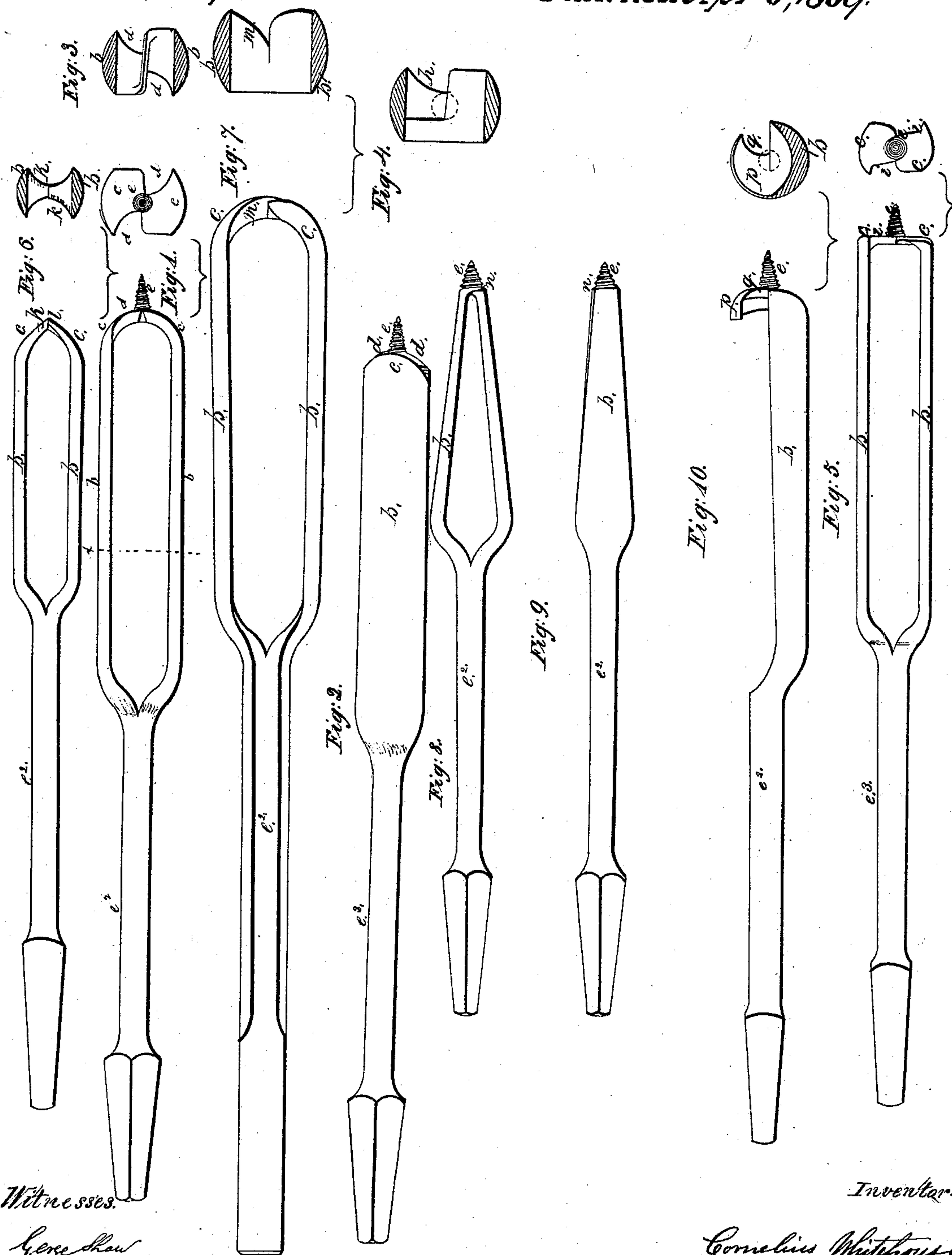


N^o 88,760.



Witnesses.

George Shaw
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Inventor:

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Letters Patent No. 88,760, dated April 6, 1869.

IMPROVEMENT IN BITS AND AUGERS.

The Schedule referred to in these Letters Patent and making part of the same.

To all to whom these presents shall come:

Be it known that I, CORNELIUS WHITEHOUSE, of Bridgtown-near-Cannock, in the county of Stafford, England, edge-tool and auger-maker, a subject of the Queen of Great Britain, have invented or discovered new and useful "Improvements in Boring-Bits and Augers;" and I, the said CORNELIUS WHITEHOUSE, do hereby declare the nature of the said invention, and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement thereof.

The nature of my improvement consists in boring-bits and augers, so constructed that their barrels consist of a forked frame, open on opposite sides, the nose-end being provided with a helical, or inclined blade, or blades, or cutting-edge, or edges, and the two sides, or limbs constituting the frame, united at the shank-end, to form a tang for connecting with the handle; and in such a modification thereof as will admit, in certain cases, of one limb, or fork being dispensed with, but retaining the cutting-parts, in connection with the remaining limb and tang.

Bits or augers, constructed according to my invention, may be made without a central worm, or point. The nose, or acting-end of the bit, or auger may be flat, or convex, or pointed.

The blades, or cutting-edges of the bits, or augers, may be made on two opposite sides of the nose, or on one side only. When the nose of the bit, or auger is pointed and without a worm, each side of the pointed blade is made into a cutting-edge.

The inner sides of the rectangular frame of the bit, or auger are preferably made flat, and the outer sides convex.

