

C. A. TUNKS.
BORING TOOL.
APPLICATION FILED MAR. 2, 1911.

994,430.

Patented June 6, 1911

FIG. I.

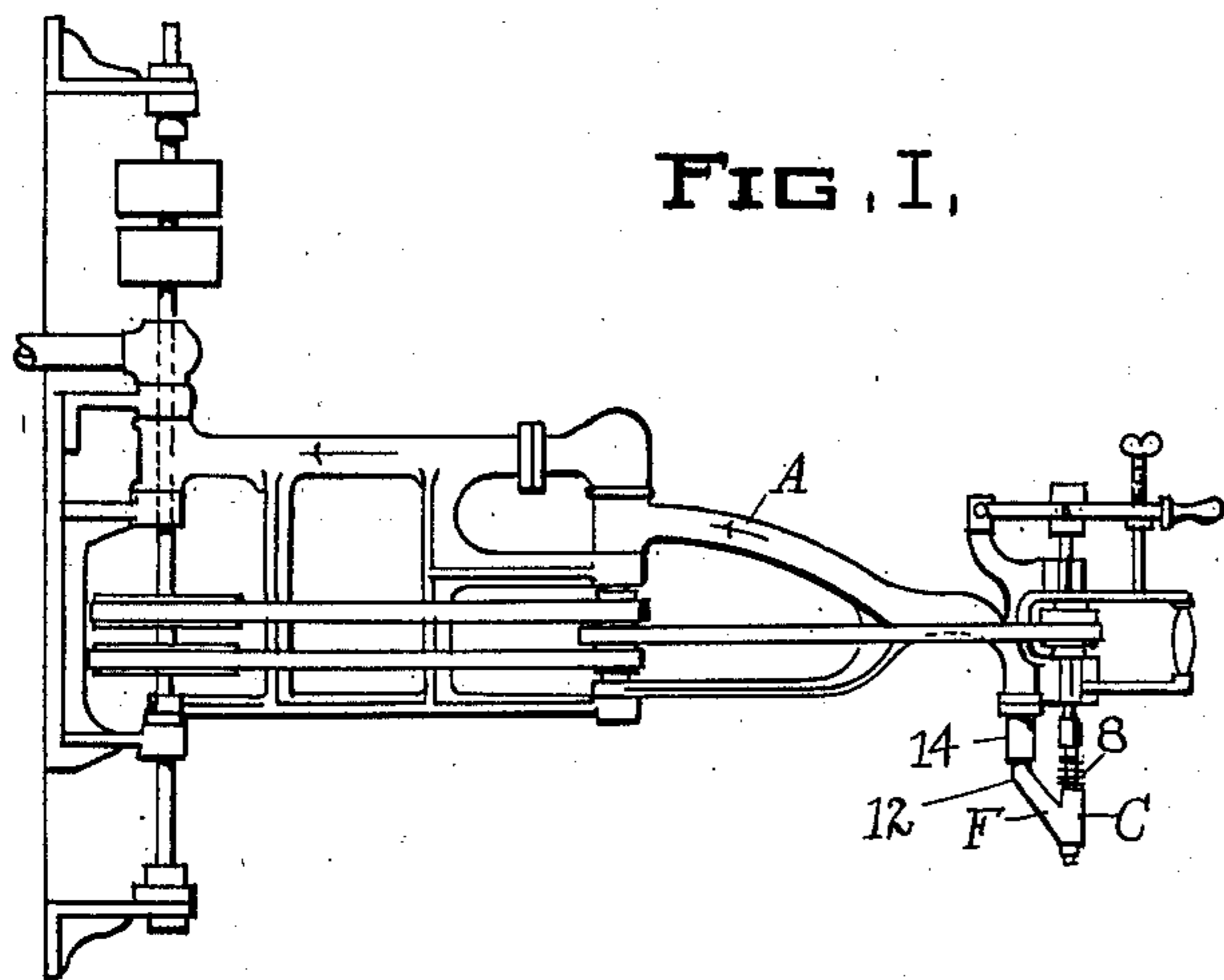


FIG. 2.

