

Oct. 16, 1962

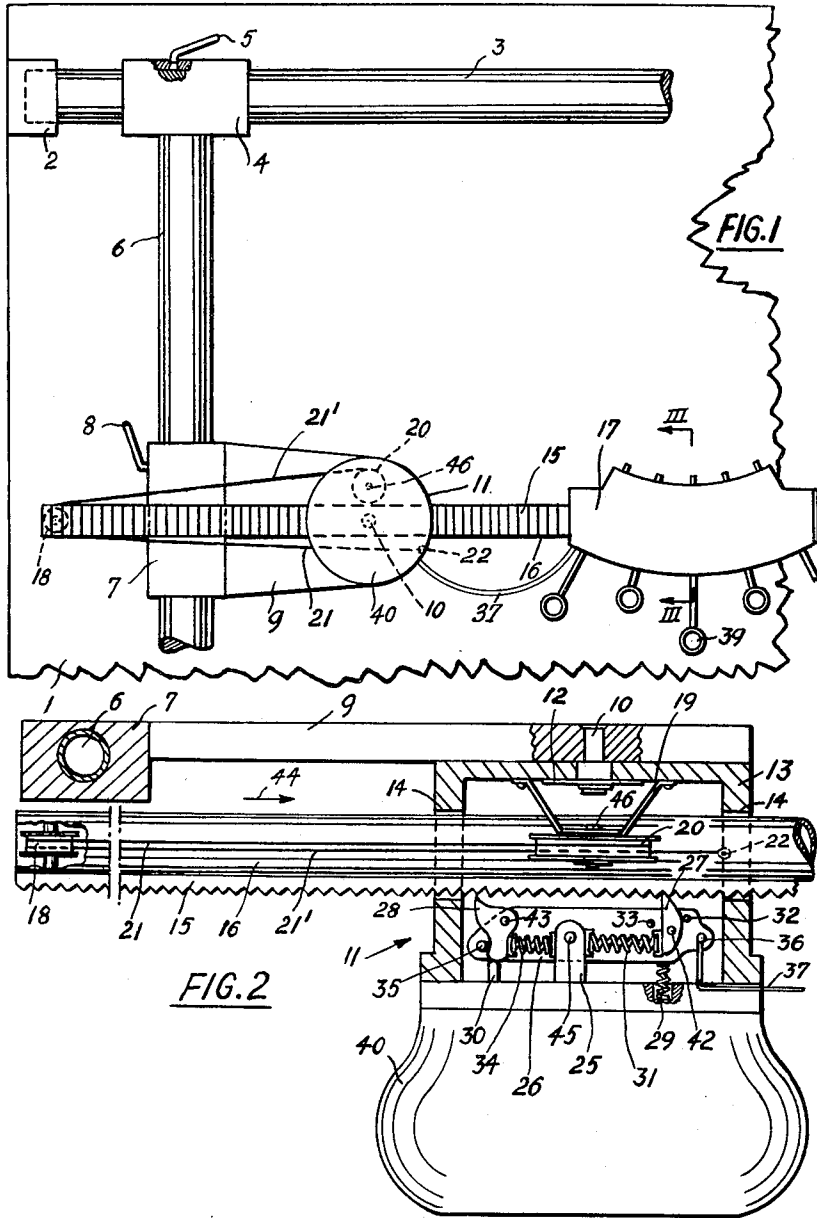
O. BUTTER

3,058,566

ARRANGEMENT OF AN INSCRIBING MACHINE ON A DRAWING BOARD

Filed June 23, 1960

2 Sheets-Sheet 1



INVENTOR

Otto Butter

By

Lowy & Reinhardt

ATTYS.

