Nov. 3, 1953 L. L. COLBURN 2,657,670

PENCIL

Filed Oct. 19, 1950

Fig. 1

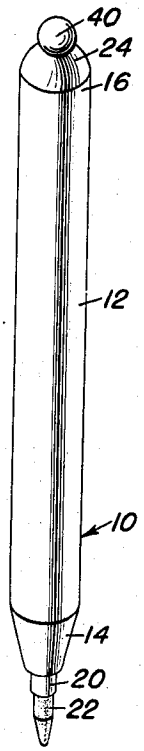


Fig. 2

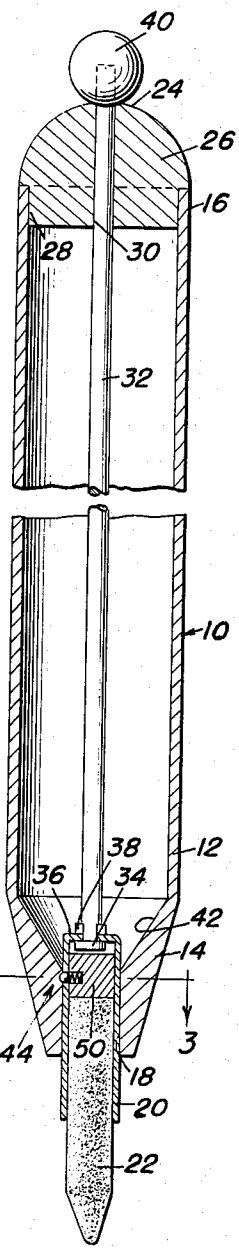


Fig. 3

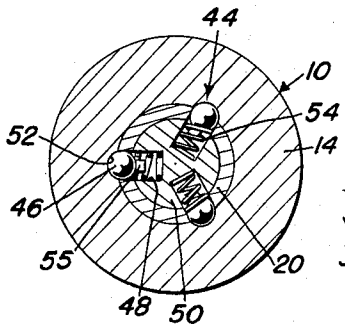


Fig. 4

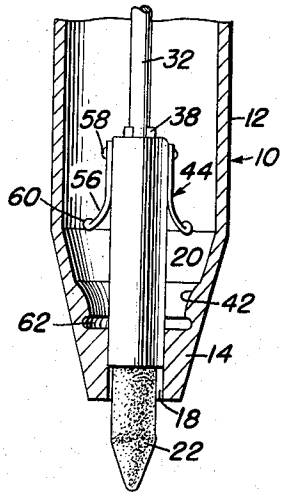
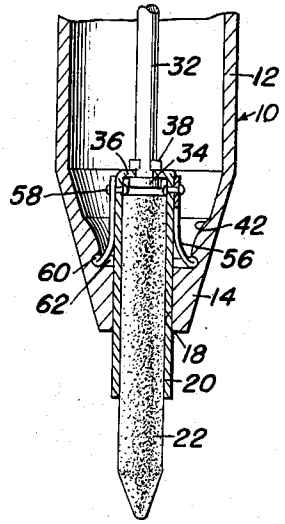


Fig. 5



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1 Claim. (Cl. 120—13)

1

This invention relates to novel and useful improvements in pencil holders, and more particularly pertains to a holder which will automatically trip and retract the writing element when excessive writing pressure is brought to bear on the latter.

An important object of this invention is to provide a construction which will assist in the teaching of proper penmanship by limiting the writing pressure which may be applied to the writing element, whereby to induce writing with free arm and hand movements and to eliminate cramped finger manipulations.

Another important object of this invention is to provide a simple and practical construction in accordance with the foregoing object which will require resetting each time an excessive pressure is applied to the pencil, which, as a consequence of the inconvenience resulting therefrom, will readily teach children and the like who may use the same that they should not apply excessive pressure to the writing element.

Yet another object of this invention is to provide a holder construction which will constitute a handle for short pencils or so-called stubs, thereby permitting the use of the same for teaching proper penmanship, since the same will alleviate the necessity of firmly pinching the pencil, as would be necessary if the pencil stub were utilized without the holder.

These, together with various ancillary objects and features are attained by this device, a preferred embodiment of which has been illustrated by way of example only in the accompanying drawings, wherein:

Figure 1 is a perspective view of the improved pencil holder;

Figure 2 is a fragmentary longitudinal sectional and elevational view of the holder;

Figure 3 is an enlarged transverse sectional view of the holder taken on the plane 3—3 of Figure 2;

Figure 4 is a fragmentary longitudinal sectional and elevational view of a modified embodiment of the writing element tripped and holder, with the pencil shown in its retracted position; and

Figure 5 is a fragmentary longitudinal sectional view of the embodiment shown in Figure 4 with the writing element shown in its extended ready-to-use position.