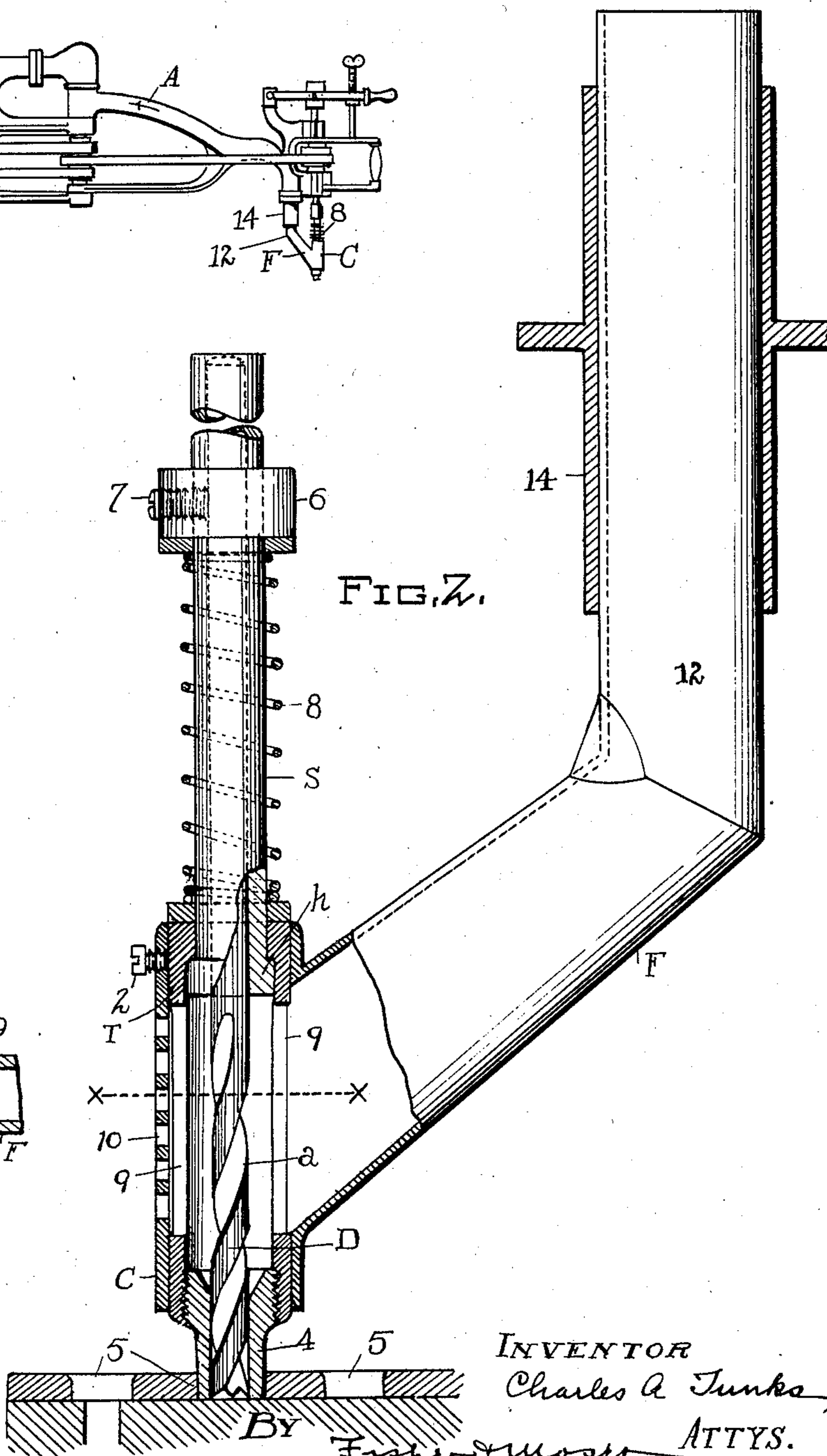
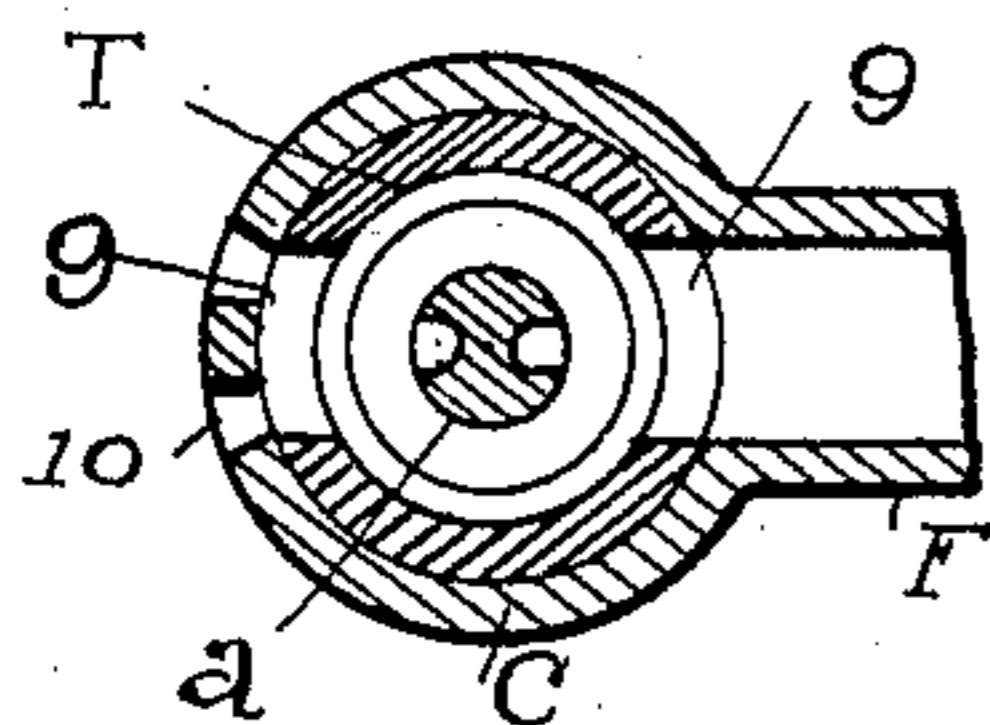


