July 25, 1939. E. A. SELL 2,167,465

PENCIL

Filed May 6, 1939

Fig. 1.

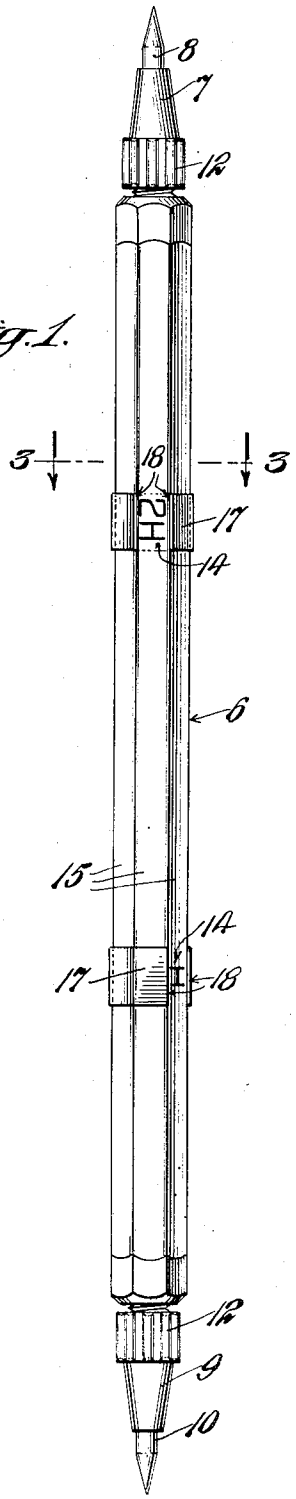


Fig. 2.

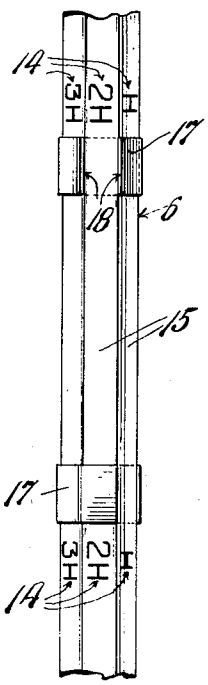


Fig. 3.

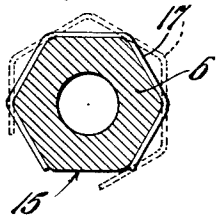


Fig. 4.

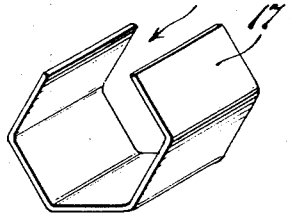
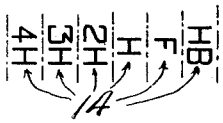


Fig. 5.



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Patented July 25, 1939

2,167,465

UNITED STATES PATENT OFFICE

2,167,465

PENCIL

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Application May 6, 1939, Serial No. 272,113

3 Claims. (Cl. 120—84)

The invention relates to an improvement in pencils and more particularly to an improvement in so-called mechanical pencils provided with an elongated sheath including means for removably holding elongated cylindrical pieces of marking material, either black or colored, known in the trade as "leads". The leads for mechanical pencils used by the general public for writing or marking purposes are usually of a standard hardness or character, except as to color. But mechanical pencils are also used by draftsmen and other specialists, such as artists, who require in the accomplishment of their work, leads of different hardness and character. The invention is of general application, and is of use in indicating to the draftsman or artist the hardness or character of the marking material at the pencil end he is to use, but for the sake of simplicity and clearness of description the invention will be described as applicable to a two-ended mechanical pencil, such as those employed by mechanical draftsmen and others employing at the two ends of the pencil leads of different hardness or character.

