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F. E. SACKRIDER

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DRILL HEAD

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*Fig. 1*

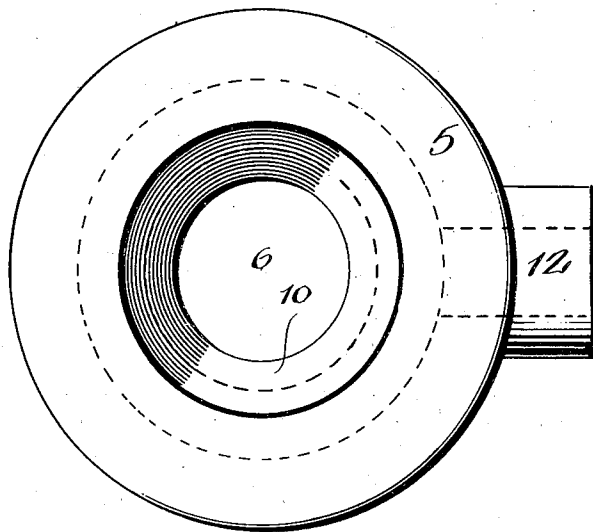
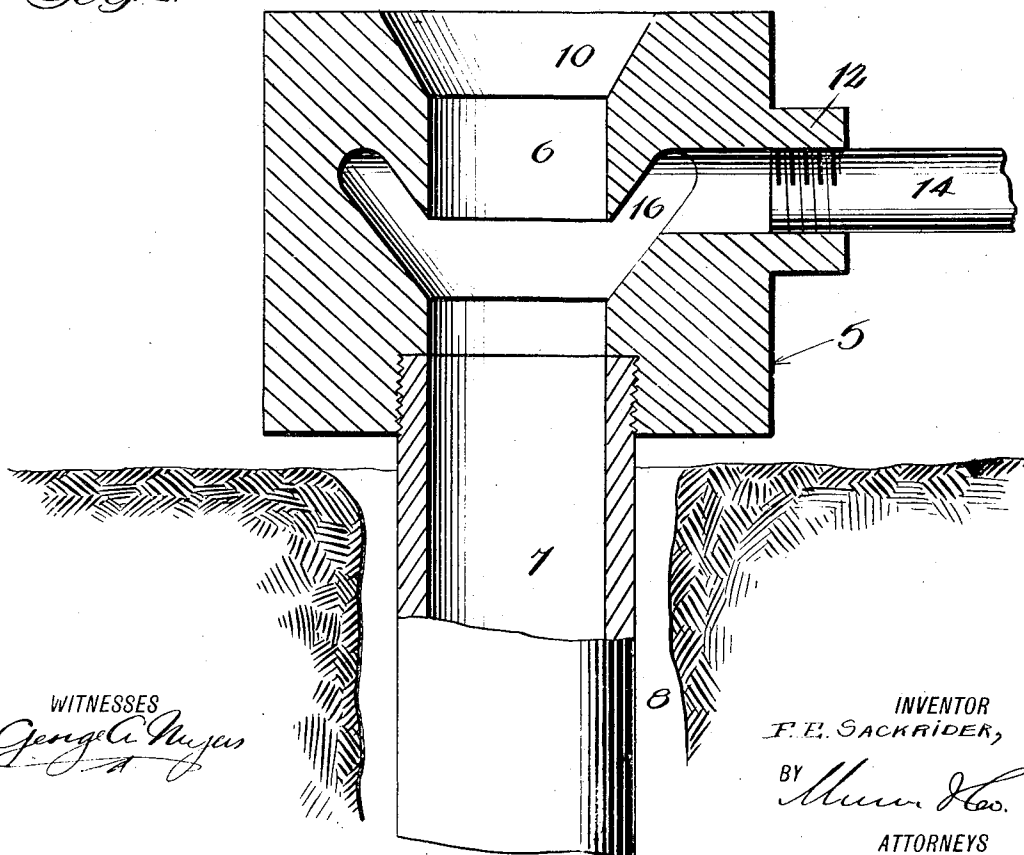


*Fig. 2*



WITNESSES

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## UNITED STATES PATENT OFFICE.

