

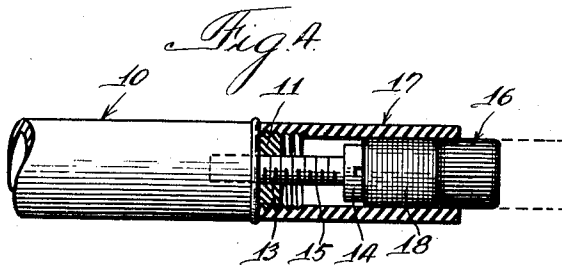
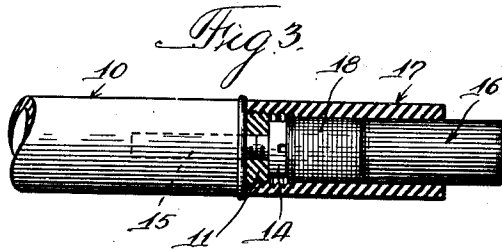
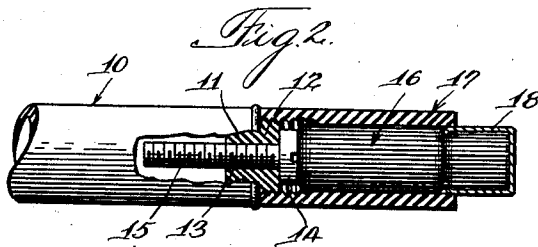
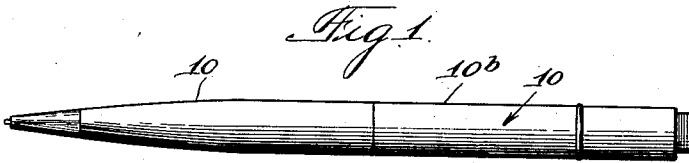
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2,177,466

PENCIL ERASER

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PENCIL ERASER

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4 Claims. (Cl. 120—38)

This invention relates to a pencil eraser and has special reference to an eraser adapted to be reversibly housed in a holder of a mechanical pencil or the like and which may be extended from the holder as the eraser is worn through use.

More particularly, this invention relates to a device of the class described comprising the combination with a holder having an extension and a bore, of an open-ended shell having an end for detachably engaging the extension and a backing member for movably engaging the bore of the holder for extension therefrom to desired lengths, there being an eraser reversibly housed by the shell and having one end thereof engaging the backing member and the other end extending beyond the shell as predetermined by the position of the backing member in the bore.

Mechanical pencils of the usual type on the market today are provided with an eraser which projects from the end of the holder and is either openly exposed or covered by a removable cap, the eraser being replaceable when worn. The amount of eraser available for use on the end of a mechanical pencil is comparatively small and is limited in length by the character of the material and the extent to which it may project without becoming too flexible for use. In other words, the length of the eraser must not be so long that when in use it will become too flexible.

The present invention contemplates the use of a substantially elongated eraser housed in a shell for the support of a major portion of the length thereof, the extending portion being predetermined and only sufficient to provide a good erasing surface, comparatively inflexible. As the eraser wears it is moved from the shell in which it is housed, the extent to which the eraser is extended to be predetermined by the position of a backing member in the bore.

In a mechanical pencil adapted for general use as a utility pencil to be carried in a pocket, an exposed eraser is likely to detract materially from the appearance of an otherwise attractive pencil. This is particularly true when the exposed eraser becomes soiled and misshapen from wear in use. In adjusting the pencil for use, the natural oil from the hand is likely to come into contact with the exposed eraser which would produce a soiled spot on the paper when the eraser is used.

In order to protect the eraser and to prevent the eraser from detracting from the appearance of the pencil, a great number of the mechanical pencils now on the market are equipped with a removable cap which is adapted to house the

eraser and conceal and protect it. Such an arrangement is inconvenient because of the fact that when the cap is removed in order to use the eraser it is inconvenient to hold the cap or, if it is laid down, loss is liable to occur. Then, again, when the pencil is being used continuously in writing it is inconvenient to remove and replace the cap every time an erasure must be made.

The present invention contemplates the provision of an extensible eraser which is provided on one end with an attractive metal cap which may be extended from the shell when the pencil is being carried on the person, the eraser being reversible and having the other end project from the shell when the pencil is used for writing. Thus, in removing the pencil from the pocket of the person for adjustment to use and in carrying the pencil, the eraser is not subject to contact with the oils from the hand and after adjustment to use the eraser is available continuously for use without removal of a cap. The appearance of the pencil is always attractive in the carrying of the instrument, and when in use the eraser is continuously available.

One of the objects of this invention is to provide a pencil eraser of the character indicated above which is simple and convenient in operation, is comparatively inexpensive to manufacture, and is attractive.

Another object of this invention is to provide a pencil eraser of the hereinabove mentioned type in which the eraser is extensible from the holder as the eraser becomes worn requiring a minimum amount of replacement.

It is also an object of this invention to provide a pencil eraser of the type hereinabove noted in which the eraser is reversibly housed in a shell for appearance and for the prevention of soiling.

Other objects and advantages of this invention will hereinafter be more particularly pointed out and for a more complete understanding of the characteristic features of this invention, reference may now be had to the following description when taken together with the accompanying drawing, in which latter:

Figure 1 is a front elevational view of a mechanical pencil embodying a pencil eraser incorporating the features of this invention;

Fig. 2 is a fragmentary elevational view partially in section of the pencil eraser of Fig. 1 showing the eraser in position when the pencil is carried;

Fig. 3 is a view similar to Fig. 2 showing the

eraser in a reversed position when the pencil is in use; and

Fig. 4 is a view similar to Fig. 3 showing the eraser extended from the position of Fig. 3 after wear.

