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E. WATZLAWIK

2,275,055

MAGAZINE PENCIL

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Fig.1

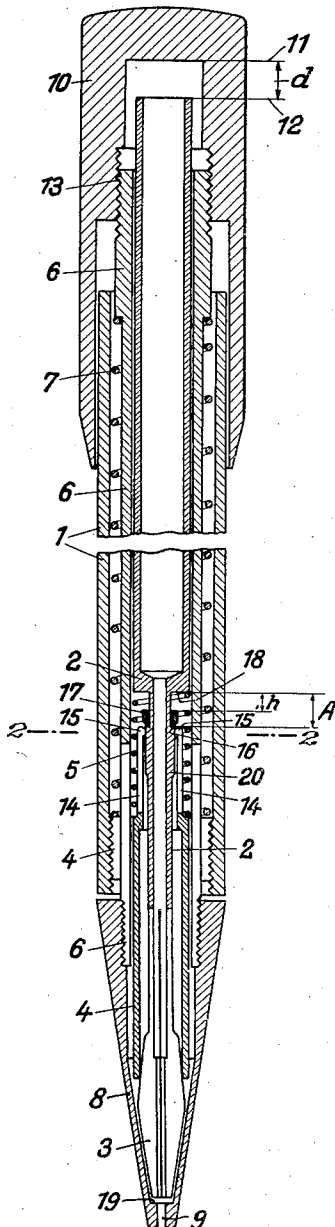


Fig.2

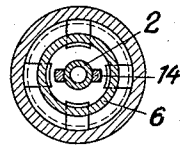


Fig.3

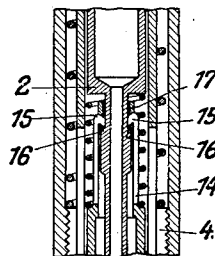


Fig.4

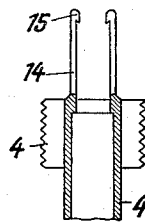
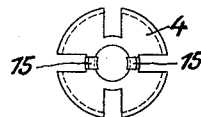


Fig.5



Inventor:
Emil Watzlawik,
 By his Attorneys,
Fraser, Myers & Mulvey.

UNITED STATES PATENT OFFICE

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MAGAZINE PENCIL

Emil Watzlawik, Budweis, Czechian Protectorate,
 assignor to L. & C. Hardtmuth, Inc., Blooms-
 bury, N. J., a corporation of New Jersey

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5 Claims. (Cl. 120—17)

The invention relates to a magazine pencil with a point-body shiftable by a depressible cap and with a guide tube for leads, the length of the portion of the lead projecting in the writing position from the point-body being controlled by the cooperation of a lead-catching device, hav- 5 ing a passage through which the lead can only pass with friction, and a lead clamping device which consists of clamping nippers forming the front end of the lead guide tube and of a clamp- 10 ing device cooperating with these nippers and secured in the casing of the magazine pencil.

In magazine lead pencils of known type, when the pressure exerted upon the cap ceases, the point-body and the lead guide tube are moved back by different distances by two springs inde- 15 pendent the one on the other, and after completed returning of the lead guide tube, when the returning movement of the point-body continues, the lead held by the clamping nippers is forced through the narrow passage in the point-body until a piece of the lead of predetermined ad- 20 justable length projects from the open end of the point-body, whereby the writing position of the magazine pencil is attained.

In order that such a magazine pencil can be better carried in the pocket or in a quiver, it is necessary to provide a position of rest in which the lead does not project from the point-body but is pulled back into the same. Arrangements for producing such a position of rest have been proposed already for magazine pencils of other types, but they require either a pushing back of the lead whereby breaking of the foremost por- 25 tion of the lead may easily occur, or the provision of two press-knobs or a turning of the magazine pencil into the position, in which the point is directed upwards, and utilization of the weight of the lead as force for dropping back the lead, this force being, however, often not sufficient for overcoming undesired forces which keep back the lead. Compared herewith the object of the in- 30 vention is, to provide in magazine pencils of the above described type an arrangement owing to which the writing position as well as the retracted position of the lead can be attained by pressing one and the same press-knob without the necessity to push back the lead or to turn up the pencil.

This problem is solved according to the inven- 35 tion in that an automatically acting locking device is provided between the clamping sleeve and the lead pencil, which, after part-depression of the cap and after subsequent releasing, inter- 40 rupts the returning of the lead guide tube with

the clamping nippers in open state. Conse- 45 quently, the clamping nippers remain open also during the last portion of the return movement of the point-body, so that the lead is not clamped; the lead is therefore not forced through the narrow passage in the point-body but re- 50 mains loosely in the hollow space in the point-body and bears against the rear edge of the hollow space in this point-body.

