O. F. DAVIS & J. M. GRENALDS.

Combined Vise and Anvil.

No. 221,448. Patented Nov. 11, 1879.

FIG. 1.

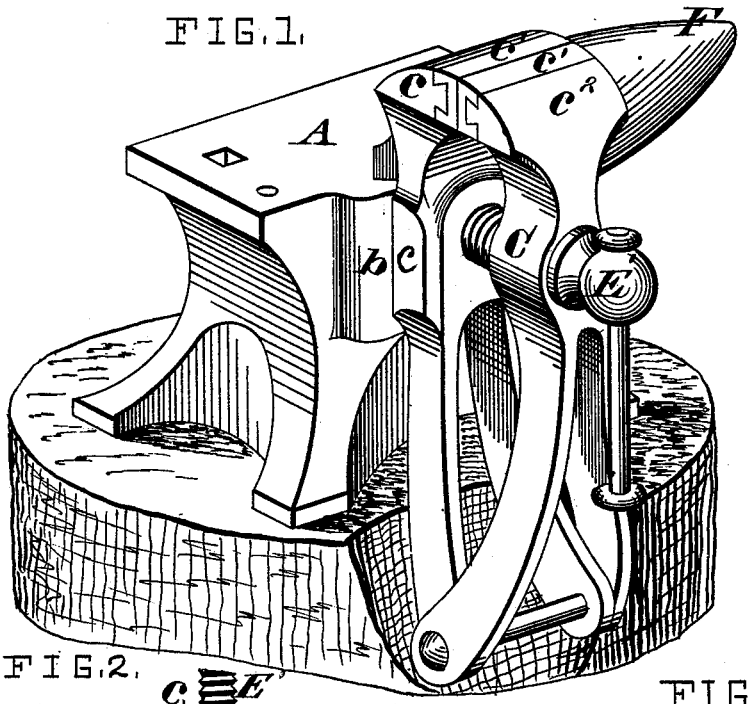


FIG. 2.

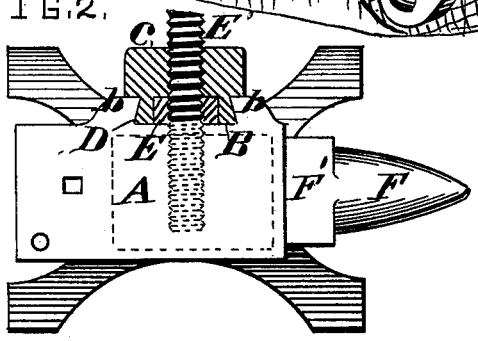


FIG. 3.

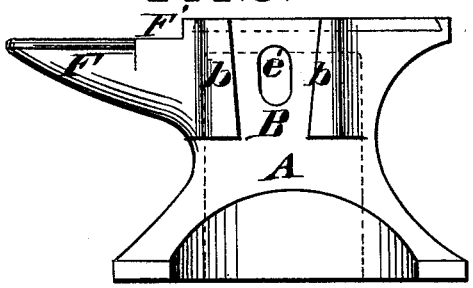


FIG. 4

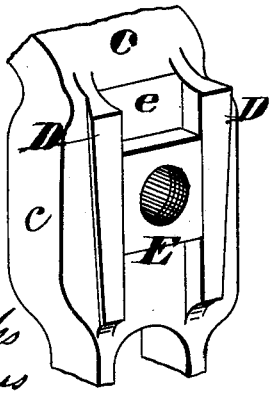
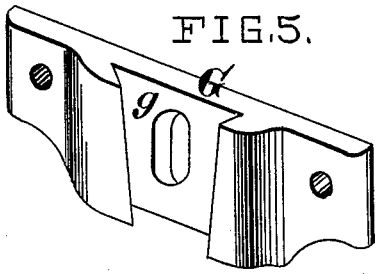


FIG. 5.



ATTEST.

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UNITED STATES PATENT OFFICE.

OLONZO F. DAVIS AND JAMES M. GRENALDS, OF NORMANDY, MISSOURI.

