

No. 766,976.

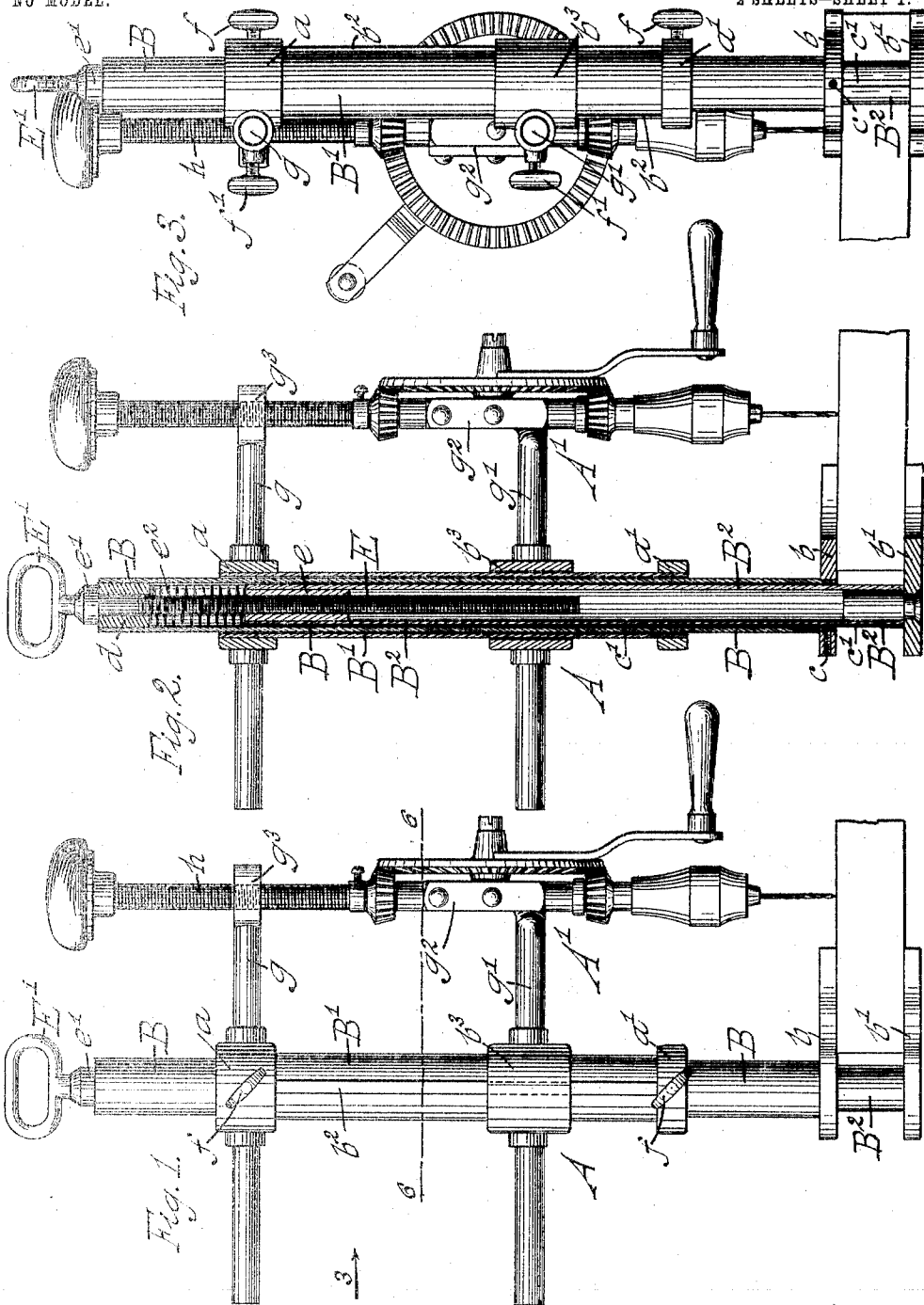
PATENTED AUG. 9, 1904.

F. P. SHEK.
SUPPORT FOR HAND DRILLS.

APPLICATION FILED MAR. 24, 1904.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
Frank E. Royce,
J. Henry Oliver.