An embodiment of the invention is illustrated by way of example in the accompanying drawing, in which

Fig. 1 shows in longitudinal section a magazine pencil with locking device in position for writing,

Fig. 2 a cross-section on line 2—2 of Fig. 1,

Fig. 3 in longitudinal section part of the maga- 55 zine pencil in the locking position,

Fig. 4 a longitudinal section of the rear part of the clamping sleeve and

Fig. 5 the clamping sleeve in top plan view.

In the casing 1 of the magazine pencil a lead guide tube 2 is shiftable arranged, said tube forming at its front end clamping nippers 3, whereas the clamping sleeve 4 is not shiftable in the casing 1. A spiral spring 5 serving merely as closing spring for the clamping nippers 3 pulls these nippers into the fore end of the clamping sleeve 4 so that they are pressed together, so that the lead caught in the nippers cannot shift. The shiftable lead magazine and guide tube 2 is en- 60 closed by a tube 6 which has at its front end two or more finger-like extensions between the clamping sleeve 4. The point-body 8 is screwed onto the externally screw-threaded ends of the extensions of tube 6 so that the point-body can move together with tube 6. The point-body 8 has in its front end a passage 9 through which a lead can project with friction. A spiral spring 7, independent of the spiral spring 5, serves to hold 65 tube 6 and the point-body 8 in the rear extreme position. A press-cap 10 is screwed on the screw-threaded rear end 13 of tube 6. The rear end face 12 of the lead guide tube 2 is spaced in the writing position by a distance *d* from the inner bottom 11 of the press-cap 10. This distance can be varied by screwing the cap up or down on the screw-threaded end of tube 6.

From the rear end of the clamping sleeve 4 extend two locking arms 14 having each a hook 15 70 at its rear end. The hooks 15 are destined to engage over a shoulder 16 formed on the rear end of a thickened portion 20 of the lead guide tube 2. A ring 17 sits loosely on the lead guide tube 2 between this thickened portion 20 and the front

end 18 of the lead magazine, so that the ring can shift on the lead guide tube.

To ensure that the lead projects always by the same length from the passage 9 in the point-body 8, pressure is exerted upon the cap 10 so that at first the tube 6 together with the point body 8 is moved forward, whereas the lead guide tube 2 with the clamping pincers 3 remain at rest. Consequently, the clamping pincers 3 pressed together by the clamping sleeve 4 remain still closed, whereas from the forward movement of the point-body 8 results that this point-body is pushed forward over the end of the lead slightly projecting from the passage 9 until this lead projects over its whole length from the rear end of the passage when the point-body has moved by the distance d indicated at the rear end of Fig. 1. When the press-cap 10 is then further pressed, the lead guide tube 2 and the clamping pincers 3 participate in the forward movement, whereby the clamping pincers 3 liberated from the clamping sleeve 4 open and the lead drops so that it bears against the rear race 19 of the passage 9 but does not enter the passage for the reason that the resistance against friction cannot be overcome merely by the weight of the loose lead.

During the forward movement of the lead guide tube 2 the following proceedings result for the elements 14 to 18 essential for the invention:

Before the forward movement begins, these elements assume the position shown in Fig. 1. The hooks 15 do not engage over the shoulder 16 but are slightly spread asunder and bear against the thickened portion 20 of the lead guide tube 2, the loose ring 17 bears against the rear end of the thickened portion 20 or against the shoulder 16 formed on this rear end. If then the lead guide tube 2 is pushed forward, the thickened portion 20 moves along the hooks 15 which come to bear against the loose ring 17, so that this ring can no longer participate in the forward movement. In the further course of the forward movement the hooks 15 engage over the end of the thickened portion 16, as shown in Fig. 3, as soon as the lead guide tube 2 has moved, for instance, through the distance h (Fig. 1). If the press-cap 10 should be released before it has been completely pressed down, the tube 6 and the point-body 8 would move back but not the lead guide tube 2 and the clamping pincers 3, as this tube 2 is held by the hooks 15. This position remains during the whole further backward movement of the point-body 8, and the clamping pincers 3 remain open. At the termination of the backward movement of the point-body 8 the lead still rests loosely in the pincers bearing against the face 19, which means that the above mentioned rest position of the lead has been attained in which the lead is located in the point-body.