IMPROVEMENT IN COMBINED VISE AND ANVIL.

Specification forming part of Letters Patent No. **221,448**, dated November 11, 1879; application filed August 14, 1879.

To all whom it may concern:

Be it known that we, OLONZO F. DAVIS and JAMES M. GRENALDS, residents of Normandy, St. Louis county, Missouri, have jointly invented a new and useful Combined Vise and Anvil, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a view in perspective of the invention. Fig. 2 is a plan, partly in section, the outer portion of the vise not being shown; Fig. 3, a side elevation of the anvil; and Figs. 4 and 5, details, being, respectively, a perspective of a portion of the inner jaw of the vise, looking toward the side that is against the anvil, and a perspective of the plate used in attaching the vise to a bench.

The same letters denote the same parts.

A combined vise and anvil has heretofore been constructed. The manner, however, of connecting the vise and anvil, as hitherto in use, is objectionable.

To provide an improved mode of connecting a vise and anvil, each of which parts, when separated from the other, is immediately operative without addition or change of any portion, is mainly the aim of the present invention, which consists in uniting the vise and anvil by means of a tapering dovetail, substantially as is hereinafter described. This method of connecting them not only enables the two parts to be firmly united and the vise firmly held without any auxiliary aid, but also to be very readily separated when desired, and, when separated, the mortise of the dovetail that is upon the anvil can be utilized for holding many of the tools commonly used about an anvil, as well as many of the things being worked.

The improvement further relates to the nut of the vise-screw and the means for holding it in place.

Referring to the drawings, A represents an anvil, which, saving as modified by the present improvement, may be of the usual description. It is provided on its side with a mortise, B, that tapers vertically, and the sides *b* of which recede as in a dovetail. C represents the vise. Its inner jaw, *c*, is furnished with a tapering tenon, D, and the vise and anvil are united by dropping the tenon D into the mortise B, as shown in Fig. 2. This at once locks the parts securely together; but by lifting the vise the latter can be very easily detached from the anvil.

The present improvement being designed more especially to supply a need among farmers for an inexpensive article, the jaws of the vise are mainly of cast-iron. The facings *c'* *c'* of the jaws *c* c^2, however, are made of a tougher metal, like steel, and are united to the body of the jaw by means of a dovetail, as seen in Fig. 1. In this manner a hard tough facing is readily formed upon the cast-iron jaws.

E represents the nut of the screw E' of the vise. It is made slightly tapering in the direction of the length of the screw, and also crosswise, and it is held in a groove, *e*, in the tenon D, as shown in Figs. 2 and 4. This is a convenient and inexpensive means for connecting the screw with the inner jaw, *c*.

F represents the nose or horn of the anvil. Instead of being made as is customary, it is chilled in casting, while the portion F', that is between the horn and face of the anvil, is not chilled.

As a prominent aim of the invention is to provide for readily and conveniently operating the vise either separately or upon the anvil, we provide a bench-plate, G, Fig. 5. This part is provided with a tapering dovetail-mortise, *g*, corresponding to the mortise B upon the anvil. The plate can be attached, say, to a bench, and the vise dropped into it, when it is desired to use the vise in such a position.

The anvil, in practice, may be made hollow. It is perforated at *e'* to receive the end of the screw.

A dovetail has been used in uniting a vise and anvil, and therefore we do not claim such, broadly; but,

We claim—

1. The combination of the anvil A, having

the tapered dovetailed mortise B, the jaws *c* c^2, the tapered dovetailed tenon D, having the groove *e*, the nut E, and screw E′, as and for the purposes described.

2. The combination of the jaw *c*, tenon D, having the tapering groove *e*, the tapered nut E, and screw E′, substantially as described, and for the purpose of providing a convenient and inexpensive means for connecting said screw and jaw.

OLONZO F. DAVIS.
JAMES M. GRENALDS.

Witnesses:
CHAS. D. MOODY,
CHARLES PICKLES.