No. 789,703. PATENTED MAY 16, 1905.

T. E. ADAMS.

ATTACHMENT FOR DRILLS.

APPLICATION FILED FEB. 6, 1904.

2 SHEETS—SHEET 1.

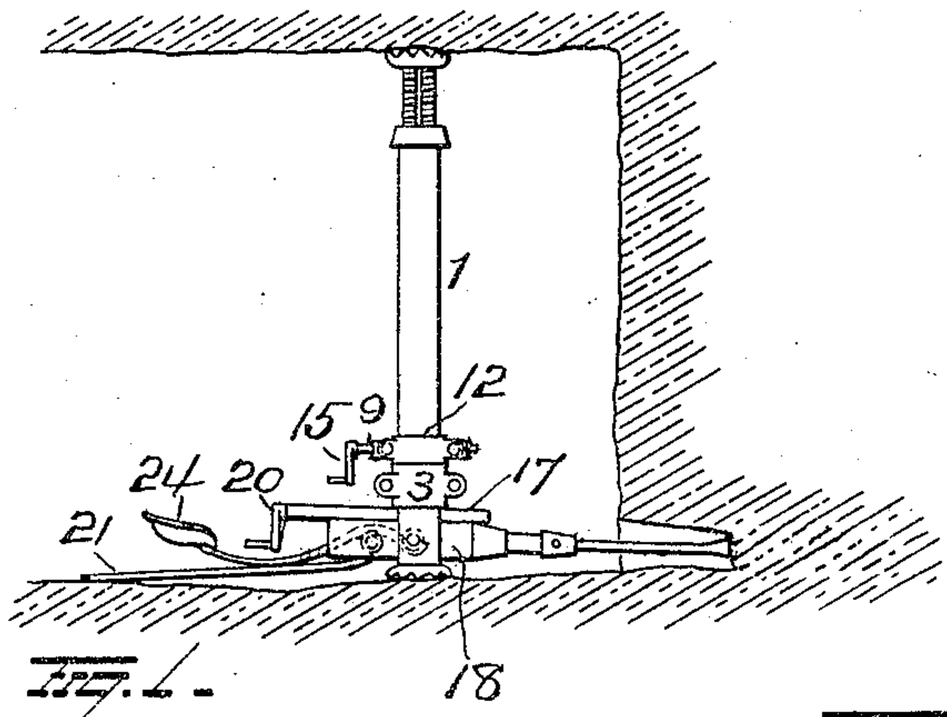


FIG. 1.

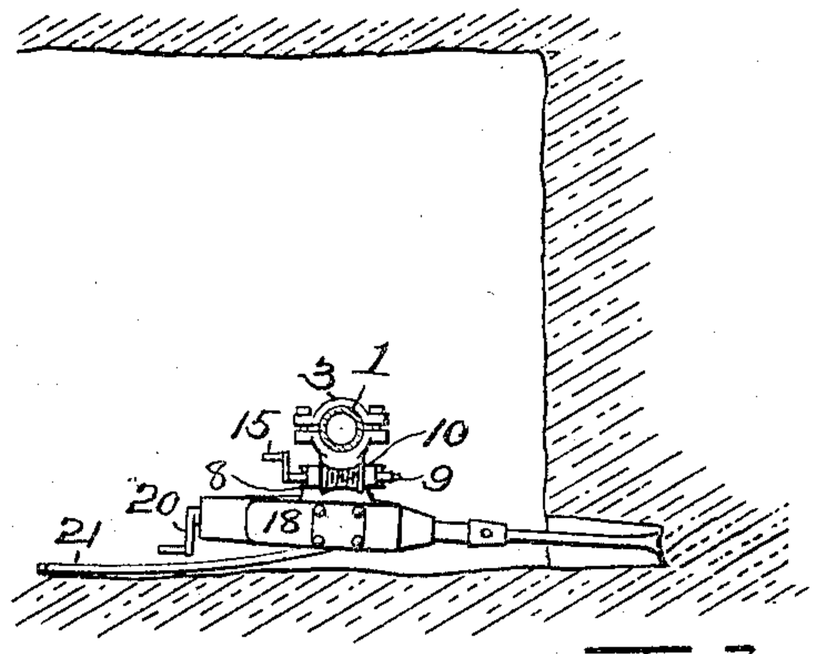


FIG. 2.

