

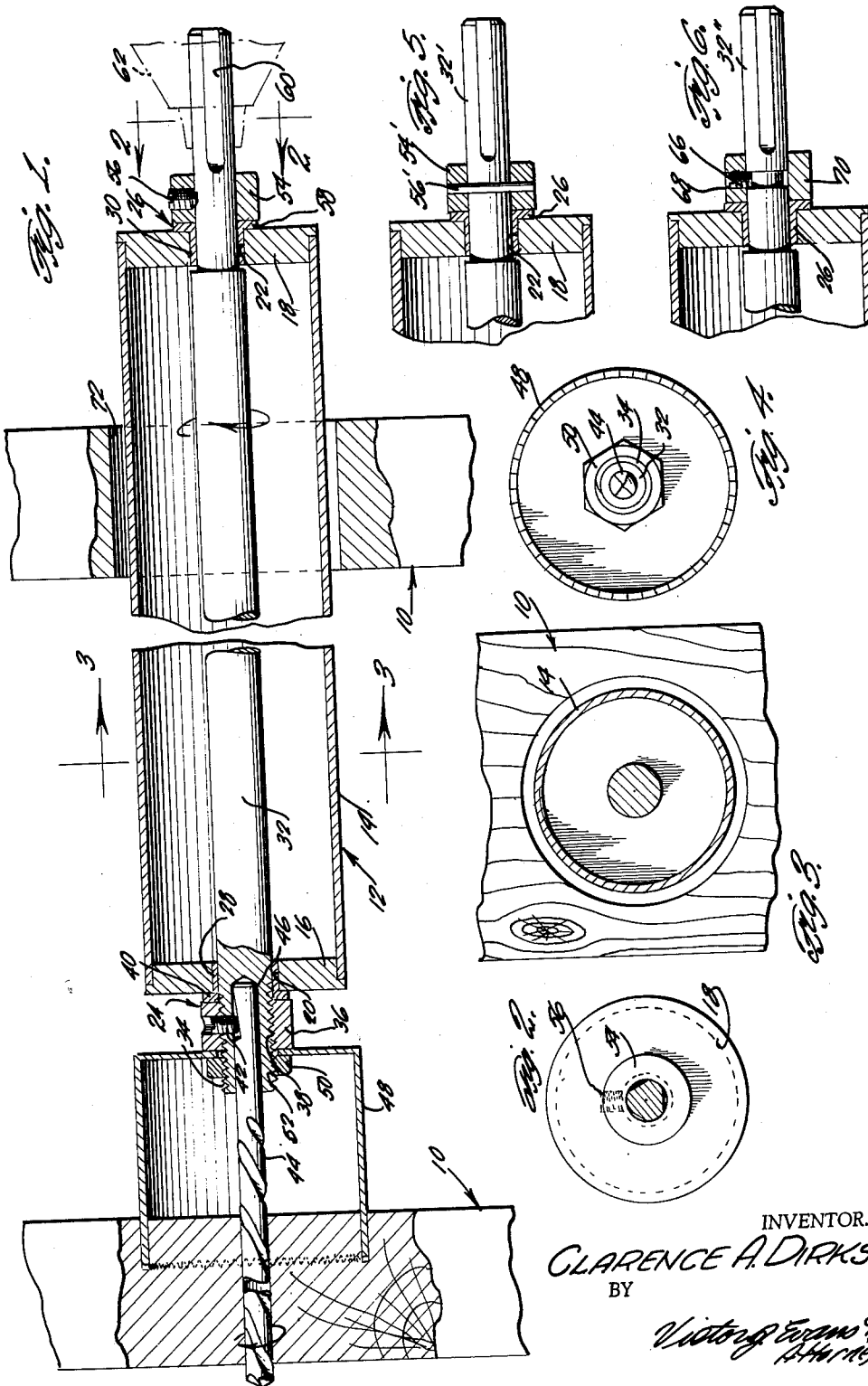
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BORING TOOL

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BORING TOOL

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The present invention relates to a boring tool for use by electricians, carpenters, and the like.

In the installation of electrical conduit or cable, a savings in material may be made if the studs and joists of a residence or other building are provided with aligned holes for receiving the cable or conduit. Presently in use are drilling bits employed with or without jacks for drilling a single joist or stud at a time. It has been found that when a single joist is drilled and then the next joist to it is drilled, the conduit or cable when received through such holes provided is looped and is of a greater length than is necessary because of the mis-alignment of the holes when so drilled.

An object of the present invention is to provide a boring tool by means of which an electrician or other artisan may drill through several studs or joists at one operation so that a series of holes may be provided all in alignment.

Another object of the present invention is to provide a boring tool which may be manufactured in any length desired for the purpose of boring through several studs and joists, one which may be manufactured in quantity at reasonable cost, and one which is highly effective in action.

