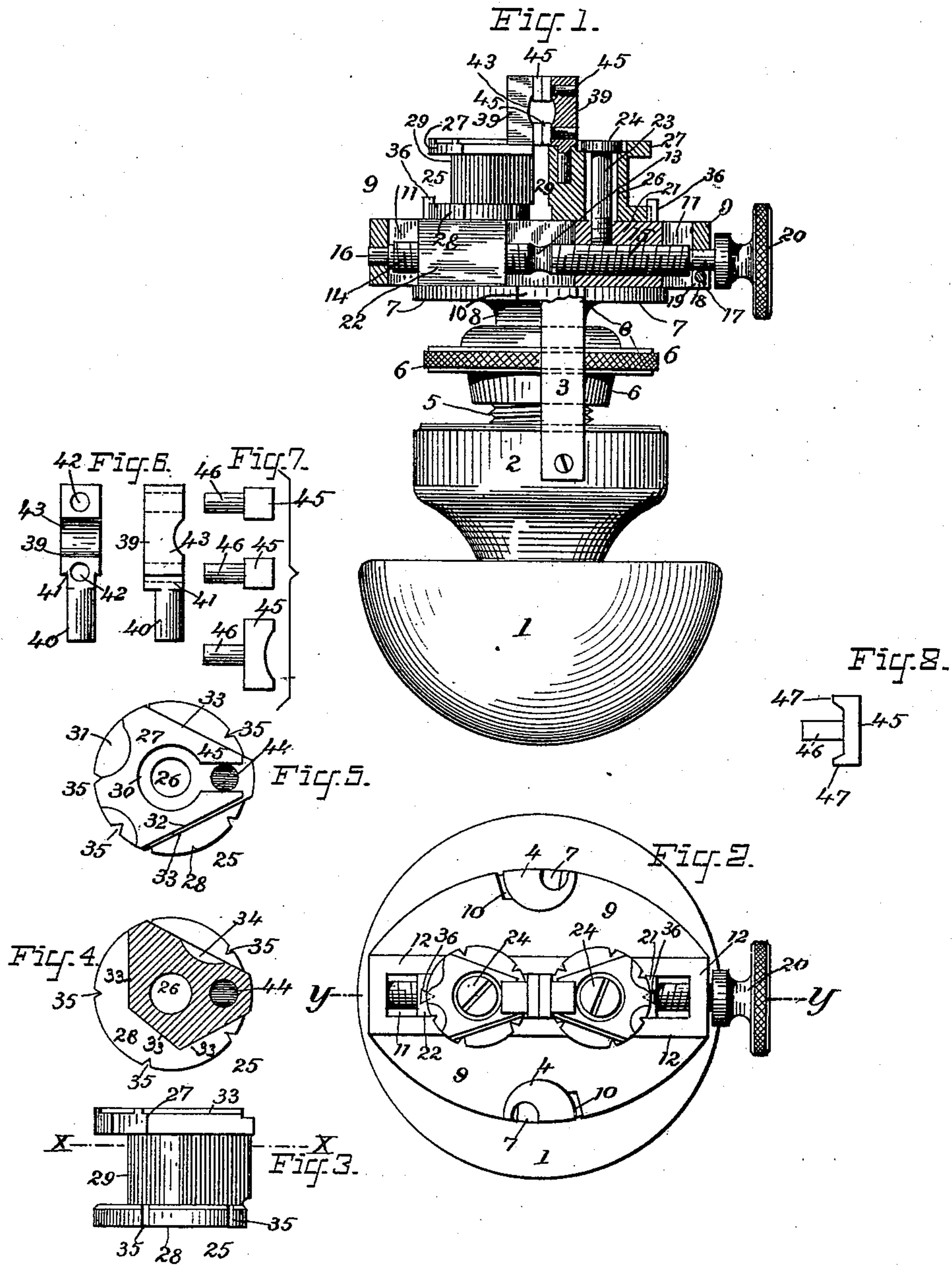


(No Model.)

W. FAUSTMANN.  
ENGRAVER'S VISE.

No. 461,216.

Patented Oct. 13, 1891.



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# UNITED STATES PATENT OFFICE.

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## ENGRAVER'S VISE.

SPECIFICATION forming part of Letters Patent No. 461,216, dated October 13, 1891.

Application filed June 15, 1891. Serial No. 396,383. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM FAUSTMANN, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have made certain new and useful Improvements in Engravers' Vises, of which the following is a specification.

The object of my invention is to form a cheap, substantial, and parallel vise having adjustable jaws so arranged that a coin, ring, thimble, or any article can be clasped in the vise for the purpose of engraving, &c.