FIG. 3.

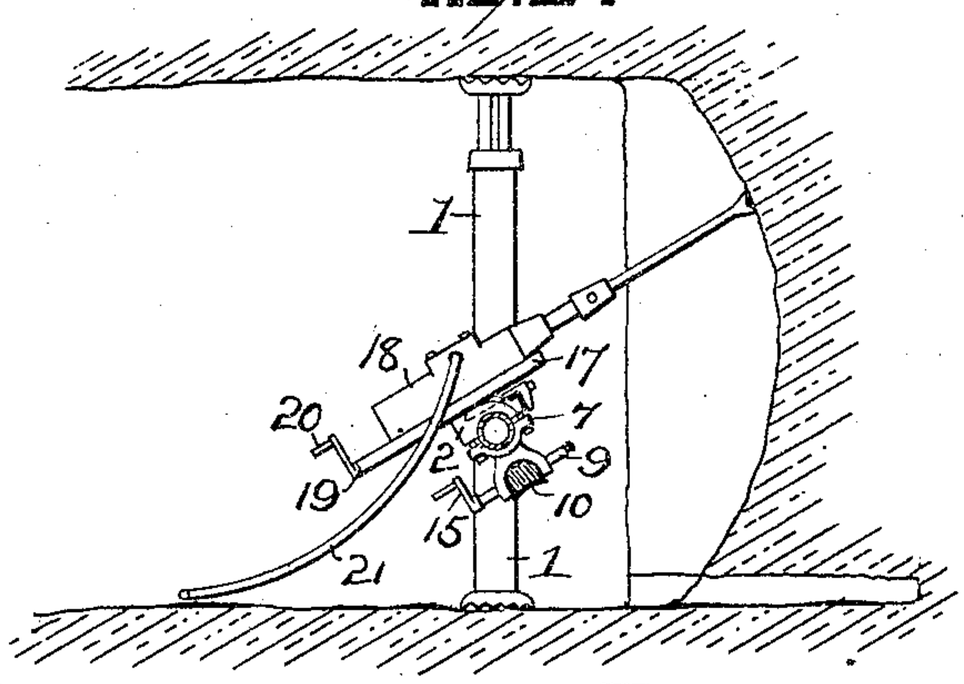