These and other objects and advantages of the present invention will be fully apparent from the following description when taken in connection with the annexed drawing, in which:

FIGURE 1 is a view in section of the tool of the present invention showing it in a condition of use cutting holes through studs, portions of the tool being broken away,

FIGURE 2 is a view taken on the line 2—2 of FIGURE 1,

FIGURE 3 is a view taken on the line 3—3 of FIGURE 1,

FIGURE 4 is an end view,

FIGURE 5 is a fragmentary view in section showing a modified form of the invention, and

FIGURE 6 is a fragmentary view in section showing still a further modification of the invention.

Referring in greater detail to the drawing in which like numerals indicate like parts throughout the several views, in FIGURE 1 the reference numeral 10 designates a pair of vertically disposed studs fabricated of wood and of conventional building construction. The invention is designated generally by the reference numeral 12 and it consists in an open ended tube 14 having a closure element 16 seated in one end and another closure element 18 seated in the other end.

Holes 20 and 22 are provided in the closure elements 16 and 18, respectively, and bearing members 24 and 26 have their reduced portions 28 and 30, respectively, seated in the holes 20 and 22, respectively.

A shaft 32 is journaled in the bearing members 24 and 26 and has a threaded portion 34 adjacent one end exteriorly of the closure member 16.

A collar 36, provided with internal threads 38, is threadably engaged upon the portion 34 of the shaft 32 and has one end bearing against the enlarged portion 40 of the adjacent bearing member 24.

A set screw 42 removably secures one end portion of a drill bit 44 in a bore 46 provided in the shaft portion 34, the bore 46 extending inwardly from the adjacent end of the shaft 32 and terminating at a point contiguous to the bearing member 28.

A tubular saw blade 48 having a hub 50, is detachably

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secured to the shaft 32. The hub 50 has internal threads 52 threadably engaging the threaded portion 34 of the shaft 32.

Another collar 54 is secured by a set screw 56 adjacent the other end of the shaft 32, the collar 54 having one end bearing against the enlarged flange portion 58 of the adjacent bearing member 26.

Means, as at 60 in FIGURE 1, is provided on the portion of the shaft 32 adjacent the collar 54 for attachment thereto of the chuck 62, shown in dotted lines, or other rotary power source.

In the form of the invention shown in FIGURE 5, there is a collar 54' secured to the shaft 32' by means of a pin 56'.

One end of the collar 54 bears against the adjacent bearing member 26 and the bearing member 26 is seated in the holes 22 provided in the adjacent closure element 18.

In the form of the invention shown in FIGURE 6, the shaft 32'' is provided with an annular groove 64 which receives one end portion of a set screw 66 threaded in a bore 68 provided in another collar 70. One face of the collar 70 bears against the adjacent face of the bearing member 26.

In use, the shaft 32 has the one end portion received and secured in either the chuck 62 or another power source and the first stud 10 is drilled by the saw blade 48 to provide a first guide hole 72. This first stud is either a jam of a doorway or an end stud in a building wall.

A feature of the invention is that the diameter of the saw blade 48 is greater than the diameter of the tube 14 so that as the blade 48 cuts into the other studs 10 the tube 14 is supported loosely within the holes 72 as each stud is drilled and the tool is pushed forward.

The length of the tube 14 may be varied to suit any working condition and other means than the power drill may be employed to effect rotation of the shaft 32 with the guide bit 44 on one end serving as a pilot for the tubular saw blade 48.

The tool of the present invention may be employed to cut aligned holes through a floor and the ceiling below, through an eave and the roof, and through multiple partitions or the like.

Various sizes of tubes 14 may be employed. To remove and replace the tube 14 it is only necessary to loosen and remove the collar 54.

While only preferred embodiments of the present invention are shown and described, other embodiments are contemplated and numerous changes and modifications may be made in the invention without departing from the spirit thereof as set forth in the appended claims.

What is claimed is:

1. In a boring tool, an open ended tube, a closure element secured in each end of said tube, there being a hole in each of said closure elements, a bearing member seated in each hole, a rotatable shaft journaled in said bearing members and having a portion adjacent each end projecting beyond the adjacent closure element, a collar on each end portion of said shaft bearing against the adjacent bearing member and each being removably secured to said shaft, the portion of said shaft adjacent one end being provided with external threads and with a bore extending inwardly of said shaft one end and terminating at a point contiguous to the adjacent bearing member, a drill bit having the portion adjacent one end seated in said bore, and a tubular saw blade having a hub provided with internal threads disposed with the hub threadably engaged on said shaft threaded portion and bearing against the adjacent collar.

2. In a boring tool, an open ended tube, a closure element secured in each end of said tube, there being a hole

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in each of said closure elements, a bearing member seated in each hole, a rotatable shaft journaled in said bearing members and having a portion adjacent each end projecting beyond the adjacent closure element, a collar on each end portion of said shaft bearing against the adjacent bearing member and each being removably secured to said shaft, the portion of said shaft adjacent one end being provided with external threads and with a bore extending inwardly of said shaft one end and terminating at a point contiguous to the adjacent bearing member, a drill bit having the portion adjacent one end seated in said bore, a tubular saw blade having a hub provided with in-

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ternal threads disposed with the hub threadably engaged on said shaft threaded portion and bearing against the adjacent collar, and means on the other end portion of said shaft for attachment to a rotary power source.

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