

No. 741,364.

PATENTED OCT. 13, 1903.

C. A. OTT.
DRILLING APPARATUS.
APPLICATION FILED JUNE 20, 1903

NO MODEL.

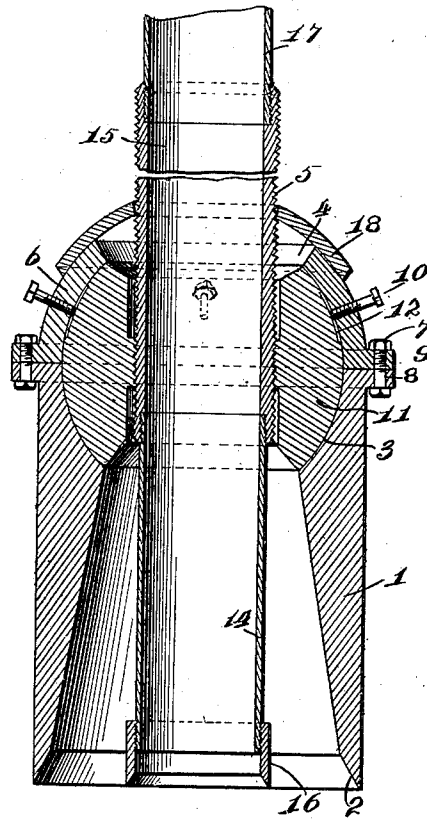


Fig. 1.

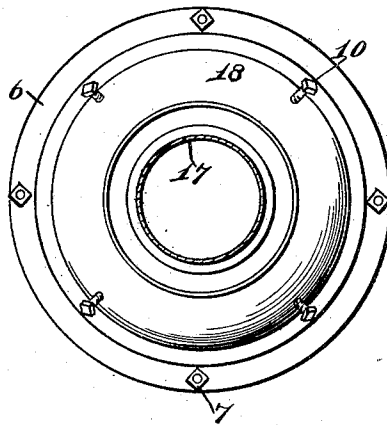


Fig. 2.

WITNESSES:

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DRILLING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 741,364, dated October 13, 1903.

Application filed June 20, 1903. Serial No. 162,450. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. OTT, a citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in Drilling Apparatus; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in heads or barrels for drilling-casings.

The object of the invention is to provide means whereby a hole may be drilled in the earth irrespective of the surface upon which the device is operated.

Another object of the invention is to provide means whereby a drill-casing may be retained in a fixed position after the said casing has been adjusted, so as to place the same in a perpendicular position.

The invention consists in the assembling of an adjustable drill-casing with an outer cylindrical casing.

The invention further consists in providing a drill-casing with a head comprising an outer casing, a universal joint retained therein, and a vertical and horizontal adjustable casing detachably secured in said joint.

The invention further consists in the combination of parts and novel construction, as is hereinafter more fully described, illustrated in the accompanying drawings, and more particularly pointed out in the claims hereto appended.

In the drawings, Figure 1 is a sectional side elevation of the invention, and Fig. 2 is a top plan view of the same.

Like numerals of reference designate corresponding parts throughout both figures of the drawings.

In the drawings reference-numeral 1 indicates an outer cylindrical or bell-shape casing of a head or barrel for a drilling tube or casing. The said casing 1 is provided at its lower edge 2 with an annular beveled portion. A concaved socket 3 is formed in the top of the casing 1. An aperture 4 is formed in the top of the said casing 1, through which is passed the adjustable inner or drill casing 5. The top of the said casing 1, in which the

