

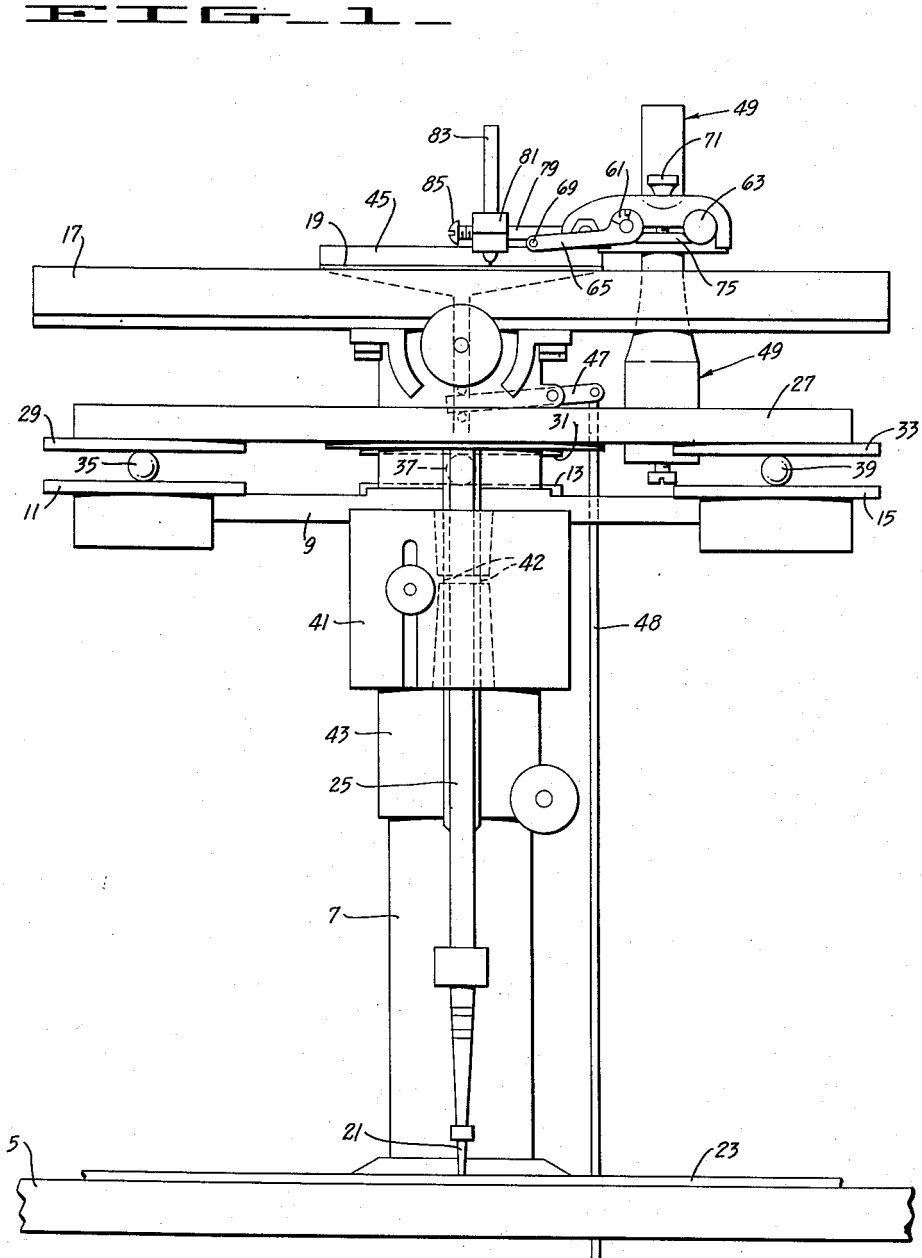
Feb. 9, 1954

J. CLARK  
ENGRAVING DEVICE

2,668,355

Filed June 29, 1953

2 Sheets-Sheet 1



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FIG. 2

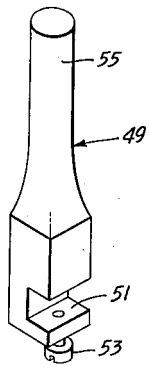
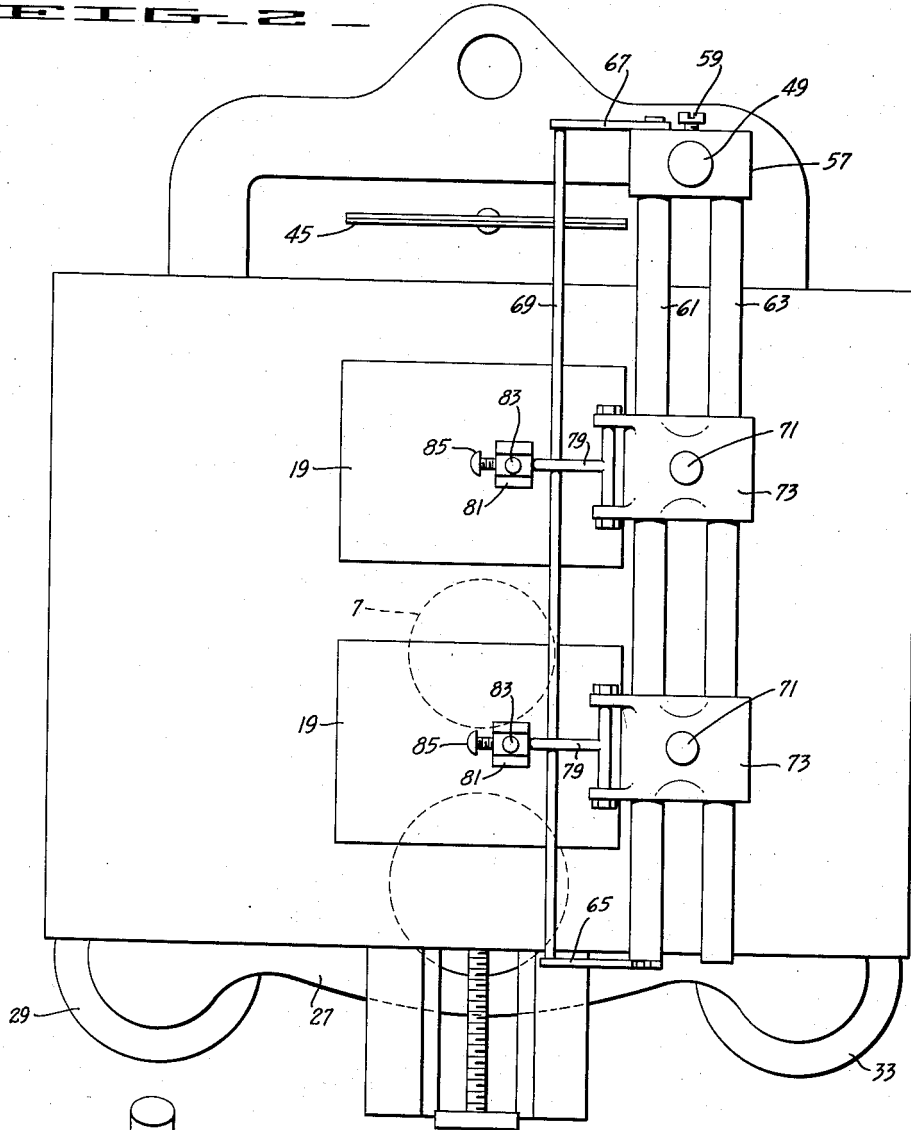


FIG. 3

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# UNITED STATES PATENT OFFICE

2,668,355

## ENGRAVING DEVICE

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1 Claim. (Cl. 33—18)

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This invention relates to an attachment for an engraving machine and particularly relates to an attachment which enables two or more engraving plates to be made by single operation.

In the making of plates for engraving, a metal plate is ordinarily coated with an acid resist, placed in a pantograph engraving machine, the desired information traced through the resist, and the plate is then etched with acid. It frequently happens that a number of plates are to be made which have certain common information thereon. For instance, a corporation might have several plates made, each of which had the name and address of the corporation, but wherein the various plates had the name of a different officer thereon. It is apparent that it is highly advantageous if the common subject matter of the various plates can be traced onto the plates with a single operation.

It is an object of the present invention to provide an attachment for a conventional engraving machine whereby a number of engraving plates can be made with a single operation.

It is another object of this invention to provide a device wherein the attachment for making multiple plates is inexpensive, rugged, and may be readily attached to an existing engraving machine with a minimum amount of trouble.

In the description of the device which follows, the device is described as attached to "The Universal Engraving Machine," which is an engraving machine manufactured by the Cronite Co., Inc. of North Bergen, New Jersey. However, it will be apparent to those skilled in the art that the device of the present invention may be readily attached to various engraving machines and that the description of the device in connection with this particular machine is merely for convenience.

In the drawings forming a part of the specification:

Figure 1 is a front elevation of a Universal Engraving Machine with the device of the present invention attached thereto.

Figure 2 is a plan view of the engraving machine with the device of the present invention in place.

Figure 3 is a perspective view of the arm which is used to fasten the device of the present invention onto an engraving machine.