Briefly summarized the over-all construction is characterized by an elongated barrel or casing which functions as a handle and also as a housing for the complemental parts. There is a projectible and retractable sleeve in an axial

2

passage at one end of the casing which sleeve serves as a holder for the stub pencil or other writing element. The sleeve is provided with pressure responsive trip means and the latter is coactable with keeper means in the adjacent portion of the casing. A rigid linearly straight actuating and re-set rod is joined at its lower or inner end to the inner end of the sleeve. The opposite end of the rod is slidable through an axial passage in the corresponding end of the casing where it projects to the exterior and is provided with a head or knob-like re-set button, the latter having the additional function of a stop.

Reference is now made more specifically to the accompanying drawings wherein the pencil holder is denoted generally by the numeral 10.

The pencil holder includes an elongated cylindrical casing 12 having a substantially frusto-conical lower end 14, and an upper end 16. The lower end has a cylindrical passage 18 therein, which passage is disposed axially of the casing 12, and which passage is adapted to slidably receive a projectable and retractable sleeve 20. A pencil stub, or other writing element 22 is disposed in the sleeve, and projects outwardly of the lower end thereof.

The upper end 16 of the casing 12 is closed by a substantially hemispherical cap 24, of a diameter equal to that of the casing, which cap has an insert 26 therein which is adapted to be frictionally or otherwise engaged as at 28 with the upper end of the casing, to retain the cap 24 on the casing. A bore 30 extends through the cap and casing 24 and 26 respectively, and an actuator and resetting rod 32 is slidably disposed in the passage 30. The inner or lower end of the rod 32 is provided with an enlarged head 34 which is positively joined to the sleeve 20 and underlies the peripheral flange 36 carried by the latter, suitable members 38 being formed on the rod 32 to engage the flange 36 on the sleeve and non-slidably retain said sleeve on the rod.

The outer end of the rod 32, which projects through the cap 24, is provided with an enlarged re-set button or head 40 whereby the rod may be conveniently slid in the casing, the button being adapted to about the cap to limit outward or downward sliding movement of the sleeve 20 relative to the casing 12.

In order to releasably retain the sleeve 20 in its extended position, the inner surface 42 of the frusto-conical lower end portion 14 is tapered so as to provide a cam surface against which the sleeve latches or detents, indicated generally by

the numeral 44, may ride into their latching positions.

In the embodiment shown in Figures 2 and 3, the sleeve latches include ball members 46 which are reciprocably disposed in radial sockets 48 formed in the insert 50 which is disposed in the sleeve 20, and which radial sockets extend through the sleeve 20 and communicate with the depressions 52 which are formed in the end 14 and which communicate with the sleeve receiving passage 18. Springs 54 are disposed in the radial passage or sockets 48 and yieldingly urge the balls into depressions or equivalent keeper seats 52, suitable pins or studs 55 being carried by the balls 46 and guidably disposed in the springs 54. It is intended that the springs 54 be diametrically compressed when inserted in the passages 48 so as to be frictionally retained therein, and that the length of the springs be such as to not project the entire ball and guide pin out of the radial passages wherein they would tend to become dislodged.

In the second embodiment, shown in Figures 4 and 5, the sleeve latches or detents include radially diverging resilient fingers 56 which are secured to the sleeve 20 as by fasteners 58, the fingers terminating in the rolled ends 60 which are adapted to be releasably received in the annular depression or keeper seat 62 which communicates with the sleeve receiving passage 18. Obviously, the keeper seat 62 may be formed of circumferentially spaced depressions, in the event it is desired to non-rotatably and releasably retain the sleeve in its extended position.

In operation, the pencil stub or writing element 22 is disposed in the sleeve 20, and the bottom 40 depressed, as by the thumb of the user to move the sleeve 20 into its extended position. Whenever excessive pressure is exerted against the writing element or other equivalent instrumentality, the sleeve will be moved into its retracted position, thereby necessitating resetting of the sleeve, by the application of pressure on the button 40, in order that the holder 10 may be again used for writing.

It is obvious that the construction herein shown and described may well be construed, as an overall unit, as a training pencil. It constitutes a simple, practical and economical instrumentality in which manufacturers and users will find their

essential requirements and needs fully met, contained and effectually available.

Finally, it is thought that the operation and construction of the device will be readily understood, and further discussion is therefore believed to be unnecessary. However, since numerous modifications will readily occur to those skilled in the art after a consideration of the foregoing specification and accompanying drawings, it is not intended to limit the invention to that shown and described, but all suitable modifications may be resorted to, falling within the scope of the appended claim.

Having described the invention, what is claimed as new is:

An excess pressure responsive training pencil of the class described comprising a casing having a frusto-conical end portion providing an axial passage and providing, on its interior, a cam surface, and further provided on its interior with an annular depression providing a keeper seat, said cam surface being communicatively registerable with said keeper seat, a projectible and retractible sleeve slidably mounted in said axial passage, spring latching fingers secured to and carried by said sleeve and located on the interior of the case, said spring fingers having outwardly divergent detents releasably engaged in said keeper seat, and a re-set rod axially mounted for actuation in said casing and joined at one end to the inner end of said sleeve, said rod serving to reengage the detent with said keeper seat under predetermined conditions.

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