If, however, the press-cap 10 is further pressed after the position shown in Fig. 3 has been reached, the front end 18 of the lead magazine encounters the ring 17 and pushes the same forward between the lead guide tube 2 and the hooks 15. The resilient arms 14 are thus spread asunder to accommodate the ring 17. In this position the end of the forward movement has been reached after the lead guide tube 2 has moved the distance H shown in Fig. 1. If now the press-cap is liberated, the hooks 15, owing to their spread position, slide over the shoulder 16 without engaging over the same, when the lead guide tube 2 is moved back. Consequently, the lead guide tube 2 can be returned by the spring 5 into its real extreme position in which the clamping

pincers are closed by the clamping sleeve 4, so that the lead, securely held in the pincers, is forced through the passage 9 in the point-body 8 when this point-body is moved back, wherefrom results the writing position of the lead.

I claim:

1. A magazine pencil having a point-body shiftable by a press-cap and a lead guide tube means to limit the projection of the lead into the writing position from the point-body by the co-operation of a lead catching device which has a passage permitting the lead to pass through only with friction and with a lead clamping device consisting of clamping pincers forming the front end of the lead guide tube and of a clamping sleeve secured in the casing of the magazine pencil and cooperating with these pincers so that, when the pressure exerted on the press-cap decreases, the point-body and the lead guide tube are returned by different distances through two springs independent the one of the other and, after complete returning of the lead guide tube when the returning movement of the point-body continues, the lead held by the pincers is forced through the narrow passage of the point-body, comprising in combination with the clamping sleeve and the lead guide tube, an automatically acting locking device between said clamping sleeve and said lead guide tube, said locking device interrupting, after part-depressing of the press-cap and after the cap has been released again, the return movement of the lead guide tube together with the pincers which are open, so that also during the last portion of the return movement of the point-body the lead is not clamped and remains in the point-body behind the outlet passage in the same.

2. A magazine pencil as specified in claim 1, comprising in combination with the clamping sleeve, locking arms having each a hook at its rear end, a thickening on the lead guide tube formed with a shoulder on its rear end face, a ring loosely mounted on said lead guide tube between said shoulder and the end face of the lead magazine, said hooks of said resilient arms adapted to engage over said shoulder when the lead guide tube is pushed forward by a certain distance, said hooks preventing the return movement of said lead guide tube when said press-cap is liberated, said shiftable ring adapted to disengage said hooks from said notches when said lead guide tube is pushed forward again so that at the return movement the notches of the lead guide tube pass along the hooks of the spread locking arms.

3. A magazine pencil comprising a casing, a press-cap movable axially to the casing, a point body movable with the press-cap and having a passage therein through which a writing lead can only pass with friction, a lead guide-tube and lead magazine movable within the casing and having at one end lead clamping means extending into the point body and having its opposite end engageable by the press-cap, and a clamping device having latching means adapted for controlling the lead clamping means when the press-cap is depressed and released, the parts being so correlated that when the press-cap is depressed a predetermined distance relative to the casing and released, the writing lead will be forced through the passage in the point body and held in writing relation, and when the press-cap is depressed a different predetermined distance and released, the writing lead will be withdrawn from the passage in the point body.

4. A magazine pencil comprising a casing, a press-cap movable axially to the casing, a point body movable with the press-cap and having a passage therein through which a writing lead can only pass with friction, a lead guide-tube and lead magazine movable within the casing and having at one end lead clamping means extending into the point body and having its opposite end engageable by the press-cap, a clamping device having latching means adapted for controlling the lead clamping means when the press-cap is depressed and released, and independent spring means for returning the press-cap and the lead guide-tube after being moved relatively to the casing by the press-cap, the parts being so correlated that when the press-cap is depressed a predetermined distance relative to the casing and released, the writing lead will be forced through the passage in the point body and held in writing relation, and when the press-cap is depressed a different predetermined distance and released, the writing lead will be withdrawn from the passage in the point body.

5. A magazine pencil comprising a casing, a press-cap movable axially to the casing, a point

body movable with the press-cap and having a passage therein through which a writing lead can only pass with friction, a lead guide-tube and a lead magazine movable within the casing and having at one end lead clamping means extending into the point body and having its opposite end engageable by the press-cap, a clamping device carried by the casing and having latching means adapted for cooperation with means on the lead guide-tube when the press-cap is depressed and released, and independent spring means for returning the press-cap and the lead guide-tube after being moved relatively to the casing by the press-cap, the parts being so correlated that when the press-cap is depressed relative to the casing to the limit of its movement and released, the writing lead will be forced through the passage in the point body and held in writing relation, and when the press-cap is depressed a predetermined lesser distance than the limit of its movement and released, the writing lead will be withdrawn from the passage in the point body.

EMIL WATZLAWIK.