

A. S. KOCH.  
 ENGRAVER'S TOOL.  
 APPLICATION FILED APR. 16, 1909.

951,535.

Patented Mar. 8, 1910.

Fig. 1.

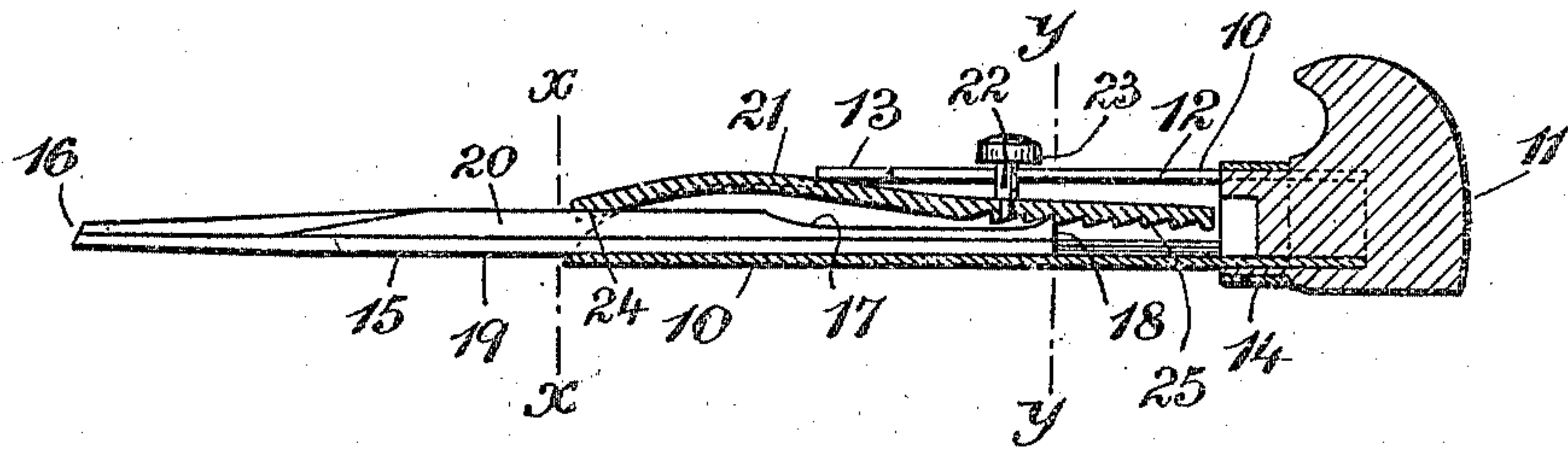


Fig. 2.