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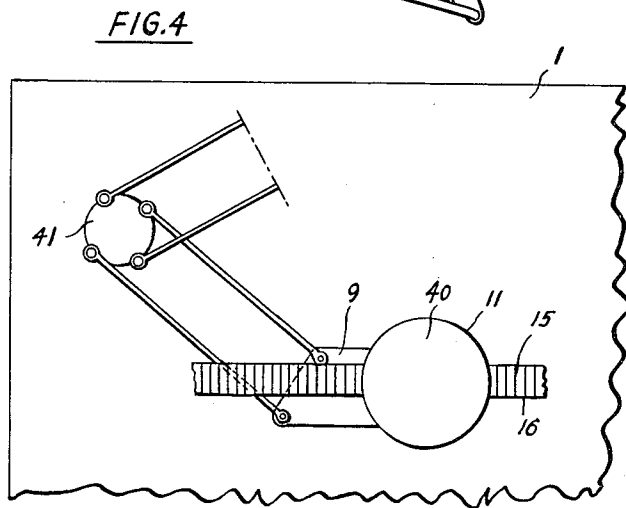
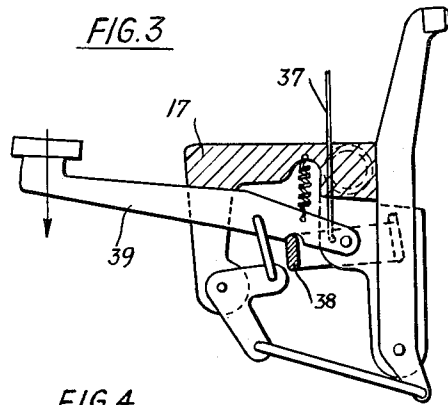
O. BUTTER

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INVENTOR
Otto Butter
By
Lowry & Rieker
ATTYS

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ARRANGEMENT OF AN INSCRIBING MACHINE ON A DRAWING BOARD

Otto Butter, Neckargemund, Germany, assignor to Gesellschaft für industrielle Technik m.b.H., Heidelberg, Germany, a firm

Filed June 23, 1960, Ser. No. 38,226

Claims priority, application Germany Oct. 26, 1959

5 Claims. (Cl. 197-2)

This invention relates to an arrangement of an inscribing machine on drawing boards, which can be constructed also as a lettering machine.

The arrangement is intended to enable the inscribing machine to be adjusted to any point on the plane of the drawing and to be as light as possible.

The invention provides an arrangement of an inscribing machine on a drawing board, which comprises an adjusting head mounted on said drawing board, slide guides provided in said adjusting head for a guide rail carrying an inscribing machine, and a stepping device for said inscribing machine.

The adjusting head can be carried by two rails extending parallel to the plane of the drawing and at right angles to each other. The adjusting head can also be fixed on the drawing board through the intermediary of a known parallelogram guide. The adjusting head is made to swivel so that an inscription can be carried out at any desired angle on the drawing surface.

To obtain a stepping movement of the inscribing machine by actuating one of its key levers a switching connection is provided between the key levers arranged on the machine and the stepping device of the adjusting head. The guide rail carries a toothed rack in which the stepping device of the adjusting head engages with pawls.

A preferred embodiment will now be described by way of example and with reference to the accompanying drawings, in which:

FIG. 1 is an elevational view of an adjusting head connected to an upright drawing board through the intermediary of two carrier rails and provided with a guide rail and an inscribing machine;

FIG. 2 is an enlarged fragmentary top plan view on a larger scale of the adjusting head with the guide rail and showing the housing of the adjusting head in section;

FIG. 3 is an enlarged fragmentary section taken on line III—III of FIG. 1, and

FIG. 4 is a schematic elevational view of an arrangement of the adjusting head on a known parallelogram guide of an enlarged fragmentary drawing machine.

According to FIGS. 1 and 2 a holder 2 is fixed on a drawing board 1 and carries a first carrier rail 3 extending in horizontal direction. On this rail a first slide head 4 is movable and can be fixed by a first clamping lever 5.

A second carrier rail 6 is mounted on the first slide head 4 at right angles to the first carrier rail 3 and carries a second slide head 7 which can be fixed by a second clamping lever 8.

The second slide head 7 has a bearing plate 9 on which an adjusting head 11 is arranged rotatable on an axle 10 by means of a knob 40 and fixable in known manner for example at angles of 15° to 15°.

The adjusting head 11 is held in its adjusted position by means of a spring ring 12. Apertures with slide guides 14 are arranged on diametrically opposite sides in a housing 13 of the adjusting head 11, in which guides 14 a guide rail 16 provided with a toothed rack 15 and constructed as a tube is slidable. This guide rail 16 carries at its end an inscribing machine 17.

A spring-loaded roller 20, such as is known in connection with typewriters, is mounted on an axle 46 on a

bracket 19 inside the adjusting head 11 and on this roller 20 a pull cord 21 is wound. This pull cord 21 is guided over a roller 18 at the end of the guide rail 16, strand 21¹ of the pull cord 21 being anchored at 22 inside the adjusting head so as to exert a pull on the guide rail 16 in the direction indicated by an arrow 44.