FRANK EDWARD SACKRIDER, OF BILLINGS, OKLAHOMA.

## DRILL HEAD.

Application filed January 21, 1922. Serial No. 530,985.

*To all whom it may concern:*

Be it known that I, FRANK EDWARD SACKRIDER, a citizen of the United States, and a resident of Billings, in the county of Noble and State of Oklahoma, have invented certain new and useful Improvements in Drill Heads, of which the following is a specification.

This invention relates to drill heads especially adapted for application to the upper ends of well casings.

An important object of this invention is to provide a drill head having novel means whereby tools such as cutters may be introduced into the casing by way of the drill head.

The invention forming the subject matter of this application aims also to provide a drill head having an annular nozzle for directing steam down into the casing for extinguishing fires within the well while the well is being drilled.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing forming a part of this application and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a plan view of the improved drill head,

Figure 2 is a central vertical sectional view through the same applied.

In the drawing wherein for the purpose of illustration is shown a preferred embodiment of the invention the numeral 5 generally designates the cylindrical body of the improved drill head which as illustrated in Figure 2 is provided with a longitudinally extending opening 6 having one end portion enlarged and screw-threaded for receiving the upper end of the well casing 7. The well casing 7 is of course inserted into the well hole 8 and receives cutters and other tools which are lowered to the terminal of the casing for deepening the well or for performing other well known operations.

The upper end of the cylindrical body 5 is provided with a gradually reduced opening 10 which at its lower end is the same diameter as the opening 6 and has communication with the same so that the tools and the like inserted through the gradually re-

duced entrance opening 10 will be directed into the opening 6 and then into the bore of the well casing 7.

The body 5 is provided intermediate its ends with a radially extending nipple 12 which is interiorly screw-threaded for receiving the discharge end of a steam conveying pipe 14. As illustrated in Figure 2 the radial nipple 12 discharges into an annular spray nozzle 16 which surrounds the longitudinal opening 6 in the body 5. The annular spray nozzle 16 has its walls arranged obliquely with relation to the longitudinal axis of the body or inclined downwardly so that the steam discharged through the open lower end of the nozzle will be directed toward the lower end of the well casing for extinguishing fires within the well casing.

In the use of the invention the cylindrical body 5 is threaded on the upper end of the well casing 7 and tools or the like may be introduced into the well casing through the gradually reduced entrance opening 10 and the cylindrical passage 6 which is of a diameter equal to the diameter of the bore of the well casing.

Should a fire occur within the well casing steam may be introduced into the casing from the downwardly extending annular nozzle 16 which opens into the intermediate portion of the passage 6. The presence of the annular spray nozzle 16 does not in any way interfere with the insertion or removal of tools or bailers since the spray nozzle does not extend into the opening 6.

Having thus described the invention, what I claim is:—

1. A drill head for oil well casings comprising a body having a longitudinally extending opening adapted for alignment with a well casing, the intermediate portion of said body being provided with an annular spray nozzle communicating with and surrounding said longitudinally extending opening and being approximately in the shape of a truncated cone whereby to direct the steam downwardly and obliquely of the longitudinal axis of the body, said body being provided with means whereby said nozzle may be connected to a source of steam supply.

2. A drill head for oil well casings com-

prising a cylindrical body having means whereby the same may be attached to the upper end of a well casing and being provided with a longitudinally extending opening 5 adapted for alignment with the well casing, the intermediate portion of said body being provided with an annular steam spray nozzle surrounding said opening and directing the steam downwardly and obliquely of the longitudinal axis of the body, said body being provided with means whereby the nozzle 10 may be connected to a source of steam supply.

FRANK EDWARD SACKRIDER.