My improvements herein described and shown relate, especially, to the means for holding articles during the process of engraving or manipulation, which improvements are applied directly to what is called the "base" of the vise. This base is separable from the body or bed of the vise, so that it and its attached devices can be affixed to or detached from the bed at will and the bed used for whatever other purpose desired.

My invention comprises two posts or turrets, which are movable by means of a right and left handed screw or other suitable means to or from each other. The screw passes through screw-threaded blocks, and the turrets are rotatably secured upon these movable blocks, one block being secured to the right-handed screw, the other block being secured to the left-handed screw, so that when the screw is turned both blocks and the mounted turrets will be brought together. The turrets are supported on the blocks by an upwardly-disposed spindle, the turrets being provided with openings through which the spindles pass, which openings are larger in diameter than the spindles, so as to permit the turrets to play freely thereon, for a purpose hereinafter described. The turrets are provided with upwardly-extending removable jaws, adapted to be brought together in the same manner as the turrets, and the jaws are provided with what I term "jaw-blocks," made of some soft ductile metal, capable of being conformed to the shape of the article worked upon, said jaw-blocks being removable from the jaws and interchangeable either for the purpose of inserting ones adapted for various conformations of articles or those of

metals of different softness or ductility. The turrets are recessed and shaped to provide for the holding of various articles, and means are also provided for locking the turrets in position while the article is being manipulated.

It must be understood that my invention does not relate to the bed of the vise, which bed has usually been provided with means for holding articles upon an adjustable plate which is capable of the universal movement upon the bed, such as the vise shown in Letters Patent to W. W. Wilcox, No. 132,127, dated October 8, 1872; but it does refer to improvements upon what is known as the "base" of the vise, such as that shown in the patent to W. W. Wilcox, No. 176,722, dated April 25, 1876, and I therefore do not claim as my invention any of the parts shown and described in those patents.

In the drawings accompanying this specification, Figure 1 is a side elevation of a vise, showing the removable base-plate secured to the bed, one part of the said base-plate, a turret, and a jaw being in section taken approximately in the line *y y*, Fig. 2, the head of the base-holding clamp being removed; Fig. 2, a plan view of the same; Fig. 3, a side elevation of one of the turrets; Fig. 4, a plan and section of the same, taken on the line *x x*, Fig. 3; Fig. 5, a plan view of Fig. 3; Fig. 6, face and side elevations of one of the removable jaws; Fig. 7, side and plan views of the removable jaw-blocks; and Fig. 8, a plan of one of the jaw-blocks, showing lips for holding the block in position on the jaw.

Similar figures refer to similar parts throughout the several views.

I shall first describe the structure of the bed to which the base-plate upon which my improvements have been applied is secured.

At 1 is a hemispherical casting, or what is commonly called a "cannon-ball." In use this cannon-ball is set in a cushion of leather, so that it may be held in any desired position. To this casting is rotatably secured a pillar 2. This pillar has upwardly-extending clamps 3 secured to it, said clamps having lips 4. The pillar 2 has an upwardly-extending and centrally-located screw-threaded spindle 5, 100.



and upon this spindle is a binding-wheel or collar 6, adapted to work up and down on the spindle 5.

7 is a removable plate, having a downwardly-extending ball 8, adapted to move in a socket provided in the upper portion of the collar 6. It is obvious that if the collar 6 is moved on the threaded spindle 5 either up or down the plate 7 will be moved up or down with it to bring it to or from the lips 4 of the clamps 3, and should anything be placed between the plate 7 and the lips of the clamps 3 such thing will be held firmly upon said plate. It is to such a device as this that the base-plate having my improvements is secured and removed in the manner just before described.

The foregoing structure and operation of parts being old it is not necessary to describe such with any amount of detail.

At 9 is shown the base-plate with notches 10 in its sides, through the instrumentality of which the base-plate is removed into and out of connection with the plate 7 of the bed. The base-plate 9 is provided with a slot 11, extending across the bed, which slot is defined by the housing 12. The walls of said housing are elevated a short distance above the level of the plate, so as to form an elevated surface upon which the turrets can work. Passing through the housing 12 is a right and left handed screw 13, the left-handed screw being shown at 14 and the right-handed screw at 15. This screw is provided with a shouldered extension 16, finding bearings in one end of the housing 12, and another shouldered extension 17, finding bearings in the opposite end. A pin 18 is used for the purpose of expediting the removal of said screw, said pin passing through an opening 19 cut in one side of the base-plate 9. The shouldered extension 17 is squared to receive the thumb-screw 20.

