June 21, 1960

W. B. SPATZ

2,941,508

MARKING PENCIL

Filed Aug. 29, 1955

3 Sheets-Sheet 1

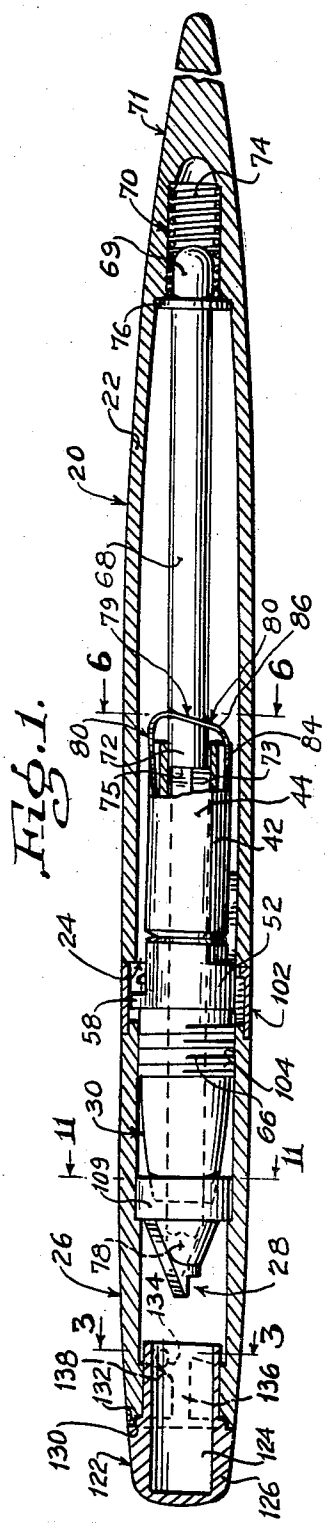


Fig. 1.

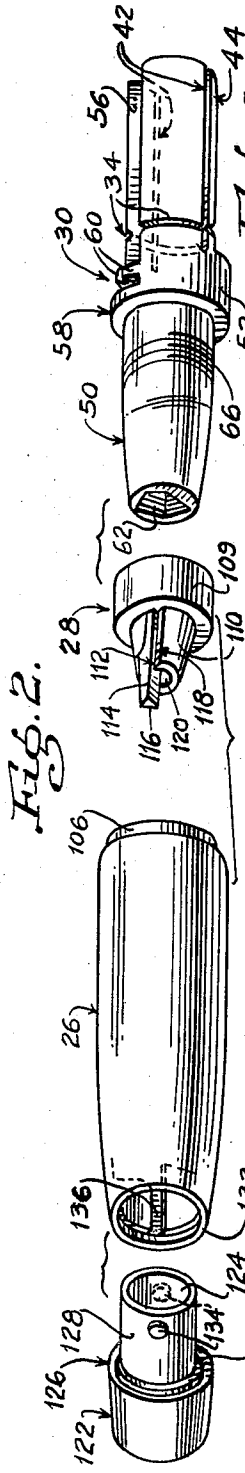


Fig. 2.

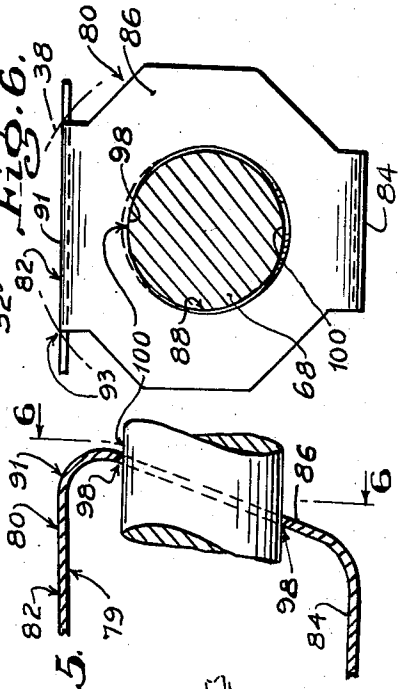


Fig. 6.

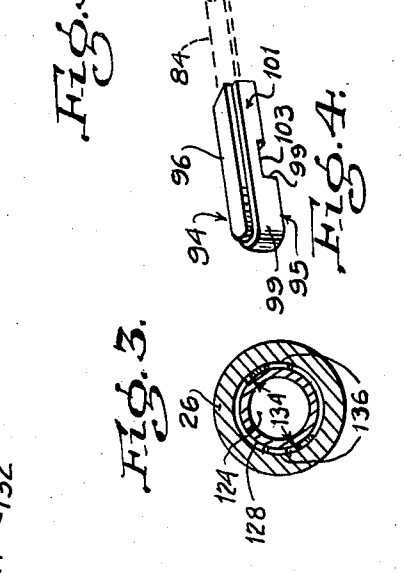


Fig. 5.

Fig. 4.

Fig. 3.