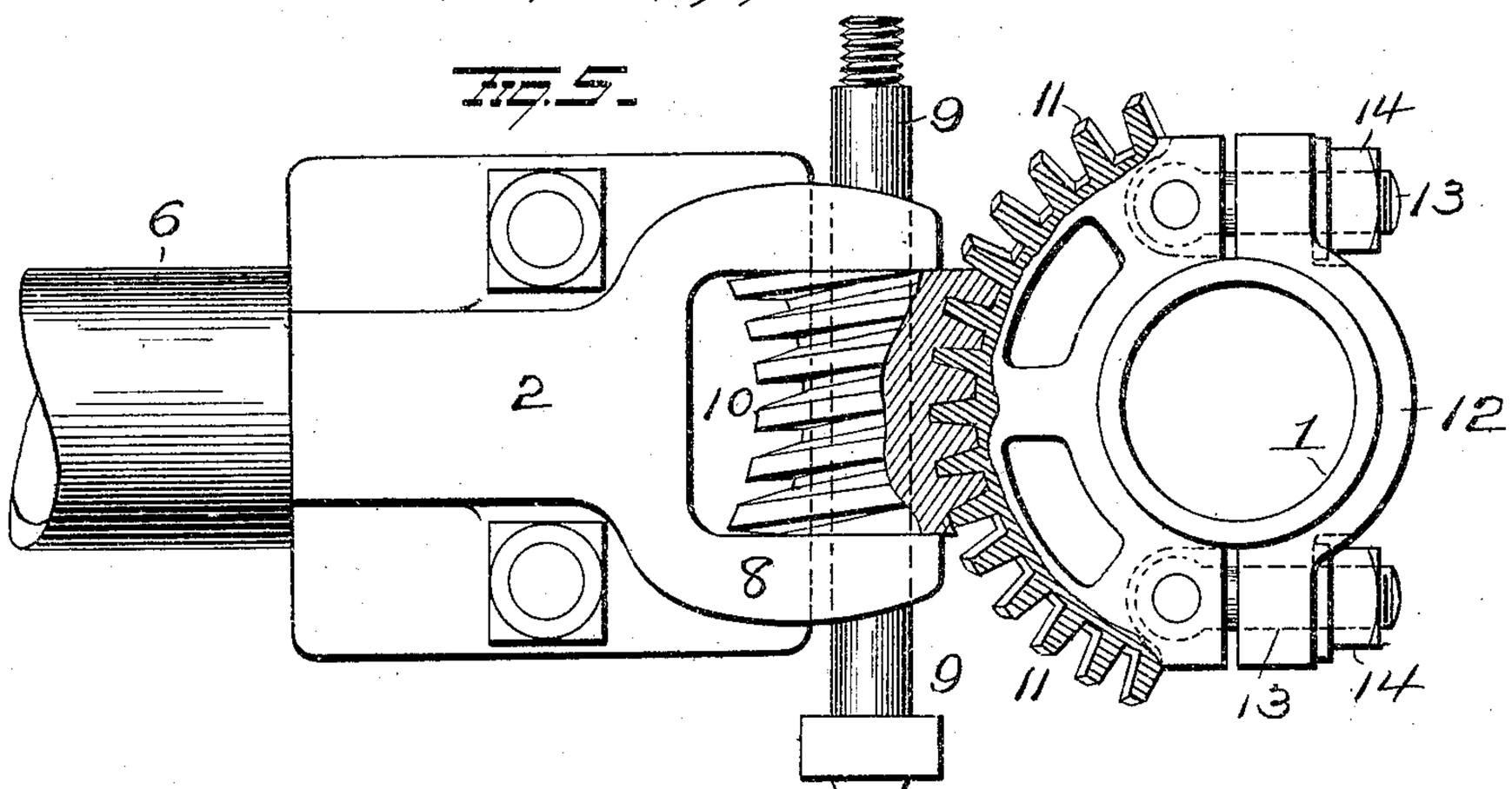