The object of the invention is to provide at isolated localized places on the periphery of the sheath of the pencil legends or markings indicating the hardness or character of the leads usually employed by draftsmen or artists using graphite or colored leads. A mechanical draftsman, for example, finds it convenient to use at one end of his pencil a graphite lead of the hardness indicated by the letter "H" and at the other end of his pencil a graphitic lead of the hardness indicated in the trade by the legend "HB". As these mechanical pencils having provision for removably holding leads have heretofore been constructed, a draftsman or artist who has at one end of his pencil a lead or marking material of one hardness or character and at the other end of his pencil a lead or marking material of another hardness or character, has no provision for informing himself what is the character or hardness of the marking material at either end of the pencil. Accordingly, when he takes up the pencil for use, it is customary to impress the exposed lead or crayon at both ends of the pencil on a scrap piece of paper in order to determine the hardness or the character of the leads at both ends of the pencil. Leads composed principally of graphite or "leads" of other kinds of marking material are indefinite in number. Accordingly, for the sake of simplicity of description and illustration it will be assumed in the present description that the marking material is graphite especially adapted for the use of mechanical draftsmen and ranging through six degrees of hardness including the universally recognized characters HB, F, H, 2H, 3H and 4H. There are, of course, many other grades of hardness of graphitic leads, but these grades are typical. Moreover, there are a great variety of colors and tints for the double-end pencils used by artists in their work, and these colors and tints have a scale corresponding to the scale of hardness of graphitic leads indicated above.

The invention consists in providing the sheath for holding the graphitic lead or other marking material with a series of spaced legends designating either the different degrees of hardness of graphitic leads or the different shades of color or tints of colored marking materials used in pencil form. Such legends or other indicia may be circumferentially arranged around the periphery of the pencil or they may be scattered at separated places thereon, and in this connection it will be understood that the sheath of the pencil may be hexagonal, octagonal or of other polygonal shape, or round or oval. For simplicity of description and illustration, the pencil chosen to represent the invention will be shown and described as hexagonal. And the legends or other indicia indicating the hardness of the graphitic lead or color or tint of the colored marking material will be arranged circumferentially around the periphery of the sheath of the pencil.

To indicate to the user of the pencil, whether he is employing a double-ended pencil or only a single-ended pencil, the hardness of the graphitic lead protruding from the end of the pencil or the character of the colored marking material therein the present invention provides a bifurcated resilient clasp or band, the two arms of which are separated a distance equal to and preferably greater than the peripheral length of the individual legends designating the character of the marking material in the corresponding end of the mechanical pencil. In accordance with this object, the invention consists in the improved pencil hereinafter described and particularly pointed out in the appended claims.

In the accompanying drawing illustrating the preferred form of the invention, Fig. 1 is a side elevation of a two-ended mechanical pencil the sheath of which has indicia indicating the different characters of lead carried by the two ends of the pencil; Fig. 2 is a fragmentary detail of the middle section of the pencil shown in Fig. 1, with the legend exposing and covering clasp moved longitudinally along the pencil from over the lead-indicating indicia; Fig. 3 is an enlarged transverse section taken on the line 3—3 of Fig. 1 and indicating in dotted lines how the resilient clasp may be shifted circumferentially from one position to another; Fig. 4 is a perspective view on an enlarged scale of the bifurcated clasp or band for exposing only one legend on the pencil sheath at a time; and Fig. 5 is a diagrammatic view showing the symbols or legends of six different degrees of hardness of graphitic leads.

The pencil shown in Fig. 1 embodying the principle of the invention is in its general features of usual construction and comprises a sheath 6 having at one end a mechanical lead-holding chuck 7 for removably holding a lead or marking material 8 and at the other end a chuck 9 of usual construction for removably holding a lead or marking material 10 in pencil form. The sheath 6 in the form of the invention shown in the drawing is hexagonal in contour, although it will be understood that it may be of other polygonal form, or round or oval. The chucks 7 and 9 for removably holding the leads 8 and 10 are of usual construction and operate in well known manner, that is to say, by turning the nuts 12 in one direction the leads are loosened and by turning the nuts 12 in the opposite direction the leads are tightened in the pencil sheath.

It being understood that in the illustrated form of the invention the leads or marking materials 8 and 10 are composed of graphite and are of different degrees of hardness, the legends or other indicia on the periphery of the sheath 6 will be used to indicate only the different degrees of hardness of the different, individual leads held in the chucks 7 and 9. So that, assuming that the improved pencil of the present invention is in the hands of a draftsman, and that he has leads of different degrees of hardness or character at the two ends of the pencil, the present invention provides means for indicating to him which lead he is to use without the necessity of preliminarily trying out the two leads on a piece of scrap paper.

