W. A. Clark,

Hollow Auger.

No. 86,304. Patented Feb. 2. 1869.

Fig. 1.

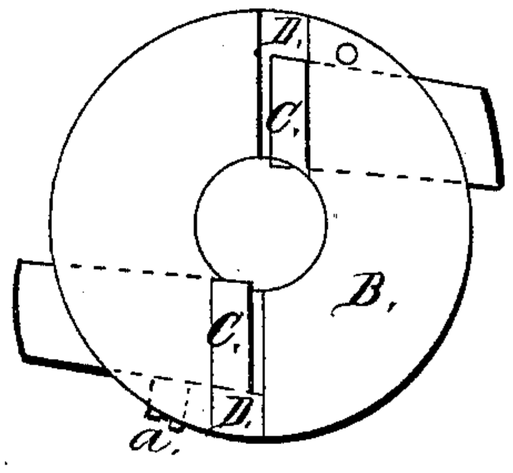
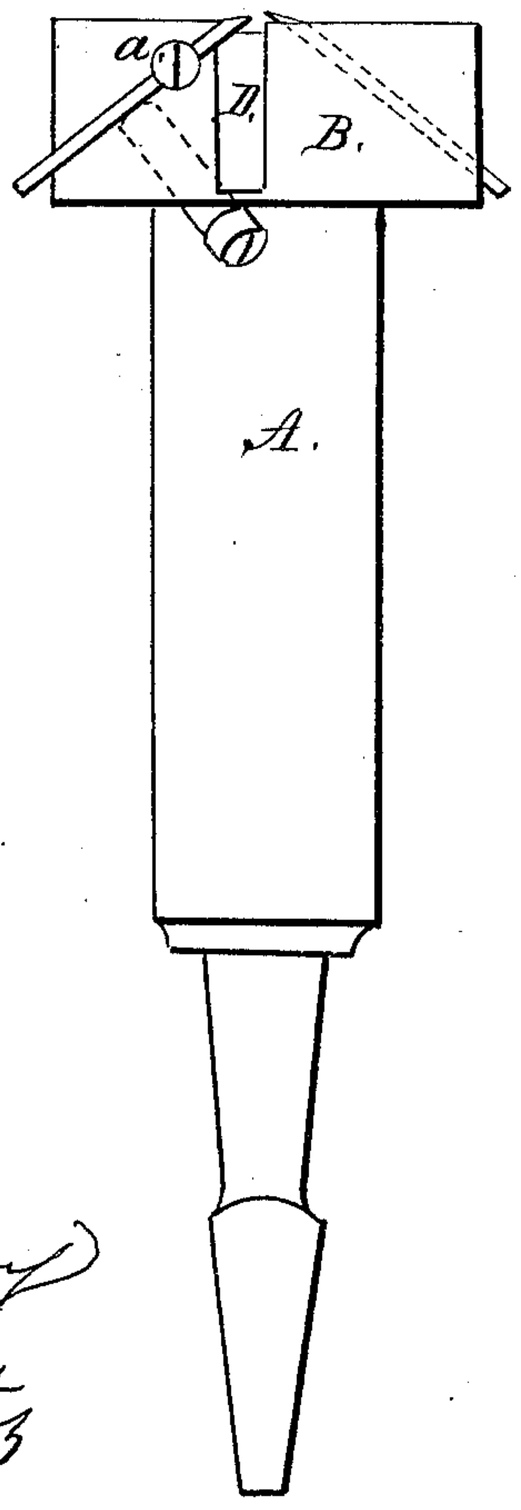


Fig. 2.



Witnesses:

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WILLIAM A. CLARK, OF WOODBRIDGE, CONNECTICUT.

Letters Patent No. 86,364, *dated February* 2, 1869.

IMPROVEMENT IN HOLLOW AUGERS.

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

To all whom it may concern:

Be it known that I, WILLIAM A. CLARK, of Woodbridge, in the county of New Haven, and State of Connecticut, have invented a new and useful Improvement in Hollow Augers; and I do hereby declare the following, when taken in connection with the accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, an end view.

Figure 2, a side view.

This invention relates to an improvement in the common hollow auger, such as are generally used in cutting the "tenons" on the ends of carriage-spokes, and for similar purposes.

In these augers, great difficulties are experienced in rigidly holding the knives, the usual method being by a set-screw bearing upon the face of the cutter. This, unless turned with great force upon the cutter, will not prevent the cutter being forced out laterally by use.

By my invention this difficulty is overcome; and

It consists in the arrangement of an additional set-screw, to bear against the outer edge of the cutter, which, while it serves to aid in adjusting the cutter, also prevents the cutter being forced outward.

To enable others to construct and use my improvement, I will proceed to describe the same as illustrated in the accompanying drawings.

A is the hollow shank, attachable in any convenient manner to the driving-mandrel.

B, the head, formed upon or attached to the shank, is provided with two cutters, C, set into slots through the edge of the head, as seen in fig. 2, and having a throat, D, formed for the discharge of the chips.

A set-screw, E, is inserted into the head, so as to bear upon the cutter, as seen in fig. 2. This is the usual and common construction.

It will be readily seen that there must be more or less difficulty in holding the cutter with the set-screw, so as to positively prevent its accidental movement laterally, and which movement, if it occurs, increases the diameter of the tenon-cut, and defeats the object for which it is intended.

If, instead of a slot cut through the edge of the head, a mortise is formed to receive the cutter, it will be readily seen that the cutter must perfectly fit the said mortise, or the said difficulty exists; but a mortise would occasion no inconsiderable difficulty in its formation, and is seldom, if ever, used, but my invention is alike applicable to either mortise or slot.

Into the slot I bore and tap out, so as to give a sufficient hold to a screw, *a*, to be inserted as seen in fig. 2, to bear directly against the edge of the cutter, which, being set against the cutter, prevents the cutter from being forced outward, and the said screw *a* may be used as an adjuster, setting the cutter by the outer edge, instead of hard against the inner edge, which will avoid the necessity of the usual accuracy required in the formation of the slots to receive the cutter.

I do not wish to be understood as broadly claiming the adjustment of the cutter by a screw, arranged so as to bear against the edge of the cutter, irrespective of the arrangement of the said screw.

Having, therefore, thus fully described my invention,

What I claim as new and useful, and desire to secure by Letters Patent, is—

In hollow augers, constructed substantially as described, the arrangement of the set-screw *a* through the slot, and so as to bear against the edge of the cutter in the said slot, substantially as set forth.

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Witnesses:

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