Jan. 31, 1933. D. L. DEL'HOMME 1,895,610

DRILL

Filed March 26, 1932

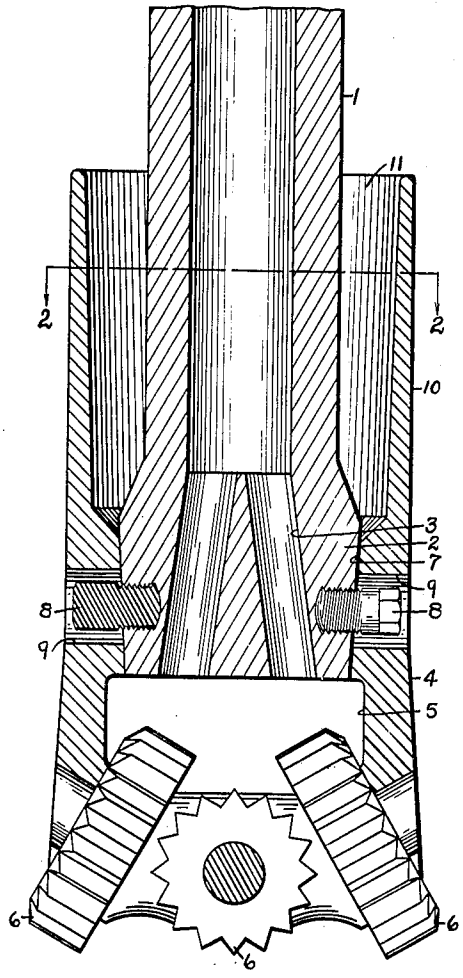


FIG 1.

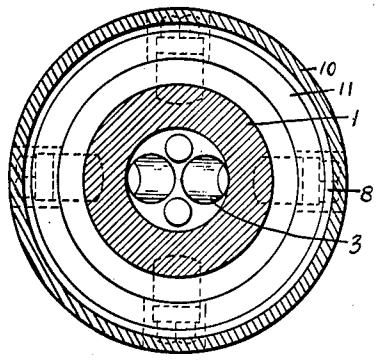


FIG 2.

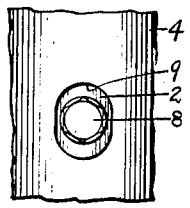


FIG 3.

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UNITED STATES PATENT OFFICE

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DRILL

Application filed March 26, 1932. Serial No. 601,415.

This invention relates to deep well drills.

In deep well drilling, muddy water, known as slush, is pumped through the drill stem and upwardly in the space between the drill stem and the wall of the hole to remove the cuttings of the bit. At times, bolts, cutters and the like accidentally become disconnected from the drill or other apparatus and fall into the hole, and must be drilled out of it. This invention has for its object the provision of a new and improved drill having a basket or pocket so arranged that such relatively heavy objects carried upwardly by the slush will fall into it and be held by it out of the way while drilling is continued.

The preferred embodiment of the invention is illustrated by the accompanying drawing, of which Fig. 1 is a fragmentary sectional elevation of the drill; Fig. 2, a horizontal section on the line 2—2 of Fig. 1; and Fig. 3, a detail view showing the disposition of the stem and head connecting bolt.

In the drawing, the drill stem 1 is hollow and has a tapered lower end 2 having slush passageways 3.

The bit head 4 has a large slush passageway or cutter recess 5 in which may be mounted conventional roller cutters 6. In the center of the head 4 is a tapered opening 7 for the reception of the tapered end 2 of the drill stem. Pins 8, threaded in the end 2 of the stem and extending into longitudinally elongated slots 9 in the head serve to removably connect the head to the stem. Extending upwardly from the opening 7 about and spaced from the stem 1, the head has a skirt 10 to form with the stem an annular upwardly and outwardly opening pocket 11.

When the slush, pumped downwardly through the drill stem 1 and passageways 3 and 5 carries the cuttings upwardly between the drill stem and the wall of the hole, heavy objects carried thereby will fall into the pocket 11 to be thereby held out of the way until the desired drilling is completed. After the desired drilling is completed, the drill may be withdrawn from the hole, and the heavy objects removed from the pocket 11.

I claim:

1. A drill having a stem, said stem having a tapered end; a bit head having a tapered opening to receive the end of said stem; and means to removably hold said end in said opening; said head having a skirt extending about and spaced from said stem to form therewith an annular upwardly opening pocket; said stem and head having fluid passageways therethrough.

2. A drill having a stem; and a bit head removably connected to said stem; said head having a skirt extending about and spaced from said stem to form therewith an annular upwardly opening pocket; said stem and head having fluid passageways therethrough.

3. A drill having a stem; and a bit head connected to said stem; said head having a skirt extending about and spaced from said stem to form therewith an annular upwardly opening pocket.

In testimony whereof, I hereunto affix my signature.

DANIEL L. DEL'HOMME.