

G. W. McALLISTER.
 DRILL ROD.
 APPLICATION FILED JAN. 18, 1912.

1,059,626.

Patented Apr. 22, 1913.

Fig. 1.

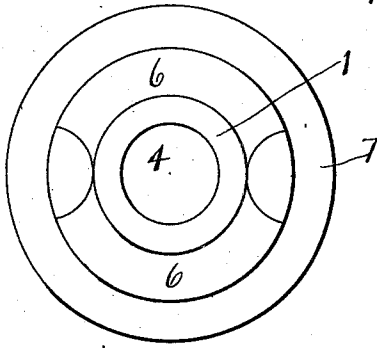


Fig. 3.

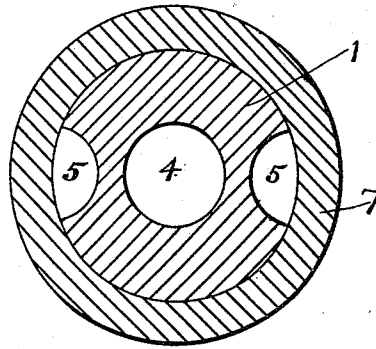


Fig. 2.

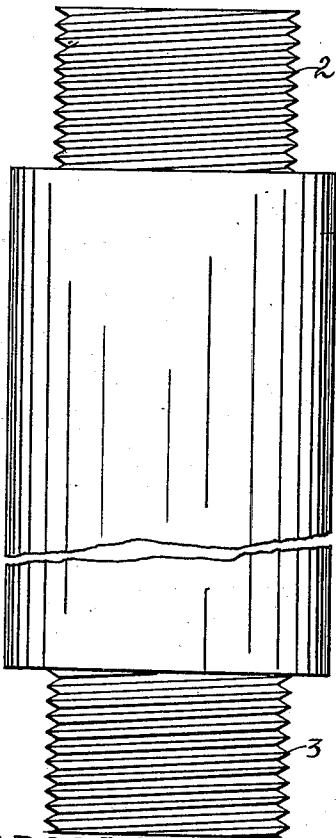
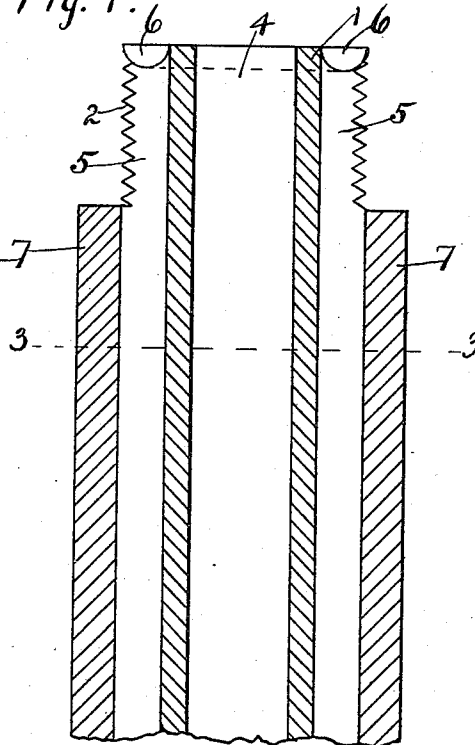


Fig. 4.



WITNESSES
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UNITED STATES PATENT OFFICE.

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DRILL-ROD.

1,059,626.

Specification of Letters Patent.

Patented Apr. 22, 1913.

Original application filed March 8, 1911, Serial No. 613,064. Divided and this application filed January 18, 1912. Serial No. 671,990.

To all whom it may concern:

Be it known that I, GEORGE W. McALLISTER, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented a new and useful Drill-Rod, of which the following is a specification in such full and clear terms as will enable those skilled in the art to construct and use the same.

10 This invention relates to a drill rod for use with rotary well drills and its object is to produce a drill rod which will be provided with a passage way for the water used in the drilling operation, both for the
15 supply and for the waste of said water.

This is a divisional application of application for patent Ser. No. 613,064, filed March 8, 1911.

20 A further object of the invention is to produce a drill rod, each section of which shall be as nearly as it is possible to make a duplicate of all other sections thereof, thus enabling the users to assemble the rods very much more easily than would be the case
25 where said rods must be assembled in a given way, as with rods having male and female couplings thereon.

Another object of the invention is to produce a drill rod which will be very easily
30 made, only one opening therein being formed in solid metal, the other two openings being either rolled or cut therein by means of a milling tool.

In the drawings in which the same numeral of reference is applied to the same portion throughout the several views, Figure 1
35 is a plan view of the completed drill rod. Fig. 2 is a side elevation of the completed drill rod showing the screw placed at each end thereof and the rod being shortened for purposes of illustration. Fig. 3 is a
40 cross sectional view of the drill rod, and Fig. 4 is a longitudinal sectional view of one end of the drill rod showing the openings
45 therein.

50 This drill rod is a composite rod formed of a core 1, which core has threaded ends as indicated at 2 and 3. The core is also provided with a central longitudinal hole 4 and with two longitudinal grooves 5. At the

top of the core, the grooves 5 are joined together by means of a shallow groove 6. Surrounding the core 1 is a shell 7, said shell being suitably shrunk upon the core or otherwise forced thereon to make a tight
55 fit thereon to prevent it from turning on the core.

When the core and shell are assembled, three passage ways are left in the drill rod thus produced. The object of the shallow
60 groove 6 is to provide means whereby water may be passed from one section of the rod to another section thereof, even though the member abutting the end of the core should not have the openings therein in line
65 with the openings in the drill rod, water thus being permitted to pass from one section of the drill rod to another section thereof by way of the channel 6 should the longitudinal openings therein not be alined. It
70 will, of course be clear that the central opening must always be in line with the central opening in the adjacent drill rod sections, but it is of course impossible to so
75 cut the threads 3 on each drill rod as to always bring the outside openings of adjoining rods into alinement.

It will of course be apparent that the core and shell of the drill rod may be made of different materials should it appear advisable to do so, as for example, the shell may be made of a very hard material to withstand the wear due to abrading upon the sides of the holes drilled, while the core might be made of a very tough material,
85 although much softer than the shell since it would not be subject to abrasion.

Having thus described my invention what I claim as new and desire to secure by Letters Patent of the United States, is as follows:

1. In a drill rod, a central core having an opening longitudinally therethrough, a longitudinal groove, and a circular groove at the end of the longitudinal groove, said core
95 being threaded at each end, and a smooth shell tightly fitting said core between the two threaded portions thereof, substantially as described.

2. A rotary drill rod for deep drilling com- 100

prising a central core having each end threaded, a central opening longitudinally therethrough and an eccentric longitudinal groove the entire length thereof, and an external shell attached to the core and extending from one set of threads to the other set of threads, substantially as described.

In testimony whereof I have hereunto set my hand this 11 day of January A. D. 1912, in the presence of two subscribed witnesses.

GEORGE WATSON McALLISTER.

Witnesses:

C. P. GRIFFIN,

L. H. ANDERSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."