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June 21, 1960 W. B. SPATZ 2,941,508

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3 Sheets-Sheet 2

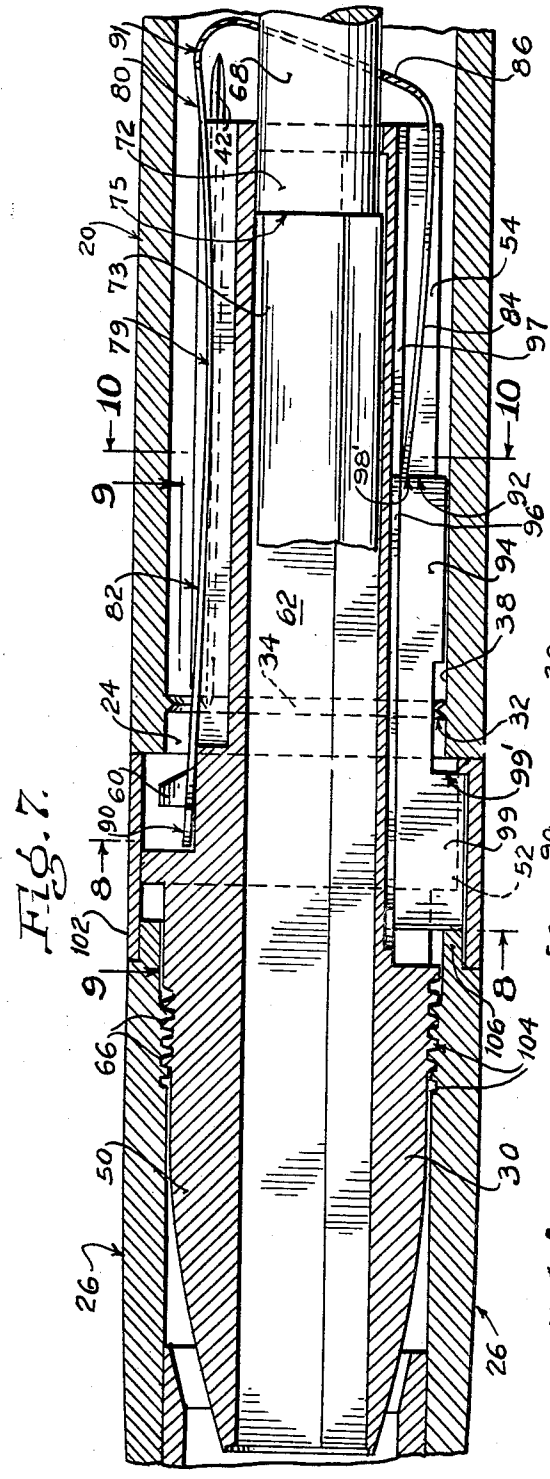


Fig. 7.

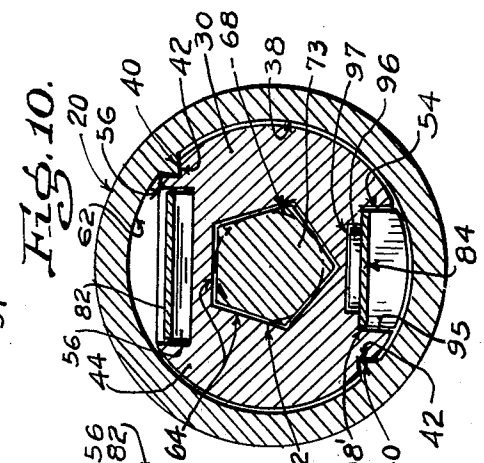


Fig. 10.

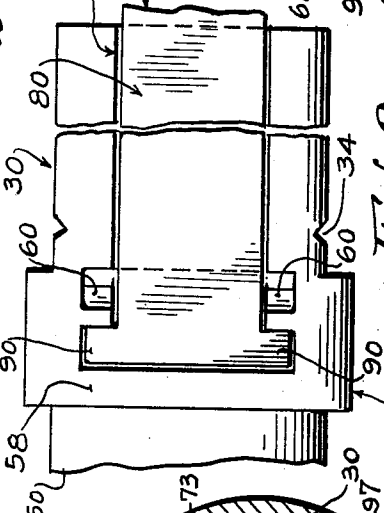


Fig. 9.

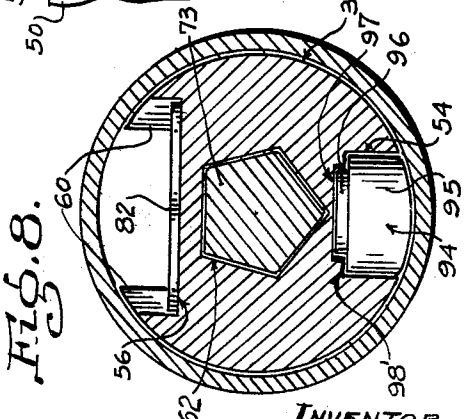


Fig. 8.

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June 21, 1960 W. B. SPATZ 2,941,508

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Filed Aug. 29, 1955 3 Sheets-Sheet 3