Assuming that the sheath 6 is hexagonal or round, it is provided circumferentially, that is, on each facet, or at spaced intervals on its periphery, with symbols, generally in the form of a letter or a letter with a preceding figure, indicating a different degree of hardness of graphitic marking material, or a different shade or character of color. In the form of the invention illustrated, the sheath 6 being hexagonal, each end of the sheath is provided with a circumferential series of hardness or character designating symbols or legends 14, each legend occupying at each end of the pencil a single facet or polygonal surface 15 of the sheath, and so individual places at regularly spaced points on the periphery of the pencil sheath.

Although the impression of the hardness or color or other character indicating legends or symbols on the pencil sheath is preferably done circumferentially, it will be understood that it may be effected in several other ways so long as the individual legends or symbols are of substantially the same size and are distinctly isolated from one another so that only one of them at each end of the pencil may be exposed at one time. The means for exposing only one hardness or other character indicating legend or symbol at a time consists of a resilient bifurcated clasp or ring-like member 17 the contour or shape of which corresponds to the cross-sectional shape of the pencil sheath. In the form shown in the drawings the clasp 17 is hexagonal, or rather pentagonal, one of the sides being omitted to provide the opening 18 between the ends of the arms of the clasp to expose a legend while the other legends are covered by the clasp, as shown in Fig. 1. It will be understood that the clasp 17 is wide enough to cover the legends or symbols not to be exposed and that the opening 18 between the ends of the arms of the clasp is at least equal to the circumferential length of the individual legends or symbols so as properly to expose the one corresponding to the lead or other marking material held by the chuck at its end of the pencil, as clearly shown in Fig. 1, in which figure the lead 8 held by the chuck 7 is indicated to be of "2H" hardness, and lead 10 held by chuck 9 is of the hardness indicated by legend "H." It will be observed that the two clasps 17 cover all the other legends, exposing only these two.

If now a lead of a different hardness is substituted for the lead 8, for example, a lead of the hardness "F", the clasp 17 will be turned until "F" is exposed between the ends of the arms of the clasp, the resiliency of the clasp readily permitting it to be turned, as indicated in Fig. 3. It is sometimes convenient to shift the clasp 17 longitudinally along the pencil sheath to clear the legends, as shown in Fig. 2, before turning it to bring the opening 18 therein opposite the legend to be left uncovered when the clasp is slid back to position in circumferential alinement with the series of legends. This step is time-saving in that it eliminates the necessity of examining each exposed legend as the clasp is turned until the right legend is reached.

Having thus described the invention, what I claim as new is:

1. Means for indicating the degree of hardness or character of the lead of a mechanical pencil comprising a body member, said body member having on its periphery a circumferential series of spaced legends indicating different degrees of lead hardness or character, and a resilient shiftable bifurcated clasp having a pair of arms adapted to fit over the body member, said clasp being wider than the individual legends and having an opening between the ends of the two arms thereof when it is on the body member greater than the circumferential length of the legends, so as to expose when properly adjusted on the body member one legend at a time between the ends of the arms of the clasp, the other legends being covered by the clasp.

2. Means for indicating the degree of hardness or character of the lead of a mechanical pencil comprising a body member, said body member having on its periphery a series of spaced legends indicating different degrees of lead hardness or character, and a resilient, shiftable bifurcated clasp having a pair of arms adapted to fit over the body member, said clasp being wider than the individual legends and having an opening between the ends of the two arms thereof when it is on the body member greater than the circumferential length of the individual legends, so as to expose when properly adjusted on the body member one legend at a time between the ends of the arms and thereby indicate the character of the lead held by the pencil.

3. Means for indicating the degree of hardness of the lead of a mechanical pencil comprising a body member, said body member having a series of legends perimetrically spaced thereon and a resilient shiftable clasp adapted to fit over the body member consisting of a split band having the ends thereof spaced apart a distance sufficient to expose a single indicating legend between said ends.

EDWIN A. SELL.