(No Model.)

W. EVANS.

DRIFT PIN FOR DRILLING MACHINES.

No. 391,038. Patented Oct. 16, 1888.

Fig. 1

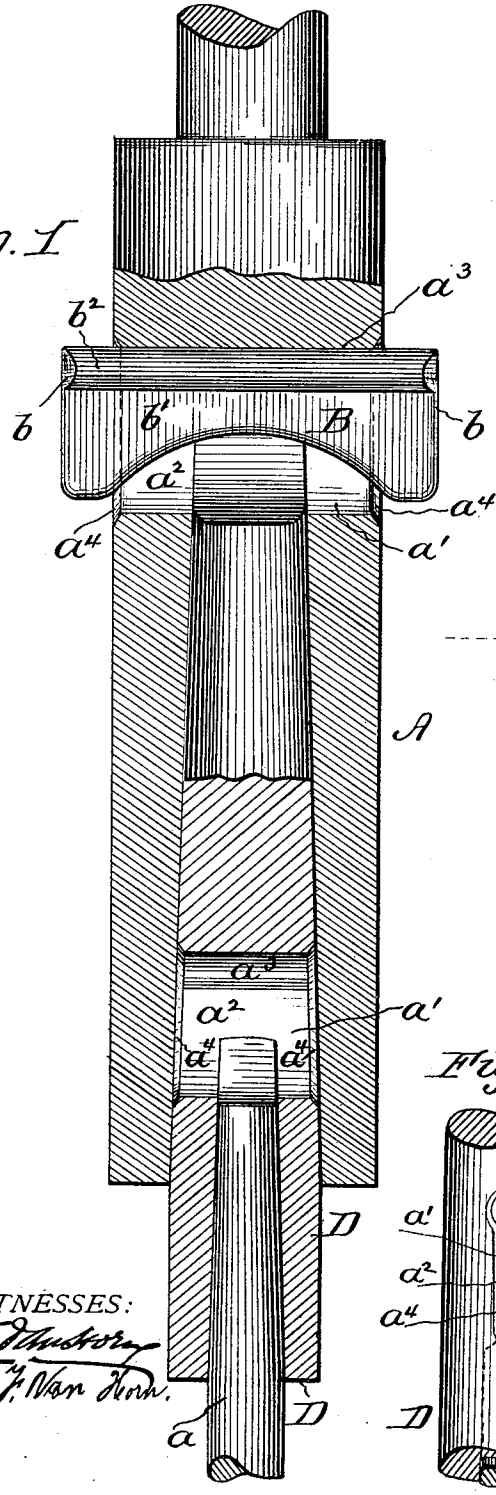


Fig. 2

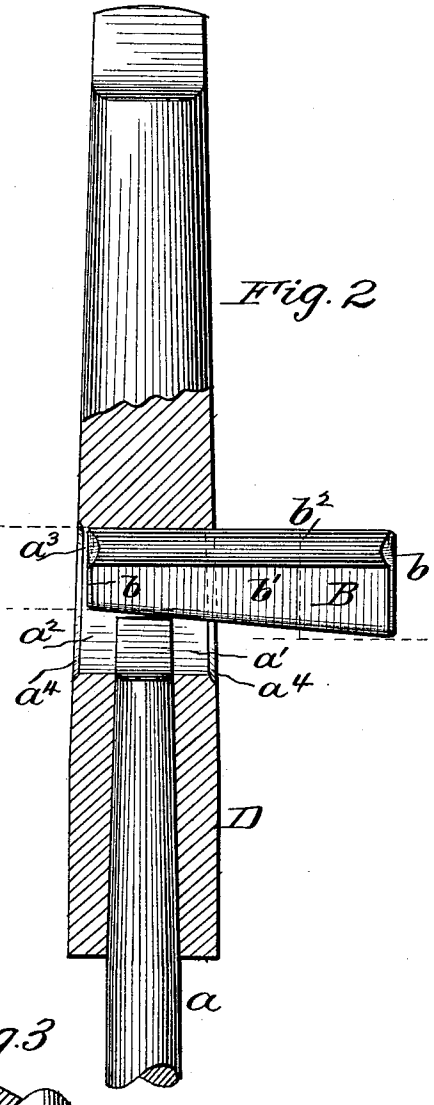


Fig. 3

WITNESSES:

Chas. F. Wilkinson

Hopkins J. Van Horn.

INVENTOR,

William Evans.

By S. J. Van Skaaren.

ATTORNEY.

N. PETERS. Photo-Lithographer. Washington, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM EVANS, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF TWO-THIRDS TO ROBERT EVANS AND JOHN H. EVANS, OF SAME PLACE.

DRIFT-PIN FOR DRILLING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 391,038, dated October 16, 1888.