Inventor
Frank P. Shek,
By his Attorneys, Loepel & Niles,

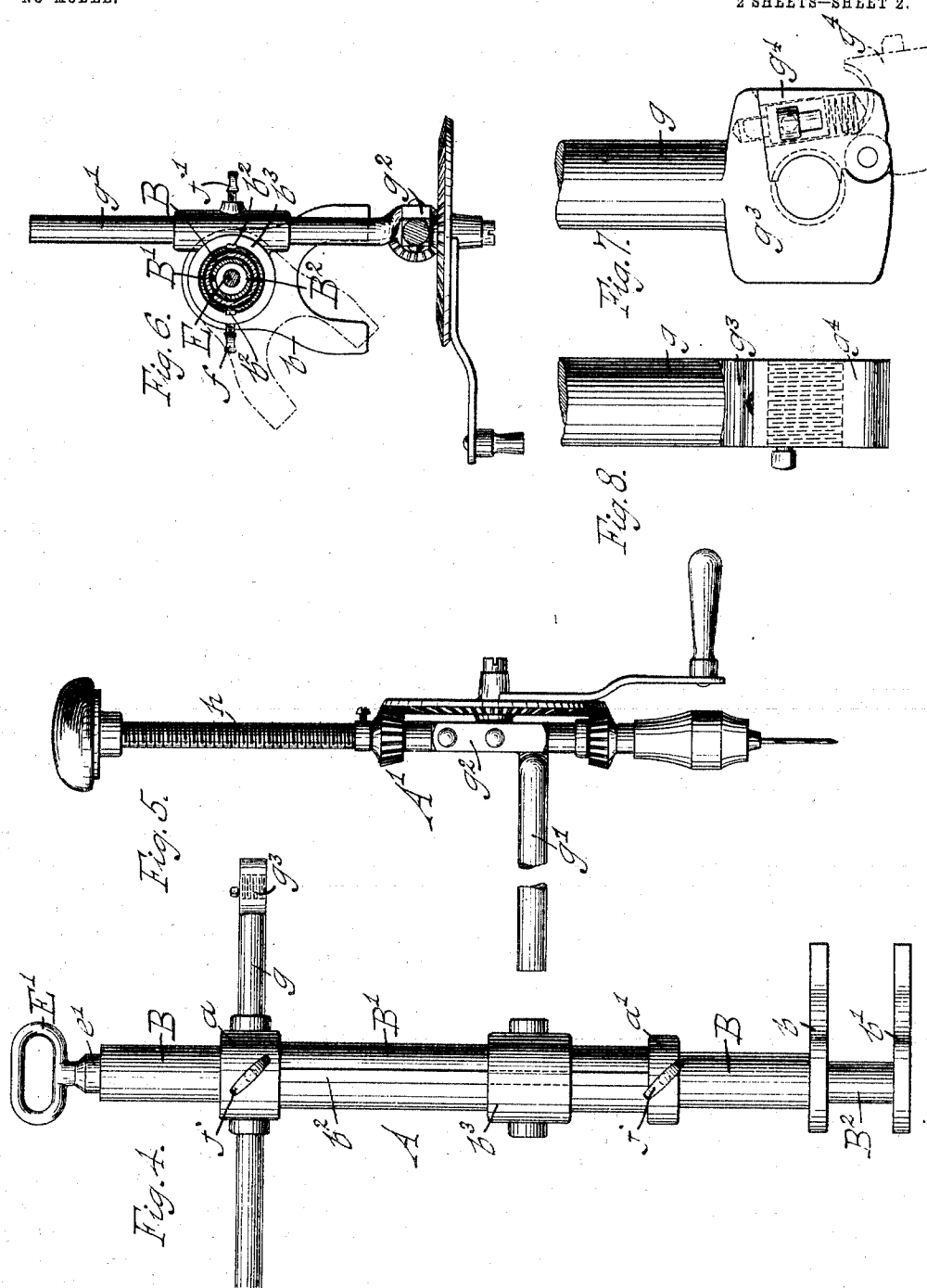
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UNITED STATES PATENT OFFICE.

FRANK P. SHEK, OF NEW YORK, N. Y.

SUPPORT FOR HAND-DRILLS.

SPECIFICATION forming part of Letters Patent No. 766,976, dated August 9, 1904.

Application filed March 24, 1904. Serial No. 199,850. (No model.)

To all whom it may concern:

Be it known that I, FRANK P. SHEK, a citizen of the United States, residing in New York, borough of Brooklyn, in the State of New York, have invented certain new and useful Improvements in Supports for Hand-Drills, of which the following is a specification.

