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LETTERING INSTRUMENT

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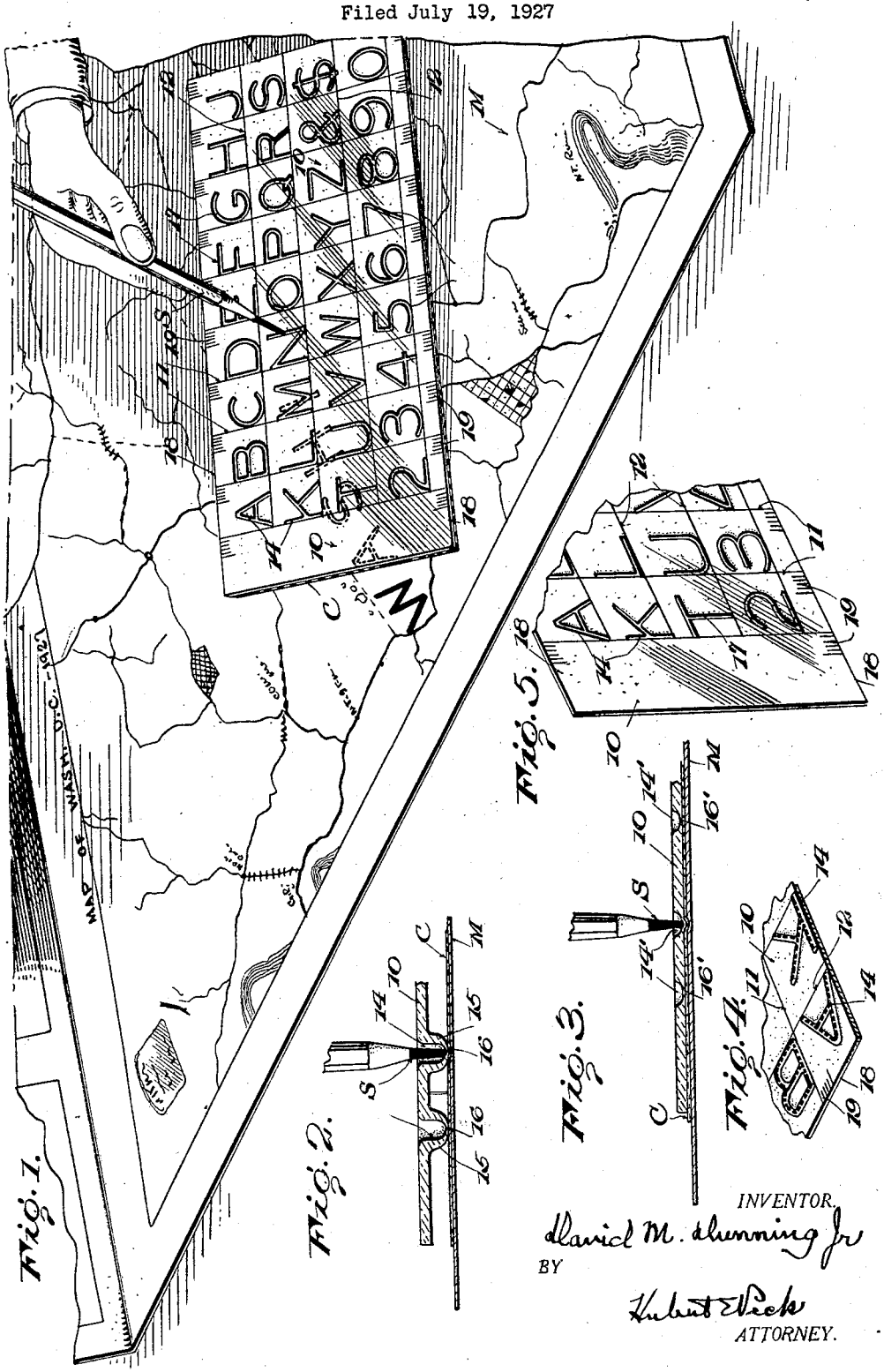


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

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LETTERING INSTRUMENT.

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This invention relates to certain improvements in lettering instruments; and the nature and objects of the invention will be readily recognized and understood by those skilled in the arts involved in the light of the following explanation and detailed description of the accompanying drawings illustrating what I at present consider to be the preferred embodiments or mechanical expressions of my invention from among various other forms, arrangements, combinations, and constructions of which the invention is capable within the spirit and the scope thereof.

