I. E. Newton,

Diamond Saw.

NO. 91,155. Patented June 8, 1869.

Fig: 1.

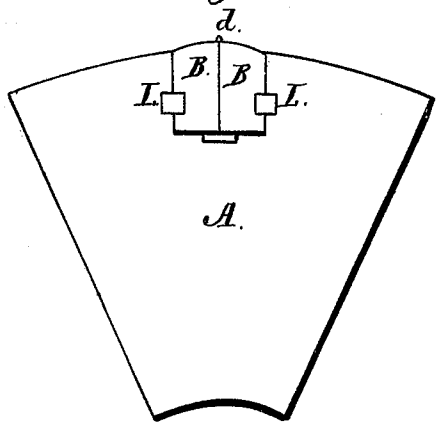
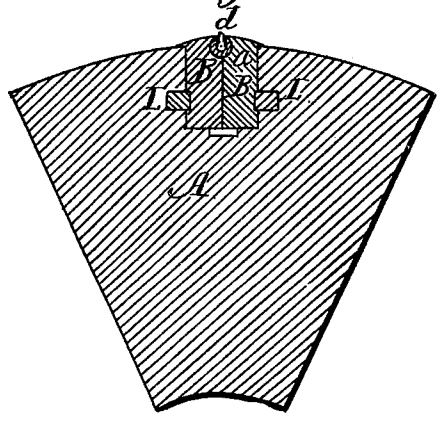


Fig: 2.

Fig: 3.



Witnesses:

J. H. Shumway

A. J. Tibbets

Inventor:

Isaac E. Newton

By his Attorney

John E. Earle

United States Patent Office.

ISAAC E. NEWTON, OF WATERBURY, CONNECTICUT.

Letters Patent No. 91,155, *dated June* 8, 1869.

IMPROVED STONE-CUTTING AND DRESSING SAW.

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, ISAAC E. NEWTON, of Waterbury, in the county of New Haven, and State of Connecticut, have invented a new Improvement in Stone-Cutting and Dressing Saw; 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, a side view of a portion of a saw;

Figure 2, an edge view; and in

Figure 3, a central section.

This invention relates to an improvement in saws, or instruments for cutting or dressing stone, in which the cutting-points are formed from diamonds or similar precious stones. Hereafter, when I mention diamonds, I wish to be understood as meaning any precious stone or like article, to accomplish the same result.

The object of my invention is to secure the diamond or stone, so that it cannot be lost from its position in use—a serious difficulty in the use of such saws or instruments, as heretofore constructed; and the invention consists in enclosing the stone between two blocks of metal, a recess being formed for its reception, so that the point of the stone will project therefrom, and the said two blocks set into the saw, or whatever the instrument may be, so that they cannot be moved laterally therefrom, and the blocks keyed therein, to prevent them from being drawn out longitudinally.

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

A represents a saw, or whatever the instrument may be, into which it is desired to set the diamond.

B B are two blocks, formed from steel or other suitable metal of like construction.

At the outer and meeting edge of the two blocks, a recess, *a*, is formed to receive the diamond *d*. The diamond may be fitted to the recess, so that the blocks, meeting perfectly, will securely hold it, yet I prefer to embed the diamond in some suitable material, as denoted in fig. 3.

The opposite edges of the blocks are grooved, as seen at *f*, and the edges of the recess formed to receive the blocks, as seen in fig. 2, or, if preferred, the grooves may be in the saw or instrument, the edges of the saw projecting thereinto. The blocks should be made to perfectly fit the recess formed for them in the instrument; this prevents any lateral movement of the blocks.

To prevent the blocks from being withdrawn, a key-seat is formed, both in the blocks and saw, to receive the keys L. These, combined with the lateral security, positively prevent the accidental removal of the blocks; consequently the diamond cannot be forced from its setting. By this construction the blocks may be hardened to any extent, and therefore will not in use wear away, to loosen the diamond.

It is to be understood that the diamond is to be set at any desired position upon the edge or sides of the instrument, so that by the combined action of all the diamonds, a curve can be cut or a surface dressed.

Having fully described my invention,

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

The herein-described method of setting diamonds in stone-cutting or dressing instruments, consisting of the two blocks B B, constructed and arranged, substantially as set forth.

ISAAC E. NEWTON.

Witnesses:

GEORGE H. WATERS,

JOHN W. WEBSTER.