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G. W. WHERRY

2,443,571

PENCIL GRIPPER

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Fig. 1

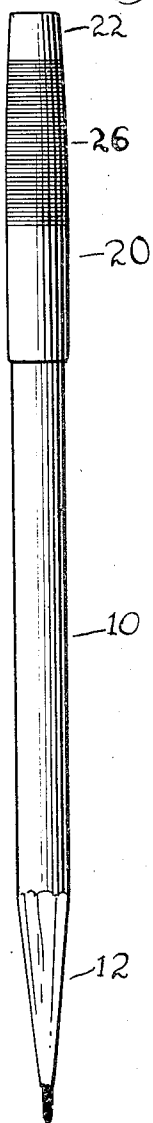


Fig. 2

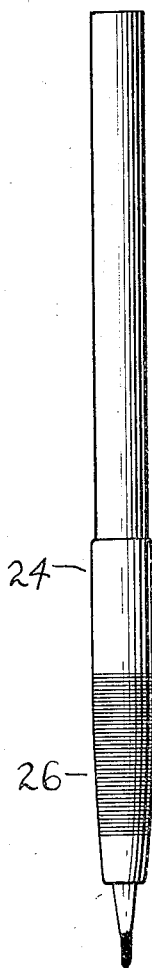


Fig. 3

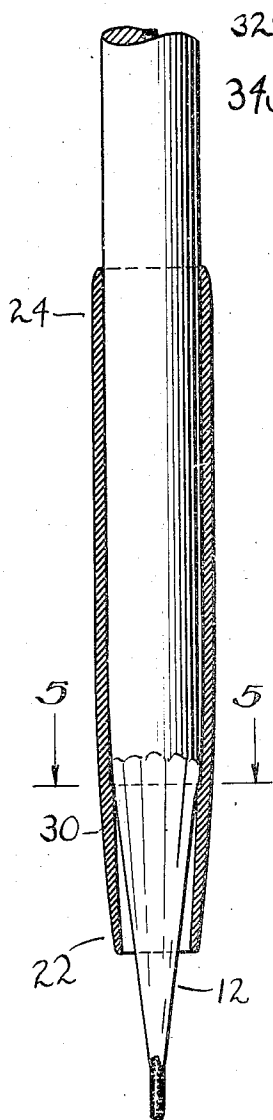


Fig. 4

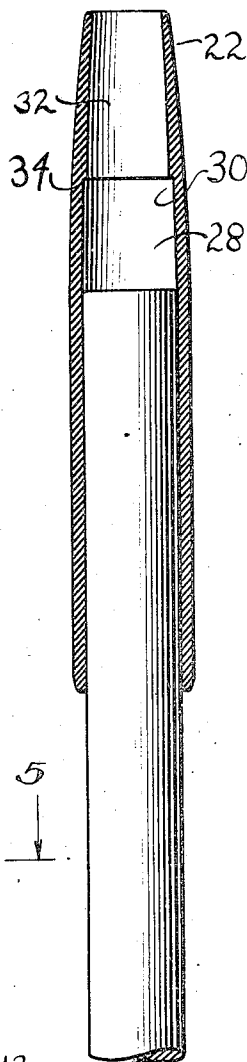
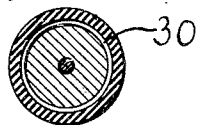


Fig. 5



INVENTOR.

George W. Wherry
BY
R. B. Slizy, Atty.

UNITED STATES PATENT OFFICE

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PENCIL GRIPPER

George W. Wherry, Chicago, Ill.

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3 Claims. (Cl. 120—103)

1

This invention pertains to a pencil gripper and shank extender. More particularly it is a tube-like device useful in connection with ordinary lead pencils.

In using ordinary lead pencils, the pencil in time and with use develops a slippery condition on the grip portion. This condition is caused by minute beads of perspiration and a thin film of natural oily secretions of the skin which is deposited on pencil surface. This deposited film gives an unctous feel to the pencil. Consequently, it is practically impossible to obtain a firm grip with the fingers on the pencil when it is desirable to bear down heavier on the pencil to obtain a darker impression of the lead upon the paper.

In addition, a pencil becomes shorter and shorter with use and finally becomes too short to be used effectively. This condition is further aggravated when the unctous film prevents a firm grip on the pencil.

It therefore, is one of the objects of my invention to provide a means by which pencils can be economically and effectively used throughout their entire length.

A further object of my invention is to provide a means in combination with an ordinary wood pencil that will provide an easy way of obtaining a positive grip on the pencil.

A still further object of my invention is to provide a device that can be readily and conveniently carried about in position on a pencil without adding substantially any weight thereto or otherwise inconveniencing the user.

An additional object of my invention is to provide a tubular, slightly tapered barrel having therein a special means which can be effectively gripped by the fingers.

These and other objects, adaptations, modifications and extensions of my invention will become quite obvious and apparent to anyone skilled in this art particularly after a study is made of the clear, lucid and detailed explanation of the fundamental principles underlying my invention as given hereinbelow and in the accompanying drawings forming a part hereof.

