

Aug. 13, 1935.

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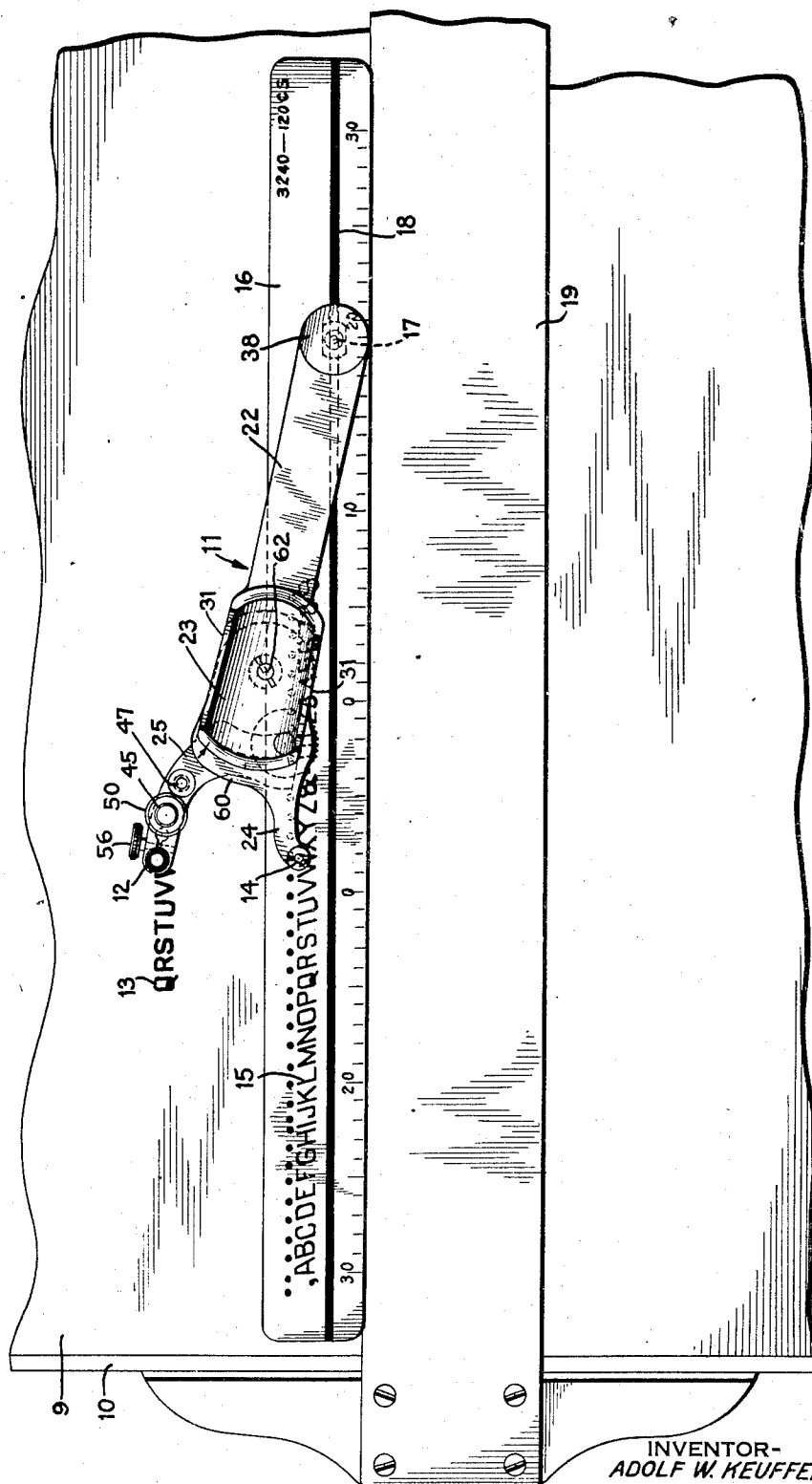
2,011,195

ADJUSTABLE SCRIBER

Filed May 17, 1933

2 Sheets-Sheet 1

FIG. 1.