This invention relates to an improved support for hand-drills by which an ordinary breast-drill can be mounted on a support and used in different relative positions to the work to be performed, so that the efficiency and usefulness of the hand-drill is considerably enhanced and the same can be applied with great advantage to a variety of different applications and more especially for outside work; and the invention consists of a support for hand-drills which comprises a tubular pillar provided with a clamping-jaw at its lower end, an interior pillar also provided with a jaw and capable of adjustment in the main pillar, an exterior sleeve on the main pillar, horizontal supporting-rods guided in sleeves on said main sleeve and clamped to the same, and means for clamping said supporting-rods to said sleeve, one of said supporting-rods being attached to the drill-stock, while the other support is provided with means for clamping the upper threaded portion of the drill-stock for permitting the removal of the drill, with the supporting-rod attached to the same, for use as an ordinary breast-drill.

The invention consists, further, of certain additional details of construction by which the drill can be adjusted higher or lower on the tubular main pillar or farther away or closer to the same or in radial direction to the main pillar, as will be fully described herein-after and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of my improved support for hand-drills. Fig. 2 is a side elevation, partly in section, through the main pillar and the interior extensible pillar. Fig. 3 is a side elevation in the direction of the arrow 3 shown in Fig. 1, the support in these three figures being shown clamped to the work in which holes have to be drilled. Figs. 4 and 5 are side elevations of the support and the

drill, showing the latter detached from the support. Fig. 6 is a horizontal section on line 6 6, Fig. 1; and Figs. 7 and 8 are details of the clasp at the end of one of the horizontal rods of the support, said clasp being opened so as to permit the drill to be readily removed from the supporting-rods.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A' represents a hand-drill of that class which can also be used as a breast-drill, and A my improved support for the same. The support A is formed of three main pieces—a tubular main pillar B, an exterior sleeve B', guided on the main pillar, said sleeve being of shorter length than said main pillar, and an interior extension-tube B², which is capable of adjustment in the main pillar. The lower end of the main pillar is provided with a U-shaped jaw *b*, that is secured thereto by a lock-screw *c*, which passes through the pillar and enters at its inner end a longitudinal groove *c'* of the tube B², so that the latter is thereby guided and its rotation on the pillar prevented. At the upper end of the main pillar is a fixed interior collar *d*. The interior extension-tube B² is provided at its lower end with a U-shaped clamping-jaw *b'*, that is secured by a connecting-shank and rivet to the lower end of the extension-tube, while the upper end of said tube is provided with an interiorly-threaded stationary socket *e*, through which extends a screw-spindle E, that is provided with a handle E' at its upper end and a shoulder *e'*, that abuts against the collar *d* at the upper end of the main pillar B, so that on turning the handle of the screw-spindle E in one or the opposite direction it will move the extension-tube B² outwardly or inwardly into the main pillar and adjust thereby the relative position of the clamping-jaw at the lower end of the extension-tube to the clamping-jaw of the main pillar, according to the size of the work to which the drill-support is to be attached. A helical spring *e''*, arranged in the pillar between the collar *d* and socket *e*, assists to move the extension-tube outwardly.

The exterior sleeve B' is clamped to the main pillar B by thumb-screws *f*, applied to

shoulders a a' , respectively, at its ends. It is provided at diametrically opposite points with two longitudinal ribs or splines b^2 for guiding a sliding collar of a horizontal socket-sleeve b^3 , which is arranged at right angles with and sidewise of the collar and preferably made integral with the same, as shown in Figs. 1, 3, and 6. A similar socket-sleeve is carried by the upper shoulder a .

In the socket-sleeves that are arranged at right angles to the collar and shoulder on the main sleeve are supported drill-supporting rods g g' , of which the lower-rod g' is bent at right angles at its end into a flat angular piece g^2 , which is riveted to the drill-stock so as to be permanently connected therewith. The rods g and g' are secured in position in their sockets by thumb-screws f' of the latter. The upper supporting-rod g is provided at its end vertically above the angular end g^2 of the lower supporting-rod g' with a clasp, which consists of a stationary piece g^3 and a hinged piece g^4 , the latter being provided with a spring-actuated catch that engages a socket on one of the jaws of the stationary piece g^3 , said spring-catch projecting above the hinged piece so as to be readily withdrawn from the same by taking hold of the projecting portion of the catch by the finger, pushing it back against the tension of its spring, releasing the catch from the stationary portion g^3 , and then throwing the hinge portion g^4 into open position, as shown in dotted lines in Fig. 7, so as to permit the removal of the threaded upper portion h of the drill-stock from the clasp. The inner edge of the stationary piece g^3 and hinged piece g^4 of the clasp are tapped so as to correspond to the exterior screw-thread of the upper part h of the drill-stock and permit the turning of the latter in upward and downward direction in the same, the interior tap or screw-threads of the clasp acting in the nature of a nut on the threaded shank h of the drill-stock.