Referring now more particularly to the drawing, the present invention is shown as being embodied in a holder 10 represented as a handle of a lead pencil of the mechanical type, the forward end of the pencil being pointed and having a bore through which the usual lead is projected. The rear end of the pencil is provided with a plug 11 having a reduced threaded extension 12 and an internally threaded bore 13. The holder 10 is preferably split substantially midway thereof, the forward portion 10a housing the lead-operating mechanism and the rear portion 10b being hollow to house extra leads, erasers or the like.

A backing member comprising an enlarged head 14 and an integrally formed reduced threaded shank 15 is utilized for the purpose of maintaining an extended position of an eraser 16 from an open ended shell 17. The threaded shank 15 of the backing member threadedly engages the internally threaded bore 13 of the plug 11, the shank being extensible out of the bore for projecting the head 14 to desired distances within the shell 17.

The shell 17 is provided with internal threads at one end thereof for engaging the threaded extension 12 and is adapted therefore to be removable from the reduced extension when desired. As shown more particularly in Fig. 2, the inside diameter of the shell 17 is such as to snugly engage the periphery of the eraser 16 and to prevent thereby accidental displacement of the eraser therefrom. The material of the shell 17 as well as that of the holder is preferably of a plastic composition material and forms with the rubber of the eraser a more or less frictional fit.

The eraser 16 comprises preferably an elongated piece of rubber of the same cross sectional area as that of the bore of the shell, that is to say, the eraser may be round, polygonal, oval or of any desired shape to conform to the bore of the shell. One end of the eraser is preferably provided with a metal cap 18 which preferably fully encloses the end of the eraser and may be provided with surface ornamentation for enhancing the appearance of the pencil. The open end of the metal cap is pinched to extend into the eraser so as to be held against displacement therefrom or it may be held in any usual manner.

Referring now more particularly to Fig. 2 of the drawing, the eraser is shown in position in the shell on the holder for carrying in the pocket of the wearer, the metal cap extending outwardly beyond the end of the shell 17. The rubber of the eraser is protected against soil and is concealed from sight so as to prevent the usual unsightliness of a misshapen eraser extending from the end of the holder.

Referring now more particularly to Fig. 3 of the drawing, the eraser is reversed in position from that shown in Fig. 2 with the rubber portion of the eraser extending beyond the end of the shell 17 and is in condition for use in erasing. The eraser may be held in this position during the entire use of the pencil in writing with the eraser being continuously available for erasing and when writing has been completed the eraser may be reversed into the position shown in Fig. 2 for carrying in the pocket.

It is obvious that due to the flexibility of the

rubber, the full length of the eraser could not be extended out of the shell without the eraser buckling in use. Therefore, but a small portion of the eraser normally extends out of the end of the shell and as this becomes used up from wear in erasing it is necessary to project the eraser forwardly out of the end of the shell. The shell is unscrewed from the reduced threaded extension and the head 14 of the backing member is rotated in one direction so that the threads of the shank 15 engaging the threads of the bore of the extension 11 will project the head 14 forwardly out of the pencil. The shell 17 is then screwed onto the threads of the reduced extension 11 with the eraser being moved outwardly of the shell to an extent predetermined by the position of the backing member with respect to the reduced extension. When used in erasing the eraser is prevented from movement inwardly of the shell by the head 14 of the backing member and the eraser is reversible when worn, in the same manner as before an initial use.

While but a single embodiment of this invention is herein shown and described, it is to be understood that various modifications thereof may be apparent to those skilled in the art without departing from the spirit and scope of this invention and, therefore, the same is only to be limited by the scope of the appended claims.

I claim:

1. A device of the class described comprising the combination with a holder having an extension and a bore in the extension, of an open ended shell having an end for detachably engaging said extension, and a backing member for movably engaging the bore of said extension for extension out of the bore to desired lengths, said shell being adapted to reversibly house an eraser having one end thereof enclosed by a cap, one end of the eraser engaging said backing member and the other end thereof extending beyond the other end of the shell as predetermined by the position of said backing member in said bore.

2. A device of the class described comprising the combination with a holder having an extension and a bore in the extension, of an open ended shell having an end for detachably engaging said extension, and a backing member for movably engaging the bore of said extension for extension therefrom to desired lengths, said shell being adapted to reversibly house a rubber eraser having one end thereof enclosed by a metal cap, one end of the eraser engaging said backing member and the other end thereof extending beyond the other end of the shell as predetermined by the position of said backing member in said bore.

3. A device of the class described comprising the combination with a holder having a threaded extension and a threaded bore in the extension, of an open ended shell having a threaded end for engaging said threaded extension, and a backing screw for threadedly engaging the threaded bore of said extension for extension out of the bore to desired lengths, said shell being adapted to house an eraser with one end thereof engaging said backing member and the other end thereof extending beyond the other end of the shell as predetermined by the position of said backing screw in said bore.

4. A device of the class described comprising the combination with a holder having a threaded extension and a threaded bore in the extension, of an open ended shell having a threaded end for detachably engaging said threaded extension, and

a backing member comprising an enlarged head disposed in said shell and a threaded shank for threadedly engaging the threaded bore of said extension for extension therefrom to project said
5 head to desired distances within said shell, said shell being adapted to house an eraser with one end thereof engaging the head of said backing member and the other end thereof extending beyond the other end of said shell as predetermined by the position of said backing screw in said bore.

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