In drawing, drafting and the like kinds of work, as well as in various of the arts, it is necessary to form or apply lettering, symbols, or other characters and designs on and to the work, which is generally accomplished by either free hand drawing with the use of guide lines or markings first formed on the work, or by the employment of the common or conventional drawing implements, such as straight edges, rulers and the like, in the formation of the characters or symbols. These and similar methods of forming or applying letters or other symbols and characters require the expenditure of a considerable amount of time and labor with frequent inaccuracies and lack of uniformity in the results obtained, and the present invention is directed to and holds as a general object, the material reduction in the time and labor required for lettering and forming other characters and symbols on the surfaces of various kinds of work, as well as the insurance of accuracy in spacing and positioning, and the complete or desired uniformity of the characters, symbols or design so formed and applied.

As a main and fundamental aim and object, the invention holds the provision of an instrument for use in forming or applying letters, or other characters and symbols, on and to drawings or the surfaces of other types and classes of work, which instrument embodies a flexible and transparent plate or strip having patterns or guides for a stylus thereon in the form of the characters desired, by which such characters can be formed on the desired surface through interposition of a transfer medium such as carbon paper, between the instrument and the surface, and then moving a stylus in the patterns or guides under pressure; and further to provide guide lines and space scales on the instrument by which the desired characters can be accurately located and properly spaced on the surface of the work.

Another object of the invention is to provide an instrument for lettering or forming other characters, in which guide grooves or depressions are formed in a plate or strip of flexible, yielding material in the form of the characters desired, with their bottom walls formed to receive a stylus under pressure and to yield at the point of stylus contact as it is drawn or moved thereover, so as to permit of forming clear cut and accurate characters on a surface from a transfer medium placed on the surface with the instrument on the transfer medium.

Another object of the invention is to provide a letter or character forming instrument in the form of a plate or strip of resilient, yielding and transparent material having guide grooves or depressions therein in the form of the desired characters to receive a stylus and to transmit the stylus pressure to a transfer medium on which the instrument is placed so as to form characters from the transfer medium which will be exact, clear cut and properly defined reproductions of the instrument characters.

A further object of the invention resides in the provision of a simple, inexpensive and readily manufactured instrument for forming characters on a surface from a transfer medium on which the instrument is placed, by moving a stylus under pressure through character defining grooves or depressions in the instrument, and further to provide such an instrument in the form of a plate or strip of flexible transparent material having yielding or elastic characteristics with the grooves pressed, died, or otherwise formed therein and visually distinguished from the body of the instrument, with guide lines for the characters, as well as scales by which the same may be properly spaced or justified when lettering, formed on the body of the instrument in proper relation with respect to the character grooves.

With the foregoing general objects and certain other aims and objects in view which will be readily recognized and understood from the following explanation, the invention consists in certain novel features in construction and in combination and arrangement of elements forming the same, as will be more fully and particularly referred to and specified hereinafter.

Referring to the accompanying drawings, in which similar reference characters refer to corresponding parts throughout the several figures thereof:

Fig. 1 is a perspective view of an instrument embodying features of the invention, in position on a drawing such as a map, for forming or apply letters thereto, and showing a stylus applied to and in the groove or depression of one of the pattern letters of the instrument.

Fig. 2, is a detail vertical section through a portion of the body or card of the instrument of Fig. 1 to show the formation of the pattern or guide depressions thereon, and to further show the action of a stylus in a groove.

Fig. 3, is a detail vertical section through the body of an instrument having a modified form of guide groove or depression for the stylus.

Fig. 4, is a detail perspective view of a portion of the body of the instrument showing the letter or character defining grooves or depressions formed translucent or contrasted in color to the body or card of the instrument.

Fig. 5, is a detail perspective view of one end portion of the instrument of Fig. 1.

A form of invention peculiarly adapted for drafting or drawing use to apply and form letters and figures on drawings, maps, plans and such like, is illustrated in the accompanying drawings, purely by way of example and not of limitation, for the purpose of explaining the principles and various features of the invention. As will be readily apparent to those skilled in the art, the principles and features of the invention are subject to adaptation and embodiment in a variety of other forms and for an unlimited range of uses in the arts generally where it may be desired to form or apply characters, symbols or designs to surfaces of whatever nature or character, and the present invention contemplates and includes such other forms and embodiments.

According to the invention as presented by the selected example hereof, a lettering or drawing instrument includes the base or card 10 formed of a transparent and flexible material having the characteristic of yielding or giving at a point where pressure is applied thereto, that is what may be termed a degree of elasticity such as presented by certain grades or forms of pyroxylin or celluloid, although the invention is in no sense limited to these specific materials, as any other material having the desired qualities and characteristics, or some of them, can be employed. This body or card 10 of the instrument is in the present instance formed of a strip or sheet of relatively thin, for example, pyroxylin or celluloid, rectangular in shape and having the series of spaced parallel, transverse (vertical) lines 11, and the series of spaced, parallel longitudinal (horizontal) lines 12 intersecting the lines 11, printed or otherwise suitably formed on and dividing the transparent base or card 10 into a series of blocks or rectangular spaces, as will be clear by reference to Fig. 1 of the drawings in particular.

