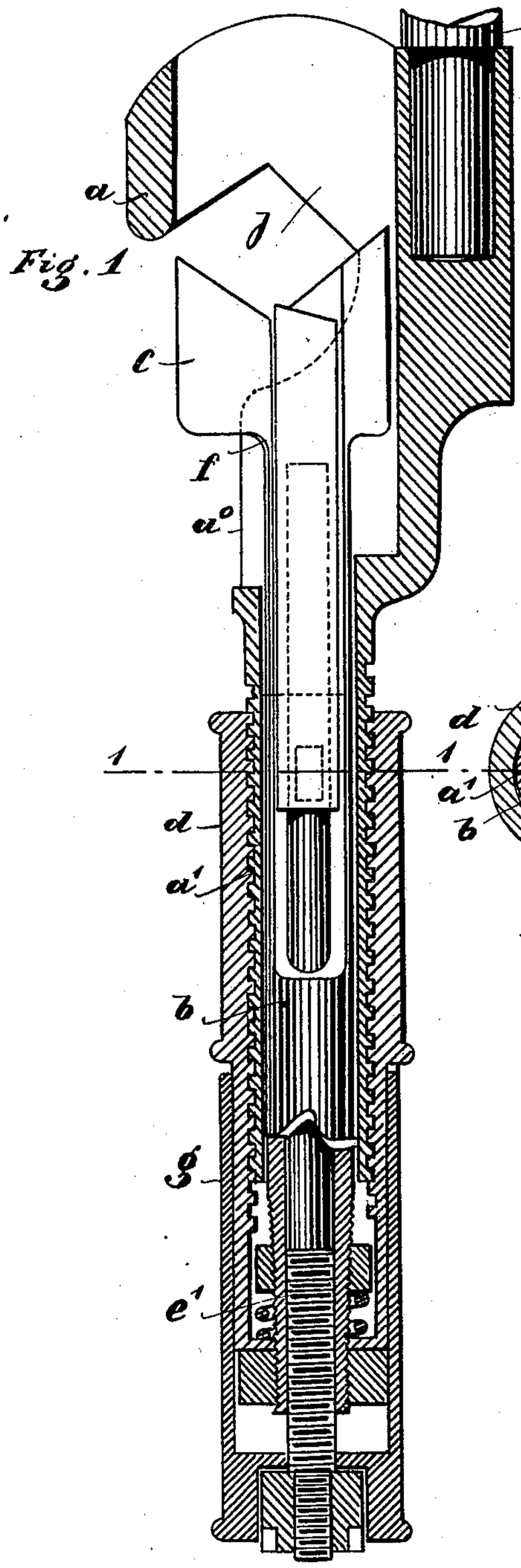
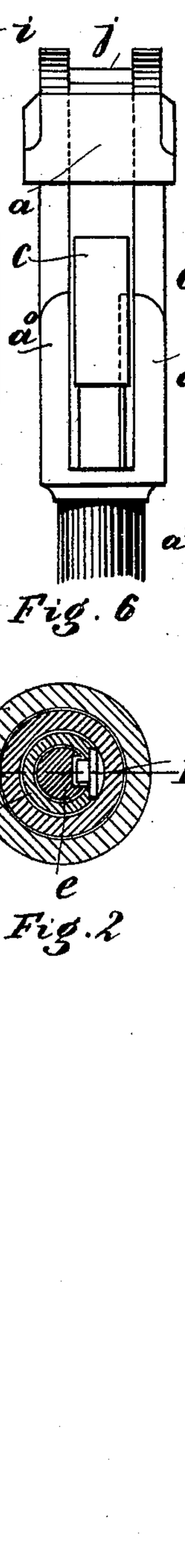
(No Model.)

