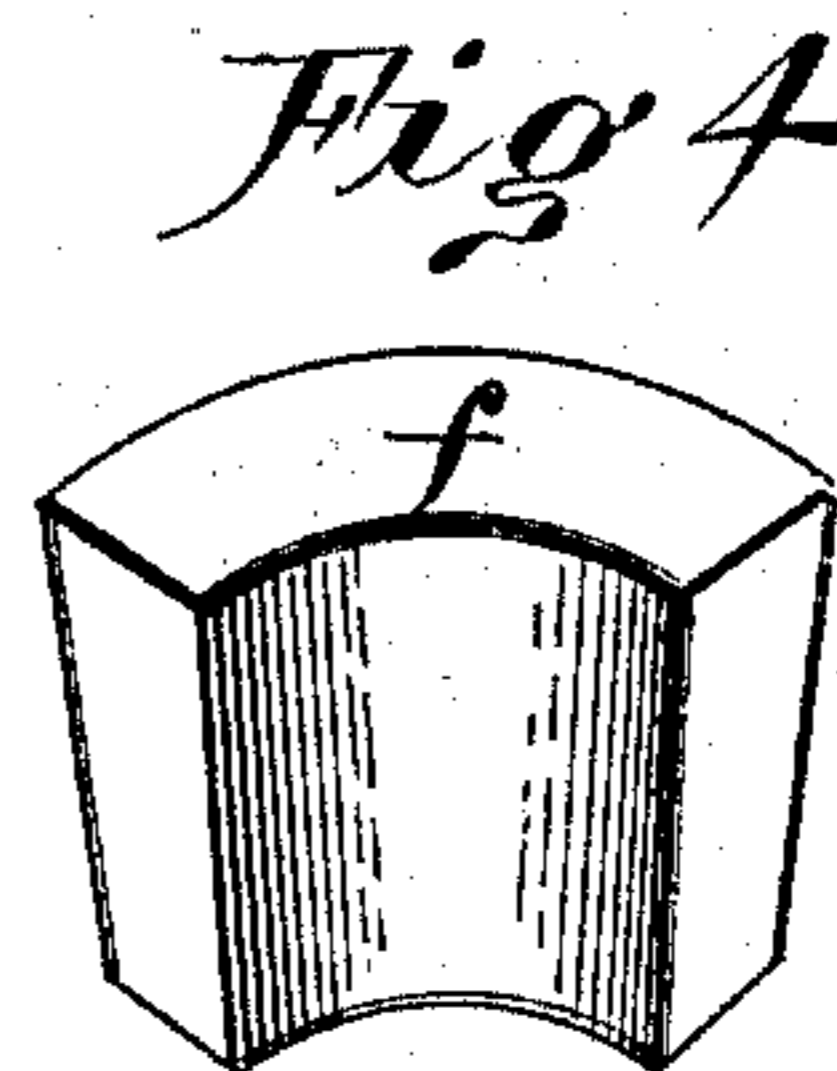