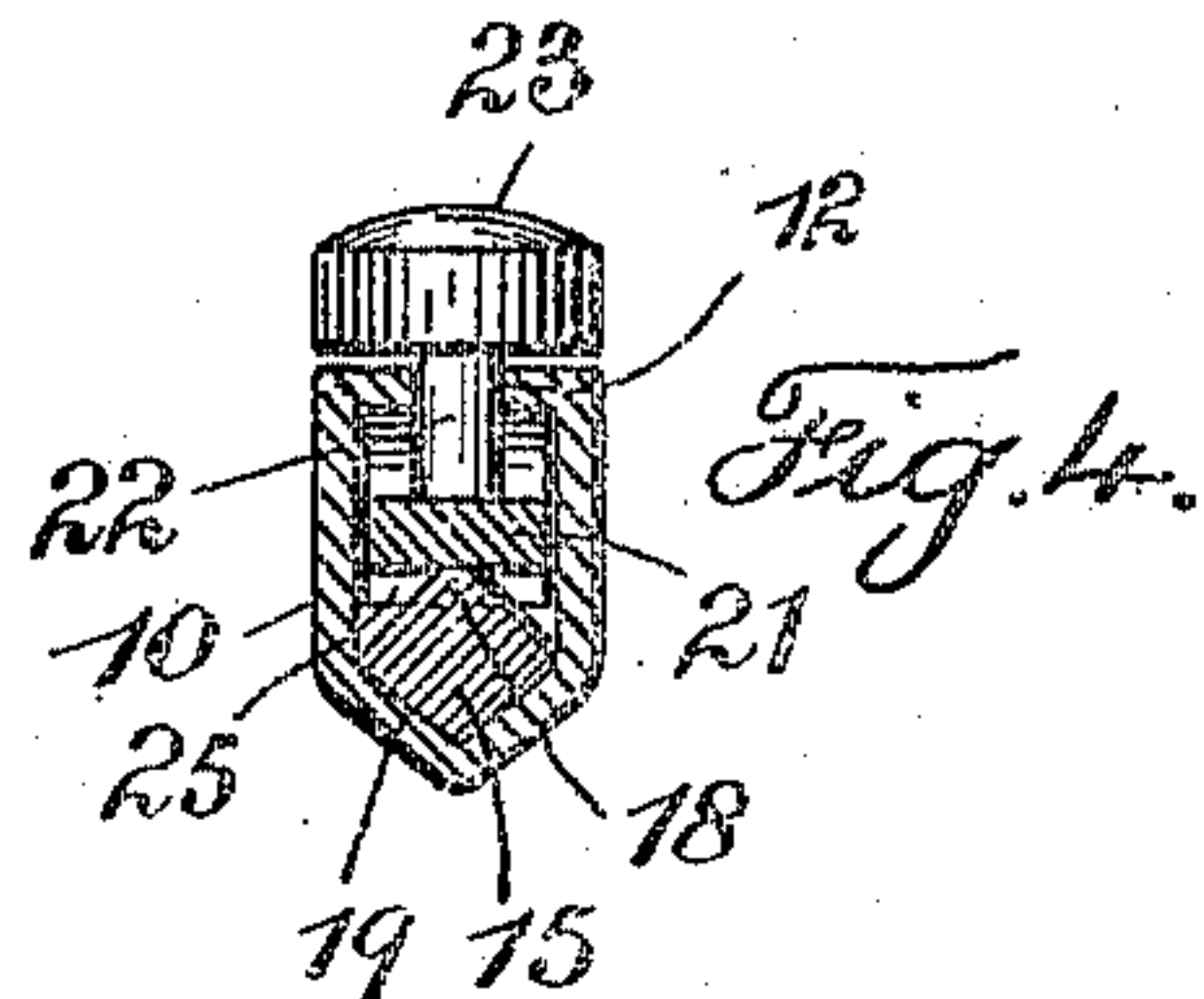
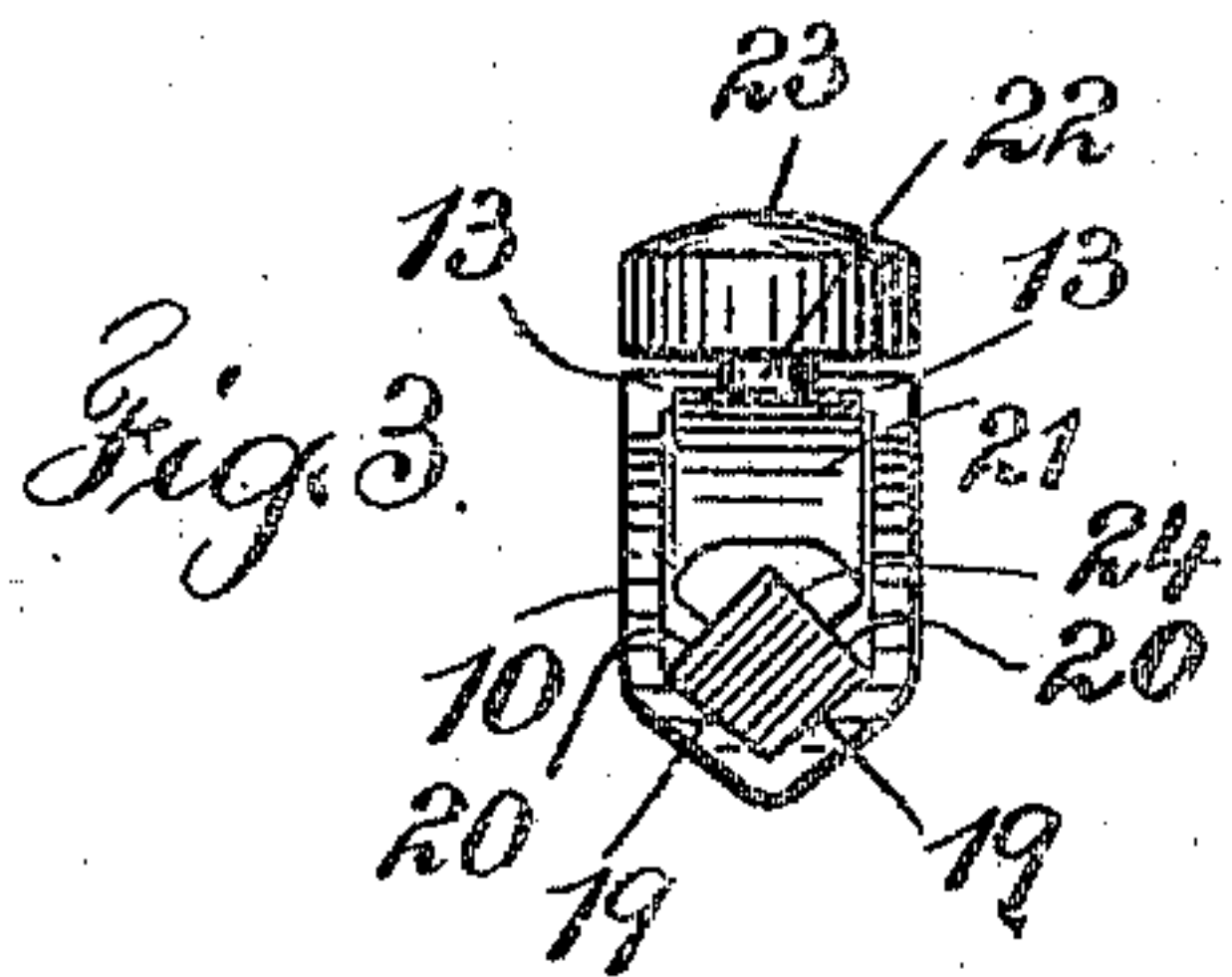
