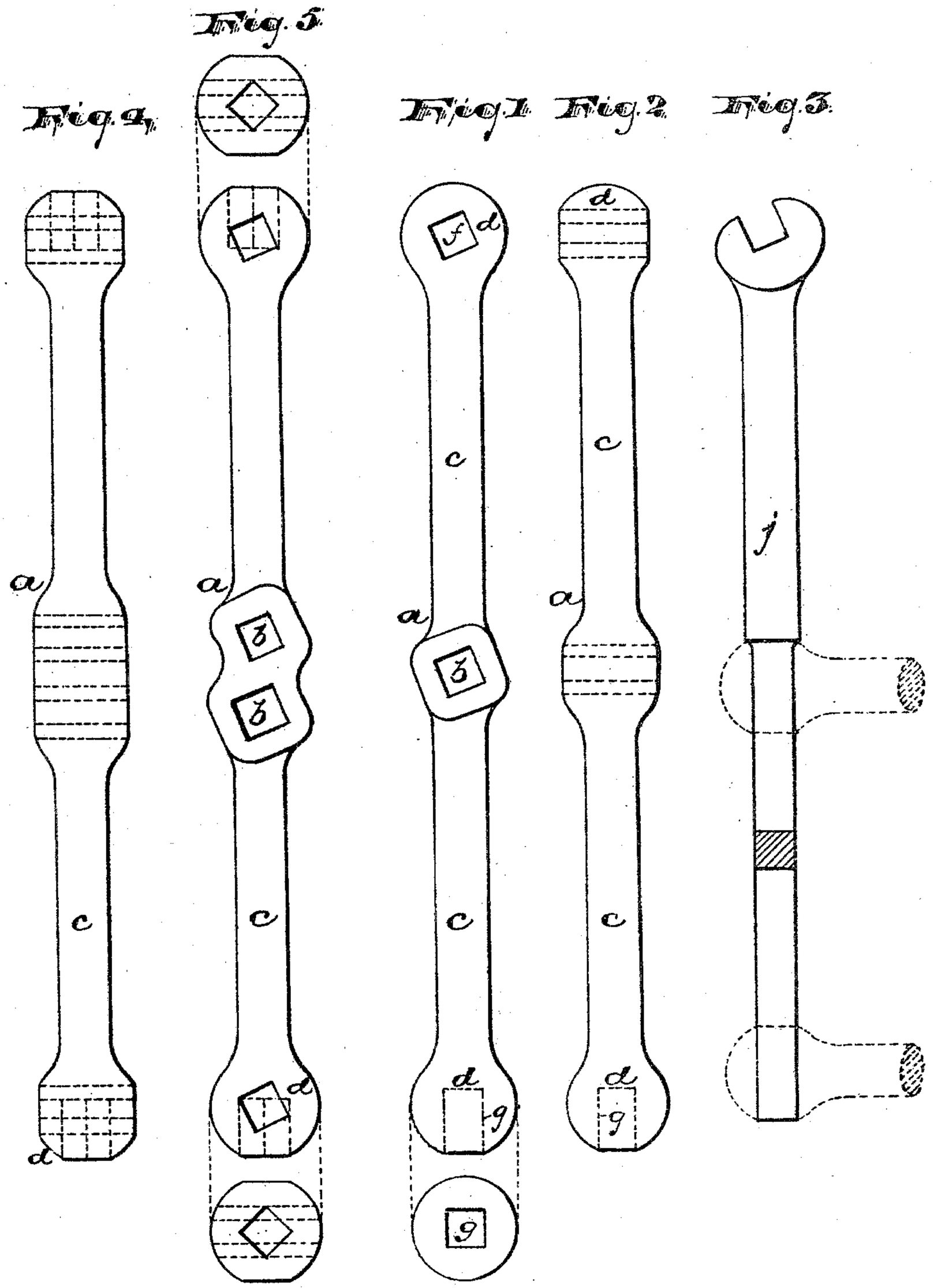
(No Model.)

H. WIEDMANN.

TAP WRENCH.

No. 597,533. Patented Jan. 18, 1898.

Fig. 5.



WITNESSES:

A. R. Thomson.

C. B. Sibley.

Heinrich Wiedmann, INVENTOR:

BY Drake & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

HEINRICH WIEDMANN, OF NEWARK, NEW JERSEY.

TAP-WRENCH.

