R. WILCOX.

SHELL FOR CORE BARRELS FOR ROTARY DRILLS.

APPLICATION FILED JULY 12, 1911.

1,019,707. Patented Mar. 5, 1912.

Fig. 3.

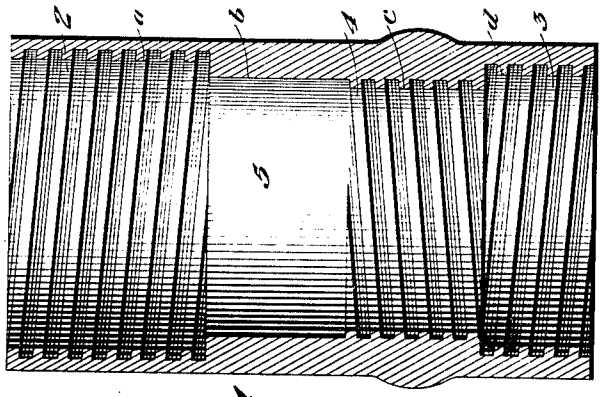


Fig. 2.

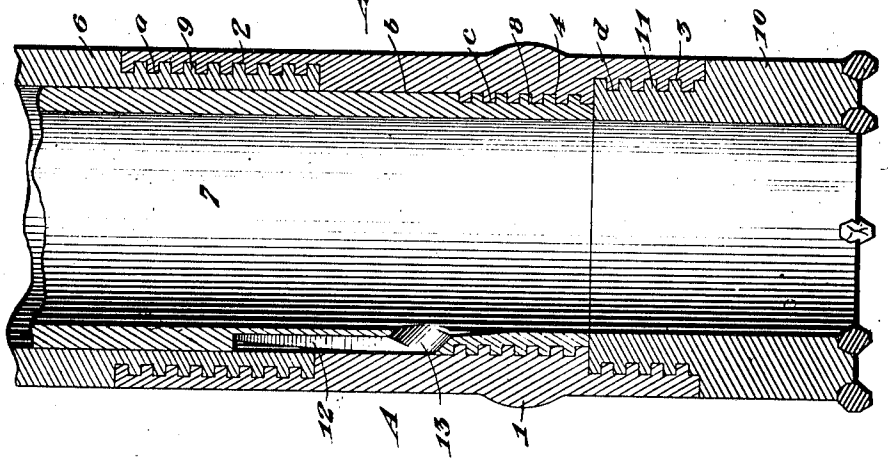
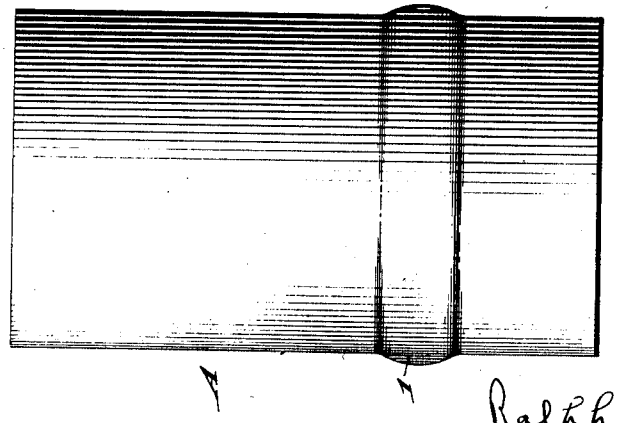


Fig. 1.



Witnesses

Lloyd W. Patch

A. A. Hammond

Inventor

Ralph Wilcox

By Vernon E. Hodges

his Attorney

UNITED STATES PATENT OFFICE.

RALPH WILCOX, OF NEGAUNEE, MICHIGAN.

SHELL FOR CORE-BARRELS FOR ROTARY DRILLS.

1,019,707. Specification of Letters Patent. Patented Mar. 5, 1912.

Application filed July 12, 1911. Serial No. 638,139.

To all whom it may concern:

Be it known that I, RALPH WILCOX, a citizen of the United States, residing at Negaunee, in county of Marquette and State of Michigan, have invented certain new and useful Improvements in Shells for Core-Barrels for Rotary Drills, of which the following is a specification.

My invention relates to an improvement in shells for core barrels, and the object is to provide means whereby the core barrel and bit can be connected to the shell, and in such a manner that the bores in the bit and core barrel will be in alinement.

The invention consists in certain novel features of construction and combinations of parts which will be hereinafter fully described and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation of the invention; Fig. 2 is a vertical sectional view, showing the outer tube and inner tube of the core barrel and the bit connected to the shell; and Fig. 3 is a vertical sectional view of the invention.

A, represents the shell, which is provided with practically four bores, *a*, *b*, *c* and *d*. The bores *a* and *d* are recessed and are provided with right-hand screw threads 2 and 3, respectively, the bore a having a greater diameter than the bore *d*. The bore *b* is provided with a smooth surface, while the bore *c* is provided with left-hand screw threads 4 which extend above the surface 5 of the bore *b*. By referring to Fig. 2, it will be seen that the outer tube of the core barrel 6 is connected to the screw threads 2, so that the inner bore of the outer tube and the bore *b* are in alinement, thereby producing a smooth inner surface for the outer surface of the inner tube of the core barrel 7, which is provided with external screw threads 8 which engage the screw threads 4 of the bore *c*. The outer tube of the core barrel 6 is provided with screw threads 9 which engage the screw threads 2 of the bore *a* for connecting the outer tube to the shell. The screw threads of the bore *d* are more centrally located than the screw threads 2 of the bore *a*, so that when the bit 10 is connected to the shell by the screw threads 11 and the screw threads 3 of the shell, the inner bore of the bit and the bore of the inner tube of the core barrel 7 will be in alinement, so that a smooth surface is provided for the core. A groove 12 is formed in the outer surface of the inner tube of the core barrel 7, and an outlet opening 13 is provided through the core barrel for conducting water or shot or other materials from the groove into the interior of the inner tube of the core barrel.

From the foregoing, it will be seen that a shell so constructed, and a core barrel composed of two tubes, are connected together so that water can be discharged between the two without the least difficulty, and the water can be discharged at the lower end of the core barrel so that the water will come in contact with the bit which is connected to the lower end of the shell, and cool the bit, and the water will also carry off all matter which would interfere with the cutting operation. Furthermore, the connection between the outer tube of the core barrel and shell is such that a smooth surface is formed between the shell and the outer tube, so that the inner tube of the core barrel, when connected and supported by the shell, will fit into the bores of the outer tube and shell, and the groove or conduit 12 formed in the inner tube of the core barrel will be closed by the inner walls of the shell and outer tube.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The combination with an inner and an outer tube core barrel and a bit, of a shell having recessed screw threaded ends in the bore thereof for connecting the outer tube of the core barrel and the bit to the shell, and the central portion of the bore of the shell provided with screw threads for connecting the inner tube of the core barrel to the shell.

2. The combination with an inner and an outer tube core barrel and a bit, of a shell having recessed ends in the bore thereof for the reception of the outer tube of the core barrel and the bit, and the inner tube of the core barrel received at the central portion of the bore of the shell.

In testimony whereof I affix my signature, in the presence of two witnesses.

RALPH WILCOX.

Witnesses:

FLOYE TAYLOR,

GEO. W. CASS.