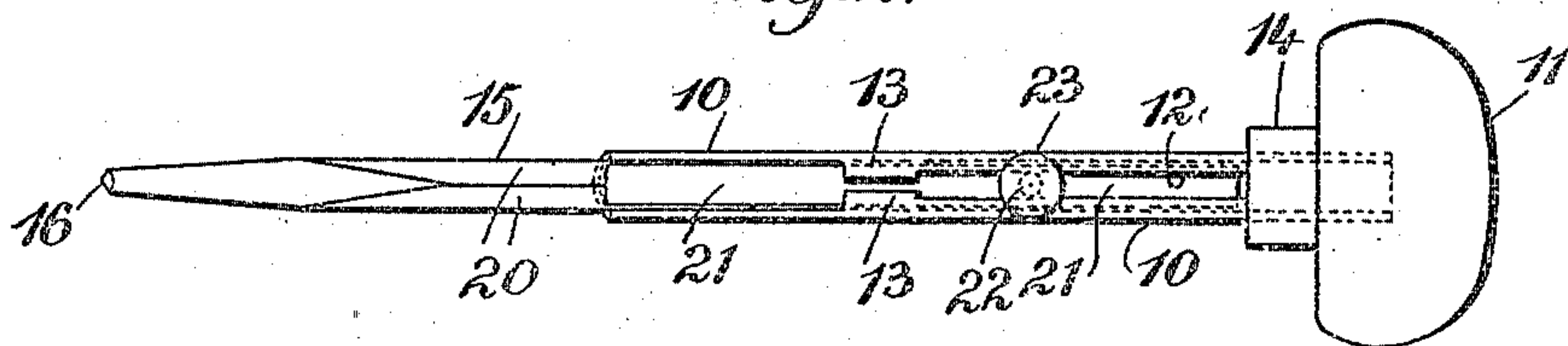
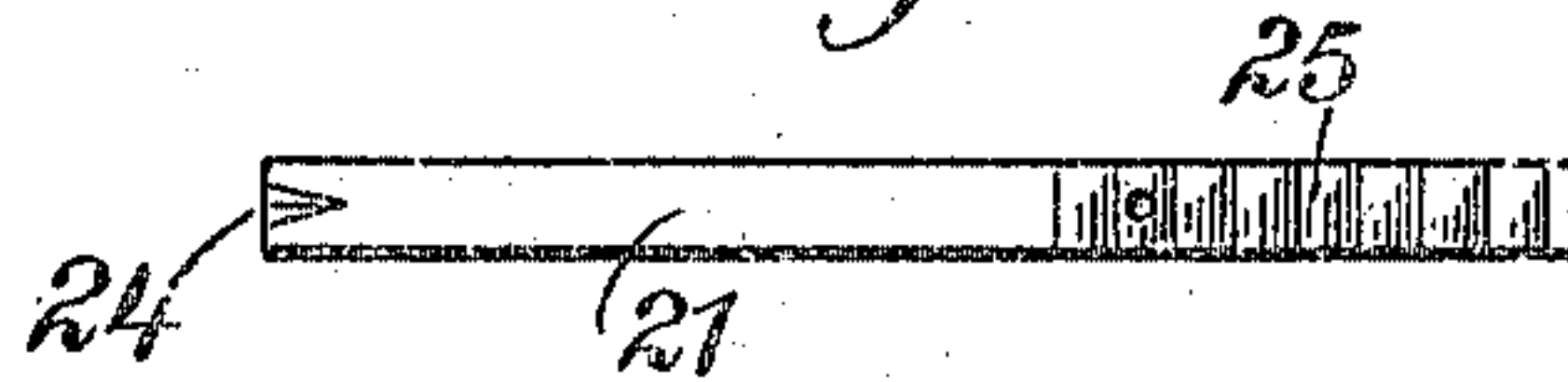


