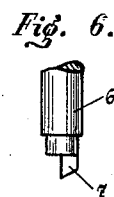
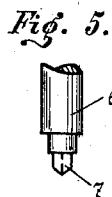
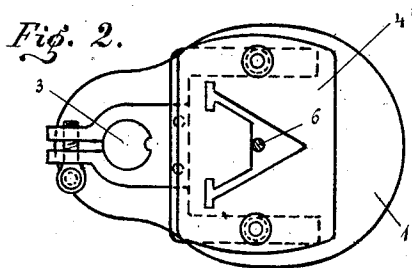
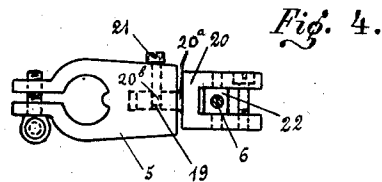
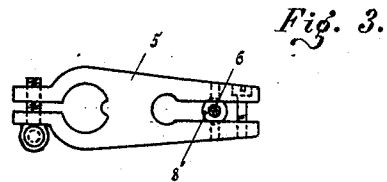
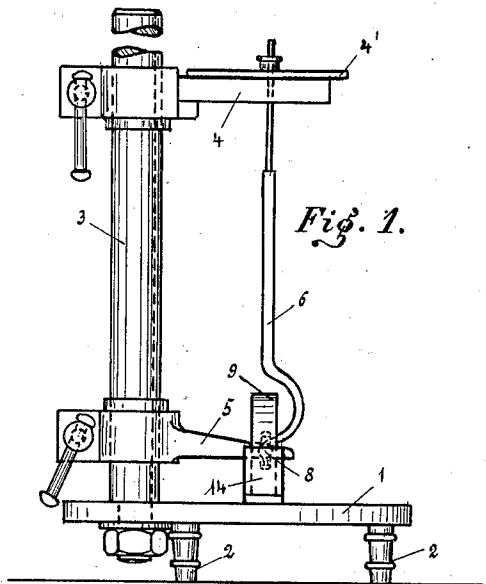


R. FLEISCH.  
ENGRAVING MACHINE.  
APPLICATION FILED OCT. 18, 1911.

1,058,955.

Patented Apr. 15, 1913.



Witnesses:  
Peter H. Fleisch  
Peter H. Fleisch

Inventor:  
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# UNITED STATES PATENT OFFICE.

RUPERT FLEISCH, OF KOBLENZ, GERMANY.

## ENGRAVING-MACHINE.

1,058,955.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed October 19, 1911. Serial No. 655,570.

*To all whom it may concern:*

Be it known that I, RUPERT FLEISCH, watchmaker, a subject of the King of Prussia and German Emperor, residing at Koblenz-on-the-Rhine, in the Kingdom of Prussia and German Empire, have invented certain new and useful Improvements in Engraving-Machines, of which the following is a specification.

My invention relates to improvements in engraving machines.

According to my invention the cutter-bar which is movable in a pattern which can be shifted up and down and is led through said pattern, is carried by a universal joint supported by a carrier movable up and down above the working-table, so that in case of necessity an adjustment can easily take place during the work after the size of the engraving has been nearly fixed by displacing the pattern accordingly.

Further my invention relates to a special arrangement of the cutter as represented in the drawings.

In these drawings forming a part of my specification and in which similar numbers of reference relate to corresponding parts throughout the several views, Figure 1 is a side view, Fig. 2 a plan of a form of execution of my machine. Fig. 3 is a plan of the lower support of the machine in one form of execution. Fig. 4 is a plan of another form of execution of said support. Fig. 5 is a front view. Fig. 6 is a side-view of the cutter.

A plate 1 forming the working-table and resting upon feet 2 carries a column or pillar 3 upon which an upper support 4 and a lower support 5 are movable up and down. The upper support 4 carries the pattern 4' of the figure (letter, numeral or the like) to be engraved on any desired object, the rod 6 or bar of the cutter 7 passing freely through the pattern. The said rod or bar of the cutter 7 is freely held by a universal or knuckle-joint 8 carried by the lower support 5 of the machine (Figs. 1 and 3). The position of the supports 4 or 5 is adjusted along the column or pillar 3 in accordance

with the size of the figure (letter, numeral 50 or the like) just to be engraved upon the object, so that one single pattern 4' is sufficient for engraving figures of different sizes. In the form of execution of said lower support, as represented in Fig. 4 a block 55 through which is passed the rod or bar of the cutter is pivoted to a block 20, so that said block 22 may turn relatively to said block 20. The latter is provided with a projecting part or shank 20<sup>a</sup> extending into a socket 19 in arm 5. Said projecting part or shank of the block 20 is provided with a groove 20<sup>b</sup> engaged by the end of a screw 21 passed through one side of the arm 5, so that said screw permits the rotation of said projection or shank 20<sup>a</sup> while preventing the lengthwise movement thereof. In this way, the blocks 22 and 20 form together a universal joint, as block 22 is pivoted to turn in one plane in the block 20 and the latter is free to turn in a plane perpendicular thereto in part 5.

A suitable form of cutter is represented in Figs. 5 and 6, said cutter being specially adapted for my machine, as cutting heavily in a forward direction and slightly in a backward direction.

Having thus described my invention what I claim and desire to secure by Letters Patent of the United States is:—

1. In an engraving machine, the combination of a working-table 1 feet 2 supporting said working table, of a column 3 carried by said working-table, an upper support 4 slidable up and down on said column 3, a pattern 4' fixed to said upper support 4, a lower support 5 slidable up and down a said column 3, an universal joint supported by said lower support, and a cutter rod or bar 6 passed through said universal joint and said pattern, substantially as described.

2. In an engraving machine, the combination of a cutter rod a lower arm 5 having a socket 19, a block 22 through which is passed said cutter rod, a block 20 to which said block 22 is pivoted, a shank 20<sup>a</sup> projecting from said block 20, a groove 20<sup>b</sup> in said shank 20<sup>a</sup> the latter extending in said

socket 19 of arm 5, and a screw 21 passed through one side of said arm 5, said screw engaging with its end into said groove of the shank of block 20, so that the screw  
5 21 permits the rotation of said shank while preventing the lengthwise movement thereof, substantially as described.

In testimony whereof, I have hereto affixed my signature in the presence of two subscribing witnesses.

RUPERT FLEISCH.

Witnesses:

PETER NEFFERS,  
PETER RUNKEL.

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

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