A basic feature of the invention consists in the formation in and on the transparent base or card 10, of the desired character, symbol, or design, or a series thereof, in the form of grooves or depressions 14, which in the form of Figs. 1, 2, 4, and 5, are made by pressing or stamping the base or card with dies or the like, to form the character or design depressed on the upper side of the card and correspondingly emboss or project the character or design on the opposite or under side of the card, which then takes the form of the ridges or projections 15, as clearly shown in exaggerated or magnified form in Fig. 2 of the accompanying drawings. In the formation of the grooves or depressions 14 and the corresponding projections or embossed characters 15, the inner or lower wall 16 (See Fig. 2) is of a slightly less thickness than that of the side walls of the grooves or depressions 14 and the body of the card 10, in order to produce a maximum of flexibility or yield to these bottom or lower walls 16, as will be referred to and explained hereinafter. However, the invention is not limited to such formation of the bottom walls 16, as if desired they may be of the same thickness, or approximately so, as the side walls and/or the body of the base or card 10, the essential feature for maximum efficiency being a degree of yield or flexibility in the groove lower or bottom walls 16 to give and transmit pressure applied thereto.

In the embodiment of the instrument of Fig. 1 adapted for lettering drawings and the like, a series of character defining and forming depressions 14 and corresponding projections 15, formed as above described, are provided in the blocks or spaces between the intersecting lines 11 and 12, in the specific instance hereof providing the letters of the alphabet with numerals and other symbals as may be required for lettering and numbering work, indicated generally by the reference numeral 17 on the drawings. Each letter or symbol 17 is formed on and in the card 10 within one of the blocks or spaces provided by the intersecting lines 11 and 12, and is definitely disposed therein in position adjacent and with one side of the letter or symbol at or on a transverse (vertical) line 11, and the bottom of the letter on and along the lower longitudinal (horizontal) line 12 of the block or space within which the symbol is formed. Thus, the lines 11 and 12 form and provide markings or guide lines by which a symbol 17 can be properly positioned and located on a drawing, through the trans-

parent card or base 10 when placed on the drawing which will be visible therethrough.

The longitudinal or horizontal edges (upper and lower) 18 of the card, are formed accurately straight and provide straight edges which can be employed in drawing, and for locating the card 10 with respect to lines or points on a drawing, as well as for use of the card with a T-square or other implements, as will be readily understood by those familiar with drawing and drafting work. In order to permit of proper and desired inter-symbol spacing or justification in lettering to form words or a series of symbols, scales 19 are provided along the straight edges 18 of the base or card 10, between the letters or symbols 17 adjacent such edges, respectively. These scales 19 divide the spaces between the symbols, and in the case of letters, as in the instant example, are preferably so arranged as to accord with typographical spacing as used in the printing art, the letters themselves being given their true typographical width which is indicated by the end lines of scales 19 formed of greater length than the intermediate lines of the scales, although the invention is not limited to such arrangement of the space scales 19 and the dimensions of the letters or symbols.

For the purpose of securing a visual impression of the characters to be formed with the card 10 in position on a drawing, the bottom or lower walls 16, and if desired the side walls, of the character defining grooves or depresisons 16 can be formed translucent or opaque to contrast with the body of card 10, or as diagrammatically indicated in Fig. 4 of the accompanying drawings, these groove walls can be colored, say black, as by printing or painting the same or in any other suitable or desired manner. When so formed or treated with the transparent card 10 placed on a drawing, the character defining depressions or grooves thereof will show up as the characters will appear which are formed therefrom on the drawing, thus materially aiding in the proper positioning and forming of the characters.