Fig. 5.



Witnesses  
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Inventor  
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 by Harold L. Farrell  
 his atty.



# UNITED STATES PATENT OFFICE.

ALFRED S. KOCH, OF LANCASTER, PENNSYLVANIA.

## ENGRAVER'S TOOL.

951,535.

Specification of Letters Patent.

Patented Mar. 8, 1910.

Application filed April 16, 1909. Serial No. 490,370.

*To all whom it may concern:*

Be it known that I, ALFRED S. KOCH, a citizen of the United States, residing in Lancaster, in the county of Lancaster and State of Pennsylvania, have invented an Improvement in Engravers' Tools, of which the following is a specification.

My invention relates to an engraver's tool and particularly to the construction of the handle member thereof which is adapted to receive and secure the graver or cutting instrument therein.

Heretofore so far as I am aware, the handle member of engravers' tools of the class to which my present invention relates has been constructed in various manners,—for instance, the handle member of these tools has been provided with a longitudinal groove into which the graver is placed with its inner end at the end of the groove; the graver being secured in position by means of a thimble which is passed over the handle and graver to secure these parts together. Then in another instance the handle has been provided with a groove at the base of which a rack having a number of teeth has been employed; the inner end of the graver member being adapted to fit within any one of the teeth of the said rack and to be secured to the handle by means of the thimble similarly to that described in connection with the hereinbefore named instance of engraver tool construction. Then as a third instance, I am also aware that U-shaped handles have been employed in which a series of slots have been provided in the base of the U-shaped member and in any of which slots the inner end of the graver is adapted to be received, and in this construction a wedge member has commonly been employed to clamp the graver in position within the handle. In all of these instances however, the clamp or wedge member performs a single function, namely, that of securing the graver or cutting tool in position within the handle; the position of the graver within the handle being non-adjustable in the first instance and adjustable in the other instances.

Now the object of my present invention is the provision of an engraver's tool in which the clamp member not only holds and secures the parts together, but also determines the position of the graver or cutting instrument within the handle, and furthermore, the construction of my improved instrument

is such that the greater the pressure brought to bear upon the point or cutting edge of the tool, the greater will be the wedging action of the clasp member in securing the graver and handle together.

In carrying out my invention, I prefer to employ a handle, a cutting tool adapted to be received in said handle and a unitary means for positioning and clamping said tool in position within said handle, as will be hereinafter more particularly described.

In the drawing, Figure 1 is a central longitudinal section of my engraver's tool showing the cutting instrument in elevation. Fig. 2 is a plan view of the same. Fig. 3 is an enlarged section on line *x, x*, Fig. 1. Fig. 4 is an enlarged section on line *y, y*, Fig. 1, and Fig. 5 is an inverted plan of the positioning and clamping member.

Referring particularly to the drawing, 10 designates the handle of the instrument. This is preferably made of metal and so formed as to be U-shaped in cross section. One end of the handle 10 is provided with a knob 11 having a flattened portion as usual. The handle 10 is provided on its upper side with a longitudinal slot 12 and similar oppositely disposed lugs 13, the adjacent faces of which lie close to one another, and a ring 14 may be passed over the reduced portion of the knob 11 to assist in securing the handle 10 in position therein.