FIG. 3.



ATTEST
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BORING-TOOL.

994,430.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES A. TUNKS, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Boring-Tools, of which the following is a specification.

My invention has reference to a boring tool adapted among other things to bore holes for tuning pins in pianos, and the invention consists in the construction and combination of parts substantially as shown and described and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a support for a tool of this kind and showing the said tool therein, and Fig. 2 is a side elevation of the tool and its immediate connections considerably enlarged over Fig. 1 and embodying the present invention. Fig. 3 is a cross section on line $x-x$, Fig. 2.

Respecting the mechanism shown in Fig. 1, it will be understood that it is presented here more particularly for the purpose of showing one of possibly several working relations or machines in or with which my invention is adapted to be used, this particular construction comprising a horizontally rotatable tubular arm A in or upon which my tool is detachably mounted and wherein means are provided for operating and handling the tool as will be understood by those who have a working knowledge of this art.

The tool proper is a boring instrument or auger a and the mountings therefor are shown in elevation and partially sectioned in Fig. 2 and comprise a sleeve S with a bore of the size of the tool and provided with a head h at its lower end. T represents a tube which is engaged over said head and otherwise extends bodily beneath said sleeve and is fixed by screw 2 or any other suitable means in the tubular housing or casing C. The said casing is shown herein as a substantially tubular head on the draft or suction flue or passage F through which the cuttings by a tool a are drawn off. Any suitable suction or blower devices or the like may be employed and the said channel passes through arm A as shown herein. The inner tube T has a centering point 4 removably mounted in its lower end and which has a bore of the size of the tool and is tapered on its outside and adapted in this in-

stance to enter one of the series of holes 5 in the centering plate P. In this relation of parts the casing C and flue F are stationary, as is also the inner tube T, but the tool a and its supporting sleeve are slidable axially and the tool is fixed in the said sleeve by collar 6 and set screw 7 therein. Spiral spring 8 is arranged about sleeve S between the tube T and collar 6 and serves to lift and hold the tool out of working position. The tube T has opposite slots 9 lengthwise of a size adapted to pass out the cuttings raised by the tool and these slots are exposed to the suction or forced draft through flue F and the air inlet holes 10 in the casing C, so that the cuttings or chips are drawn away as rapidly as produced.

Obviously the tool is adapted to be supported and rotated in and by the machine in which it is fixed for this purpose and to be depressed more or less while at work, the means for this purpose being of any well known kind and such for example as shown in Fig. 1 but which is no part of this invention and therefore need not be more particularly described. Sleeve S and said tool work together, and in a sense the entire casing C with its centering point 4 constitutes a guide and support for the tool.

It will be noticed that the cuttings by the tool are carried up above the centering point 4 before they are discharged by the tool and the suction takes place from the same level.

What I claim is:

1. A device adapted to bore holes in wood and to carry away the cuttings, the same consisting in a fixed tubular casing and a suction channel open thereto, in combination with a boring device comprising a tube fixed in said casing having openings between its ends and a centering point for the tool therein, and a boring tool operatively mounted in said tube, whereby the cuttings are drawn away from the tool as they are raised to clearing position.

2. Means to bore holes in wood comprising a fixed tubular casing, a suction passage open thereto and said casing having air inlet openings in its side, in combination with a boring tool slidably mounted in said casing, a centering point removably supported at the end of said casing having a bore the size of the tool and a spring to lift the tool out of working position.

3. The device described adapted to bore

small holes in wood, comprising a tubular
case having openings in its side to admit
and exhaust air respectively and a centering
point in its bottom, a tube fixed in said cas-
5 ing with openings in its sides, a cutting tool
and a sleeve supporting the same slidably
mounted in said tube.

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

CHARLES A. TUNKS.

Witnesses:

F. C. MUSSUN,
H. S. FISHER.