21 22 are blocks working within the slotted housing 12, which housing forms guides for the same, the screw 13 passing through the blocks, one being located on the right-handed screw and the other on the left-handed screw, so that when the thumb-screw 20 is turned in either direction both blocks will be brought toward or away from each other. Secured in the blocks 21 22 are upwardly-extending spindles 23, (but one is shown in full in Fig. 1,) having enlarged heads 24. These spindles are preferably screwed into the blocks, the enlarged heads being provided with a slot for the reception of a screw-driver.

At 25 are shown the turrets. Said turrets comprise a preferably centrally-disposed and upwardly-extending opening 26, two plates 27 28 at the top and bottom, respectively, and a central web 29. It is plain that a description of one of the turrets suffices for both, for in this case they are preferably constructed identically with each other, although they may differ in configuration and structure. The enlarged head 24 of the spindle has a seat 30 provided in the turret for its recep-

tion. Both the central web 29 and the upper plate 27 of the turret have squared, circular or otherwise conformed or configured recesses or surfaces for the purpose of holding various-shaped articles. For instance, if it is desired to engrave a coin, the recess 31 could be used or a ring could be held there by bringing both turrets together. If a flat plate is to be engraved, the recess 32 could be used. A flat bar could be held between either of the squared surfaces 33 of the central web 29. One end of a thimble could be placed in the indentation 34 in the central web 29, the like part in the opposing turret being adapted to support the other end when the turrets are brought together, and so on indefinitely, the turrets being capable of being provided with recessed, squared, or otherwise configured portions for the purpose of holding various articles for manipulation. The periphery of the lower plate 28 is preferably concentric with the central opening 26, and is provided with a series of angular indentations 35, which are intended to coact with the angular studs 36, carried by the blocks 21 22, which indentations are so located in relation to any particular shaped or configured recess or surface as to bring such recesses on both the turrets into alignment with each other.

It is not absolutely essential that the studs 30 and recesses 35 should be made with angular faces, as they may be squared; but the angular faces are more desirable because the point of the angle on the studs 36, will, if they strike any part of the surface of the recess 35, bring one particular recess for supporting the article to be manipulated into alignment, whereas with the squared stud and recess it would be necessary to make this alignment perfect before their coaction takes place.

It being assumed that the turrets are separated wide enough apart to hold the article which is to be engraved or otherwise worked upon, and the particular holding recess or surface in the turrets being brought approximately into alignment, the article then being adjusted, the thumb-screw being turned, and the blocks moved together and with them the turrets, the article will then be held rigidly between them. During the act of presenting the proper recess for the reception of the article the locking devices comprising the recess 35 and studs 36 will be brought into alignment, so that not only will the article be held between the turrets, but the turrets themselves held and their rotation or movement upon their spindles be prevented.

Another very important improvement consists in making the opening 26 of the turret of larger diameter than the spindle 23, so that a loose action or play of the turret may be had about the spindle. This feature comes into play as follows: Suppose the turrets have been brought together, an article held between them, and the work upon them being completed and the article removed. It will



not then be necessary to turn the screw to draw the turrets away from each other, for should the size of the article permit it the turrets could be moved about the spindle, so as to bring another recess into alignment by simply freeing the locking devices by bringing the turrets together by the fingers and then turning the turrets until the proper recess is had. All this may be done without moving the blocks which support the turrets, which thereby enables the workman to quickly change the different articles to be operated upon and bring new recesses into alignment.

Another very important feature of my invention consists in additional holding devices, which are located upon and carried by the turrets. These holding devices comprise jaws which are removable from the turrets, which jaws also carry removable and interchangeable jaw-blocks. The jaws 39 comprise a rounded end 40, squared section 41, openings 42, and recess 43. (See Figs. 1 and 6.) The turrets are provided with openings 44, Figs. 4 and 5, into which the rounded end 40 of the jaws is placed. The turrets are also provided with a squared depression 45, (see Fig. 5,) in which the squared section 41 of the jaws rests and which prevents the jaws from turning. These jaws are mainly intended for holding the removable jaw-blocks 45; but it is obvious that they may be utilized for the purpose of holding an article between them—such, for instance, as a round bar held between the circular recesses 43.