In using a boring-bit, or auger constructed according to my invention, the wood, or material cut or bored out, enters the fork, or frame of the tool, and thereby prevents the said cut-out parts from offering any resistance to the action of the tool.

Instead of making the fork, or frame of the boring-bit, or auger with parallel sides, the said bit, or auger may be made with taper sides, the taper fork, or frame being widest at its junction with the stem, or tang, and, instead of employing the two sides of the fork, or frame, one side only may be used.

Boring-bits and augers constructed according to my invention are less costly, and more durable, and more easily manufactured than boring-bits and augers of the ordinary construction.

Having explained the nature of my invention, I will proceed to describe the same, with reference to the accompanying drawings.

Figures 1 and 2 represent side elevations, taken at right angles to one another, and an end elevation of a boring-bit, or auger, made according to one form of my invention; and

Figure 3 is a cross-section of the same, taken through the line *x*, fig. 1.

The body of the boring-bit, or auger consists of a rectangular frame, *b*, open on opposite sides. This frame I will hereinafter call the barrel.

On the bottom, or nose-end *c*, of the barrel *b*, are two helical blades, or cutting-edges *d d*, and at the centre of the said nose-end is a worm, *e*.

The blades, or cutting-edges *d d*, are made on opposite sides of the nose-end *c* of the barrel *b* of the boring-bit, or auger, as seen in figs. 1 and 2, the said blades, or cutting-edges starting from or being continuations of the thread of the central worm *e*.

The opposite end of the barrel *b* to that at which the blades, or cutting-edges *d d* are situated, is a stem, or tang, *e'*, to be fitted to the handle of the bit or auger.

The inner sides of the barrel *b* are flat, and the outer sides are convex, as seen in fig. 3.

In using the boring-bit, or auger, the central worm *e* is first driven into the wood, or material to be bored, and, when the said worm has been driven home, the helical cutting-edges *d d* commence to act, and cut, or bore a circular hole, the wood or material cut, or bored out entering the fork, or hollow barrel *b*, and thereby preventing any resistance to, or impeding the action of the tool.

The rectilinear sides of the auger, as it penetrates into the material acted upon, furnish a steady and effective guide to the cutters, so that the hole formed is more smooth and true than it can be made by means of the ordinary auger in common use.

The said tool makes a clear cut as it leaves the material operated upon, instead of a jagged, or splintered edge, as when using boring-bits, or augers of the ordinary kind, and extracts all the chips.

I will now proceed to describe various modifications in form of my improved bits, or augers, represented in the accompanying drawings.

Figure 4 represents in cross-section the nose or acting-end of the barrel of a boring-bit, or auger, constructed according to my invention, having one helical cutting-blade, or edge, marked *h*, the said blade being made on one side only of the nose-end of the barrel.

Figure 5 represents, in side elevation and end elevation, a boring-bit, or auger, made according to my invention, having a flat nose, *c*, with two cutting-edges.

The cutting-edges are marked *i i*, and form a continuation of the thread of the central worm *e*.

Figure 6 represents, in elevation and cross-section, a boring-bit, or auger, made according to my invention, in which the nose-end *c*, of the barrel *b*, is pointed and without a worm.

In this form the two opposite sides of the pointed nose-end are made into cutting-edges, marked *k k*.

The apex of the nose of this boring-bit, or auger is provided with a leading-point, marked *l*, that is, one of the cutting-edges *k* projects over the other at the apex of the nose, as seen in the side elevation of fig. 6.

Figure 7 represents, in side elevation and cross-section, a boring-bit, or auger, made according to my invention, provided with a convex nose, and without a central worm, or leading-point.

The nose-end *c* of this boring-bit, or auger has a helical cutting-edge, *m*, on one side only.

This form is particularly suited to be used in boring-machines.

Figures 8 and 9 represent side elevations, taken at right angles to one another, of a boring-bit, or auger for boring taper-holes, made according to my invention.

In this form of my invention, the barrel *b* is made of a taper figure, the nose-end of the said taper-barrel having a central worm, *e*, and a helical blade or cutting-edge, *n*, the said blade, or cutting-edge *n*, forming a continuation of the thread of the worm *e*.

This boring-bit, or auger may be made without a worm, or point, in which case the bit, or auger will cut on one edge only.

Figure 10 represents, in side elevation and end elevation, another form of my invention, in which one side only of the forked frame, or barrel is used.

In this form of my invention, the cutting-blade, or edge *q* is made on the inner side of the projecting nose-piece *p*, and the worm *e* is situated at the centre of the said nose-piece *p*.

The nose-piece *p* may be made flat, instead of convex. I prefer to make the inner side of the half barrel *b* concave, as represented in the cross-section, but it may be made flat, as in the barrels of the boring-bits, or augers already described.

In the several forms of my invention in which a central worm is employed, a central bit or a plain point may be substituted therefor, with nearly the same effect.

With regard to the single-shank auger, I am aware that augers have been long in use, constructed in all respects, save the lip, or cutting-edge, similar to mine; but these I do not claim.

What I claim as my invention, and desire to secure by Letters Patent, is—

A boring-bit, or auger, having a hollow, or open barrel, formed of a forked frame, or rectilinear limbs, united at the tang, and provided with a helical blade, or blades, or other cutting-edge, or edges, either with or without a central worm, or leading-point, substantially as herein set forth.

I also claim a boring-bit, or auger, formed, as within described, when the barrel thereof consists of a single bar, or member, *b*, of the frame, and is provided with a square, or helical blade, or cutting-edge at the nose, and either with or without a central worm, or point, substantially as shown and described.

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