FIG. 5.



WITNESSES

E. J. Whitehead

G. F. Downing

INVENTOR

T. E. Adams

By H. A. Seymour

Attorney

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2 SHEETS—SHEET 2.

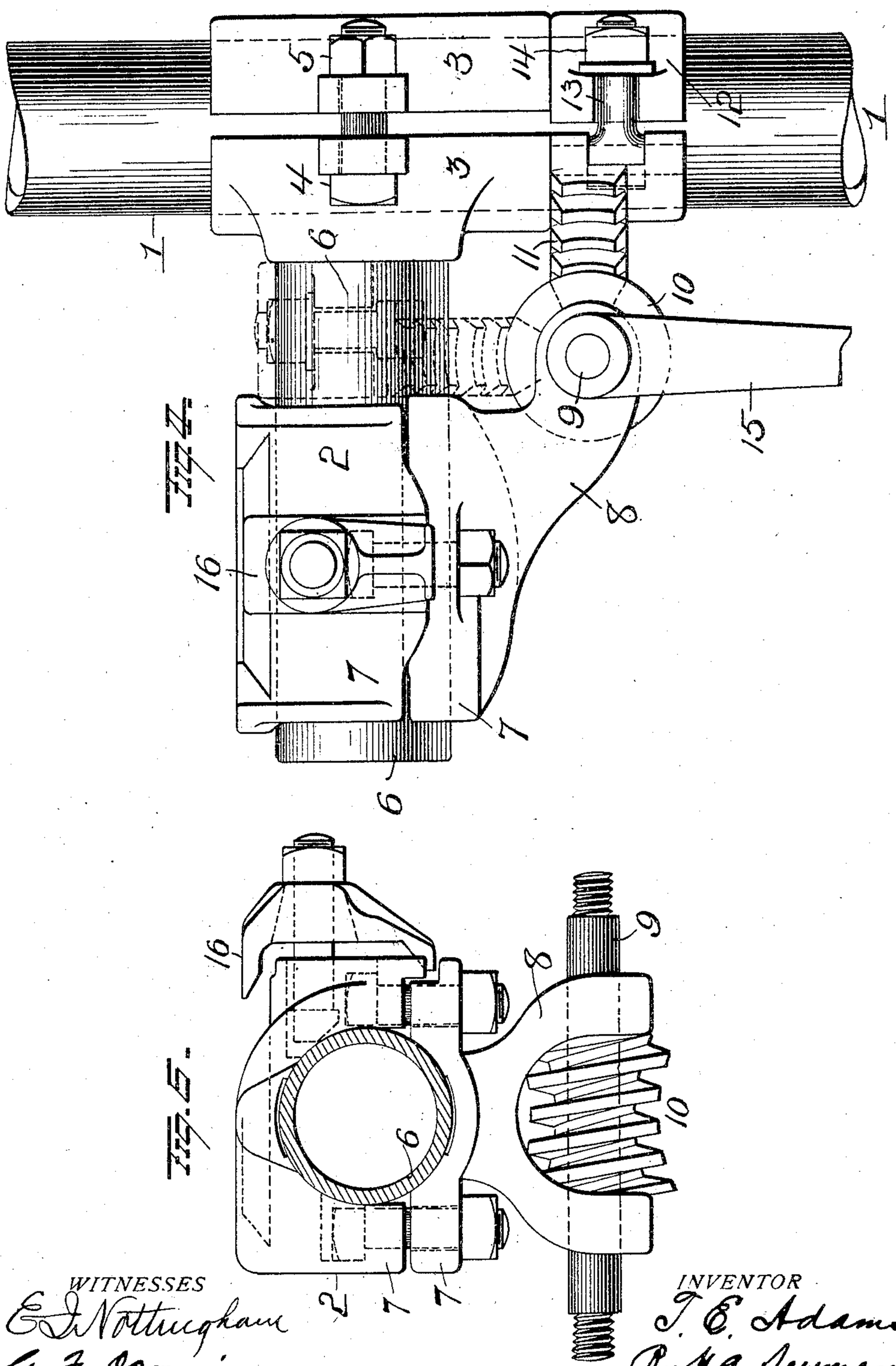

FIG. 1.

FIG. 5.

WITNESSES

E. L. Nottingham

G. F. Downing.

INVENTOR

T. E. Adams

By H. A. Seymour

Attorney

No. 789,703. Patented May 16, 1905.

UNITED STATES PATENT OFFICE.

THOMAS EDGAR ADAMS, OF CLEVELAND, OHIO, ASSIGNOR TO THE ADAMS DRILL COMPANY, OF CLEVELAND, OHIO, A CORPORATION OF OHIO.

ATTACHMENT FOR DRILLS.

SPECIFICATION forming part of Letters Patent No. 789,703, dated May 16, 1905.

Application filed February 6, 1904. Serial No. 192,407.

To all whom it may concern:

Be it known that I, THOMAS EDGAR ADAMS, a resident of Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Attachments for Drills; 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.

My invention relates to an improved attachment for drills, the object of the invention being to provide an attachment which will enable the employment of any well-known form of drill to permit it to do vertical and horizontal cutting as well as straight boring.

