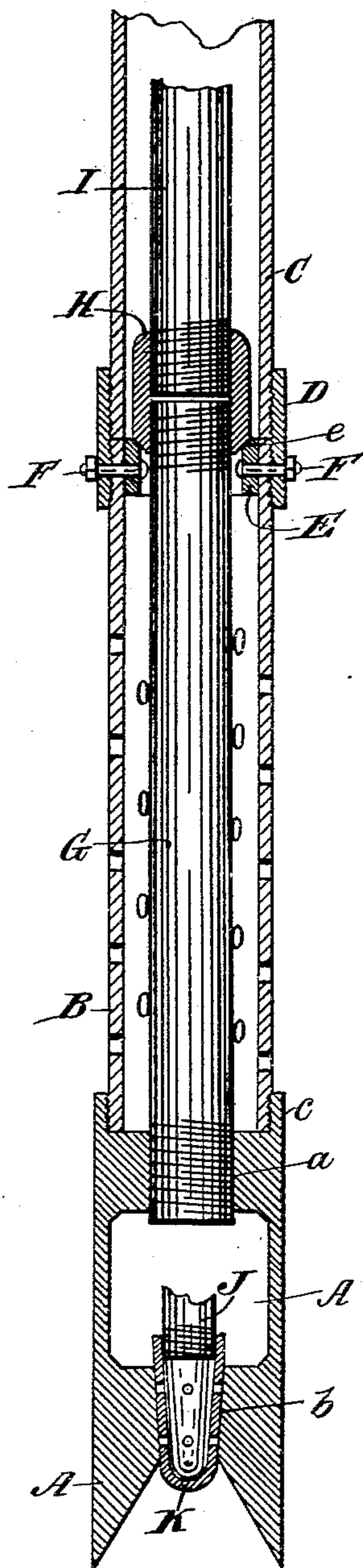


(No Model.)

R. S. RICKEY & I. FEITEL.
APPARATUS FOR BORING WELLS.

No. 504,619.

Patented Sept. 5, 1893.



Witnesses.
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UNITED STATES PATENT OFFICE.

RUFUS S. RICKEY AND ISAAC FEITEL, OF NEW ORLEANS, LOUISIANA.

APPARATUS FOR BORING WELLS.

SPECIFICATION forming part of Letters Patent No. 504,619, dated September 5, 1893.

Application filed April 6, 1893. Serial No. 469,277. (No model.)

To all whom it may concern:

Be it known that we, RUFUS S. RICKEY and ISAAC FEITEL, citizens of the United States, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Apparatus for Boring Wells; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to apparatus for boring and drilling wells, and has for its object to provide a device which shall be simple in construction and operation, and which will enable the boring or driving of wells to be done with much less labor than is now ordinarily required, and with more satisfactory results.

To these ends our invention consists in the novel features of construction and new combinations of parts hereinafter described and claimed.

In order to enable others skilled in the art to which this invention pertains to make, use and construct the same, we will proceed to describe the parts in detail reference being made to the accompanying drawing, in which the figure represents a vertical central section of our improved apparatus.

Referring now to the drawing, the reference letter A, designates the drill head provided with the ordinary sharp cutting edges.

Within the drill head A is a chamber A', having openings *a*, *b*, communicating therewith the opening *a* being screw-threaded. The upper portion of said drill-head is provided with a screw-threaded collar *c* into which is screwed a strainer B, and upon the upper end of said strainer B is screwed a sleeve D, to which sleeve is screwed shell or casing C.

Within the strainer B, and at the point of connection between the strainer and casing C, is a ring E, having a beveled face *e*, said ring being retained in position by bolts F passing through the same, and through the strainer and sleeve D, by which these several parts are securely retained in their respective positions.

The reference letter G represents a pipe having a left hand screw-thread on its lower

end, which pipe is screwed into the opening *a* in the drill-head. The upper end of the pipe G is provided with a right hand screw thread, and above, and in line with this pipe is another pipe I, the two parts being coupled together by means of a collar H, the lower face or edge of which is beveled to correspond, and meet with the beveled edge *e*, of the ring E, whereby a close joint is effected, which acts as a valve for the purpose hereinafter mentioned.

In the ordinary methods and apparatus for boring or drilling wells, a great deal of trouble has been experienced by dirt, and foreign matters of different kinds, making their way through the strainer B, during the boring or driving operation, said dirt rising up into the shell or casing C, which would cause serious trouble, all of which is entirely obviated by this invention, as nothing can get within the casing C until the well is completed.

The manner of boring a well with this device may be described as follows: After the several parts have been properly put together as has been hereinbefore described, the drill-head A, first enters the earth, being forced downward in the usual manner, and by any suitable apparatus for the purpose. Water is forced down through pipes I and G, which washes or cleanses the drill-head A, and enables it to make its way through the earth with more ease. By so forcing water through the pipes into the drill-head A, a great deal of soft slush is necessarily accumulated therein and has a great tendency to rise up into the shell or casing C, but is prevented from so doing by the close-fitting joint or valve of the collar H, and ring E. When the drill-head has reached the required depth, the pipes I and G, with collar H, are unscrewed and taken out, or removed from within the strainer B and casing C. It is now desirable to place a plug in the opening *b*, of the drill-head, for the purpose of preventing water from entering at this point, and for this purpose we employ a pipe J, upon the end of which is screwed a perforated plug K. This pipe with its plug K is now introduced into the well and water forced through the same so as to wash away any dirt or foreign matter which might happen to lie in the opening *b*. The plug K, is

now jammed into its seat in the drill-head by means of force applied to the pipe J, after which said pipe is unscrewed and removed, leaving the plug K in its seat.

5 The opening *b* in the drill-head is preferably made flaring toward its lower end to conform to the flaring walls of the plug K, and insure a more perfect and close fit of the parts.

10 It will now be seen from the foregoing completed device that it is possible only, for water to enter through the strainer B, which then makes its way up to the surface of the earth through the shell or casing C.

What we claim as our invention is—

15 1. In an apparatus for boring and drilling wells, the combination with the drill-head A, of a strainer B, detachably connected to said drill head, a casing C located above the strainer and detachably connected therewith,
20 by a sleeve D, a ring E, secured to the inner face of the strainer, threaded pipes G and I located within the strainer and casing, and serving to conduct water to the drill head, and a threaded collar H, connecting said pipes, and
25 adapted to rest upon the ring E, and close the annular space between the pipes and strainer whereby water is prevented from rising up

into the casing during the boring operation, substantially as described.

2. In an apparatus for boring and drilling 30 wells the combination with the hollow drill-head A, of a strainer B attached to said drill-head, a casing C located above and detachably connected with the strainer by a sleeve D, a ring E having a beveled upper edge *e*, said 35 ring being connected with the strainer and sleeve by bolts F, a pipe G, having a right and left hand screw-thread, the lower end of said pipe being connected with the drill-head, and the upper end of which is coupled with a pipe 40 I by an internally threaded collar H, the lower edge of said collar being beveled to meet the beveled edge of ring E, and a plug K secured in the opening *b* of the drill-head, substantially as described. 45

In testimony whereof we have hereunto subscribed our names in the presence of two witnesses.

RUFUS S. RICKEY.
ISAAC FEITEL.

Witnesses:

FRED. ADOLPH,
W. H. COOK.