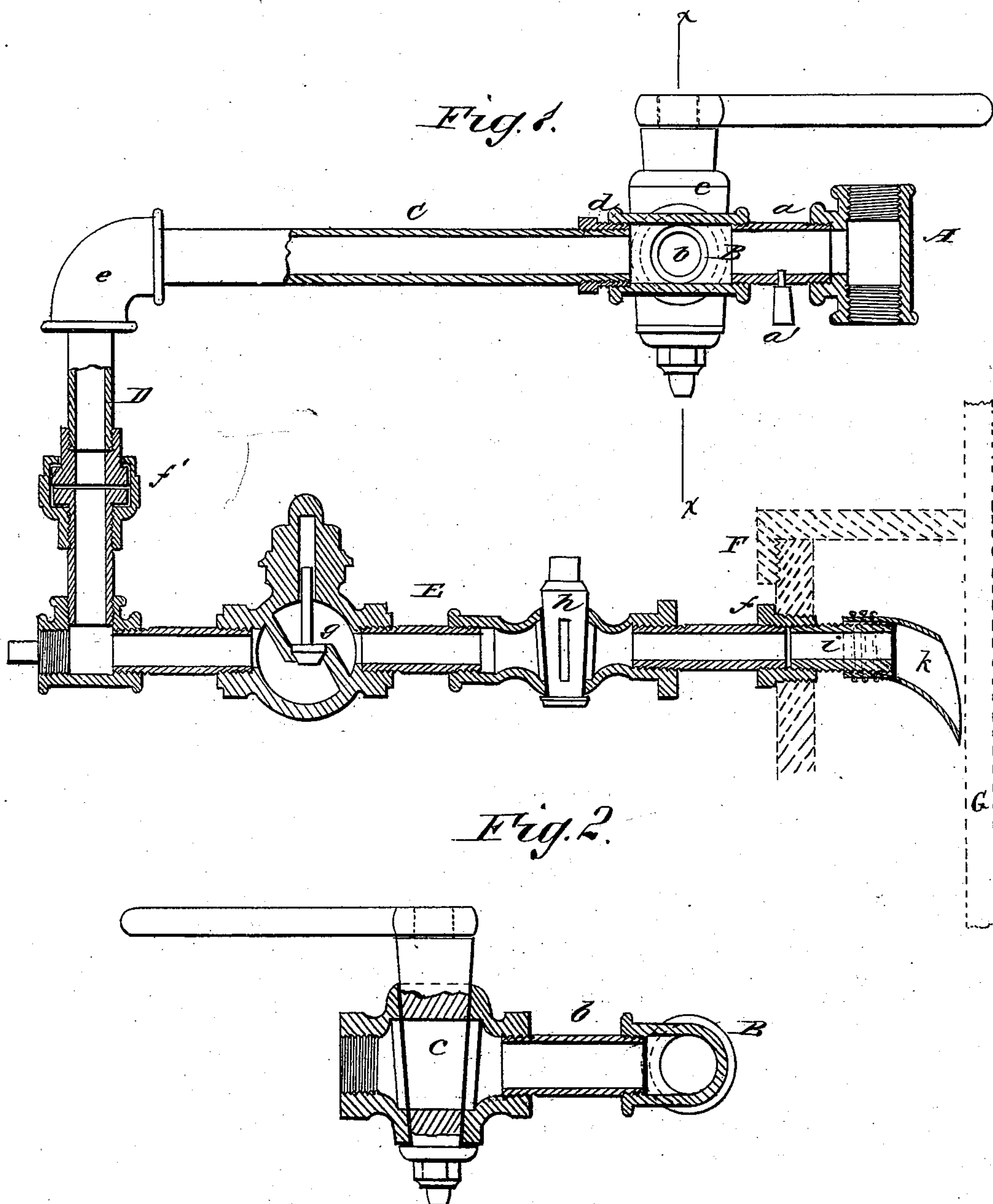


(No Model.)