It very often occurs in this class of work that an article is to be manipulated for which no particular recess can be provided in the turrets. The jaw-blocks are intended to cover this feature and are therefore made of some soft or ductile material which is sufficiently strong to resist destruction by compression, but which is sufficiently yielding to permit of their being cut or shaped, say, by a knife so as to make them conform to the article to be operated upon. I preferably cast these jaw-blocks of lead and provide them with rounded extensions or spindles 46, which spindles are to be inserted into the holes or openings 42 in the jaws. These jaw-blocks may also be especially cast of any suitable material or suitably shaped and configured for the special purpose of holding small articles for fine work. Ordinarily the pressure of the jaws upon the article will hold the jaw-blocks in place; but if it should be desired to make this more certain they could be provided with ears 47, as in Fig. 8, which ears will bind against the sides of the jaws, and will thereby be rigidly held in position. It will thus be seen that these jaw-blocks are interchangeable, as are in a measure the jaws themselves. The feature of interchangeability I direct more especially to the jaw-blocks rather than to the jaws. Thus the three main features of my invention—namely, the rotatable turrets, the removable jaws, and the interchangeable jaw-blocks—are very important and valuable features of a

jeweler's vise, and I do not therefore limit myself to their particular shape or structure.

I am aware of the patent to Edward S. Stehman, No. 348,299, dated August 31, 1886, and do not claim, broadly, anything therein shown and described.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the blocks 21 22 and devices for actuating them, of the upwardly-extending turrets recessed or configured to receive and hold various-shaped articles, and upwardly-extending spindles fixed to the blocks, about which the turrets are free to rotate, the apertures in the turrets through which said spindles pass being larger than the diameter of said spindles, substantially as described.

2. The combination, with the turrets and their operating devices, of jaws adapted to be brought together by said turrets, and removable jaw-blocks secured to said jaws, substantially as described.

3. A device for holding an article during manipulation of the same, having holding-jaws removable from said device and formed of some soft and ductile material, substantially as described.

4. The combination, with the blocks 21 22 and devices for actuating them, of the upwardly-extending turrets rotatably secured upon said blocks, and locking devices for preventing the rotation of said turrets, substantially as described.

5. The combination, with the blocks 21 22 and devices for actuating them, of the upwardly-extending spindles on said blocks, apertured turrets rotatably secured upon said blocks by a spindle, the diameter of said aperture being larger than the diameter of the spindles, and locking devices for preventing the rotation of said turrets, substantially as described.

6. The combination, with the blocks 21 22 and devices for actuating them, of the turrets loosely mounted on said blocks, upwardly-extending and removable jaws carried by said turrets, and means for preventing the rotation of said turrets, substantially as described.

7. The combination, with the blocks 21 22 and devices for actuating them, of the upwardly-extending spindles 24, secured in said blocks, the turrets 25, having the openings 26 loosely surrounding the said spindles, said turrets having the lower flanges 28 concentric with the openings 26, an upwardly-extending web 29, and a top flange 27, substantially as described.

8. The combination, with the blocks 21 22 and devices for actuating them, of the upwardly-extending spindles 24, secured in said blocks, the turrets 25, having the openings 26 loosely surrounding the said spindles, said turrets having lower flanges 28 concentric with the opening 26, indentations 35 in said flange, an upwardly-extending web 29, a top flange 27,



and the studs 36, fixed to the blocks 21 22, adapted to engage with the indentations 35 in the flange 28, substantially as described.

9. A turret for an engraver's vise, comprising the central web 29, having squared or configured surfaces, an opening 26, passing through the turret, a lower flange 28 concentric with the opening 26, indentations 35 in said flange, and a top flange 27, having squared and configured surfaces, substantially as described.

10. A turret for an engraver's vise, comprising the central web 29, having squared or configured surfaces, an opening 26, passing through the turret, a lower flange 28 concentric with the opening 26, indentations 35 in said flange, a top flange 27, having squared or configured surfaces, an opening 44 in said turret, and a wall about said opening, substantially as described.

11. The combination, with the turrets and devices for actuating them, of the removable jaws, said jaws having a spindle 40, openings 42, shoulders 41, the turrets being provided

with openings 44 for the reception of the spindles 40 of the jaws, and walls about said openings for engagement with the shoulders 41 on the jaws, substantially as described.

12. The combination, with the turrets and devices for actuating them, of the removable jaws, said jaws having a spindle 40, openings 42, shoulders 41, and the removable jaw-blocks having the spindles 46 for insertion in the openings of the jaws, the turrets being provided with openings 44 for the reception of the spindles 40 of the jaws and walls about said openings for engagement with the shoulders 41 on the jaws, substantially as described.

13. A removable jaw-block for an engraver's vise, comprising a laterally-extending abutment-section, a spindle 46, extending outwardly from said section, and outwardly-extending shoulders 47 on the abutment-sections, substantially as described.

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Witnesses:

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WM. SCHRIKKER.