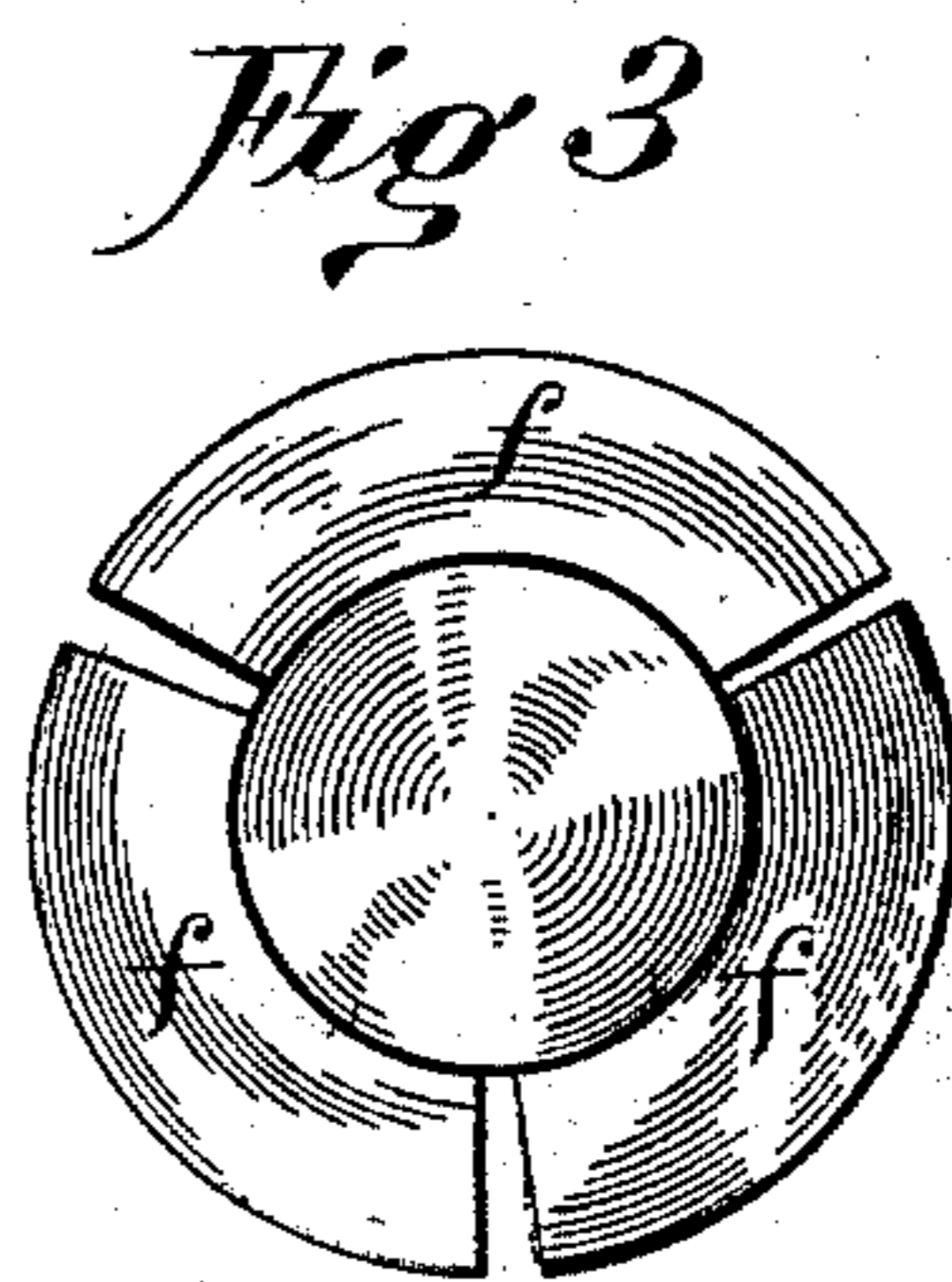
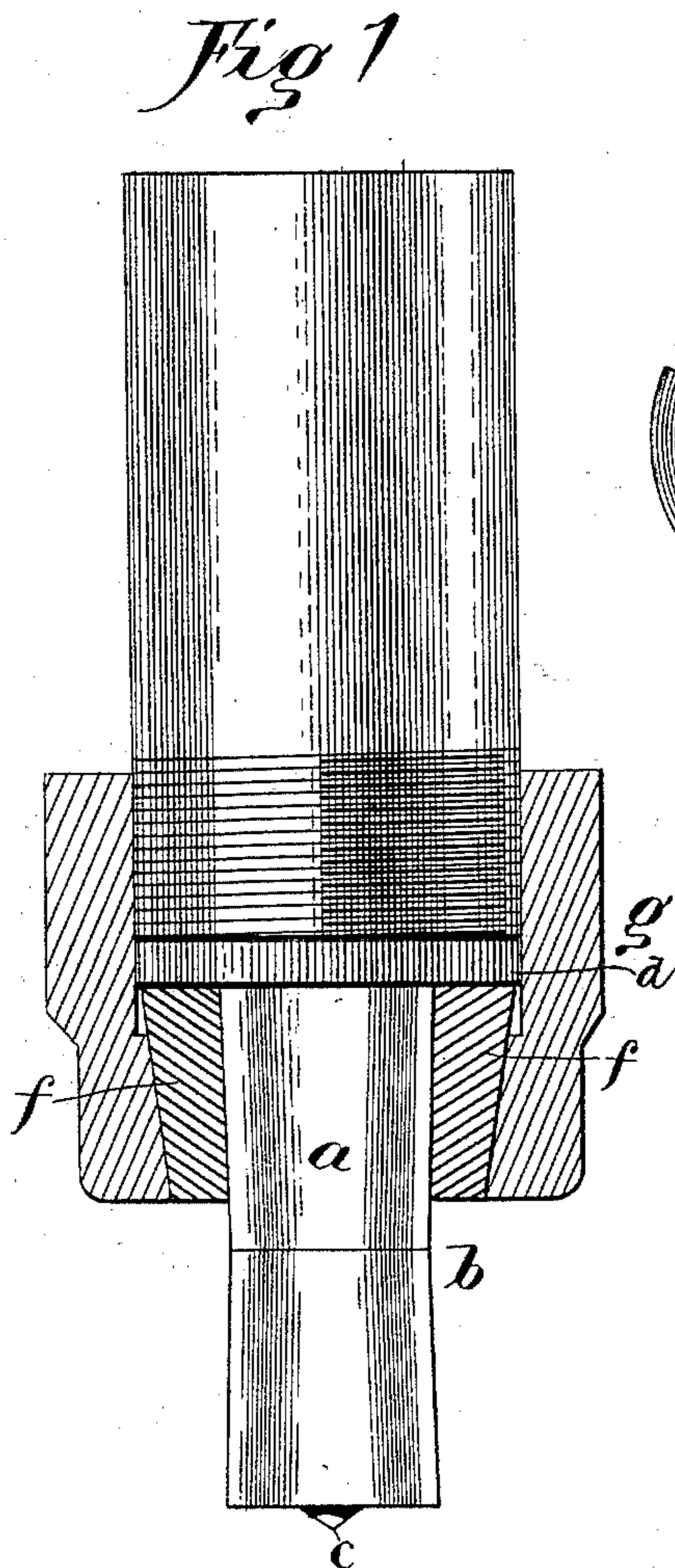