Referring now to the drawing by reference characters, there is shown an engraving machine having a base 5 and an upright member 7. The member 7 supports a fixed bearing support 9, which has attached thereto three bearing sur-

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faces designated 11, 13 and 15. The member 7 also supports an upper table 17 which is fixed in relation to the base 5 and which serves as a support for the plate or plates to be engraved 19. The engraving operation is accomplished by means of a tracing stylus 21, which can be moved through the grooves of a master plate 23, which is placed on the base member 5. The stylus 21 is supported by an arm 25, which is pivoted to an upper bearing support or movable table 27, which has attached thereto three bearings, designated 29, 31 and 33. Three ball bearings are placed between the sets of flat bearings so that ball 35 is free to rotate between bearings 11 and 29, ball bearing 37 is free to rotate between bearings 13 and 31, and ball bearing 39 is free to rotate between bearings 15 and 33. Attached to the member 7 is a bearing 41 which is retained by the collar 43 on the upright 7. The bearing 41 has indentations 42 thereon, which bear against the arm 25. It is thus apparent that as the stylus 21 is moved, it will pivot around the point 42, so that the upper bearing support 27 will reproduce the movements of the stylus, but on a reduced scale. The degree of reduction can be changed by sliding the collar 43 up or down on the upright 7, which changes the relationship in the distance between plate 27 and bearing 42 and between bearing 42 and stylus 21, as is well-known to those skilled in the art.

Between letters, it is necessary to raise the reproducing stylus and for this purpose, the arm 45 is provided. The arm 45 is slidably mounted on the table 17 and it can be moved upwardly or downwardly by the action of the lever 47. Lever 47 is controlled by the rod 48, which is ordinarily attached to a foot pedal, not illustrated. In this manner, as the rod 48 is pulled, the lever arm 47 will cause the arm 45 to be raised to prevent gouging the plate 19 between letters. The equipment thus far described is purely conventional and has been described only to aid in an understanding of the device of the present invention.

The device of the present invention consists of an arm 49, one end of which has a notch 51 which may be provided with a screw 53 so that the arm 49 may be clamped to the upper bearing support 27. The upper end of arm 49 is rounded as at 55. Attached to the upper end of arm 49 is a clamp 57, which is suitably provided with a thumb screw 59, for rigidly clamping part 57 onto the rounded portion of arm 49. Rigidly attached to the clamp 57 are two horizontal rods 61 and 63. The rod 61 has attached thereto a swinging arm 65 and the clamp 57 has attached

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thereto a corresponding swinging arm 67. The arms 65 and 67 support a control rod 69, which is fastened therebetween. The control arm 69 is free to swing up and down, but its downward movement is limited by contact with the arm 45, 5 as is shown. Attached to the rods 61 and 63 by means of a thumb screw 71 is a sliding stylus support 73. The stylus support 73 is clamped to the rods 61 and 63 by means of friction exerted by the thumb screw 71 on the part 75. The stylus support 73 carries a swinging T-shaped arm 79, 10 which has thereon a clamp 81 which holds a reproducing stylus 83. Cone bearings are used to fasten the arm 79 to the support 73. The stylus 83 is clamped in place by means of the screw 85. 15

In the embodiment illustrated, two stylus supports 73 are shown attached to the rods 61 and 63, but it is apparent that several such members can be used. It is also apparent that more than one complete assembly, made in accordance with 20 the present invention, can be clamped to the upper bearing support member 27 so that an even larger number of plates may be made at the same time. If two assemblies are used, the second one should be a mirror image of the one 25 illustrated.

From the equipment thus described, two or more plates can be engraved simultaneously. On the other hand, the device may be used to engrave a single plate by merely swinging one of 30 the arms 79 back, whereupon it will rest on the member 73 and thus be inoperative.

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The reproducing stylus will reproduce faithfully the movement of the tracing stylus, and can be raised from the work by the arm 45, which is built into the machine for this purpose. Since each reproducing stylus is suspended independently, no fine adjustment of the vertical position of the stylus is necessary.

I claim:

In a device of the character described, a clamp adapted to be fastened to the movable table of an engraving machine, two parallel arms extending horizontally from said clamp, at least one stylus holder slidably mounted on said horizontal arms, means for fastening the stylus holder on said arms in a fixed position, a swinging arm pivotally attached to the stylus holder at one end thereof said swinging arm extending at right angles to said parallel arms and adapted to receive a stylus at the free end, and a swinging rod parallel to and spaced from the two parallel arms, said swinging rod being adapted to contact the under portion of the swinging arm and to raise the swinging arm.

JOHN CLARK.

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