Application filed February 23, 1888. Serial No. 264,963. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM EVANS, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Drift-Pins for Drill-Spindles, of which the following is a specification.

My invention has relation to drift pins or keys for drill or like spindles or sockets; and it has for its object the construction of the pin and of the opening in the spindle or socket for the pin, so as to avoid as much as possible the usual wear or battering of the edges of the ends of the drift-pin and of the openings therefor in the drill spindle or socket.

My invention accordingly consists of the combination, construction, and arrangement of parts, as hereinafter described and claimed, reference being had to the accompanying drawings, wherein—

Figure 1 represents a sectional view, partly in elevation, of a drill-spindle, shell-socket, and double wedge-shaped drift-pin opening in said parts, and a drift pin or key embodying my invention; Fig. 2, a like view of the shell-socket, drill, and a single wedge-shaped drift-pin in position to effect removal of the drill from the socket; and Fig. 3, a side elevation of part of Fig. 2, showing end view of drift pin or key and spindle or socket opening.

A represents the lower part of a spindle for a drill or other like tool, *a*, of any suitable construction, and having transverse drift-pin or key-opening *a'*, suitable for a double or a single wedge construction of drift-pin, as shown either in Figs. 1 or 2, respectively. The opening *a'* is preferably formed to have parallel sides a^2 a^2, terminating at their upper part in preferably an arch or curved recess, a^3, to form an opening approximating the configuration of a key-hole. The edges of the ends of opening *a'* are preferably beveled or chamfered off, as shown at a^4, so that a drift-pin can be inserted into said opening without indenting, upsetting, battering, or otherwise defacing or wearing said edges.

The drift-pin B is preferably of the single wedge-shaped form shown in Fig. 2, having preferably chamfered or beveled edges at its ends, as indicated at *b*, to avoid upsetting, battering, or otherwise defacing said edges, and, in turn, the edges a^4 of the ends of the opening *a'* in the spindle A.

The drift-pin B has parallel sides *b' b'*, suitably contracted, and preferably an upper arched or curved enlarged head, b^2, extending from end to end of the pin and corresponding to and fitting the corresponding curved part, a^3, of opening *a'* in spindle A, as more plainly shown in Fig. 3.

The drift-pin B, if desired, may have a lower curved or arched side, as shown in Fig. 1, or to form a double-wedge drift-pin, or it may be otherwise configured, as desired. I prefer, however, the form shown in Fig. 2—that is to say, a drift-pin having a lower side with a single incline from end to end, and an upper enlarged head, b^2, which is straight from end to end of the pin.

The upper end of the drill is preferably constructed, as shown and described in Letters Patent of the United States granted to me February 2, 1886, No. 335,184, for the purpose of preventing rotation of the drill, as fully set forth in said patent.

When the drill-spindle A is used in connection with a shell-socket, D, the drift-pin opening *a'* in the latter has the edges of its outer ends duly chamfered or beveled, as indicated at a^4, Fig. 2, for the insertion of the drift-pin in said opening, to subserve the purpose above described.

It is obvious that while I have shown both the edges of the ends of the pin or key B and the opening in the spindle A or in the shell-socket D beveled or chamfered, yet either the edges of the pin or those in spindle A or shell D alone may be beveled or chamfered. I prefer, however, to chamfer the edges of all of said parts, as above described and shown, to lessen the liability of wear or impairment of said edges.

In the patent referred to I have shown, described, and claimed a drift-pin having contracted parallel sides, enlarged head fitting correspondingly-shaped openings in the spindle or stock, combined with a downwardly-acting spring-pressure pin for locking the drift-pin in position within the opening in the spindle or stock. I have found, however, that in

practice the same is unnecessary, and hence the same forms no part of my present application.

What I claim is—

1. A drill spindle or shell-socket having a lateral opening having contracted parallel sides with upper enlarged arch or curved recess or top, in combination with a wedge-shaped drift-pin having corresponding parallel sides and upper enlarged or rounded head fitting the opening in said spindle or socket, substantially as set forth.

2. A drill spindle or socket having a lateral opening provided with parallel sides, upper enlarged arch or curved recess, and chamfered or beveled edges at its ends, in combination with a wedge-shaped drift-pin having a configuration in cross-section corresponding to and fitting that of the opening in the spindle or socket, substantially as set forth.

3. The drift pin or key having parallel sides, enlarged head b^2, and chamfered or beveled end edges, b, substantially as set forth.

4. A drift-pin having parallel sides, enlarged head b^2, straight from end to end, and a lower side having a single inclination from end to end of the pin, substantially as set forth.

5. A drift-pin having one straight side, an inclined side from end to end, and an enlarged head along said straight side, substantially as set forth.

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

WILLIAM EVANS.

Witnesses:
ROBERT EVANS,
S. J. VAN STAVOREN.