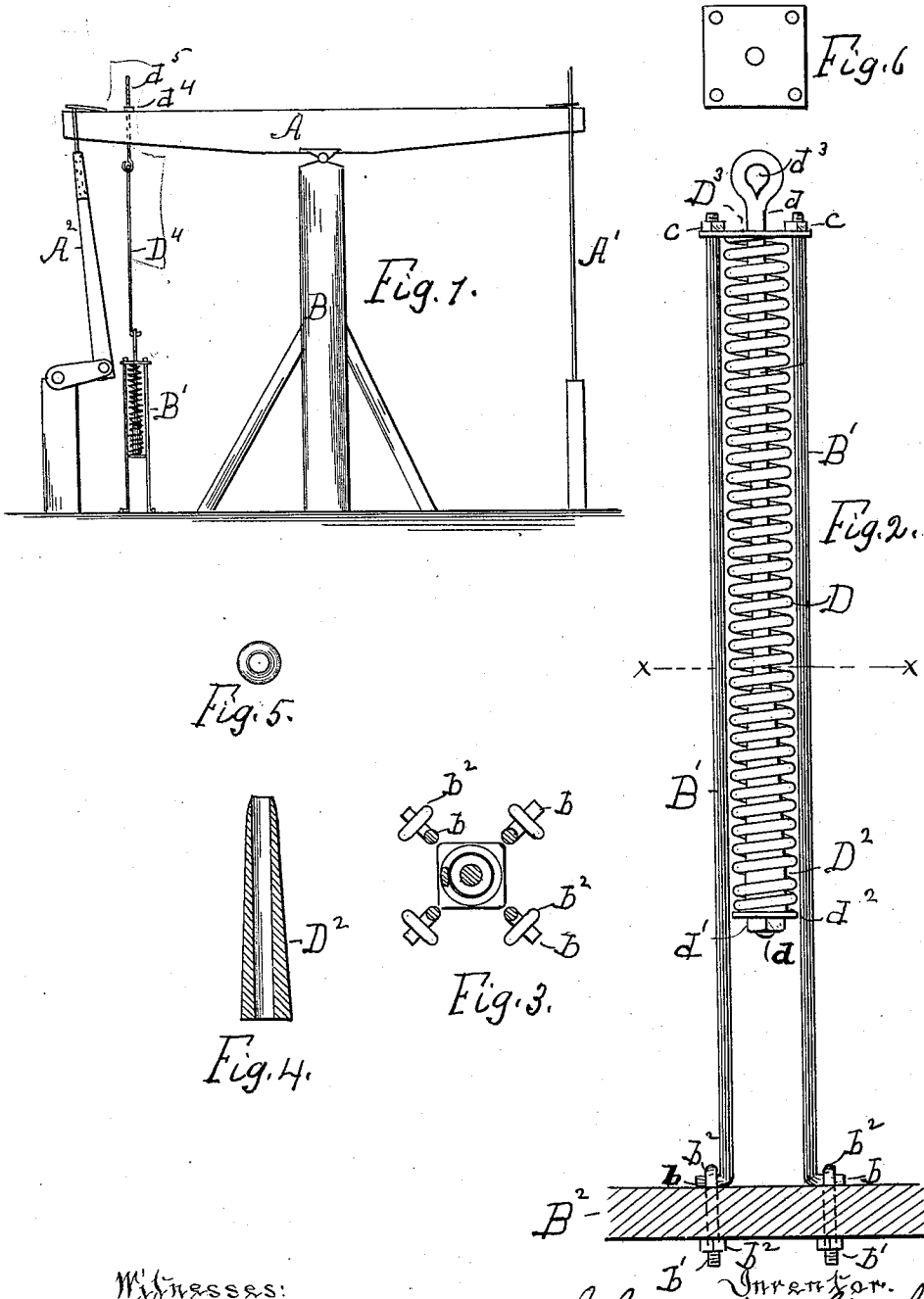


(No Model.)

C. STEPHANS.
OIL WELL COUNTERBALANCE.

No. 468,983.

Patented Feb. 16, 1892.



Witnesses:
Lucilla Stephenson,
H. McE. Stevenson.

Christopher Stephens
by J. H. Stevenson
Att'y

UNITED STATES PATENT OFFICE.

CHRISTOPHER STEPHANS, OF WASHINGTON, PENNSYLVANIA.

OIL-WELL COUNTER-BALANCE.

SPECIFICATION forming part of Letters Patent No. 468,983, dated February 16, 1892.

Application filed November 2, 1891. Serial No. 410,633. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER STEPHANS, a citizen of the United States, residing at Washington, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Oil-Well Counter-Balances; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of my invention is a counter-balance connected to the walking-beam of an oil-drilling plant or apparatus for the purpose of lessening the shock when the tools drop, and also to lessen the shock in raising the tools after each drop.

In the accompanying drawings, Figure 1 represents my invention as affixed to an oil-well-drilling rig. Fig. 2 is my counter-balance, shown in full length and side view. Fig. 3 is a top view of Fig. 2. Fig. 4 is a sectional view of the wooden plug inside the spring at the lower end, marked D² in Fig. 2. Fig. 5 is a top view of Fig. 4, and Fig. 6 is the metallic plate used at the top of the counter-balance and is marked D³ in Fig. 2.

A is the walking-beam.

B is the samson-post.

A² is the pitman.

A' is the rod to which the rope is connected.

D is a coil-spring inside the rods B' B' and extends from the disk D² from below to the plate D³ above.

d is the lifting-rod inside the spring D and terminates at the top in a ring for other attachments. At the bottom is a burr d'. The rods at the bottom have feet b b and at the top are threaded for the burrs c c.

b² b² are hooked bolts to fasten the rods B' securely to the floor B².

To secure this counter-balance to the walking-beam, I use a rod D⁴ D⁴, the latter having thread d⁵ cut thereon for the burr d⁴.

This thread d⁵ should be long enough for regulating the tension on the spring D.

In setting the spring for active work the operator should see that the spring D is drawn up, so that it will be effective for the work to be accomplished. The wooden piece D² is made hollow, so that the rod d will go through it, so as to stiffen the lower part of this spring D.

I place this counter-balance, as will be seen by reference to the drawing Fig. 1, between the samson-post and the pitman A². The object in this is to cushion the fall of the tools and at the same time to materially aid in lifting them. I think this is desirable and will also save the wear and tear of the tools, as the shocks will be very much reduced in effect, and as the spring D will be powerful, or should be to be effective, a much less power will be required in raising the tools at each stroke.

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

1. In a counter-balance, the combination of the spring D, rod d, plate D², barr d', rods B', having feet b, bolts b², burrs c, and plates D³, substantially as and for the purpose set forth.

2. In a counter-balance substantially as herein described, the combination of the rods B', having feet b, bolts b², rod d, spring D, plates D² D³, rod D⁴, and walking-beam A, as for the purpose set forth.

3. In a counter-balance, the combination, with the post B, the walking-beam, and the pitman connected to said beam, of the upright bars rigidly secured to a base B², the lifting-rod operating between said bars, the coiled spring on the rod, and the connecting-rod D⁴, adapted to be adjusted in the walking-beam, substantially as described.

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

CHRISTOPHER STEPHANS.

Witnesses:

J. K. BARBOUR,
WM. EVANS.