SPECIFICATION forming part of Letters Patent No. 597,533, dated January 18, 1898.

Application filed August 10, 1897. Serial No. 647,735. (No model.)

To all whom it may concern:

Be it known that I, HEINRICH WIEDMANN, a citizen of the Empire of Germany, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Tap-Wrenches; and I do hereby 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 letters of reference marked thereon, which form a part of this specification.

This invention relates to certain improvements in that class of tap or reamer wrenches in which are formed square holes to receive the correspondingly-shaped ends of the tapping-tools. Heretofore such wrenches have been manufactured with the said square holes disposed symmetrically with relation to the longitudinal axis of the wrench, the outlines of said holes where they cross said longitudinal axis being arranged either at right angles to said longitudinal axis or at angles of forty-five degrees thereto. In such case it will be evident that the said wrench cannot be used in corners permitting less than a quarter-turn, as will be well understood by those having experience in the use of such ordinary wrenches. As a result the workman often supplements the wrench or employs in lieu thereof nut-wrenches, hand-vises, &c., and by their use frequently breaks the tapping or reaming tool, especially when the latter is of small size, and not only loses the value of the tool but the time required in removing the hard broken piece, especially where the said hard piece is lodged in a large and heavy piece of work where it cannot be conveniently softened and drilled out. In my construction these objections are avoided, together with others which may be hereinafter referred to.

The invention consists in the improved tap and reamer wrench and in the arrangements and combinations of parts of the same, all substantially as will be hereinafter set forth, and finally embraced in the claim.

Referring to the accompanying drawings, in which like letters of reference indicate corresponding parts in each of the several views, Figure 1 is a plan, and Fig. 2 is a side elevation, of the tap-wrench of the improved construction. Fig. 3 is a plan of a supplemental wrench for service with the wrench the subject of the invention under certain conditions. Figs. 4 and 5 are modifications in the construction of my improvement.

In said drawings, *a* indicates a tap or reamer wrench body having a square hole *b* at the central part to receive the tapping or reaming tools, the said wrench-body consisting of a long piece of metal of adequate strength enlarged at said central part to permit of the formation of said hole. At opposite sides of the said central hole the wrench-body *a* is provided with the handles *c c*, one arranged in line with the other, and at the extremity of said body are other enlargements *d d*, in which are square holes or recesses *f g* for the tapping or reaming tool, one of which, *f*, extends through from the opposite sides of the wrench, and the other, *g*, at the opposite end of said wrench extends in from the extremity, lying endwise in the longitudinal axis of said wrench, as will be understood upon reference to Fig. 1. The holes *b* and *f* are formed to lie out of symmetrical relation to the longer axis of the wrench, as indicated in Figs. 1 and 5, where the said square holes are shown arranged at an angle of twenty-two and one-half degrees, or one-sixteenth of a turn, from the longitudinal axis, the advantage of which consists in the fact that a better use of the limited space formed in an angle between two obstructions can be obtained for a fractional turn of the wrench than can be had by using the wrenches with the symmetrical arrangement before referred to. Thus by the construction shown and by reversing the wrench, so that it is turned bottom side up at each change or new hold upon the tool where the old style of wrench would with eight changes make four revolutions the same tapping or reaming tool, working within the same limits of movement, with my wrench will make five revolutions. This increased distance of movement of the tap or tool will of course facilitate the operation of tapping.

To increase the capacity of the wrench, I may provide the same with a series or plurality of tap-receiving holes, as in Figs. 4 and 5, the central holes being arranged side by side and the end holes or sockets being formed

at the side and at the extremities of the enlarged ends.

When the tapping or reaming tool is to be employed close in an angle between obstructing walls, so that the wrench cannot be employed crosswise of said tool, I apply the end socket *g* to the tool and pass the supplemental wrench *j* through the sidewise end opening *f*, as indicated in Fig. 3. This said sidewise end opening or recess *f* also serves to receive the reaming-tool direct when there is a limited opportunity for oscillation between obstructions.

Having thus described the invention, what I claim as new is—

The improved tap or reamer wrench comprising a long body or handle section, having a rectangular perforation or perforations having the opposite angles disposed obliquely and oppositely exterior to the axial line of the body or handle section, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 13th day of July, 1897.

HEINRICH WIEDMANN.

Witnesses:
CHARLES H. PELL,
C. B. PITNEY.