

J. D. HUSBANDS, Jr.

Modes of Securing Diamonds in Metallic Holders.

No. 151,538.

Patented June 2, 1874.

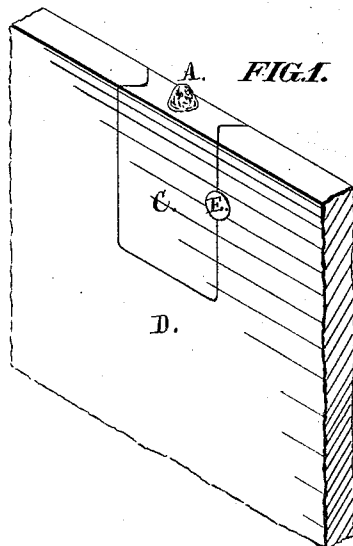
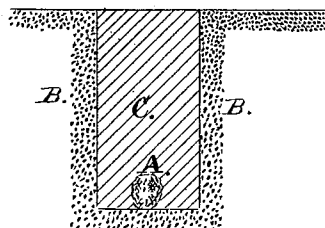


FIG. 2.



ATTEST:

Robert Burns.
H. G. Garner.

INVENTOR:

Joseph D. Husbands Jr.
By Knight Bros.
Atty's.

UNITED STATES PATENT OFFICE.

JOSEPH D. HUSBANDS, JR., OF ST. LOUIS, MISSOURI, ASSIGNOR TO JOSEPH W. BRANCH, OF SAME PLACE.

IMPROVEMENT IN THE MODES OF SECURING DIAMONDS IN METALLIC HOLDERS.

Specification forming part of Letters Patent No. **151,538**, dated June 2, 1874; application filed May 18, 1874.

To all whom it may concern:

Be it known that I, JOSEPH D. HUSBANDS, Jr., of St. Louis, St. Louis county, Missouri, have invented a certain new and useful Improvement in Mode or Process of Securing Diamonds in Metallic Holders, of which the following is a specification—

My invention relates to a manner of securing diamonds in the holders of steel or other metal without the use solder, welding, or rivets; and consists in placing the diamond in a mold of sand or metal, and then filling the mold with the molten metal.

In the drawings, Figure 1 is a perspective view of a portion of a saw-plate in which is inserted the metallic diamond-holder. Fig. 2 is a section of a mold, showing the diamond in position in the mold with the holder in section.

In my application for patent filed March 17, 1874, I described this mode of securing diamonds in metallic holders as a modification of the device covered by claims allowed May 4, 1874, this present improvement being erased from the application as covering a distinct invention.

By the mode described in this present improvement diamonds of poorer quality can be used than where pressure is brought to bear upon them, as in the process described in the said allowed application, as the pressure of the flat surfaces is liable to fracture diamonds of poor quality; whereas, in the process described in the present application, the liquid metal takes the exact form of the diamond, and, upon contraction of the metal in cooling it, exerts an equal pressure upon all parts of the

diamond, and so tends rather to hold it intact than to fracture it.

A is the diamond, which is secured in the mold B in any preferred manner. For instance, that side or end of the mold where the diamond is placed may be at bottom, so that the diamond will remain in its place by gravity; or the diamond may be attached to a small pellet or pin of clay fixed to or in the side of the mold. The mold may be of sand or metal, and in it the holder may be cast of the form required for insertion in the saw-plate. C is the holder or piece of metal in which the diamond is secured, and D is a portion of a saw-plate in which the holder is inserted. E is a rivet, halved in between the holder and saw-plate to keep the former in place.

The holder may have one or any desired number of diamonds, and they may be made to project from the top, or end, or sides of the same.

This process of securing diamonds is of universal application, as the holders may be made of any required shape for sawing, drilling, or planing stone or metal, for dressing millstones, and for other purposes too numerous to mention.

I claim as my invention—

The mode or process of securing diamonds in metallic holders by placing the diamonds in the molds, and casting the metal around them, or partially around them.

JOSEPH D. HUSBANDS, JR.

Witnesses:

SAM'L KNIGHT,
ROBERT BURNS.