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2 Sheets-Sheet 2

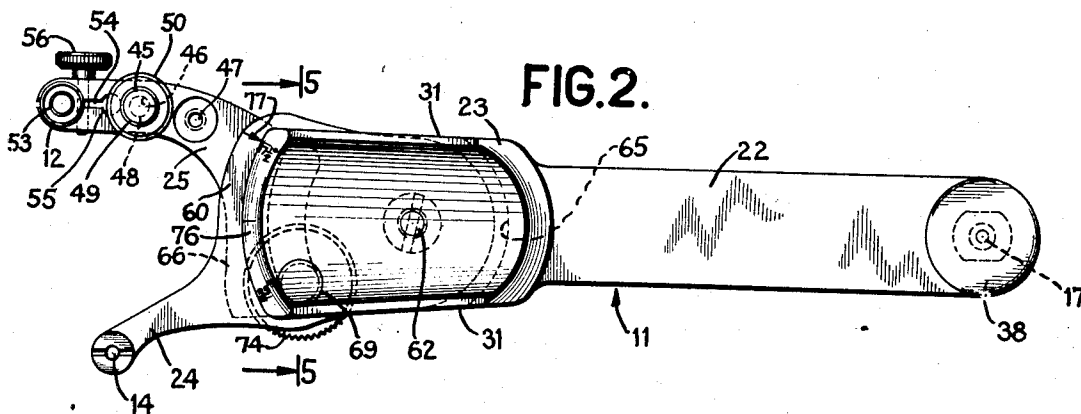


FIG. 3.

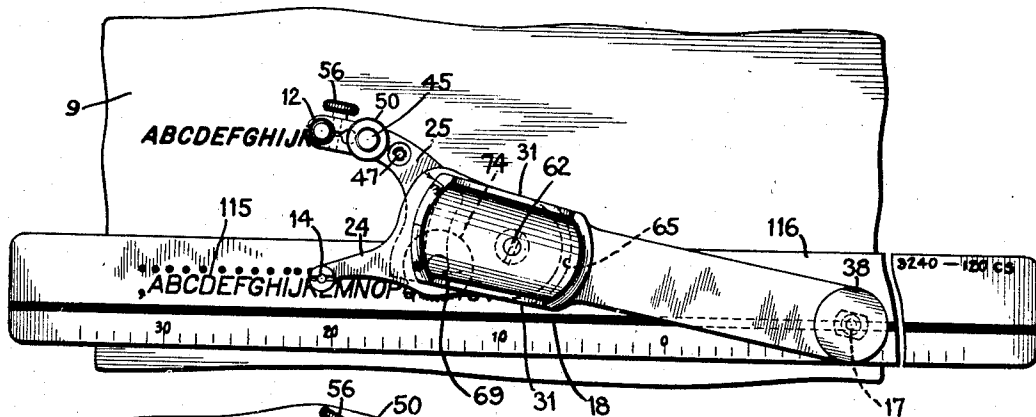


FIG. 4.

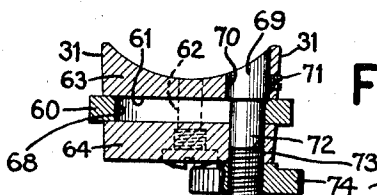
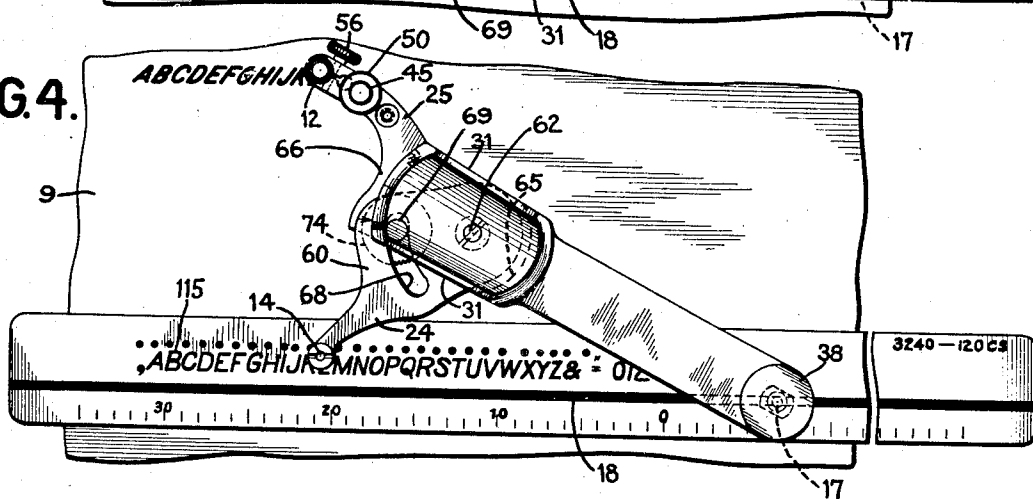


FIG. 5.

