(No Model.)

A. E. JOHNSON.

DRILL PRESS.

No. 458,581. Patented Sept. 1, 1891.

Fig. 3

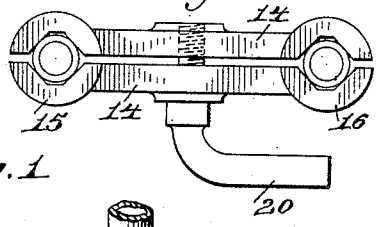


Fig. 1

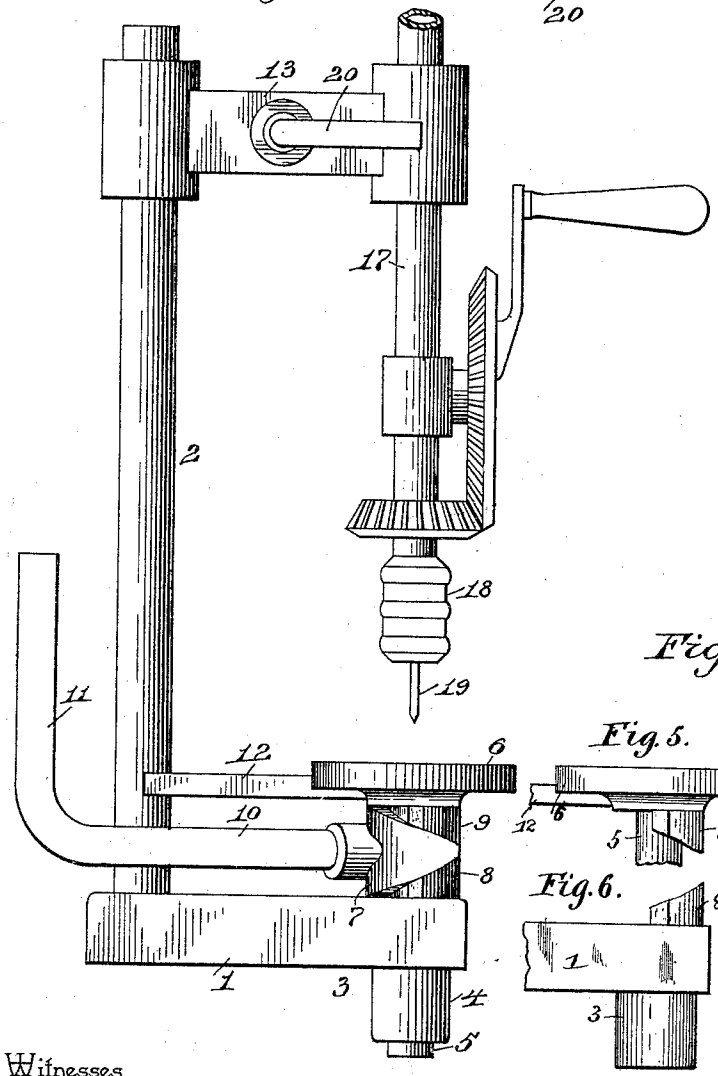


Fig. 2

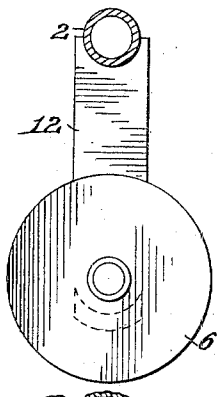


Fig. 4

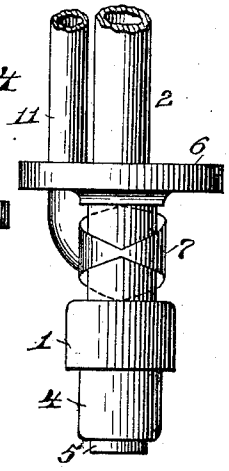


Fig. 5.

Fig. 6.

Witnesses

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UNITED STATES PATENT OFFICE.

ALFRED E. JOHNSON, OF CARSON CITY, NEVADA, ASSIGNOR OF ONE-HALF TO ALBERT N. CAMPBELL, OF SAME PLACE.

DRILL-PRESS.

SPECIFICATION forming part of Letters Patent No. 458,581, dated September 1, 1891.

Application filed February 24, 1891. Serial No. 382,557. (No model.)

To all whom it may concern:

Be it known that I, ALFRED E. JOHNSON, a citizen of the United States, residing at Carson City, in the county of Ormsby and State of Nevada, have invented a new and useful Drill-Press, of which the following is a specification.