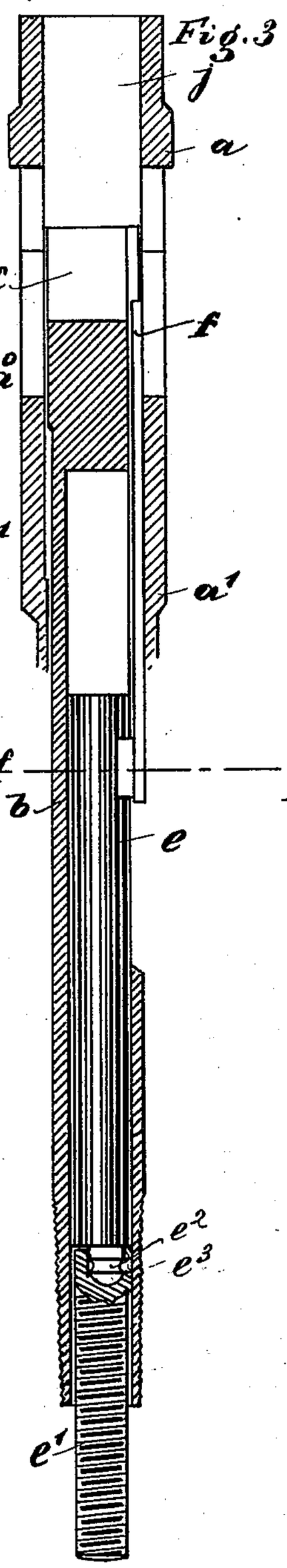
E. FORTANER.

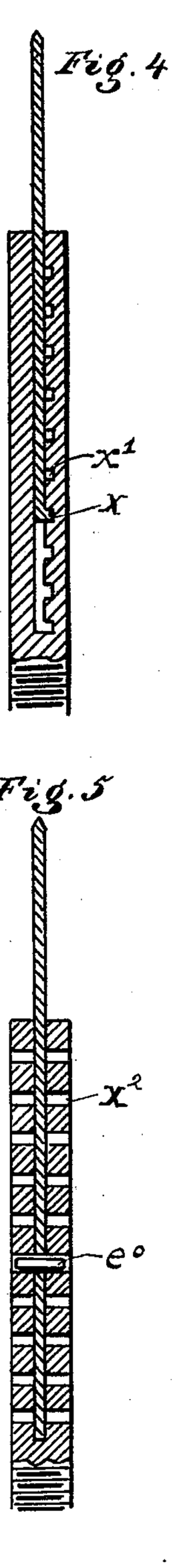
CUTTING TOOL FOR PIPES AND BARS.

No. 606,130. Patented June 21, 1898.









Witnesses:
Raymund Gloetzner.
M. C. Massie.

Inventor:
Ernst Fortaner
by Munn & Co
Attorney.

UNITED STATES PATENT OFFICE.

ERNST FORTANER, OF MUNICH, GERMANY.

CUTTING-TOOL FOR PIPES AND BARS.

SPECIFICATION forming part of Letters Patent No. 606,130, dated June 21, 1898.

Application filed April 4, 1898. Serial No. 676,393. (No model.)

To all whom it may concern:

Be it known that I, ERNST FORTANER, a subject of the King of Bavaria, residing at Munich, Kingdom of Bavaria, Germany, have invented certain new and useful Improvements in Cutting-Tools for Pipes and Bars, of which the following is a full, clear, and exact description.

The present invention relates to cutting-tools for pipes and bars; and it consists in the details of construction hereinafter described, and particularly set forth in the claims appended; and in order to render the present specification more easily intelligible reference is had to the accompanying drawings, in which similar letters of reference denote similar parts throughout the several views.

Figure 1 is a vertical section of one form embodying the invention. Fig. 2 is a cross-section along line 1 1 of Fig. 1; Fig. 3, a longitudinal section taken at an angle of ninety degrees to that of Fig. 1. Fig. 4 shows in section a modified device for attaching the cutter to its adjusting-bar. Fig. 5 shows a further modification of this device; and Fig. 6 is a front elevation of the upper part of the tool, showing the stationary and movable jaws.