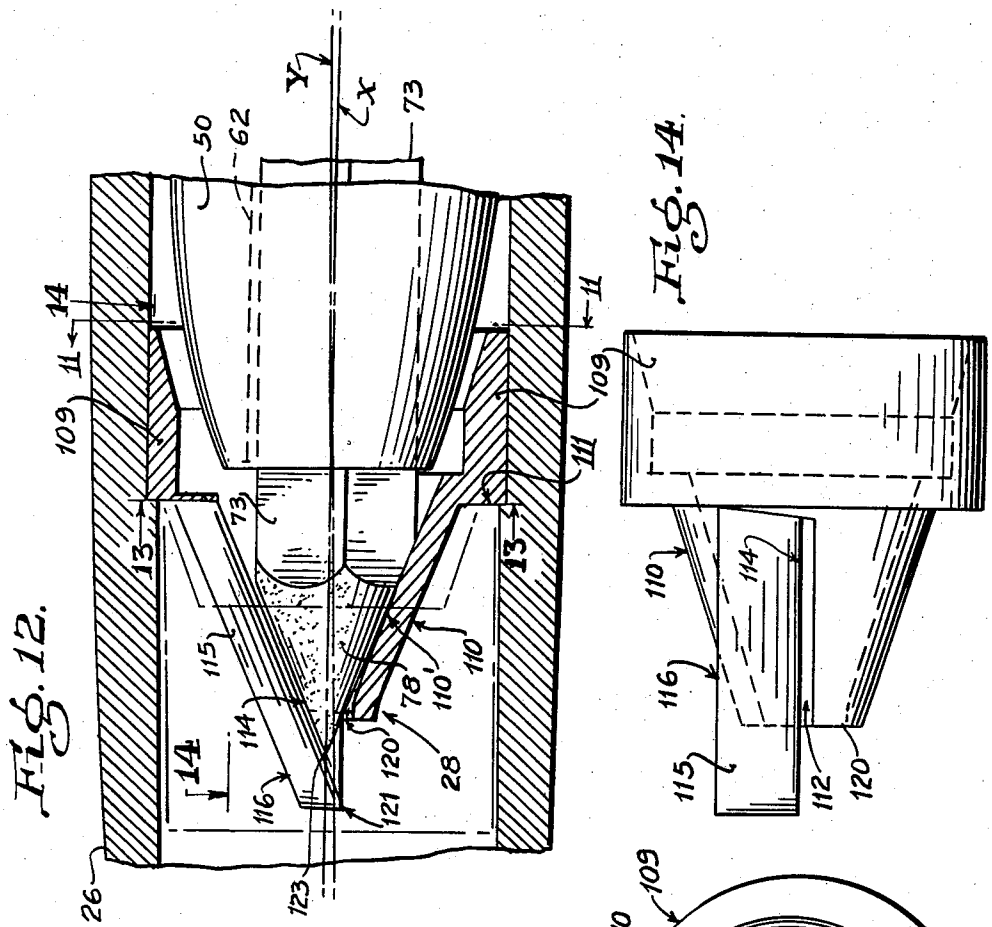


Fig. 12.

Fig. 14.

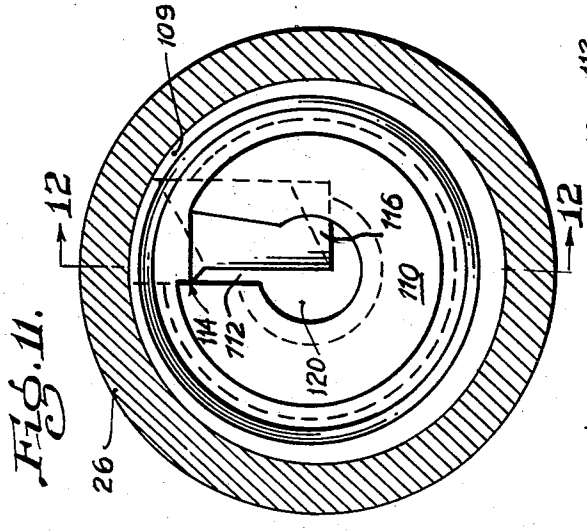


Fig. 11.

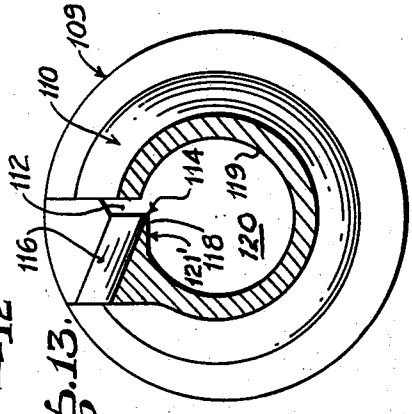


Fig. 13.

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United States Patent Office 2,941,508 Patented June 21, 1960

2,941,508

MARKING PENCIL

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9 Claims. (Cl. 120—15)

This invention relates to a novel combination of pencil case and pointer, and more specifically is concerned with a case for receiving a marking pencil in conjunction with a pointer or sharpening means for said pencil. The instrument of the invention is specifically designed for use as and has its major utility as an eyebrow pencil.

Marking or eyebrow pencils wherein a pencil is mounted in a case and a pointer fits onto the case for sharpening the pencil are known. However, the prior art structures have certain disadvantages, one in particular being the rather complicated structure of such prior art devices. Another disadvantage of known devices is that they often do not function properly to produce a sufficiently good pencil point and they also have a tendency to become clogged with pencil chips.

One object of this invention is the provision of a pencil pointer, particularly an eyebrow pencil, which is of simplified structure compared to prior art devices.

Another object is to provide a pencil pointer having a pointer or sharpener of novel design which cooperates with the pencil and other structural elements of the instrument to maintain the pencil in position during the sharpening of the pencil point, and which cuts a relatively sharp point and provides means for collection of chips and dust produced by the cutter away from the vicinity of the cutter to prevent clogging thereof.

A still further object is the design of a marking pencil or self-sharpening eyebrow pencil composed of a case for receiving the pencil and a pointer connected thereto, the instrument embodying a novel latching means to ensure proper positioning of the pencil in the case after removal of the cutter, but which is operative on mounting of the cutter on the case to unlatch the latching means to permit the pencil to move forward into engagement with the pointer for sharpening the pencil.

