J. H. THACHER.

OIL WELL CLEANER.

APPLICATION FILED JAN. 27, 1921.

1,433,046. Patented Oct. 24, 1922.

Fig. 1.

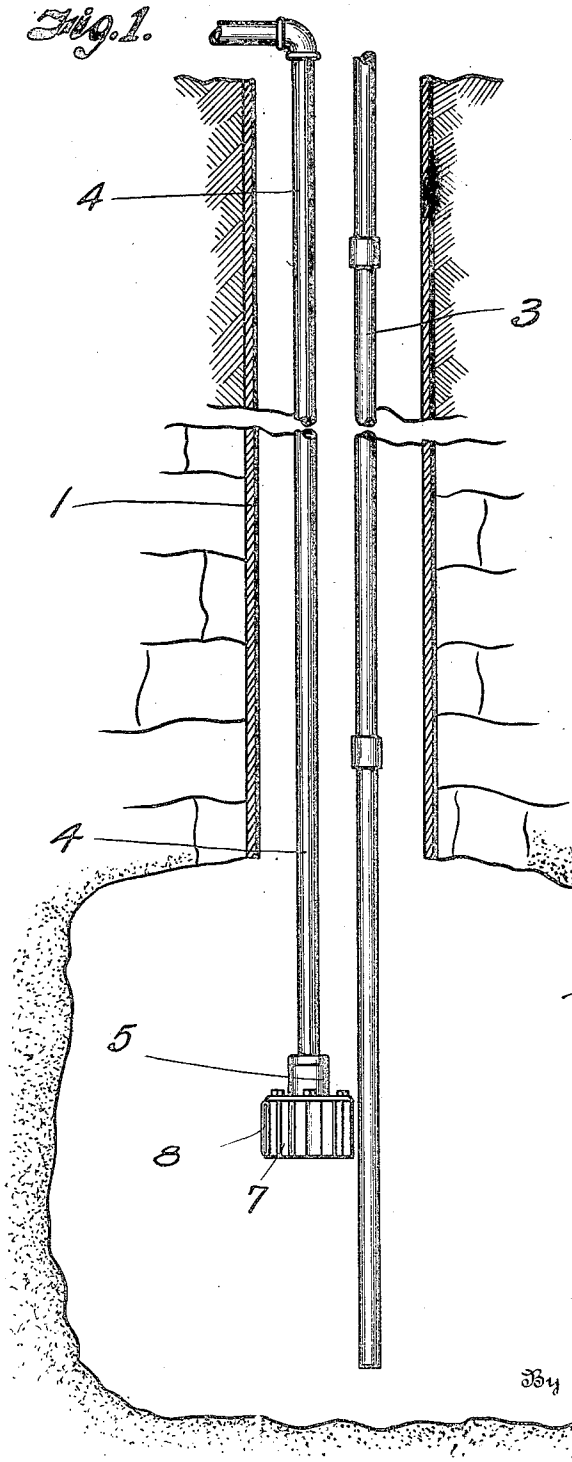
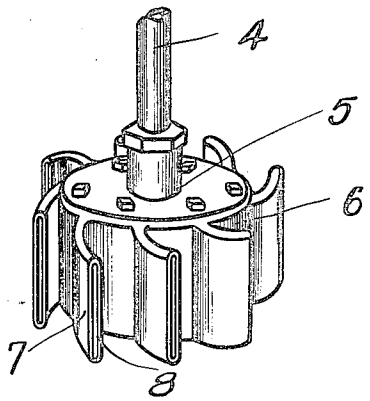


Fig. 2.



Inventor

John H. Thacher.

By

Attorney

Patented Oct. 24, 1922. 1,433,046

UNITED STATES PATENT OFFICE.

JOHN H. THACHER, OF KANSAS CITY, MISSOURI.

OIL-WELL CLEANER.

Application filed January 27, 1921. Serial No. 440,409.

To all whom it may concern:

Be it known that I, JOHN H. THACHER, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Oil-Well Cleaners; 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 and figures of reference marked thereon, which form a part of this specification.

This invention relates to means for cleaning oil wells, the object being to provide means whereby the paraffins, asphaltums and other solid or semi-solid hydrocarbons may be dissolved or released from the interstices of the well cavity so that a freer flow of the oil from the oil sands may be insured.

The invention contemplates the provision of means whereby steam may be introduced into the well cavity in the form of jets, which preferably are delivered in rotating streams to impinge against the cavity wall so as to relieve the interstices from accumulations.

In carrying out my invention I prefer to introduce a steam line, on the end of which is a turbine, the rotor of which is the casing having a plurality of radially curved nozzles, through which the steam may be projected against the wall of the cavity adjacent to the oil sands.

In the drawings,

Fig. 1 is a vertical, longitudinal, sectional view through a well to which my invention is applied, and

Fig. 2 is a detail perspective view of the steam distributor or turbine.

The well is shown as provided with a casing 1, at the bottom of which is a well cavity 2, adjacent to the oil sands. 3 is a pipe from which the oil is piped to the surface in the usual way. 4 designates a steam pipe which may be supplied with steam from any suitable source and at the lower end of the steam pipe 4 is a steam distributor, shown as a turbine 5, the cylindrical casing 6 of which is provided with a plurality of radially curved nozzles 7, having vertically elongated slits or openings 8 through which the steam may escape to impinge against the wall 9 of the cavity.

When the oil well cleaner, consisting of the pipe 4 and its steam distributor or turbine, is introduced into the well, as shown in Fig. 1, and steam is admitted to the turbine, the steam will escape through the open ported nozzles 7 and since the turbine is loosely mounted upon the end of the pipe 4, the escaping steam passing through the nozzles 7 will cause the turbine casing to rotate about its axis or upon the pipe 4. The steam will, therefore, be delivered in sharp streams against the sides of the cavity 2, the temperature being sufficient to melt or dissolve the soluble accumulations and the velocity of the steam will be sufficient to cut away the solids. Therefore, the pores or interstices of the wall of the cavity will be opened so that the oil from the oil sands may more freely flow into the oil cavity 2.

What I claim and desire to secure by Letters-Patent is:

1. An oil well cleaner comprising a pipe and a rotatable steam distributor on the end of the pipe.

2. An oil well cleaner comprising a pipe, and a rotatable steam distributor comprising a turbine casing having radial nozzles.

3. An oil well cleaner comprising a pipe, and a rotatable steam distributor comprising a turbine having radially curved nozzles with vertically elongated openings in the ends thereof.

In testimony whereof I affix my signature.

JOHN H. THACHER.