Figure 1 shows elevation of a pencil in combination with the extending sleeve of my invention in one of its aspects showing its utility and application to one end of a pencil.

Figure 2 is a figure somewhat similar to Figure 1, but showing the use of my improved barrel on pointed end of a pencil.

Figure 3 is a magnified elevational view of a pencil partly broken away and a vertical sec-

2

tion of the improved grip in an engaging position with said pointed end of pencil.

Figure 4 is a figure somewhat similar to Figure 3, but with the improved tube on the top end of the pencil.

Figure 5 is a horizontal section taken along line 5—5 of Figure 3.

In describing the details of my invention, it should be clearly and unequivocally understood that the examples given herein are purely exemplary and should not under any circumstances either expressed or implied be considered as a limitation of the spirit of my invention or of its fundamental and basic principles as succinctly described herein and claimed in the hereunto appended claims. With the above statement clearly established and understood recourse should now be had to the illustration of the preferred examples shown in the accompanying figures.

A pencil 10 preferably of the wood type is desirably used in combination with my improved grip 20. The grip 20 is preferably a tubular hollow member or sleeve having the surface at one end thereof terminating into a tapering section 22. The other end 24 of said sleeve is substantially uniform in external diameter.

A series of ribs or corrugations 26 are pressed or formed in the external surface of sleeve 10 so that a positive non-slipping rough surface is provided for the fingers to grip.

The interior 28 of the sleeve 10 has a particular type of construction to achieve the ends and objects of my invention.

In one of its aspects and for practical purposes, it consists of a hollow tube having portions thereof with at least two bores of different internal diameters such as 28 and 32. In the space 30 between each adjacent bore is a shoulder or a sharp line perimeter 34 formed by the inter-section of the base of the larger diameter bore and the wall of the smaller diameter bore. This shoulder 34 is a right angle and it is highly important that a right angle be always formed in order to accomplish the aims and objects of this invention. It is obvious and within the scope of the fundamentals underlying this invention, that several right angle shoulders can be present and still perform satisfactorily provided that the perimeter edges of the shoulders lie substantially in the same plane as the slope of the sharpened pencil point 12.

In order to accomplish my objectives, I prefer to place the right angle intersections formed by the meeting of different diameter bores substan-

3

tially near one end of my improved pencil gripper. For convenience and balance so necessary and vital to a writer, I prefer to place the shoulder 34 within the tapered section of the tube. Since the internal diameter of the bore 32 is smaller at that point, it is obvious that the excess material on the surface is not needed and consequently a pencil gripper having lighter weight characteristics is obtained.

In use, a person if he wishes to use short stubs of pencils, can insert the improved pencil gripper over the unsharpened end of the pencil 10 as shown in Figure 4. The annular internal shoulder 34 acts as a stop for the end of the pencil and prevents its further upward progress. Thus an extension for the shank of the pencil is provided and the stub can be used substantially to its very end.

If it is desired to use my invention as a gripper, then the sharpened end 12 of the pencil 10 is inserted thru the larger diameter bore 28 and forced downwardly until the face of sharpened end meets the annular internal right angled shoulder 34. For some unknown reason, a tight clamping action occurs at the interface of the sharpened end and the perimeter of this right angled shoulder 34. It is considered likely, but it is not intended to be bound by this theory, that the wood is under slight compression at the point of contact with the shoulder but being somewhat elastic and resilient it forms a bulging rim that enfolds about the perimeter of the inelastic shoulder and thus provides a positive grip to the pencil. It is very surprising to note that considerable pressure is necessary to break this clasping action particularly when so little pressure is used to clasp the pencil within the gripper.

I have found that for best purposes the improved pencil gripper and extender shall preferably be made of plastic tubing. The preferred design can be rapidly and cheaply formed by injection molding and therefore the article can be sold at smaller cost to the user.

4

Cellulose, acetates, nitrocellulose, urea-formaldehyde, melamine, phenol aldehydes, methacrylates and similar plastics can be used. However, I prefer to use the thermoplastic type because of ease of operations and certain cost advantages.

This invention appears to be simple and I cannot explain satisfactorily the action that takes place, but I have found that a positive gripping action takes place. It therefore is intended to claim everything that comes within the spirit and scope of the fundamentals underlying this invention as described hereinabove and defined in the annexed claims.

I claim:

1. An improved pencil gripper comprising a hollow tube, one end of said tube having an internal bore of a diameter sufficiently large to permit passage of a pencil therethru, the other end having a bore of a smaller diameter sufficient to permit the sharpened end of said pencil to protrude at the end of said tube but insufficient to permit passage of the entire pencil therethru.

2. In the product of claim 1, wherein the junction between said bores is a right angle annular shoulder.

3. In the product of claim 1, wherein the smaller diameter bore section consists of a series of progressively smaller diameter bores, the perimeters at intersections of said progressively smaller diameter bores being substantially right angle annular shoulders.

GEORGE W. WHERRY.

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