Yet another object of the invention is to design a pencil pointer of the aforementioned type which permits the sharpened end of the pencil to protrude a substantial distance beyond the case to facilitate the use of the pencil and avoid possible accidental contact of the case with whatever is being marked, e.g., the eyebrows.

Other objects and advantages of the invention will appear from the description thereof given below.

According to one form of the invention, a marking pencil is provided which comprises a case in the form of a hollow barrel open at its outer end, and a cap removably mounted over the barrel, the cap having a pointer mounted therein. The novel pointer of the invention is in the form of a hollow truncated cone having a cutter positioned in the cone, the pointer terminating at the plane of truncation to permit ready egress of small particles, and the like, from the pointer, the particles discharging both generally axially and laterally of the pointer axis. Preferably the cutter element is wedge-shaped and is formed integral with the cone. A slot is provided in the cone adjacent the cutter, and the cone is apertured at the apex thereof. As will be seen more

clearly hereinafter, the apex of the pointer cone is positioned eccentrically of the axis of the bore of the barrel and of the pencil or eyebrow crayon positioned therein, and the axis of the cone is disposed at a small acute angle to the axis of the barrel and the pencil. Thus, when the pencil point is received in the cone of the pointer, and the latter is rotated to sharpen the pencil in the manner described more fully below, a load is imposed against the pencil, forcing it into engagement with a section of the cone essentially opposite the cutter edge, to thus limit lateral deflection or wobbling of the crayon, which is inevitable where the pencil is not supported against lateral deflection. In effect a binding force is thus exerted against the pencil as a result of the rotary cutting action of the pointer, to maintain the pencil in fixed position during sharpening. The slot in the cone of the cutter permits chips cut from the pencil to emerge into the cap, the slot being of such size that the chips do not fall back into the interior of the case, and the aperture at the plane of truncation of the cone permits small particles cut from the pencil to drop out of the pointer and pass freely into the gap and thus prevent clogging of the cone.

A pencil support or pusher member in the form of an elongated slidable rod is mounted in the barrel for axial movement therein, the rod being adapted to support a pencil at one end thereof. A coil spring mounted in the barrel is connected to the other end of the pusher rod, and the opposite end thereof, which abuts the pencil, is slidably received in a sleeve or nose member mounted adjacent the open end of the barrel, said sleeve extending beyond said open end with the cap preferably threadably received thereon. The bore of the sleeve has a non-circular or polygonal cross section and the pencil or crayon preferably has a non-circular or polygonal cross section which mates with the bore of the sleeve to permit insertion of the pencil in the sleeve. Sufficient clearance is provided between the pencil and the bore of the sleeve to permit slidable but nonrotatable motion of the pencil in the sleeve, with the end of the pusher rod in abutting axial alignment with the pencil. The coil spring normally urges the pusher rod and pencil toward the outer end of the barrel, to bring the pencil into operative engagement with the pointer when the cap is mounted over the barrel, as will be more clearly brought out hereinafter.

The device of the invention incorporates a novel releasable latching mechanism for latching the pencil support or pusher rod against movement when the cap is removed from the barrel, to thus prevent undesirable ejection of the pencil from the case while the pencil is in use, the latch being unlocked by the cap. According to one embodiment, the latch comprises a U-shaped latching spring which is apertured at the intermediate portion thereof between the legs of the U-spring for receiving the pusher rod. The U-spring is fixed at one end, the other end of this spring abutting a key which is axially slidable in a groove on the outer surface of the nose or sleeve which houses the pencil and guides the pusher rod. When the cap is removed from the barrel, the intermediate portion of the latching spring is in frictional binding contact with the rod, and restrains axial movement thereof. When the cap is mounted over the barrel, e.g., by screwing the cap onto the nose piece, the edge of the cap contacts the slidable key, moving it axially and thus urging the latching spring into non-restraining position with respect to the pencil support or pusher rod, permitting it to move freely under the action of the coil spring to push the pencil into snug engagement with the cone of the pointer. A cover member in the form of a ring at all times covers the key adjacent the outer end of the barrel to prevent accidental actuation

thereof by means other than the cap, e.g. the fingers, during use of the pencil.

After the pencil has been sharpened, the removal of the cap imparts a frictional drag on the pencil or crayon rotating it so that its surfaces are forced against the surfaces of the sleeve or nose piece, providing a mild binding action between the pencil and sleeve. Nothing holds the pencil or crayon in the case after the cap is removed except the adhesive tension between the sides of the crayon and sleeve, and between the end of the crayon and the abutting end of the pusher rod. However, the amount of such adhesion is sufficient to hold the pencil in the case during use of the pencil following removal of the cap, without the pencil falling out of the case.

The invention will be more clearly understood by reference to the following description of a preferred embodiment of my pencil pointer, taken in connection with the accompanying drawings wherein:

Fig. 1 is an enlarged longitudinal section through my pencil pointer, certain parts being shown in elevation for clarity;

Fig. 2 is an exploded isometric view showing certain components of the device;

Fig. 3 is a section on line 3—3 of Fig. 1;

Fig. 4 is a perspective view of the key;

Fig. 5 is an enlarged detail of the latching spring and pusher rod combination;

Fig. 6 is a view taken on line 6—6 of Figs. 1 and 5;

Fig. 7 is an enlarged sectional view of a portion of the device of Fig. 1;

Fig. 8 is an irregular section on line 8—8 of Fig. 7;

Fig. 9 is a partial plan view taken on line 9—9 of Fig. 7;

Fig. 10 is a section taken on line 10—10 of Fig. 7;

Fig. 11 is an enlarged cross sectional view taken on line 11—11 of Figs. 1 and 12, looking into the cutter from the rear thereof;

Fig. 12 is a longitudinal sectional view on line 12—12 of Fig. 11;

Fig. 13 is a section taken on line 13—13 of Fig. 12; and

Fig. 14 is a plan view taken on line 14—14 of Fig. 12.

