W. A. HUELSDONK.

DRILLING RIG.

APPLICATION FILED JAN. 27, 1914.

1,145,418.

Patented July 6, 1915.

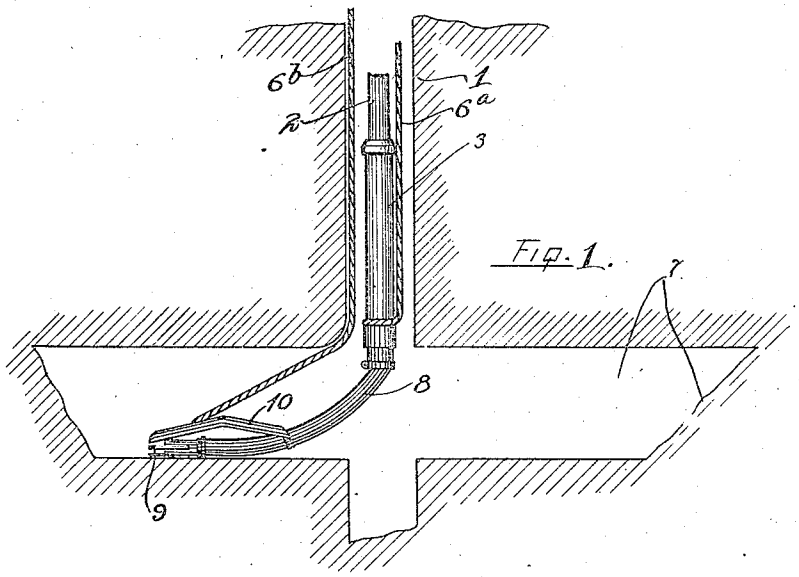


Fig. 1.

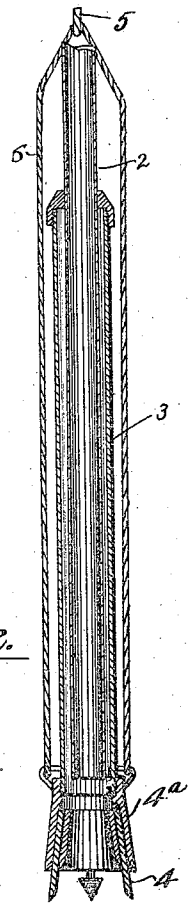
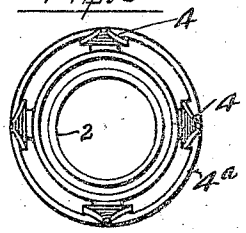


Fig. 2.

Fig. 3.



WITNESSES:

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DRILLING-RIG.

1,145,418. Specification of Letters Patent. Patented July 6, 1915.

Application filed January 27, 1914. Serial No. 814,661.

To all whom it may concern:

Be it known that I, WILLIAM A. HUELSDONK, a citizen of the United States, residing at Le Grand, in the county of Merced and State of California, have invented certain new and useful Improvements in Drilling-Rigs; and I do declare the following to be a clear, full, and exact description of the same, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this application.

This invention relates to improvements in rigging and paraphernalia used for boring wells, the object of the invention being to produce a drill capable of a reciprocating motion and at the same time having a means for extending it laterally for the purpose of removing sand in large quantities from water bearing sand strata in order to allow a large clean area for the inflow of the water to be raised from the well after the drilling operation is finished or for the purpose of clearing the same out of the path of the drill during the drilling operation.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purposes for which it is designed.

These objects, I accomplish by means of such structure and relative arrangement of the parts as will fully appear by a perusal of the following specification and claims.

On the drawings, similar characters of reference indicate corresponding parts in the several views.

Figure 1 is a sectional view showing the outline of the well and sand strata with my improved drill in position therein. Fig. 2 is a sectional view of the vertical portion of the drill without the part capable of extending laterally thereon. Fig. 3 is an end view of the subject matter shown in Fig. 2.

Referring now more particularly to the characters of reference on the drawings, the numeral 1 designates the well and the numeral 2 designates the suction pipe adapted to be projected therein and added to by suitable sections as the depth of the well increases.

My improved drill comprises a sleeve 3 slidable over the end of the pipe 2, said sleeve 3 being closed at its upper end as shown in Fig. 2, while the bottom of the suction pipe 2 is open. On the lower end of the sleeve 3 are the digging drills 4 of any suitable type. A cable 5 is provided with branches 6 which connect with the lower end of the sleeve 3 for the purpose of raising and lowering such sleeve to cause the drills 4 to perform their functions. Thus with the movement of the walking beam, not shown the member 3 is raised and lowered to intermittently raise and drop the members 4 into the bottom of the well thus breaking off particles of dirt or rock. Such particles, together with the water which is in the bottom of the well, is then worked up through the suction pipe 2 and discharged at any suitable point, fresh water being run into the well in any suitable manner.

When, during the drilling operation, a stratum of water bearing sand 7 is encountered and it is necessary to remove a portion of said sand before the well can be further proceeded with, I provide a means for doing this in an effective manner which consists in the use of the following structure, namely: I remove the portion 4^a, which supports the drills 4 and which is threaded to the member 3 and clamp onto the member 3 a flexible hose 8 having suitable digging points 9 secured on the end thereof and fitting over which is a guard or hood 10. A cable 6^a is then connected with the sleeve 3 and a cable 6^b is connected with the hood 10. When it is desired to withdraw a quantity of sand from the water bearing stratum 7, the suction pipe 2 carrying the flexible hose 8 is lowered to a point near the bottom of the well and then by pulling on the cable 6^b the end of the flexible hose 8 may be pulled into the water bearing stratum on any side of the well and then the sand pumped therefrom by means of the suction pump to such an extent as may be desired. The well may then be further dug without danger of the sand caving into the same and also for a flow of water if it is desired to pump the same from such stratum.

From the foregoing description it will readily be seen that I have produced such a device as substantially fulfils the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice, such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention as defined by the appended claims.

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

1. A device of the character described comprising the combination of a suction pipe, a tubular member slidable over the end of such suction pipe, a flexible member on the lower end of said tubular member, and digging points mounted on the end of said flexible member, as described.

2. A device of the character described comprising the combination of a suction pipe, a tubular member slidable thereover, a flexible member on the lower end of said tubular member, a cable member connected with said tubular member and an independent cable connected with said flexible member, as described.

3. A device of the character described comprising the combination of a suction pipe, a tubular member slidable thereover, a flexible member on the lower end of said tubular member, and a hood on said flexible member projecting over the end thereof, as described.

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

WILLIAM A. HUELSDONK.

Witnesses:

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FLOYD M. BLANCHARD.