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ADJUSTABLE SCRIBER

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3 Claims. (Cl. 33—23)

This invention relates to scribing devices of the kind in which a writing instrument is carried by a body member and is directed over the surface to be written upon by a tracer pin movable in character grooves formed in a template and by a tail pin movable in a groove parallel with the line of lettering.

Devices of the character described have heretofore been awkward to use, limited in their application and complicated in design to counteract inherent defects.

One object of the invention is a scribing device, conveniently held in the hand, with which the writing instrument and tracer and tail pins are carried and in which the relation of the tracer pin and writing instrument are alterable whereby letters, for instance, having different degrees of inclination may be inscribed with the use of the same character grooves in the template.

Another object of the invention is a scribing device of this character whereby letters, for instance, inclined from the vertical, may be inscribed with template character grooves, also inclined from the vertical.

The invention also seeks means to adjust the relation between the writing instrument and the tracer pin whereby characters of a predetermined inclination may be selectively inscribed.

The invention also seeks a scribing device which is practical from the standpoint of ease and accuracy of manufacture and use.

These and other objects of the invention and the means for their attainment will be more apparent from the following detailed description taken in connection with the accompanying drawings illustrating a preferred embodiment and in which:

Figure 1 is a view showing the scribing device of this invention and its use to inscribe vertical letters with a template having character grooves to cause the production of such vertical letters;

Figure 2 is a view showing the scribing device in plan;

Figure 3 is a view, in plan, showing the adjustable scribing instrument in such position of adjustment as to inscribe characters having the least angle of inclination to the vertical with a template having character grooves for the production of inclined characters;

Figure 4 is a view similar to Figure 3 but showing the scribing instrument adjusted to produce characters having the maximum inclination; and

Figure 5 is a transverse sectional view taken in the plane indicated by the line 5—5 of Figure

2, and showing the means for locking the scribing device in adjusted position.

Referring first to Figure 1, a writing surface, such as a sheet of drawing paper or tracing cloth, is indicated at 9, carried upon, say, a drawing board 10. A scribing device indicated generally at 11 is adapted to inscribe, by means of a pen 12, or other writing instrument, letters, numerals, diagrams or other characters 13 on the writing surface 9 by being guided, as by the movement of a tracer pin 14, in character grooves 15 formed in a template 16. The scribing device is also controlled, in its movements, by a tail pin 17 positioned in a horizontal groove 18, also in the template 16. The groove 18 is maintained in parallel relationship with the line of lettering, say, by being guided and positioned by a straight edge, such as the T-square 19.

The scribing device comprises a body member, Figure 2, elongated and relatively narrow in width for approximately half its length, as illustrated at 22. From this point, the body member increases progressively in width toward the opposite end, as at 23. At the latter end, the body member has two arms 24 and 25 spaced apart where they join the body and diverging progressively. The scribing device generally, as thus described, forms the subject matter of my co-pending application, Serial Number 671,464 filed May 17, 1933.

In Figure 2, the scribing device occupies generally the position it assumes when used to inscribe characters. The arm 24 will be referred to as the near arm since it occupies the position nearest the user and the arm 25 as the remote arm since it is further away from the user when inscribing characters.

The near arm 24 is provided near its extremity with a hardened tracer pin 14 fixed therein.

The end of the tracer pin 14 is received in the character grooves 15 of the template 16. These character grooves 15 are formed in the template 16 in the outline of the character to be reproduced by the writing instrument. The inclination and proportions of the character grooves bear a definite relationship to the angular relation of the longitudinal axis of the body 11 when guided by the horizontal groove, the spread of the arms 24, 25 and the desired inclination of the inscribed characters 13.