Referring particularly to Fig. 1, the pencil case 20 comprises an elongated hollow barrel 22 open at one end 24, and over which is adapted to be positioned a removable cap 26 having a sharpening means or pointer 28 mounted therein.

A nose or sleeve 30, see Figs. 1, 2, 7, 8 and 10, is mounted at the forward open end of the barrel 22 by inserting the rear portion 44 of the nose piece into the barrel, the bore 38 of the barrel being provided with a rib 32 which engages a groove 34 in the nose piece to hold the same in fixed axial position in the barrel bore. The bore 38 of the barrel also carries a pair of diametrically opposed lugs 40 on the inner periphery thereof, the lugs mating with diametrically opposed longitudinal slots 42 on the rear portion 44 to prevent rotary motion of the nose piece 30.

The nose piece 30 comprises an enlarged outwardly tapering forward portion 50, an intermediate flange 52 and the rear portion 44. Portion 44 (see Figs. 7, 8 and 10) has a lower longitudinally extending groove 54 therein and an upper longitudinal groove 56. The upper portion of flange 52 (see Fig. 2) is cut back to form a narrow flange 58 and a pair of spaced lugs 60 (see Figs. 7 and 8) are positioned on the top of the nose piece and separated a short distance from the upper flange 58. The nose piece 30 has an internal bore 62 extending from end to end of said nose piece or sleeve. The cross section of the bore is non-circular or pentagonal, as indicated in Figs. 8 and 10, with straight sides 64. The front portion 50 of the nose piece is threaded as at 66 to receive cap 26.

A pencil support or pusher rod 68 is mounted axially in the barrel 22, and is supported for axial movement therein by positioning one end 69 of the rod in a pocket 70 formed at the closed narrow end 71 of the barrel. The rod 68 is cylindrical and is received within the pentagonal bore 62 of nose piece 30. The forward end 72 of the pusher rod is received in bore 62 with sufficient clearance to permit axial displacement of the rod within said bore. A pencil or crayon 73 having a non-circular or pentagonal cross section is matingly received within bore 62 so as to permit axial movement of the pencil in the bore. The flat end of the pencil abuts the end 72 of the pusher rod as at 75. It is seen that while the crayon 73 is slidable longitudinally in the bore 62 of the nose piece 30, the mating pentagonal or non-circular surfaces of the crayon with said bore prevents rotary motion of the crayon. A compression spring 74 is seated in pocket 70 about the end 69 of the pusher rod, the spring abutting a flange 76 on the rod and normally urging the rod and the pencil forward, to bring the point 78 of the pencil into operative engagement with the pointer 28.

The pusher rod 68 is provided with a releasable latching mechanism designated generally by the numeral 79, and comprising a U-shaped latching spring 80, note particularly Figs. 1, 5, 6, and 7, having one leg 82 longer and wider than the other leg 84, and an intermediate portion 86 bent at an acute angle somewhat less than 90° to leg 82, and at an obtuse angle somewhat greater than 90° to leg 84. The intermediate portion 86 is enlarged to provide an aperture 88 therein to receive the pusher rod 68, sufficient clearance being provided to permit the rod to move axially through said aperture with respect to portion 86 of the spring 80.

Leg 82 of spring 80 is positioned in the upper groove 56 formed in portion 44 of nose piece 30, and the outer end of the spring leg 82 is provided with ears 90 which are positioned between lugs 60 of nose piece 30, and the flange 58 (see particularly Figs. 7, 8 and 9), to secure leg 82 of the U-spring in position to prevent axial movement of leg 82. The outer edges of spring leg 82 at its junction 91 with the intermediate spring portion 86 are in abutting relation at 93 with the wall of bore 38 of the barrel, thus preventing displacement of spring leg 82 upwardly as viewed in Figs. 1 and 7. Leg 84 of spring 80 is positioned in the lower groove 54 of the nose piece 30, and the outer end of leg 84 is urged at 92 into abutting contact with a key 94. The key (see Fig. 4) has a large base portion 95 which carries a shallow step member 96 of a width and length shorter than the width and length of base portion 95. The base portion of the key slides in the lower groove or slot 54 in portion 44 of the nose piece 30, and the step member 96 slides in a shallow groove 97 of nose portion 44, the latter groove communicating with groove 54. The free end of the leg 84 of spring 80 rides at the upper end 98′ of groove 54 in front of key 94, and the provision of the step member 96 on the key, which occupies groove 97, prevents the end of spring leg 84 from jamming into groove 97 between the key and the nose piece. The base portion 95 of the key is provided with an end portion 99, a shallow stepped end portion 101 and an intermediate notch 103 permitting the key to slide over the rib 32 on the wall of the barrel bore 38. The shoulder 99′ on the end portion 99 of the key (see Fig. 7) limits longitudinal motion of the key.