With a drawing or lettering instrument of the invention as above described, referring now to Fig. 1 of the drawings in particular, the operation of forming or applying letters or symbols to a drawing, such as the map M more or less diagrammatically shown, will now be described and explained. The instrument provided by the flexible and transparent card or base 10 is placed on and over the map M, which is visible therethrough and is then moved on the map until the desired letter or symbol 17 of the card is positioned over the portion of the map on which it is desired to form and apply such symbol. In such position, if necessary, through the medium of the adjacent lines 11 and/or 12, the symbol 17 can be accurately and exactly located with respect to a desired line or mark on the drawing which is visible through the transparent card. With the base or card 10 in position to properly locate the symbol defining grooves 14 of a symbol 17, these grooves being contrasted visually with the body of the card and the map or drawing being visible through the card, the symbol will appear in position on the drawing as that of the symbol when applied and formed thereon. Then by holding the card at one end and flexing the card up by the other end from the drawing, a transfer medium such as a piece of carbon paper C (See Figs. 1, 2 and 3) is slipped under the card beneath the desired symbol 17, and a stylus S of any desired type, such for example as a pointed hard lead pencil, is inserted in and moved through the grooves 14 under pressure. Due to the yielding, flexible, or elastic character of the material of which card 10 is formed, and the relatively thin nature of the bottom walls 16 of the grooves, these walls 16 will give or yield at the point of stylus contact and transmit the stylus pressure to the carbon paper C, to form the desired character or symbol on the surface of the map M or other work, as will be readily apparent. In an exaggerated degree the yield or give of the groove walls 16 is indicated in Figs. 2 and 3, and by such formation of the groove walls, a clear cut, accurate and exact duplication of the symbol 17 defined by grooves 14 is reproduced or formed on the map 17. When forming words or a series of symbols or characters the scales 19 are employed for justifying or properly spacing the letters, a mark being made from a scale point after forming a letter by which a line 11 can be located to properly space the next formed letter.

In Fig. 3 of the drawings a modified form and construction of character defining grooves or depressions 1′ is shown, in which no embossing or projection of the grooves is present on the under side of card 10, but in which the lower or inner walls 16′ by which stylus pressure is transmitted are flush with or in the plane of the card under surface. The operation and use of this form is the same as that described with reference to Figs. 1 and 2.

Attention is here directed to the fact that any transfer medium can be employed, such for example as ink. Where ink is used, the ink can be applied to the characters or symbols formed on the under side of the instrument by inserting a small thin pad under the instrument to individually ink a character, or several characters may be inked at once by the use of a pad of the required size, and by suitable pressure applied to the instrument a character or characters are transferred and formed on the desired surface. By slightly raising the instrument above a surface, such as paper, after inking of the characters, the

characters can be selectively transferred or printed on the surface by application of pressure to the desired character on the instrument, through the use of a stylus or other means to depress the selected character into contact with the surface.

By the invention an inexpensive drawing or lettering instrument is produced of extreme simplicity but high efficiency for forming characters, symbols or designs on any and all surfaces, and through the medium of which various of the difficulties and disadvantages encountered in such work are eliminated, as explained hereinbefore. While the instrument is particularly adapted to drawing or drafting work, it is also of use in the arts generally, such for example in forming engraver's copy on metal, designs on glass, stencil work and many others. The car form of the invention shown is of course merely an example, as the instruments can take various other forms, or the character defining grooves or depressions can be formed on and in drawing or other implements, formed of suitable materials, such as the well known straight edges, triangles, or the like, formed of pyroxylin or celluloid, and though desirous, transparency is not an essential characteristic where accurate positioning is not required.

It is also evident that various other changes, variations, modifications and substitutions might be resorted to without departing from the spirit and scope of my invention, and hence I do not desire to limit myself to the exact and specific disclosures hereof.

Desiring to protect my invention in the broadest manner legally possible, what I claim is:

1. In a drawing instrument, a body member formed with symbol defining depressions therein having the bottom walls of less thickness than that of the body, for receiving and transmitting stylus pressure through said bottom walls.

2. In a drawing instrument, a body member in the form of a plate or strip of flexible, transparent and yieldable material, said member provided with symbol defining depressions therein for receiving and guiding a stylus, and the bottom walls of said depressions constructed and arranged to yield under stylus pressure to transmit such pressure to a surface on which the member is placed.

3. In a drawing instrument, a body member formed with symbol defining depressions through one side thereof and corresponding projections from the opposite sides thereof, the bottom walls of the depressions formed by the projections being of less thickness than that of the member so as to yield under stylus pressure and transmit such pressure to a surface against which the projections are placed.

4. As a new article of manufacture, a strip of flexible transparent material having symbol defining depressions therein whose bottom walls are yieldable under stylus pressure at the point of stylus contact to transmit such pressure to a surface on which said strip is placed.

5. As a new article of manufacture, a strip of flexible, transparent material having a symbol defined thereon by projections from one side thereof providing stylus receiving and guiding grooves on the opposite side thereof, said projections yieldable under stylus pressure at the point of stylus contact to trasmit the stylus pressure to a surface on which the strip is placed with the projections bearing thereon.

Signed at Auburn, New York, this 14th day of July, 1927.

DAVID M. DUNNING, JR.