Beside the toothed rack 15, which has a tooth pitch corresponding to the letter spacing of the inscribing machine 17, a rocker 26 is mounted on a bracket 25 in the adjusting head 11 and carries a first pawl 27 and a second pawl 28. The rocker 26 is held in its initial position against a first stop 30 by means of a first spring 29 and the first pawl 27 is pressed into the teeth of the toothed rack 15, whereas the second pawl 28 is free. The first pawl 27 is controlled by a second spring 31 and oscillatable about a first pivot 42 between a second stop 32 and a third stop 33.

The second pawl 28 oscillatable about a second pivot 43 is pressed by a third spring 34 against a fourth stop 35. A Bowden cable 37 or the like engages an eye 36 in the rocker 26 and is connected with a shift rail 38 (FIG. 3) of the inscribing machine 17 which rail is arranged underneath a key lever 39. The shift rail 38 and the Bowden cable 37 form a switching connection between the key levers 39 and the stepping device comprising the rocker 26 and the two pawls 27 and 28.

Before making an inscription, the inscribing machine 17 is adjusted by loosening the clamping levers 5 and 8 and shifting the slide heads 4 and 7 to the place on the drawing board 1 where the inscription is to be made.

When one of the key levers 39 of the inscribing machine 17 is depressed the shift rail 38 is swung downwards and thereby exerts a pull on the rocker 26 through the intermediary of the Bowden cable 37, causing the rocker to swing about a third pivot 45 against the action of the first spring 29, with the result that the first pawl 27 slides out of the teeth of the toothed rack 15 and at the same time the second pawl 28 is pressed into the toothed rack 15. When the key lever 39 is again released, the shift rail 38 and the rocker 26 are again allowed to return into their initial positions and the first pawl 27 to engage again in the toothed rack 15 but this time displaced by one tooth because the guide rail 16 has been transported under the influence of the pull cord 21 a distance corresponding to one tooth in the direction of the arrow 44. This procedure is repeated every time one of the key levers 39 of the inscribing machine 17 is actuated.

In FIG. 4 a parallelogram guide 41 such as is known in drawing machines, is provided on the drawing board 1 and carries the bearing plate 9 with the adjusting head 11.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment is therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention, being indicated by the appended claims rather than by the foregoing description and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

I claim:

1. A lettering and inscribing device for use in combination with a drawing board for placing letters and inscriptions on drawings, said device comprising an adjusting head, a support for mounting said adjusting head in a desired position relative to the drawing board, guide means carried by said adjusting head, a guide rail mounted in said guide means for sliding movement through said adjusting head, a key operated lettering and inscribing machine carried by said guide rail for movement therewith, spring means urging movement of said guide rail through said adjusting head, said guide rail having a rack surface, a dog mechanism carried by said adjusting head

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in engagement with said rack surface for effecting the step-by-step movement of said guide rail in response to the urging of said spring means and the operation of said lettering and inscribing machine, said lettering and inscribing machine including a key operated shift rail connected to said dog mechanism for operating the same in response to the depressing of a key of said lettering and inscribing machine.

2. The lettering and inscribing device of claim 1 wherein said dog mechanism includes a pivotally mounted support, a pair of dogs pivotally mounted on said support, spring means carried by said support normally holding said dogs in operative positions, and spring means engaging said support and urging one of said dogs into holding engagement with said rack surface and the other of said dogs just out of engagement with said rack surface.

3. The lettering and inscribing device of claim 2 wherein the connection between said shift rail and said dog mechanism includes a cable connected to said pivotally mounted support for overcoming the last mentioned spring means.

4. The lettering and inscribing device of claim 2 where-

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in said first mentioned spring means includes a cable having one end anchored to said adjustable head and the other end reeled on a spring loaded reel carried by said adjustable head, and a guide member carried by said guide rail adjacent one end thereof and receiving an intermediate portion of said cable.

5. The lettering and inscribing device of claim 1 wherein said first mentioned spring means includes a cable having one end anchored to said adjustable head and the other end reeled on a spring loaded reel carried by said adjustable head, and a guide member carried by said guide rail adjacent one end thereof and receiving an intermediate portion of said cable.

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