

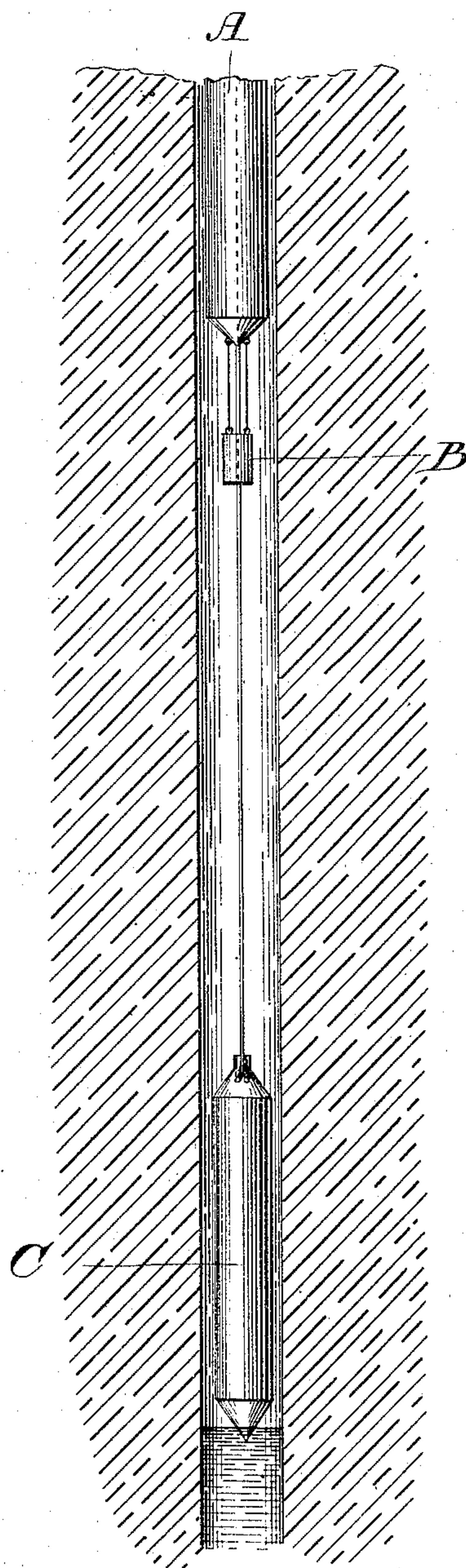
(No Model.)

J. SAGER.

Method of Blasting in Oil Wells.

No. 229,845.

Patented July 13, 1880.



Witnesses:
Henry Robham
Wm. A. Greaves.

Inventor:
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UNITED STATES PATENT OFFICE.

JOHN SAGER, OF GLADE TOWNSHIP, WARREN COUNTY, PENNSYLVANIA.

METHOD OF BLASTING IN OIL-WELLS.

SPECIFICATION forming part of Letters Patent No. 229,845, dated July 13, 1880.

Application filed March 26, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN SAGER, a citizen of the United States, residing in Glade township, county of Warren, and State of Pennsylvania, have invented a new and useful Improvement in the Art of Tamping Explosives used in Oil-Wells, to increase the flow of petroleum; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

The drawing represents a section of an oil-well, showing the torpedo, the exploding-weight, and one of the tamping-charges.

The object of my invention is to cheapen, while it also renders the use of explosives in oil-wells much more effective. When large charges of nitro-glycerine or other explosives are used under fluid-tamping they have a tendency to fill up the well above the explosive, and when used without tamping a large portion of the force is lost. To obviate this I proceed as follows: First place the torpedo

in position. Two or more charges of salt or other soluble solid inclosed in tin or other metallic canisters with hollow centers are fastened together at stated intervals and the lower one to the weight, as shown at B. When filled the whole train is cut loose at the top of the well, descending with sufficient force to fire the torpedo. As there is a space of several feet between the canisters the air between them makes an elasting tamping.

Having fully described my invention, I claim and desire to secure by Letters Patent—

The method of blasting in oil-wells herein described, the same consisting in first placing the torpedo in position and then dropping into the well successively two or more cans or cases filled with a soluble substance, as salt, whereby the charge is exploded and tamped in the manner substantially as described.

JOHN SAGER.

Witnesses:

HENRY COBHAM,
WM. A. GREAVES.