The intermediate portion 86 of spring 80 extends beyond the rear portion of nose piece 30. When the spring 80 is in normal position, the opposite peripheral edge portions 98 of the aperture 88 in the central portion 86 of the latching spring (see particularly Figs. 5 and 6) abut the adjacent peripheral portions 100 of the pusher rod 68, causing a binding action between these contacting surfaces of the rod and spring, and holding the rod 68 in latched position to prevent axial movement thereof under the action of coil spring 74.

However, when the key 94 is urged to the right as viewed in Figs. 1 and 7, the leg 84 of the spring 80 is pushed forward, causing the spring 80 to flex in a direction

to rotate the intermediate portion **86** of the spring, as seen in Figs. 1, 5 and 7, counterclockwise about **91** as a fulcrum point, thus freeing the surfaces **98** and **100** from contact with each other, and unlatching the pusher rod from its fixed position with respect to spring portion **86** and permitting the pusher rod **68** to move freely in an axial direction through the aperture **88** in the central portion **86** of said spring. A ring **102** is pressed fitted about flanges **52** and **58**, and about the outwardly extending portion **99** of key **94**, thus covering the exposed portion of the key extending beyond the open end **24** of the barrel, and preventing accidental actuation of the key by the fingers while handling the case.

Cap **26** containing the pointer **28** has internal threads **104** which mate with the external threads **66** provided on the forward portion **50** of the nose piece **30**, providing a cam interconnection for securing the cap to the nose piece and over the open end **24** of the barrel **22**. When the cap is screwed onto the nose piece, as viewed in Figs. 1 and 7, a flanged end portion **106** of cap **26** passes under ring **102** and makes contact with the key **94**, urging it to the right and unlatching the latch spring **80** as described above, permitting coil spring **74** to urge the pusher rod **68** and the pencil or crayon **73** to the left, and thus urging the point **78** of the crayon into the pointer **28**.

Viewing Figs. 1, 2, 11, 12, 13 and 14, the pointer **28** is mounted on a cylindrical support **109** press fitted into the interior of cap **26** and abutting a shoulder **111** therein. The pointer is in the form of a truncated hollow cone **110** having a slot **112** intersecting the surface of the cone and connecting the interior of the cone with the exterior of the cone, one edge **114** of the slot being defined by the surfaces **115** of a wedge **116** formed integrally with the cone. The edge **114** of the wedge forms a cutter edge and protrudes a short distance as at **118** into the interior of the hollow cone beyond the interior conical surface **119** of the cone. The truncated cone is apertured at **120** in a plane perpendicular to the axis of the cone, the wedge **116** extending upward beyond said plane and through said aperture to a point **121**. Apex **123** of the cone (see Fig. 12) is eccentric of the axis Y of the barrel and of the crayon positioned in said barrel, and the axis X of the cone is tilted about one degree to the Y axis. The wedge **116** is in the shape of a frustum of an oblique pyramid, i.e. the triangular cross section of the wedge **116** increases in area from the outer end thereof towards the cone and intersects the cone to produce a flat inner surface **121'** adjacent the inner surface **119**, and the protruding cutting edge **114** at the face of the slot. The wedge **116** also gives mass and rigidity to the cutter permitting the rest of the cone to be of light construction.

It is thus seen that as the cap is rotated and screwed onto the nose piece **30**, the pointer and cone **110** thereof are also rotated to sharpen the point **78** of the crayon as it is urged into the cone by the pusher rod **68** under the action of spring **74**, forming a conical point **78** on the pencil or crayon. During this sharpening period, because of the eccentricity of the apex of the cone and the tilting of the axis of the cone with respect to the axis of the barrel and th pencil or crayon **73**, a load is exerted downwardly against the crayon, as viewed in Figs. 1, 7 and 12, to press the pencil **73** near the base of the conical point against the adjacent lower section **110'** of the cone **110** in nose piece **30**. This action tends to hold the pencil or crayon firmly within the cone to prevent excessive bending load on the pointed end and to prevent the crayon breaking at this weakened section.

Due to the tilting of the axis X of the cone **110** and the position of the cutter edge **114**, the region **110'** where contact is made with the crayon is not necessarily diametrically opposite to the cutter **114**. As the cutter is rotated it bites into the crayon to cut a chip thus introducing a lateral force on the crayon. Since the cutter edge **114** travels around the crayon the cutter tends to cause a circular wobble of the crayon. The degree of

wobble is materially reduced from that which would be produced by the cutter if mounted in a cone which was axially coincident with the crayon and with a cutter protruding into the interior of cone to the depth cut desired. I, however, materially reduce this degree of wobble by radially displacing the apex of the cone from the axis of the barrel and crayon, as shown in Fig. 12. The extent to which the apex is displaced controls the degree to which the wobble is reduced. In a practical observation I have found that a displacement of approximately half the depth of cut produces optimum results in that it minimizes the degree of wobble and the efficiency of cut is maintained.

The slot **112** of the pointer cone **110** is made narrow, and is of a dimension such that it is sufficiently large to permit chips cut from the pencil to pass into the cap **26**, but is small enough to prevent these chips from dropping back into the cone **110**. It is to be noted that the frustoconical member **110** terminates at its plane of truncation and that the only pointer portion extending forwardly beyond the plane of truncation is the cutter wedge **116**, which is of comparatively small arcuate extent. As a result, the forward end of the aperture **120** terminates substantially at the plane of truncation, communicating freely and directly with the interior of the surrounding cap, enabling relatively small particles of crayon, dust, debris, and the like, to pass easily out of the forward end of the aperture, for lateral dropping into the cap. The major portion of the cuttings pass laterally out of the conical member **110** through the slot **112**, the termination of the member **110** at its plane of truncation allowing the small particles to move readily out of the end of the opening **120** and preventing their packing in the interior of the member **110**. It is seen that except for the slot **112** and aperture **120**, there is no communication between the interior of the cap **26** and the exterior of the cap, the outer end of which is provided with a removable closure **122** (see Figs. 1 and 2).