The stationary jaw *a* is penetrated at *j* to enable the movable jaw *c* to enter it when it is required to cut tubes or bars of small diameter. The lower end of the stationary jaw *a* is tubular and provided with an exterior thread, as at *a'*, on which a sleeve *d* may be screwed up and down. Within the tubular bar of the stationary jaw *a* is mounted a second tube *b*, to the upper end of which is attached the movable jaw *c*, and within this tube *b* again is mounted a bar *e*, to which the cutter *f* is attached, as may be seen at Fig. 3, said cutter having a lug at its lower end, which is adapted to enter a recess in the bar *e*. The lower end of the tube *b* of the movable jaw *c* is fixed to the lower end of the sleeve *d*, being revoluble as regards the latter, but not longitudinally adjustable relatively to the same. Thus when the sleeve *d* is screwed up or down the hollow stem *a'* of the stationary claw the two claws will be opened or closed. The stationary claw *a* is provided with lateral guide-cheeks a^0, in which the movable claw is guided, and when the claws are adjusted very closely together the movable one will be guided, in the opening *j* of the stationary claw. Both claws are recessed, as will be seen at Fig. 1, at their co-operating surfaces. A second sleeve *g* is mounted on the lower end of the sleeve *d* and revoluble thereon, and a screw-spindle *e'* is mounted in the end of said sleeve *g*, said screw-spindle being revolubly coupled to the cutter-bar *e*, as will be seen at Fig. 3, by means of a pin and groove e^2 and e^3. Thus when the sleeve *d* is turned the jaws will be adjusted as regards each other, but the position of the cutter to the movable jaw will not be altered, as the sleeve or tube *b* will simply turn on the spindle *e'*. If, however, the sleeve *g* is turned, the position of the cutter *f* relatively to the movable jaw may be adjusted, the cutter-bar *e* being moved within the tube *b*, as will be evident on reference to the drawings.

In order to utilize the whole length of the cutter, the latter is advantageously arranged adjustable as regards its carrier-bar *e*, and this may be done in either of the ways illustrated in Figs. 4 and 5. According to Fig. 4 the bar is provided with a slot to receive the cutter, which has a lateral flange *x* at its lower end, the slot being provided with a series of lateral notches, into which the flange is passed. As soon as the cutter is worn down the bar may be taken out of the tool and the flange of the cutter adjusted in the lateral notch *x'*, which is above the notch from which it has been taken.

In Fig. 5 the bar is provided with a series of borings x^2, into any one of which the cutter may be fixed by means of the pin e^0.

The arrangement of the jaws prevents cutting the tube or bar askew and provides for an effectual clean cut, while no movement laterally of the movable jaw with regard to the stationary jaw is possible owing to the effective way in which the former is guided by the cheeks a^0 and the opening *j* of the latter.

The upper part of the jaw *a* may be provided with a socket, into which a bar *i* may be placed to enable the tool to be worked with both hands.

I claim as my invention—

1. In a cutting-tool, the combination of a stationary jaw having an opening there-

through and a movable jaw adapted to enter said opening, an exteriorly-threaded tubular stem to said stationary jaw and a tubular stem for the movable jaw arranged within the same, an interiorly-threaded sleeve to screw on said stationary-jaw stem and having the movable-jaw stem attached thereto, a bar within the movable-jaw stem, a screw-spindle revolubly coupled to said bar, a lower sleeve fixed to said screw-spindle and revoluble on said interiorly-threaded sleeve, a cutter and means for attaching the same to the carrier-bar substantially as described.

2. The combination of a stationary cheek *a* having orifice *j* therethrough and guide-cheeks a^0, a movable cheek *c* to move between said guide-cheeks and into said orifice, a tubular stem to said stationary cheek and a tubular stem guided therein to said movable cheek, a cutter and cutter carrier-bar within said movable-jaw stem, and means for adjustably attaching the two parts, an outer sleeve *d* to adjust the jaws against each other, and a lower sleeve *g* mounted on said outer sleeve and means in connection therewith for adjusting the position of the cutter and carrier-bar relatively to the movable jaw but independently of both jaws substantially as described.

3. In a cutting-tool having a stationary cheek and a movable cheek the combination of an opening in the stationary cheek and guide-cheeks on the same for the reception of the movable cheek, a tubular stem to the said stationary cheek and a hollow stem therein for the movable cheek, a cutter and a cutter carrier-bar mounted within the stem of the movable cheek and means in connection with said stems and bar to adjust the position of the jaws or cheeks, and means for adjusting the position of the cutter relative to the movable jaw and for adjusting the position of the cutter on its carrier-bar, and a socket in the upper part of the stationary jaw substantially as described.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ERNST FORTANER.

Witnesses:
EMIL HENZEL,
ALBERT WEICKMANN.