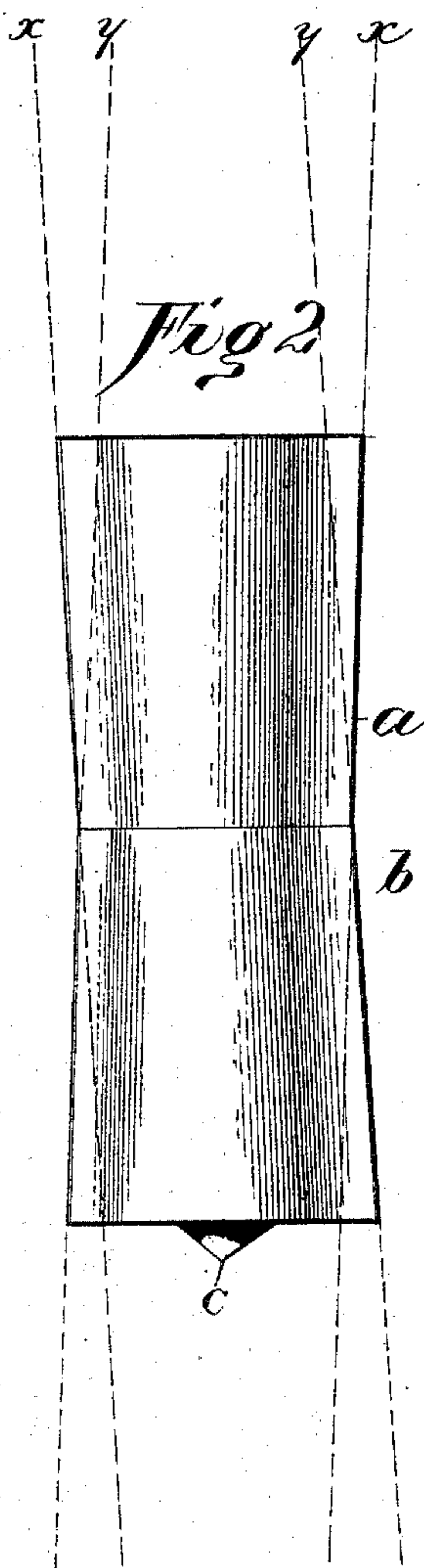


