March 1, 1960 A. R. CUNNINGHAM 2,926,632

PENCIL LEAD POINTER

Filed Aug. 4, 1958

FIG.1.

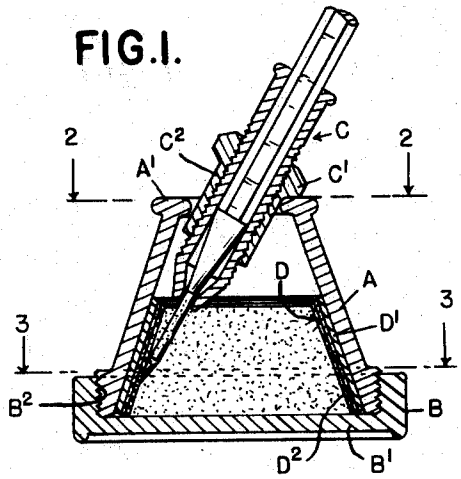


FIG.3.

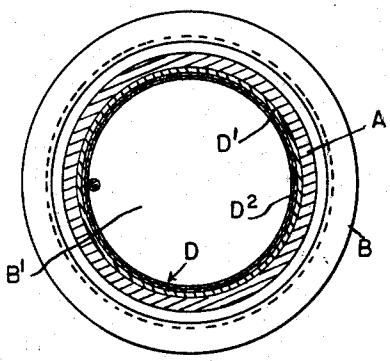


FIG.2.

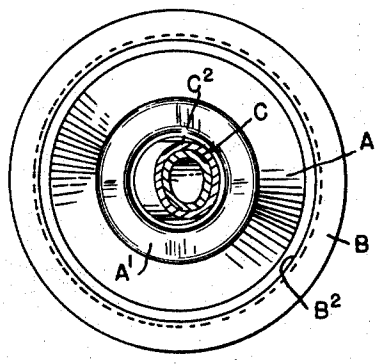
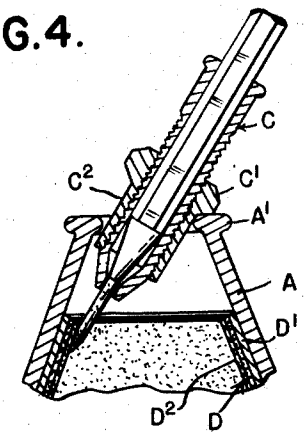


FIG.4.



INVENTOR.

ARTHUR RAYMOND CUNNINGHAM

BY

Whittemore, Hulbert & Belknap

ATTORNEYS

United States Patent Office 2,926,632
Patented Mar. 1, 1960

2,926,632

PENCIL LEAD POINTER

Arthur Raymond Cunningham, Chicago, Ill., assignor to Cunningham & Sons, Chicago, Illinois, a partnership

Application August 4, 1958, Serial No. 752,852

4 Claims. (Cl. 120—91)

The invention relates to means for pointing the leads of pencils. Pencils in general use are of two types, first the wood incased leads which at one time were the sole type, and second separate leads placed and adjustable within a casing. For the first type pencil sharpeners have been provided, such as a rotary tool for both shaving the wood and sharpening the lead. These are not however adapted for use with the second type which has no wood to shave but metal parts in the casing which would injure the cutting edge.

It is the object of the invention to obtain a simple means for pointing the leads of the latter type of pencils and to this end the invention consists in the construction as hereinafter set forth.

In the accompanying drawings:

Fig. 1 is a vertical central section through the lead pointer as in use.

Fig. 2 is a sectional view taken along the line 2—2 on Fig. 1.

Fig. 3 is a sectional view taken along the line 3—3 on Fig. 1.

Fig. 4 is a fragmentary vertical section similar to Fig. 1 showing the parts in another position of adjustment.

Generally described my pencil lead pointer comprises a hollow truncated cone having an abrasive inner surface. The pencil is inserted through the small end of the cone with the lead in contact with one side of said abrasive surface and the casing contacting with the opposite side of the opening. By then moving the upper end of the pencil around a circular path while held from rotation about its own axis the lead will be ground progressively on all sides until a point is formed.