The closure **122** has a bore **124** and comprises an enlarged closed cylindrical end portion **126** and an open end portion **128** providing communication between the interior of the cap and the bore **124**. Between end portions **126** and **128** is a stepped shoulder **130** which mates with the stepped end **132** of the cap **26**, and the end portion **128** of the closure **122** has a pair of diametrically opposed pins **134** thereon, which are adapted to slide in diametrically opposed slots **136** positioned on the inner wall at the end of cap **26** (see also Fig. 3), when the closure is fitted onto the cap, with the end portion **128** of the closure sliding into the end of the cap as seen in Fig. 1. When the stepped shoulders **130** and **132** of the closure and cap are in abutting relation, the pins **134** will have moved to the right end of slots **136**, as seen in Fig. 1, and rotation of the closure will lock the closure onto the cap by abutment of the pins with the shoulder **138** on the inner surface of the cap **26**.

When the cap **26** is unscrewed from the nose piece **30** following the sharpening operation, the intermediate portion **86** of latching spring **80** will be rotated clockwise about fulcrum point **91** of the spring, urging leg **84** of the latching spring and the key **94** to the left as viewed in Figs. 1 and 7, latching the pusher rod **68** so that it is restrained against outward movement as described above. The removal of the cap **26** causes the pointer **28** to impart a frictional drag on the crayon **73**, rotating it so as to force its apices at the intersection of the plane surfaces thereof against the flat surfaces of the mating pentagonal bore **62**, to produce a wedging action tending to hold the crayon in the bore after the cap is removed. Also, when the cap is entirely removed, the crayon is further restrained against axial movement out of the pencil case by adhesive tension at **75** between the flat end of the tacky crayon and the abutting end of pusher rod **68**.

The crayon, following the removal of the cap, protrudes a substantial distance beyond the forward portion

50 of nose piece 30, as indicated particularly in Fig. 12, facilitating manipulation of the crayon in use. It is further noted that the key 94 and the latch spring 80 are completely covered by my closure ring 102, and cannot be operated except by the cap 26, thus protecting against accidental release of the latch while the crayon is used as an eyebrow pencil, avoiding injury to the eye by ejection of the crayon. The crayon is thus maintained in proper position in the pencil case during use and is prevented from shooting out of the case by my novel latching mechanism.

The structural components of my device can be constructed of any suitable material such as metal or plastic. For example, case 20, cap 26, nose piece 30, and key 94, as well as other elements of my device can be conveniently formed of molded plastic.

While I have described a particular embodiment of my invention for the purpose of illustration, it should be understood that various modifications and adaptations thereof may be made within the spirit of the invention as set forth in the appended claims.

I claim:

1. In a marking pencil: a barrel having means engaging a pencil for supporting the pencil in said barrel against substantial rotation relative to said barrel while permitting the pencil to move axially of said barrel; means in said barrel for engaging and feeding the pencil in a direction forwardly of said barrel to locate the forward end portion of the pencil externally of the barrel; a cap; means mounting said cap for longitudinal movement and rotation on said barrel; cutter means having a cutter edge and secured to said cap and rotatable therewith when said cap is mounted on said barrel to engage said cutter edge with the forward end portion of the pencil and cut and sharpen the same; releasable latch means normally engaging said feeding means to prevent said feeding means for moving the pencil longitudinally in said barrel, said latch means including an operating member extending lengthwise of said barrel and engaged by said cap when said cap is mounted on said barrel to move said operating member lengthwise of said barrel by said cap and release said latch means from said feeding means to permit said feeding means to urge the pencil in said forward direction.

2. In a marking pencil: a barrel having means engaging a pencil for supporting the pencil in said barrel against substantial rotation relative to said barrel while permitting the pencil to move axially of said barrel; means in said barrel for engaging and feeding the pencil in a direction forwardly of said barrel to locate the forward end portion of the pencil externally of the barrel; a cap; means mounting said cap for longitudinal movement and rotation on said barrel; cutter means having a cutter edge and secured to said cap and rotatable therewith when said cap is mounted on said barrel to engage said cutter edge with the forward end portion of the pencil and cut and sharpen the same; releasable one-way latch means normally engaging said feeding means to prevent said feeding means from moving the pencil forwardly in said barrel, said latch means automatically releasing to permit rearward movement of the pencil in said barrel, said latch means including an operating member extending lengthwsie of said barrel and engaged by said cap when said cap is mounted on said barrel to move said operating member lengthwise of said barrel by said cap and release said latch means from said feeding means to permit said feeding means to urge the pencil in said forward direction.

