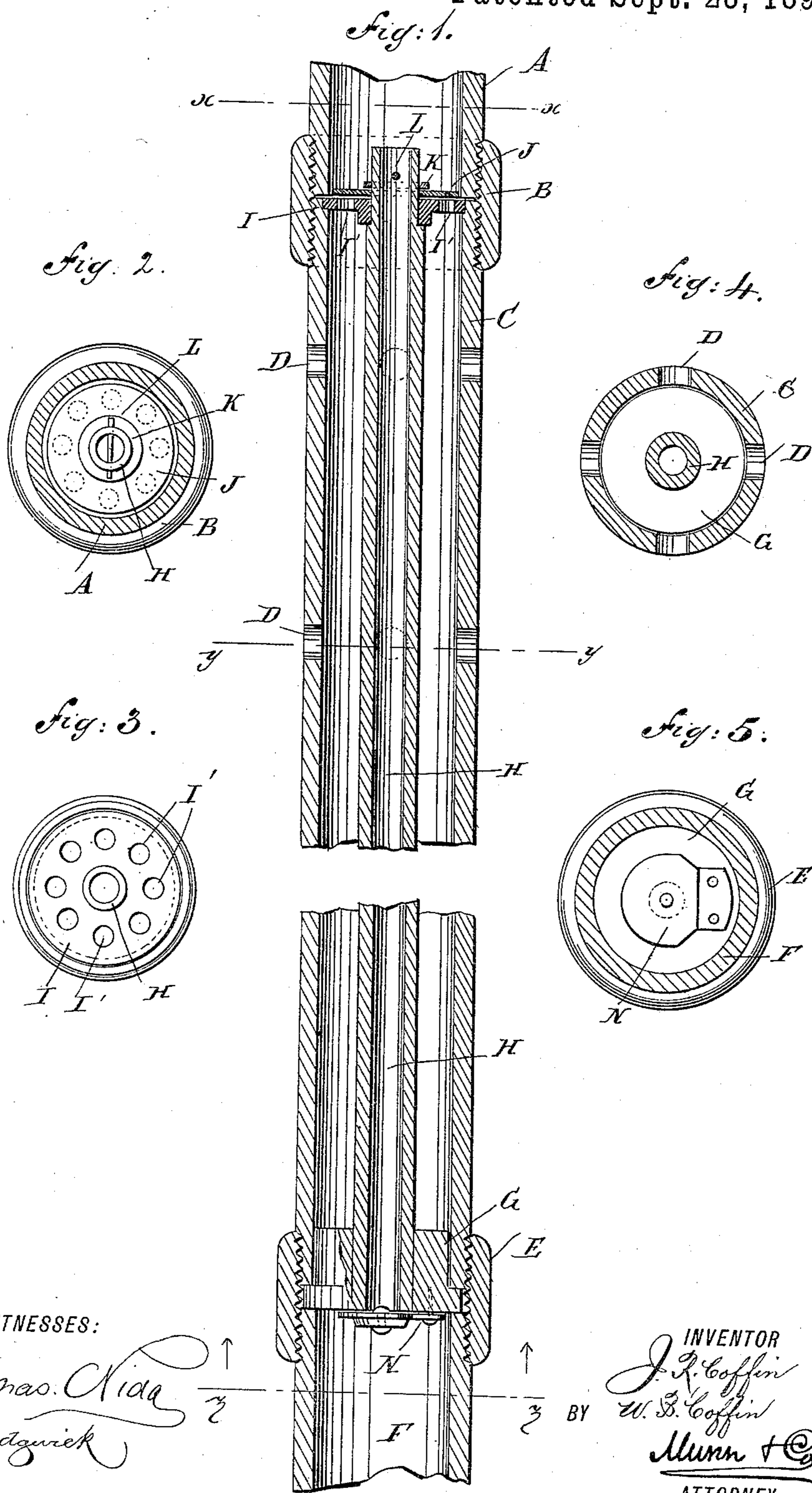


(No Model.)

J. R. & W. B. COFFIN.
POINT FOR WELL SINKING MACHINES.

No. 436,889.