With this object in view the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in elevation illustrating my improvements in operation. Fig. 2 is a view showing the drill in plan and the column in section. Fig. 3 is a view showing the drill in elevation and adapted to make a slicing cut. Fig. 4 is a side elevation of the attachment. Fig. 5 is a view at right angles to Fig. 4. Fig. 6 is an end view with the column in section.

1 represents a column of ordinary construction, and 2 my improved attachment thereon. The attachment has a split sleeve 3, loosely secured to turn on the column 1 by means of bolts 4 and nuts 5. This sleeve 3 has a tubular arm 6 extending at right angles thereto and on which another split sleeve, 7, is securely clamped, and said sleeve 7 has a forked bracket 8, in which a shaft 9 is mounted, and a worm 10 is secured on said shaft between the arms of the bracket. The worm 10 meshes with a segmental gear 11 on a split collar 12, which is shown rigidly clamped to column 1 by means of bolts 13 and nuts 14 and may also be clamped on arm 6, as will more fully hereinafter appear, and a crank-arm 15 is secured on one end of shaft 9 to permit ready turning of worm 10 and the consequent swinging adjustment of sleeve 3 on column 1. Sleeve 7 has a clamp 16 to secure a drill-guide 17 thereto, and any approved form of drill 18 may be mounted in said guide and fed forward by a shaft 19, on which an operating-crank 20 is secured, as shown. The drill is preferably of that class operated by electricity or compressed air, and 21 illustrates a tube for conveying compressed air to the drill.

The operation of my improvements is as follows: With the parts shown in Figs. 1 and 2 the segment 11 is above sleeve 3 on column 1 and bracket 8 is turned upward above arm 6, locating the drill lower down and enables the operator to make a horizontal cut very low. By providing the seat the operator rides with the drill and is always in convenient position to control the operation thereof, for with his left hand controlling the operation of crank 15 and worm 10 and his right hand controlling the operation of crank 20 and the forward feed of the drill the entire mechanism can be conveniently operated and is a vast improvement over the old way, which compels the operator to scramble around on his knees to follow the drill.

In Fig. 3 the column 1 is shown in a vertical position and the drill supported for vertical cutting. When in this position, split collar 12 is clamped on arm 6 and sleeve 3 is securely clamped on column 1, while sleeve 7 is loose on the arm 6, compelling the sleeve 7 to turn on arm 6 when worm 10 is operated, and thereby compelling the drill to swing vertically to accomplish its vertical cut. When the sleeve 7 is loose on the arm 6, the weight of the parts will prevent its displacement therefrom, or, if desired, any suitable means may be provided to prevent the sleeve 7 from slipping off the arm 6.

It will be seen that with my improved attachment almost any preferred form of drill may be employed and that the operation of straight drilling or horizontal or vertical cutting or slicing can be accomplished at any point on either side or above or below the arm.

A great many slight changes might be made in the general form and arrangement of

the parts described without departing from my invention, and hence I do not restrict myself to the precise details set forth, but consider myself at liberty to make such slight changes and alterations as fairly fall within the spirit and scope of my invention.

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

1. A drill attachment, comprising a sleeve to be mounted on a column, an arm projecting at right angles to said sleeve, a drill-support on said arm, a bracket on said drill-support, a worm mounted in said bracket, a segmental gear and a clamp for attaching said gear to either the column or arm and in mesh with the worm.

2. A drill attachment, comprising a sleeve to be mounted on a column, a tubular arm projecting at right angles to the sleeve, a sleeve on said arm, a drill-guide clamp on said last-mentioned sleeve, a bracket on said last-mentioned sleeve, a worm in said bracket, a crank-arm to turn the worm, a segmental gear and a clamp for attaching said gear to either the column or arm and in mesh with said worm.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

THOMAS EDGAR ADAMS.

Witnesses:

JOHN R. ORPUTT,

R. H. CRAFT.