This invention relates to that class of drilling-machines which are known as "drill-presses" and which are used principally for hand-drilling, and it has particular reference to the feeding mechanism embodied in the said machine.

The invention consists in the improved construction, arrangement, and combination of parts, which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a side elevation of a drilling-machine constructed in accordance with my invention. Fig. 2 is a horizontal sectional view taken on the line 2 2 in Fig. 1. Fig. 3 is a plan view showing the planting mechanism for holding the drill. Fig. 4 is a detail front elevation. Fig. 5 is a detail side view of the table. Fig. 6 is a detail side view of the base.

Like numerals of reference indicate like parts in all the figures.

1 designates the base of the machine, which may be secured to the bench or held in a vise, as may be desired. One end of said base is provided with an upright 2, and the other end of said base has a vertical perforation 3 and is provided on its under side with a downwardly-extending perforated box or bushing 4. The perforation 3, which extends through the box 4, forms a bearing for the spindle 5, carrying at its upper end the table 6, which serves to support the material that is to be drilled. The spindle 5 is fitted to slide freely through a spiral cam 7, which is provided with a double spiral thread or face, as will be clearly seen by reference to Figs. 1 and 4 of the drawings. The base 1 and the table 6 are provided, respectively, on their upper and under sides with segmental projections 8 and 9, adapted to be engaged by the spiral faces of the cam 7, which latter encircles the spindle 5. Said cam is provided with a laterally-extending handle 10, by means of which it may be partially rotated in a horizontal plane. A complete revolution of the said cam is prevented by the handle 10 abutting against the upright 2 at the rear end of the base. The outer end of the handle 10 is provided with an upwardly-extending crank 11 to facilitate the operation, as will be presently described. The table 6 is provided with a laterally-extending arm 12, having a bifurcated outer end, which engages the upright 2, as will be clearly seen in Fig. 2 of the drawings, thus preventing the said table from rotating. By this construction the said table is held securely during operation, and yet in such a manner that it may be readily raised or forced in an upward direction, while, when desired, it may be readily removed.

13 designates a clamp which is mounted adjustably upon the upper end of the upright 2. Said clamp consists of the side pieces 14 14, provided at their inner and outer ends with jaws 15 and 16, adapted to engage, respectively, the upright 2 and the stem 17 of the drill, which latter may be an ordinarily-constructed hand-drill having a chuck 18, in which the bit 19 may be mounted. The side pieces 14 of the clamp are connected by a tightening-screw 20, by means of which the several parts connected by said clamp may be held securely in any position to which they may be adjusted with relation to each other.

The operation of my invention will be readily understood. The material that is to be drilled is placed upon the table 6, and the drill is adjusted by means of the clamp 13 until the bit is nearly in contact therewith. The drill may now be operated by the right hand, while with his left hand the operator holds the material upon the table 6 and at the same time throws his left arm around the crank 11 of the handle 10 and partially rotates the cam 7, so as to engage the segmental projections 8 and 9, and thus forcing the table 6 in an upward direction and feeding the material supported thereon to the drill.

Having thus described my invention, what I claim is—

1. In a drill-press, the combination, with the base having an upright, of the vertically-movable spindle mounted on the base and having a table provided with a laterally-extend-

ing bifurcated arm engaging the said upright, whereby the table is prevented from rotating, but is allowed a vertical movement, and means for forcing said spindle and table in an upward direction, substantially as set forth.

2. In a drill-press, the combination of the base having an upright, a vertically-movable spindle carrying a table provided with a bifurcated arm engaging said upright, a cam journaled upon said spindle and having opposing spiral faces and a laterally-extending arm or handle, and segmental projections upon the base and table adapted to be engaged by said cam, substantially as set forth.

3. In a machine of the class described, the combination, with the base and the vertically-movable spindle having opposing segmental projections, of the cam having opposite spiral projections and provided with a laterally-extending handle having an upwardly-extending crank, and the upright supporting the drill and located in the path of said handle, substantially as set forth.

4. In a drill-press, the combination of the base, the vertically-movable spindle carrying a table at its upper end, mechanism for moving or feeding the said table and spindle in an upward direction, the upright, the clamp mounted adjustably at the upper end of the latter, the drill mounted adjustably in said clamp, and a bifurcated arm extending laterally from the supporting-table and engaging the upright, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

ALFRED E. JOHNSON.

Witnesses:
R. L. HORTON,
CHR. METTELDORFER.