Patented Sept. 23, 1890.



UNITED STATES PATENT OFFICE.

JOSEPH R. COFFIN AND WILLIAM B. COFFIN, OF BLISS, NEBRASKA.

POINT FOR WELL-SINKING MACHINES.

SPECIFICATION forming part of Letters Patent No. 436,889, dated September 23, 1890.

Application filed May 10, 1888. Serial No. 273,420. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH R. COFFIN and WILLIAM B. COFFIN, both of Bliss, in the county of Wheeler and State of Nebraska, have invented a new and Improved Point for Well-Sinking Machines, of which the following is a full, clear, and exact description.

The invention relates to a well-sinking machine for which we filed an application for United States patent on the 19th day of November, 1887, and under the Serial No. 255,563.

The object of the invention is to provide a new and improved point adapted for well-sinking or prospecting machines which is very simple and durable in construction and automatic in operation, permitting a free downward flow of the water while the well is being sunk and a free upward flow of water when the well is completed.

The invention consists of a perforated tube carrying at one end a drilling-tube, of a pipe held within the said tube, and valves held on the top and bottom of the said pipe.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a sectional plan view of the same on the line xx of Fig. 1. Fig. 3 is a plan view of the upper valve. Fig. 4 is a sectional plan view of the improvement on the line yy of Fig. 1, and Fig. 5 is an inverted plan view of the same on the line zz of Fig. 1.

The well-tube A carries at its lower end a collar B, in which screws a tube C, provided with a suitable number of apertures D, and carrying at its lower end a collar E, in which screws the drilling-tool F of any approved construction. Between the upper end of the drilling-tool F and the lower end of the tube C is held a block G, which closes the lower end of the said tube C, and carries an upwardly-extending pipe H, passing throughout the length of the tube C, and supporting at its upper end a disk I, closing the upper end

of the tube C, and provided with a number of apertures I', closed by the valve J, preferably semicircular in shape and fitting over the central pipe H. The valve J is held in place by a washer K, which is in turn held in place by a pin L, passing through the upper end of the central pipe H. Other means may be employed for holding the valve J on top of the disk I.

On the lower end of the tube H is held the valve N, opening downward and secured to the bottom of the block G.

The operation is as follows: When a well is to be sunk, the well-tube A is turned in the usual manner, and the water under pressure is passed down the said tube A. The water from the latter passes through the central pipe H and opens the valve N, and then flows to the drilling-tube F in the same manner as described in the application above referred to. When the water-vein is struck, the turning of the tube A ceases and no more water flows down the said tube, as before described. The pressure of the water from the water-vein causes the valve N to close, and at the same time water passes in through the perforations D in the tube C and flows upward through the apertures I' in the disk I and opens the valve J upward, so that the water from the water-vein passes into the tubing A, and is lifted upward in the usual manner by a pump or other means. Thus it will be seen that the point is automatic in operation, as no device is necessary to make a connection between the tubing and the water-vein. It will further be seen that no part of the well-point is to be removed after the water-vein is struck. All that is necessary for the operator to do is to cease boring and to connect his pump or other device with the tubing A for lifting the water.

Having thus fully described our invention, we claim as new and desire to secure by Letters Patent—

1. In a point for well-sinking machines, the combination, with an outer perforated tube having an internal annular upward opening valve above its perforations, of a smaller concentric inner pipe extending at the ends beyond the said perforations, and having a downward-opening valve at its lower end, the

space between the said two pipes below the perforations being closed, substantially as described.

2. The combination, with the outer perforated tube, of a concentric smaller tube therein provided at its upper end with a concentric apertured block or plate and an annular upward-opening valve on the upper side thereof, an annular block on the lower end of the inner tube closing the space between it and the outer tube, the said two blocks having

peripheral portions resting on the ends of the outer pipe, whereby when the outer pipe is coupled the blocks and inner pipe will be positively locked in place, and a downward-opening valve at the lower end of said inner tube, substantially as described. 15

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Witnesses:

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RALPH L. STAPLE.