Proximate the arms 24, 25 that portion 23 of the body which is of progressively increasing width is of increased thickness, the vertical sides 31 being plane and diverging for convenient grasp

between, say, the thumb and middle finger, the index finger resting on the upper surface which is conveniently slightly concave, in a transverse direction, as seen in Figure 5.

The tail pin 17 slides freely in the horizontal groove 18 of the template 16 as the tracer pin follows, in the character groove, the outline of the character being inscribed. To retain the tail pin 17 in the groove 18, the extremity of the end 22 is preferably weighted. As shown, a plug or weight 38 of some heavy material, such as lead, is carried by the end. By means of the weighted end, the scribing device may be moved back and forth along the template and rotated through appreciable angles about the axis of the tail pin 17 without danger of the tail pin leaving the horizontal groove 18.

It is proposed, with the scribing device of this invention, to inscribe characters of varying heights and line thicknesses and inclination to the vertical as well as vertical characters all dependent upon the writing instrument selected and the size and inclination of the character grooves in the template. While any writing instrument, a graphite or crayon pencil, for instance, may be used, there is illustrated, for convenience, a pen of the kind disclosed in Patent Number 1,528,142 dated March 3, 1925. To retain the writing instrument in the desired relative position with respect to the writing surface, a raising screw 45 is carried with the remote arm 25.

The arm 25, Figure 2, is provided with at least one and preferably two or more threaded apertures 46, 47 at different distances from the pen 12. The raising screw comprises a threaded shank 48 for reception in the apertures 46, 47. It has a head 49, conveniently knurled, by which the shank 48 is turned in the threaded aperture and the elevation of the arm 25 adjusted above the surface 9, and thus the mouth of the pen's delivery nozzle may be maintained at the proper distance above the writing surface 9. When the raising screw 45 is in adjusted position, it may be locked in that position by the lock nut 50.

To receive the writing instrument 12, the extremity of the remote arm 25 is apertured, as at 53, Figure 3, and on the median line the arm 25 is slotted with a relatively wide slot 54 from the end inwardly on a diameter of the aperture 53, the slot terminating in an aperture 55. The bifurcated end of the arm 25 may then be drawn together by a clamping screw 56 to draw the sides tightly against a writing instrument in the aperture 53 and hold it in position.

When a small size pen is used, the raising screw is placed in the nearest aperture 46 in order that the raising screw may be as close to the pen as possible for accurately positioning the pen with respect to the writing surface. If, however, a pen is used, adapted for making a line of relatively great width, the raising screw would wipe into the letter and cause a blot. In order to avoid this, the raising screw is moved into the aperture 47 further away from the pen and thus the raising screw may be adjusted both vertically and laterally with respect to the writing instrument.

In the illustrated embodiment, the arm 25 is formed integral with or otherwise relatively fixed with respect to the body 22, 23, while the arm 24 is relatively movable with respect to said body. In the illustrated embodiment, the arm 24 is carried on a plate-like member 60 of substantially the same general shape, in a horizontal plane, as the thickened portion 23. It is carried within

a horizontal recess 61 in said thickened portion and is preferably removably pivoted therewith as by the screw 62. The recess has parallel upper and lower faces on the upper and lower portions 63 and 64, respectively, and an arcuate inner end wall 65. The plate 60 is preferably somewhat wider than the portion 23 at the end carrying the arm 24 so as to allow ample surface within the recess when the arm 24 is in extended position (Figure 4) for rigidity. The end of the lower wall 64 of the recess extends outwardly as at 66 and the plate portion 60 also extends outwardly of the upper wall 63 as seen in the figures.

The plate portion 60 is also formed with a slot 68, the walls of which are concentric with the pivot pin 62. A stud 69 is seated in a vertical aperture 70 in the wall portion 63 and is retained in position by the set screw 71. Flush with the upper surface of the recess 61, the pin 69 becomes of reduced diameter as shown at 72, and this portion 72 passes freely through the slot 68 and freely through an aperture 73 in the body portion below the recess 61 and extends thereabout. The extremity of the pin 69, 72 is threaded and receives a knurled clamping nut 74. Thus, when the arm 24 has been moved to adjusted position, i. e., either to the contracted position of Figures 1, 2 and 3, or the expanded position of Figure 4, or to any intermediate position of adjustment, the nut may be tightened and the parts clamped in adjusted position ready for use.