aperture 4 is formed, is constructed in the shape of a removable cap secured to the said casing 1 by suitable means, as at 7, which are passed through apertures 8, secured in the coaching annular flanges 9, formed upon the periphery of the said casing 1 and its cap 6. Secured to and adapted to pass through said cap 6 are several adjustable square-headed stud-bolts 10. Within the said casing 1 is secured a ball or universal-joint member 11 by means of the cap 6 and the concaved portion 3 of the casing 1. Upon this ball or spherical member 11 is formed guides or cut-out portions 12. The bolts or locking means 10 are adapted to engage these cut-out portions 12 and retain said member 11 in a lock position. The said member 11 is provided with a central aperture, a part of which is threaded, as at 13. The inner casing is preferably formed by assembling a removable cylindrical pipe 14 to the primary inner casing 15, and upon the said pipe or casing 14 is removably secured an annular beveled cap 16. At the outer end of the said casing 15 is removably secured the drill-casing 17. Upon the periphery of the inner casing 15 is formed screw-threads which are adapted to engage the corresponding threads 13 upon the inner face of the aperture which is formed in the ball member 11. It will be apparent that the said inner casing by the construction of the ball or universal joint is adapted to be removably secured within the casing 1 and also permits of the adjustment of the same within the casing or head 1. A removable annular cap 18 is mounted upon the cap 6 and the inner casing 15, said member 18 completely closing the aperture of said casing 1.

In operation the head or barrel is adapted to be placed upon a drill-casing, and the casing 1, coming in contact with the bottom of the channel or stream, will sink into the sand or silt, and after the said member has assumed a comparatively fixed position the inner casing can be adjusted into a perpendicular position, irrespective of the position of the outer casing 1. After this adjustment has been obtained the inner casing may be retained in such position by means of the locking-screws 10, secured to the cap 6.

In the forming of holes for the reception of piles in hard or rocky bottoms of streams or

channels it is necessary to employ a device constructed on the principles which are employed in my invention and which by experience I found overcome all objectionable features which have been experienced in the use of devices already patented.

It is to be understood that while I have described the preferred form of my invention I reserve the right to make such modifications and changes in the dimensions of the machine as will fairly fall within the scope of the invention.

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

1. A head for drill-casings comprising an outer casing and an inner adjustable casing.
2. A head for drill-casings comprising an outer casing, a vertical and horizontal adjustable inner casing.
3. In a device of the character described, the combination with a bell-shaped outer casing, an adjustable casing removably retained within the outer casing by means of a universal joint.
4. In a device of the class described, the combination, of a cylindrical outer casing provided with a cap, a spherical member retained within said casing and a removable inner casing assembled with said casing and its spherical member.
5. In combination, a bell-shaped member provided with a removable concaved cap, a ball member secured within said member and an inner casing mounted within the ball member.
6. In combination, an outer casing provided with a socket, a ball retained therein, a central aperture formed within said ball and means carried by said ball for retaining a casing within the same.
7. A head for drill-casings comprising an outer casing and an inner casing adjustably mounted within the outer casing and adapted to assume a position irrespective of that assumed by the said outer casing.
8. A head for a drill-casing comprising a bell-shaped member and an inner member and means for adjusting said inner member to a

position independent of that assumed by said bell member.

9. A head for drill-casings comprising an outer member provided with a socket, a ball member retained in said socket, and an inner casing removably secured within said ball member, means upon the outer casing for retaining the ball member in a fixed position.

10. In a device of the character described the combination with an outer member, a cap removably secured thereon, an apertured ball member retained within said casing, an inner cylindrical casing removably secured within said ball member, an annular collar removably mounted upon the outer casing and means for retaining the inner and outer casing in a fixed position relative to the said casings.

11. In a device of the character described the combination of a bell-shaped outer casing, an inner casing adjustably mounted therein, said outer casing provided with a removable top, a socket formed within said outer casing, a sphere member retained within said socket and locking means carried by said top and engaging the sphere member for adjustably locking said inner casing within the outer casing.

12. A head for drill-casings comprising an outer casing formed of two parts, an inner casing provided with a beveled member and means for adjusting the inner casing independent of the outer casing.

13. A head for drill-casings comprising an outer bell-shaped member provided with a socket, an apertured ball member retained within said socket, an inner casing mounted within the ball member, means upon the apertured ball member for locking said inner casing within the outer casing, and an annular member removably secured upon said inner and outer casing for closing the aperture formed in the cap of said outer casing.

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

CHARLES A. OTT.

Witnesses:

JOHN LYON STONE,
C. W. STONE.