C. S. SHOUP.
Apparatus for Increasing the Production from Oil Wells.

No. 230,353.

Patented July 20, 1880.



WITNESSES:

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CHARLES S. SHOUP, OF FRANKLIN, PENNSYLVANIA.

APPARATUS FOR INCREASING THE PRODUCTION FROM OIL-WELLS.

SPECIFICATION forming part of Letters Patent No. 230,353, dated July 20, 1880.

Application filed May 4, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. SHOUP, of Franklin, in the county of Venango and State of Pennsylvania, have invented a new and Improved Apparatus for Increasing the Production from Oil-Wells, of which the following is a specification.

The object of my invention is to increase the production of oil-wells by inducing and stimulating the flow from the oil-rock when it fails; and my invention consists in a return-pipe connected with the tubes of the pump and the casing-head of the well and fitted with cocks, whereby the oil may be passed to the tanks or directed through the casing-head, and thence conducted down between the casing and the pump-tubing alongside of the steam-pipe to the oil-rock at the bottom of the well, for the purpose of clearing the well of paraffine.

My apparatus is shown in the accompanying drawings, wherein—

Figure 1 is a sectional elevation of the apparatus, and Fig. 2 is a cross-section on line *x* of Fig. 1.

Similar letters of reference indicate corresponding parts.

A is a T-coupling, which is to be attached to the well-tubing that connects with the pumps and with a short section, *a*, of tubing at the side. B is a T-coupling connected with tube *a* and with a discharge-pipe, *b*, in which is a stop-cock, *c*.

C is the return-pipe, connected by a reducing-nut or sleeve, *d*, with the coupling B. This pipe C is also connected, by a quarter-bend, *e*, and cross-pipe D, with a second line of pipe, E, that will be in turn connected by a nut, *f*, to the casing-head F of the well. In the pipe D is a union, *f'*, which permits the two lines of pipe to be disconnected when the ends are both coupled, as described.

In the pipe E is a check-valve, *g*, to prevent back flow of oil, and also a stop-cock, *h*, for closing the pipe E when the discharge-cock *c* is open. In the nut *f*, at the end of pipe E, is a short tube, *i*, that enters the casing-head of the well, and is fitted with a bent pipe, *k*, of leather, tin, or other suitable material, to conduct the oil down alongside of the steam-

pipe G, which conducts steam to the bottom of the well for heating the rock to increase the flow of oil, whereby the oil that is to be returned is rendered limpid and prevented from passing through the gas-holes at the top of the casing-head.

In the pipe *a* is a plug, *a'*, which may be withdrawn to determine whether oil or water is being pumped.

In operation, if the pumps are raising water, cock *h* will be closed and *c* opened to discharge the water until the pumps commence again to raise oil, when *c* will be closed and *h* opened, so that the oil will be forced into the casing-head and down alongside of the steam-pipe to the oil-rock.

The effect of pumping the oil into the well is, first, that in running down the oil cuts the paraffine and gummy substances which collect on the walls and sides of the well; and, second, it relieves the fissures of the oil-rock of such substances, thereby allowing the gas to escape into the well. As soon as the desired effect is obtained, indicated by increase in volume of oil, the oil pumped up is to be turned into the tanks.

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

1. In an apparatus for increasing the flow of oil from wells, a return-pipe provided with cocks and a check-valve, and connected with the pump-tubing and the casing-head of the well, whereby the oil can be returned to the well between the casing and the pump-tubing alongside of the steam-pipe, substantially as and for the purpose set forth.

2. The apparatus for increasing the flow of oil from wells, consisting of the pipes C E, connected by pipe D, fitted with the cocks *c* and *h* and check-valve *g*, and with the couplings A *f*, whereby the apparatus may be connected with the oil-tubes and casing-head of the well, substantially as set forth, for use in the manner described.

CHARLES SHIFFEM SHOUP.

Witnesses:

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