(No Model.)

A. A. BAUMENER & J. B. HARTING.
PUNCH.

No. 485,164.

Patented Nov. 1, 1892.



Attest;
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UNITED STATES PATENT OFFICE.

ALONZO A. BAUMENER AND JESSE B. HARTING, OF ROANOKE, VIRGINIA.

PUNCH.

SPECIFICATION forming part of Letters Patent No. 485,164, dated November 1, 1892.

Application filed March 4, 1892. Serial No. 423,686. (No model.)

To all whom it may concern:

Be it known that we, ALONZO A. BAUMENER and JESSE B. HARTING, citizens of the United States, residing at Roanoke, in the county of Roanoke and State of Virginia, have invented certain new and useful Improvements in Punches; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to that class of punches used for punching metal plates, sheet metal, and similar articles, in which great power is required.

The object of our invention is to provide a punch which can be quickly applied to a plunger and one which can be manufactured at a greater reduction of time and material than those heretofore in use.

To this end our invention consists in the peculiar features and combination of parts more fully described hereinafter, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a side elevation of our device as applied to a plunger in operative position, the plunger being shown partly in section to disclose the manner of holding the punch; Fig. 2, a side elevation of the punch detached from the holder; Fig. 3, a detail view of the segmental grippers, showing the position assumed in holding the punch; Fig. 4, a detail perspective view of one of the grippers.

The reference-letter *a* denotes the shank of the punch proper *b*. The latter is given the usual tapering form and is provided with a point *c*. The shank of the punch is given a gradual taper from its upper extremity toward its junction with the punch proper until the plane of its exterior intersects that of the punch proper. This wedge-shaped formation is given in order to prevent the shank from pulling out of the holder. Dotted lines *x x y y* illustrate more clearly the taper of the shank portion and punch portion and their relation to each other. A base-plate *d*,

having a diameter equal to that of the plunger, is placed on top of the punch-shank and extends beyond the sides thereof to form a seat for the grippers. It will be seen that when the shank is thus formed and placed within the grippers *f* of the holder *g* it cannot possibly pull out of the holder when the punch is withdrawn from the metal. In manufacturing punches of this formation it will be seen that the bar out of which the punch is formed can be placed within the spindle of a lathe and the point and oppositely-sloping tapers quickly turned down. It will also be observed that the outer extremity of the punch-shank and the outer extremity of the punch proper are when first formed of substantially the same diameter, and all the metal lost in turning down is that consumed in cutting away the gradual tapers to form the punch proper, the shank, and point.

Our improvement effects many advantages, among which is that of being able to quickly manufacture a punch of almost any desired size in a few moments by an ordinary machinist when an emergency arises in which prompt action is essential, as in repairing and constructing bridges, &c.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In combination with the tapering shank of a tool, a series of tapering segmental grippers adapted to surround the shank and a base-plate upon which the shank and grippers rest, substantially as described.

2. In combination with the tapering shank of a tool, a series of tapering segmental grippers adapted to surround the shank, a base-plate upon which the shank and grippers seat, and a screw-threaded holder adapted to force the grippers upon the shank, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ALONZO A. BAUMENER.
JESSE B. HARTING.

Witnesses:

W. W. WILLIAMS,
W. H. McCARTY.