15 designates a graver or cutting tool which at one end is provided with the usual point and cutting edges 16 and in one side adjacent to the opposite end is a recess 17 and at this end there is a projection 18. In the lower side the graver is provided with an angular rib 19 conforming generally in inclination with that of the lower inner portion of the handle 10, and on the opposite side the graver is also provided with a longitudinal angular rib 20.

21 designates the positioning wedge by means of which not only is the position of the graver within the handle determined but by which the graver is also secured in such position within the handle.

Secured to the positioning wedge 21 is a pin 22 which passes through the slot 12 and exteriorly thereof is provided with a head 23. The outer end of the positioning clamp 21 is provided with a notch 24 adapted to receive the rib 20 of the graver and at the opposite end of the positioning clamp 21 there is a rack 25 comprising a



plurality of transversely disposed teeth with any one of which the projection 18 at the inner end of the graver is adapted to engage.

5 Now it will be apparent from the foregoing description, that the positioning clamp being moved from the position shown in Figs. 1 and 2, to that position wherein the pin 22 abuts against the edges of the  
10 lugs 13, that the graver may be placed in position within the handle so that the projection 18 thereon will engage any desired tooth on the rack 25 whereupon by returning the positioning clamp 21 to the position  
15 shown in Figs. 1 and 2, and moving the same through the intervention of the pin 22 and its head 23, the graver will also be moved along within the handle 10 and thereby not only will the position of the graver  
20 be determined but the same will be securely held in position in the handle, so that as hereinbefore stated, the member 21 will perform a double function by both determining the position of the graver and securing the  
25 same in position in the handle, and it will also be apparent from the construction of the instrument, that the greater the pressure brought to bear on the point or cutting edge of the graver, the greater will be the wedging effect of the member 21 in securing the  
30 graver within the handle.

I claim as my invention:

1. An instrument comprising a handle with a straight under and inside wall, a cutting tool lying in said handle with its lower  
35 edge along said wall and having a projection on its upper surface, a longitudinally movable clamping member adapted at different places to engage the aforesaid projection and by its movement to clamp the  
40 tool in rigid contact with said wall.

2. An instrument comprising a metallic handle with a straight under and inside wall, a cutting tool lying in said handle with  
45 its lower edge along said wall and having a projection on its upper surface at the inner end, a longitudinally movable clamping member adapted at different places to engage the aforesaid projection and by its  
50 movement to clamp the tool in rigid contact with said wall.

3. An instrument comprising a metallic handle with a straight under and inside wall, a cutting tool lying in said handle with its  
55 lower edge along said wall and having a projection on its upper surface, a longitudinally movable manually actuated clamping member also lying along in said handle,

with its forward end projecting and adapted at different places to engage the aforesaid  
60 projection and by its movement to clamp the tool in a rigid contact with said wall.

4. An instrument comprising a metallic handle with a straight under and inside wall, a cutting tool lying in said handle with its  
65 lower edge along said wall and having a projection on its upper surface at the inner end, a longitudinally movable manually actuated clamping member adapted at different places near its inner end to engage the aforesaid  
70 projection and by its movement to clamp the tool in rigid contact with said wall.

5. An instrument comprising a metallic handle having a straight under and inside wall, a cutting tool lying in said handle with  
75 its lower edge along said wall and having a projection on its upper surface at the inner end, a longitudinally movable manually actuated clamping member also lying along in said handle, with its forward end projecting  
80 and adapted at its forward end to bear upon the cutting tool and at different places near its inner end to engage the aforesaid projection and by its movement to clamp the tool in rigid contact with said wall.  
85

6. An instrument comprising a cutting tool having a projection at the inner end thereof, a U-shaped metallic handle adapted to receive said cutting tool and a wedge  
90 member within said handle adapted to engage the said cutting tool and being provided on its under surface at its inner end with a series of teeth, any one of which is adapted to receive the said projection on the cutting  
95 tool so as to determine the position thereof.

7. An instrument comprising a cutting tool having a projection on one end thereof, a U-shaped metallic handle having a slot therein and being adapted to receive the said  
100 cutting tool, a wedge member within said handle adapted to clamp the said cutting tool and being provided on its under surface at its inner end with a series of teeth, any one of which is adapted to receive the said  
105 projection on the cutting tool to determine the position thereof within the handle, a pin secured to the said wedge member and passing through the said slot in the handle, and a head member secured to said pin exteriorly  
110 of the said slot.

Signed by me this tenth day of April 1909.

ALFRED S. KOCH.

Witnesses:

L. C. KOCH,  
LEONARD L. LEWIS.