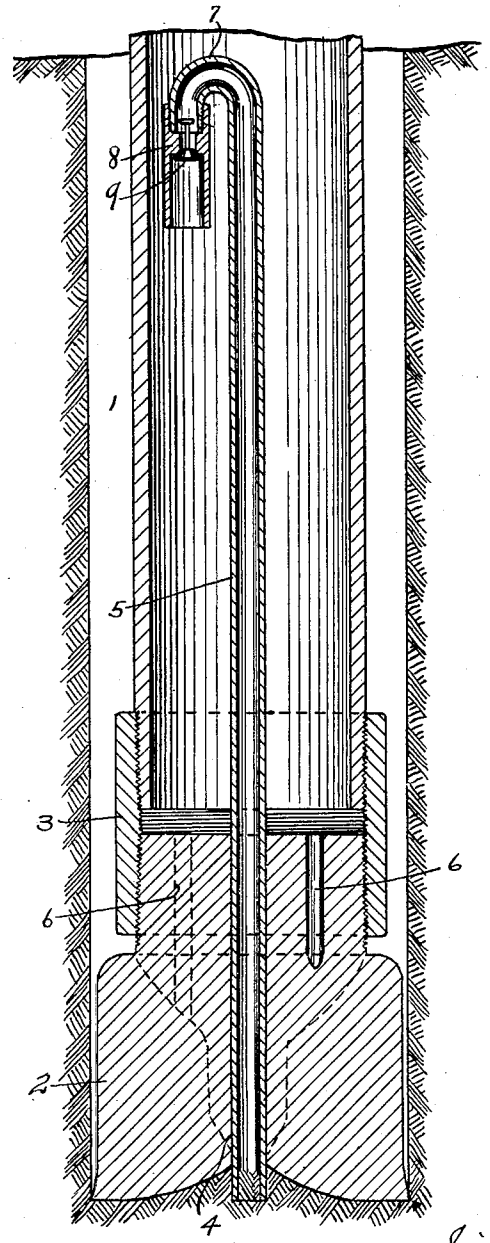
S. H. HUSTON.

SAMPLE TAKING DEVICE.

APPLICATION FILED JUNE 27, 1919.

1,342,814. **Patented June 8, 1920.**



INVENTOR,
Sidney H. Huston,
BY
Hardway & Cathey
ATTORNEYS.

UNITED STATES PATENT OFFICE.

SIDNEY H. HUSTON, OF HOUSTON, TEXAS.

SAMPLE-TAKING DEVICE.

1,342,814. Specification of Letters Patent. Patented June 8, 1920.

Application filed June 27, 1919. Serial No. 307,089.

To all whom it may concern:

Be it known that I, SIDNEY H. HUSTON, a citizen of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvements in Sample-Taking Devices, of which the following is a specification.

This invention relates to new and useful improvements in a sample taking device.

One object of the invention is to provide a device of the character described, which is specially designed for use in drilling wells, particularly oil wells, for the purpose of taking samples, of the formation through which the bit is passing.

Another object of the invention is to provide a sample taking device which is simple in construction and consequently can be manufactured cheaply and which may be easily removed from the well without withdrawing the bit or drill stem.

With the above and other objects in view, the invention has particular relation to certain novel features of construction, arrangement of parts and use, an example of which is given in this specification and illustrated in the accompanying drawings, wherein:

The figure shows a vertical sectional view of the device.

Referring now more particularly to the drawings, the numeral 1 designates the drill stem to the lower end of which the bit 2 is fastened by means of the coupling 3. The bit shown is of the usual fish tail type and has the central bore 4 therethrough to receive the lower end of the tubular retainer 5. The bit also has the water courses 6, 6, extending from the upper end thereof down through the shank of the bit and terminating on opposite sides through which water may be forced from the stem to the cutting points of the bit. The upper end of the tubular retainer 5 is formed into an arcuate neck 7, and threaded thereon, is the valve seat 8, having the central passageway controlled by the check valve 9. This valve prevents the water which is forced down into the stem from passing into the retainer but normally held open by force of gravity. As the boring progresses, the bit cuts away the formation at the bottom of the bore, and as it progresses downwardly the cuttings are forced up into the retainer 5, and when the same is filled, the surplus will pass out through said valve into the stem. When it is desired to take a sample, a line may be let down into the stem and engaged over the neck 7, and the retainer 5 withdrawn for examination of its cuttings.

What I claim is:

1. The combination with a drill bit, having a central bore, of a stem to which said bit is attached, a tubular retainer whose upper end is formed into a downwardly curved neck and whose lower end is fitted through said bore, and a valve controlling said neck.

2. The combination with a drill bit, having a central bore, of a drill stem, to which said bit is attached, a tubular retainer whose lower end is fitted through said bore and whose upper end is formed into an arcuate downwardly curved neck, a valve seat attached to the free end of said neck and having a fluid passageway therethrough, and a valve controlling said passageway, and normally open by force of gravity.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SIDNEY H. HUSTON.

Witnesses:

WM. A. CATHEY,

IRENE BRUNS.