More in detail, A is a hollow truncated cone member and B is a detachable base, preferably having a bottom portion B′ and an internally threaded flange B^2 for engaging an external thread at the lower end of the member A. The upper end of the cone has an annular flange A′ projecting slightly radially inward against which a pencil or a pencil holder may bear while being swung around the circle. Preferably a pencil holder C is provided, this being in the form of a sleeve within which the pencil is inserted and having a tapered lower end portion apertured for the projection of the lead outward therefrom. This holder has an annular flange C′ for contacting with the upper end of the cone and adapted to roll thereon around the circle. This flange is preferably longitudinally adjustable on the holder, being attached to an outer sleeve member C^2 which is internally threaded to engage external threads on the member C. Thus adjustment may be made as to the path of travel of the lead around the abrasive surface and the angle to which it is grounded. For forming the abrasive surface I preferably provide expendable conical coiled strips of sandpaper or other abrasive sheets, as shown at D. This coil is attached to a conical retainer D′ for placing inside of the member A and may be secured therein by adhesive. The successive layers D^2 of the coil are tacked to each other by adhesive which permits of successively tearing them off when worn.

With the construction as described the member D may be renewed whenever necessary by unscrewing the base B from the truncated conical member A, taking out the worn abrasive member as well as the graphite dust and replacing it by a new unit. The members B and A are then reengaged with each other. When a pencil is to be pointed it is placed within the holder C and inserted in the member A at a suitable angle to bring the lead in contact with the abrasive surface and the flange C′ in contact with the opposite side of the flange A′. As the pencil is held by the hand of the operator it will not rotate about its own axis but can be moved around a circle with the lead pressing against the abrasive surface. This will grind the lead equally on all sides thereof to form a central point. The angle of grinding is determined by the angle of the axis of the lead to the abrasive surface and this may be changed by adjusting the sleeve member C^2 upward or downward on the member C. Also such adjustment may be made to change the path when the surface is worn.

What I claim as my invention is:

1. A pencil lead pointer comprising a hollow truncated cone member having an abrasive inner surface and an opening in the small end thereof, a holder sleeve inserted within said opening in said cone member, an annular flange surrounding said holder sleeve for rolling contact with the small end of the cone member, an aperture in the end of the holder sleeve inserted within said opening, said holder sleeve being adapted to receive a pencil having lead projecting from one end thereof and through said aperture, said flange and lead being operative to contact opposite sides of said small end and said abrasive surface respectively in response to a circular movement of the opposite end of the pencil while said pencil is held from rotation about its own axis, and means providing an adjustable connection between said holder sleeve and flange for changing the angle of contact between the lead and the abrasive surface during rolling contact between the small end of said cone and said flange.

2. The construction as claimed in claim 1 wherein said holder sleeve is provided with external threads, and said annular flange is provided with internal threads and is adjustably screwed onto said holder sleeve.

3. The construction as claimed in claim 1 in which the abrasive surface is formed by a renewable expendable conical member attached to the inner surface of the cone member comprising a coiled strip of sheet abrasive material with the convolutions thereof tacked to each other for successive tearing off and the outer surface adhesively attached to the inner surface of the cone member.

4. A pencil lead pointer comprising a hollow truncated cone shaped member having an abrasive inner surface and including an opening in the small end thereof, a positioning sleeve having internal threads and an external annular flange secured thereto inserted within said opening with said flange in rolling contact with the small end of said cone member around the periphery of said opening, and an externally threaded holder sleeve having an aperture at the bottom thereof threadedly received within said positioning sleeve and adapted to receive a pencil to be pointed.

References Cited in the file of this patent

UNITED STATES PATENTS

1,202,325	Simmons	Oct. 24, 1916
2,230,936	Collins	Feb. 4, 1941
2,613,645	Kameniczky	Oct. 14, 1952

FOREIGN PATENTS

601,043	Germany	Aug. 7, 1934