To facilitate adjustment of the scribing device of this invention, the end of the wall 63 may be inclined or bevelled, as at 76, and a scale formed on or carried with the inclined portion. An index 77 on the exposed part of the arm portion 60 may then be selectively brought opposite one of the graduations on the scale to adjust the spread of the arms 24, 25 for a desired inclination of inscribed characters.

The adjustable scribing device of this invention is adapted to inscribe characters which are vertical or have an inclination to the vertical over a range of angles of inclination up to the limit of permissible adjustment of the device and dependent, of course, upon the inclination of the character grooves in the template selected. Thus, in Figure 1, a template 16 is shown in which the character grooves 15 have an inclination which is back handed, so to speak. If the scribing device is adjusted to contracted position so that the arms 24, 25 are in the position closest together, as shown in Figure 1, vertical letters 13 are formed. This, of course, is also dependent upon the relative angular relation of the tail and tracer pins and the writing instrument, and preferably also to the respective distances of the writing instrument and tracer pin from the tail pin.

In Figures 3 and 4, there is illustrated a template 116 having character grooves 115 with a forward slant. With the template 116 and with the scriber in the contracted position of Figure 3, wherein the index is set, say, at $17\frac{1}{2}^\circ$, letters of an inclination of $17\frac{1}{2}^\circ$ to the vertical, as shown in Figure 3, may be inscribed. With the arms of the scriber fully opened, as shown in Figure 4, and the index set at, say, 35° and with the same template 116, characters having an inclination of 35° to the vertical may be formed. Characters having an inclination to the vertical intermediate of the extreme angles mentioned may be formed by setting the scriber index at some intermediate point on the scale and, of course, by

suitably proportioning the arms and their relative angles of inclination, other than the extreme upper and lower limits mentioned, may be obtained.

5 It will thus be seen that a scribing device has been provided which is conveniently adjusted to inscribe letters or other characters having different degrees of inclination when used in conjunction with one and the same template. Also, 10 with a suitable template, vertical characters may be inscribed when the arms are in contracted position, while inclined characters of varying degrees of inclination may be formed using the latter template if the arms are in one of the expanded positions.

15 Various modifications will occur to those skilled in the art in the composition, configuration and disposition of the component elements going to make up the invention as a whole as well as in the substitution therein of elements performing equivalent functions and no limitation is intended by the phraseology of the foregoing description or illustrations in the annexed drawings.

20 What is claimed is:—

25 1. A scribing device comprising a unitary elongated body having at one end a tail pin for reception in a template groove, a scribing arm carried with the scribe at the other end, means carried with said arm for the reception of a writing 30 instrument, a second arm, a tracer pin carried proximate the end of said second arm for reception in a character groove in the template, said arm carrying the tracer pin being adjustable with respect to the body over a predetermined range of movement, means to secure said 35 second arm in any position of adjustment within

the range of movement of said arm, and cooperating scale members carried with the body and arm, respectively, to enable any desired angular relation of the adjustable arm with the scribing arm, within the range of adjustment, to be obtained.

2. A scribing device comprising a unitary elongated body having at one end a tail pin for reception in a template groove, a scribing arm diverging from the longitudinal axis of the scribe at the other end, means carried with the end of said arm for the reception of a writing instrument, said body, proximate the scribing arm, being formed with a horizontal recess, a second arm one end of which is pivoted within 15 the recess for horizontal movement, a tracer pin carried proximate the end of the pivoted arm for reception in a character groove in the template, said arm carrying the tracer pin being adjustable about its pivot with respect to the body 20 and means to secure said second arm in adjusted relation to the body.

3. A scribing device comprising a unitary elongated body having at one end a tail pin for reception in a template groove, a scribing arm 25 diverging from the longitudinal axis of the scribe at the other end, said body being formed, proximate the arm, with a horizontal recess, a plate in the recess having at its end a tracer pin arm, a pivot securing said plate in the recess, 30 said plate being formed with an arcuate slot and a clamping bolt passing through the walls of the recess to secure the tracer pin arm in adjusted position.

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