By adjusting the jaws of the main pillar B and extension-tube B^2 relatively to each other the support can be clamped to any piece of work whatever be its size within certain limits. When the clamping-jaws are adjusted to the work, the bit of the drill is placed in position over the hole to be bored, the adjustment of the drill being accomplished by adjusting the exterior sleeve B' on the main pillar and moving the supporting-rods g g' in their supporting-sockets forward or backward until the desired position of the drill-bit is obtained. The drill is then operated by its crank in the usual manner, so as to bore the hole. The drill can be adjusted higher or lower in any relative position to the upright pillar by means of the exterior sleeve and supporting-rods, the depth of the hole to be drilled being controlled by the forward motion of the threaded shank of the drill moving in the tapped opening formed by the clasp.

As the support can be clamped to the work in which the holes are to be drilled, it is specially adapted for outdoor work; but it can also be used with equal facility for boring holes indoors by clamping the support to the bench or other support.

In case it is desired to use the drill as a breast-drill without the support the clasp is opened in the manner described, so as to permit the upper portion or shank h of the drill to be removed, together with the clasp, while the thumb-screw of the lower supporting-rod is loosened and the latter withdrawn from its socket, the supporting-rod being used as a handle for the drill, while the knob at the upper end of the shank is placed against the breast and the operating-crank used in the usual manner in breast-drills.

The supporting-frame is preferably made of wrought-iron tubing, while the supporting-rods and the interior adjusting screw-spindle are made of solid steel. The parts of the support can be readily assembled or detached and the drill easily removed therefrom when it is desired to use it as a breast-drill.

My improved drill is capable of large application for outdoor and indoor work, as the support can be clamped to any size of work and holes be bored at any relative distance and position to the support by the drill.

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

1. A support for hand-drills, consisting of a tubular main pillar, a sleeve adjustable on said pillar, an interior extension-tube in said pillar, means for adjusting said extension-tube, clamping-jaws at one end of the main pillar and extension-tube, means for clamping the exterior sleeve to the main pillar, a shoulder and a collar provided each with a socket sidewise of and at right angles to the shoulder and collar respectively, drill-supporting rods guided in said sockets, and means for clamping said supporting-rods to said sockets, substantially as set forth.

2. A support for hand-drills, consisting of a tubular main pillar provided with a clamping-jaw at one end, an interior extension-tube also provided with a clamping-jaw adjacent to the clamping-jaw of the main pillar, means for adjusting said extension-tube in the pillar for setting the jaws at a suitable distance from each other, an exterior sleeve on the pillar, means for clamping said sleeve to the pillar, a shoulder on the sleeve provided with a socket, an adjustable collar on said exterior sleeve provided with a socket, supporting-rods for the drill, and clamping devices for clamping the supporting-rods when inserted into the sockets, substantially as set forth.

3. The combination of a tubular main pillar provided with a jaw at its lower end, an extension-tube in said main pillar also provided with a clamping-jaw at the end adjacent to the jaw

of the pillar, means for adjusting the extension-tube in said main pillar so as to adjust the jaws relatively to each other, an exterior main sleeve guided on the pillar, means for
5 clamping it thereto, a shoulder and a collar supported on said main sleeve and provided each with a socket sidewise of and at right angles to the shoulder and collar respectively, supporting-rods guided in said sockets, means
10 for clamping said supporting-rods to said sockets, a hand-drill attached to the angular end of the lower supporting-rod, and a clasp

on the upper rod provided with a screw-thread at its interior adapted to engage the threaded shank of the hand-drill, substantially as set forth. 15

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

FRANK P. SHEK.

Witnesses:

PAUL GOEPEL,
HENRY J. SUHRBIER.