

UNITED STATES PATENT OFFICE.

CHARLES D. P. GIBSON, OF JERSEY CITY, NEW JERSEY, ASSIGNOR OF
ONE-THIRD TO CHARLES G. MALLIET AND ONE-THIRD TO WALTER
MALLIET, OF NEW YORK, N. Y.

DIAMOND-FASTENER FOR TOOLS.

No. 818,682.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES D. P. GIBSON, a citizen of the United States, residing at Jersey City, Hudson county, State of New Jersey, have invented new and useful Improvements in Diamond-Fasteners for Tools, of which the following is a specification.

This invention relates to a diamond-fastener for tools of different kinds, such as used for cutting, turning, milling, boring, &c.

The fastener is so constructed that the diamond may be readily secured and is tightly held to the tool by a screw-set, while all soft-metal fastenings are avoided.

In the accompanying drawings, Figure 1 is a side elevation of a cutting-tool embodying my invention; Fig. 2, an enlarged longitudinal section, partly in elevation thereof; Fig. 3, a top view of Fig. 2; Fig. 4, a top view of Fig. 2 with the diamond and screw-cap omitted; and Fig. 5, a cross-section on line 5 5, Fig. 2.

The letter *a* designates the stem or spindle of a tool having a reduced threaded end *a'*.

This threaded end engages a screw cap or hood *b*, which seats upon offset *a''* of stem *a* and is somewhat longer than end *a'*. At its top cap *b* is rounded, as at *b'*, and perforated, as at *b''*, such perforation corresponding in size and configuration to a cross-section of a tapering diamond *c*, which is set into said perforation and projects with its apex beyond the cap.

The threaded end *a'* of stem *a* has a longitudinal bore or mortise *a'''*, adapted for the reception of the lower end or shank *d* of a nip *D*. The base of the shank *d* is rounded and is so

supported upon the bottom of bore *a'''* that the parts *D* and *a* are rotatable in relation to one another. Above threaded end *a'* the nip is expanded to form a centering and supporting head *d'*, which fills substantially cap *b* above threaded end *a'*. The head *d'* has a concavity or recess *d''*, that forms a seat for the base of diamond *c*.

In assembling the parts the nip *D* is inserted with its shank *d* into the mortised stem *a*, the diamond is seated in recess *d''*, and then the stem is screwed into the cap until the diamond is securely confined between nip and cap. While the stem is thus being screwed into the cap, the rotation of the stem will not be imparted to the nip, which will move only in an axial direction to prevent lateral strain upon the diamond.

It will be seen that by my invention the diamond may be readily fitted and is securely held to the tool and that all soft-metal fastenings are avoided.

What I claim is—

In a diamond-fastener for tools, a threaded mortised stem, a perforated cap engaged thereby, an inclosed nip having a recessed head and a shank around which the stem is rotatable, and a tapering diamond between head and cap and projecting with its apex beyond the cap, substantially as specified.

Signed by me at New York city, (Manhattan,) New York, this 20th day of July, 1905.

CHARLES D. P. GIBSON.

Witnesses:

CHAS. G. MALLIET,
WALTER MALLIET.