3. In a marking pencil: a barrel having means engaging a pencil for supporting the pencil in said barrel against substantial rotation relative to said barrel while permitting the pencil to move axially of said barrel; feeding means in said barrel for engaging and urging the pencil in a direction forwardly of said barrel to locate

the forward end portion of the pencil externally of the barrel; a cap; means providing a cam interconnection between said cap and barrel, whereby said cap is rotated and moved longitudinally on said barrel in removing said cap from said barrel and in mounting said cap on said barrel to cover the forward end portion of the pencil; cutter means having a cutter edge and secured to said cap against axial movement with respect thereto and rotatable therewith when said cap is mounted on said barrel to engage said cutter edge with the forward end portion of the pencil and cut and sharpen the same; releasable latch means normally engaging said feeding means to prevent said feeding means from moving the pencil longitudinally in said barrel, said latch means including an operating member extending lengthwise of said barrel and engaged by said cap when said cap is mounted on said barrel to move said operating member lengthwise of said barrel by said cap and release said latch means from said feeding means to permit said feeding means to urge the pencil in said forward direction.

4. In a marking pencil: a barrel having means engaging a pencil for supporting the pencil in said barrel against substantial rotation relative to said barrel while permitting the pencil to move axially of said barrel; feeding means in said barrel for engaging and urging the pencil in a direction forwardly of said barrel to locate the forward end portion of the pencil externally of the barrel; a cap; means providing a threaded interconnection between said cap and barrel, whereby said cap is rotated and moved longitudinally on said barrel in removing said cap from said barrel and in mounting said cap on said barrel to cover the forward end portion of the pencil; cutter means having a cutter edge and secured to said cap and rotatable therewith when said cap is mounted on said barrel to engage said cutter edge with the forward end portion of the pencil and cut and sharpen the same; releasable latch means normally engaging said feeding means to prevent said feeding means from moving the pencil longitudinally in said barrel, said latch means including an operating member extending lengthwise of said barrel and engaged by said cap when said cap is mounted on said barrel to move said operating member lengthwise of said barrel by said cap and release said latch means from said feeding means to permit said feeding means to urge the pencil in said forward direction.

5. In a marking pencil: a barrel having guide means secured thereto provided with a non-circular passage to slidably receive a companion pencil of non-circular cross-section to prevent rotation of the pencil relative to the barrel; a plunger extending into said passage and engageable with the rear portion of the pencil; spring means in said barrel engaging said plunger to urge it and the pencil in a direction forwardly of said barrel to locate the forward end portion of the pencil externally of the barrel; a cap; means providing a cam interconnection between said cap and barrel, whereby said cap is rotated and moved longitudinally on said barrel in removing said cap from said barrel and in mounting said cap on said barrel to cover the forward end portion of the pencil; cutter means having a cutter edge and secured to said cap against axial movement with respect thereto and rotatable therewith when said cap is mounted on said barrel to engage said cutter edge with the forward end portion of the pencil and cut and sharpen the same; releasable latch means normally in gripping engagement with said plunger to prevent longitudinal movement of said plunger in said barrel, said latch means including an operating member extending lengthwise of said barrel and engaged by said cap when said cap is mounted on said barrel to move said operating member lengthwise of said barrel by said cap and release said latch means from said plunger to permit said spring means to urge the pencil in a forward direction.

6. In a marking pencil: a barrel having means engaging a pencil for supporting the pencil in said barrel against

substantial rotation relative to said barrel while permitting the pencil to move axially of said barrel; feeding means in said barrel for engaging and urging the pencil in a direction forwardly of said barrel to locate the forward end portion of the pencil externally of the barrel; a cap; means mounting said cap for longitudinal movement and rotation on said barrel; cutter means having a cutter edge and secured to said cap and rotatable therewith when said cap is mounted on said barrel to engage said cutter edge with the forward end portion of the pencil and cut and sharpen the same; releasable latch means disposed completely within said barrel and normally engaging said feeding means to prevent said feeding means from moving the pencil longitudinally in said barrel, said latch means including an operating member entirely within and extending lengthwise of said barrel; said cap having a portion extending into said barrel which engages said operating member when said cap is mounted on said barrel to move said operating member lengthwise of said barrel and release said latch means from said feeding means to permit said feeding means to urge the pencil in said forward direction against said cutter means.

7. In a marking pencil: a barrel having means engaging a pencil for supporting the pencil in said barrel against substantial rotation relative to said barrel while permitting the pencil to move axially of said barrel; feeding means in said barrel for engaging and feeding the pencil in a direction forwardly of said barrel to locate the forward end portion of the pencil externally of the barrel, said feeding means including an elongate member; a latch member having an opening through which said elongate member passes, said latch member normally occupying a position in said barrel in which a side of said latch member defining said opening grips said elongate member; a cap; means mounting said cap for longitudinal movement and rotation on said barrel; cutter means having a cutter edge and secured to said cap and rotatable therewith when said cap is mounted on said barrel to engage said cutter edge with the forward end portion of the pencil and cut and sharpen the same; an operating member operatively connected to said latch member and extending lengthwise of said barrel and engaged by said cap when said cap is mounted on said barrel to move said operating member lengthwise of said barrel by said cap and release said latch member from said elongate member to permit said feeding means to urge the pencil in said forward direction.

8. In a marking pencil: a barrel adapted to contain a pencil; feed means in said barrel engageable with the pencil to urge the pencil in a direction forwardly of said barrel to locate the forward end of the pencil externally of the barrel, said feed means including an elongate member; a latch member having a transverse portion provided with an opening through which said elongate member passes and a leg portion integral with said transverse portion and extending lengthwise of the barrel; means normally positioning said transverse portion in inclined relation to said elongate member to cause the side of said transverse portion defining said opening to grip said elongate member; a cap removably mounted on said barrel to cover the forward portion of the pencil; and means operatively engaging said leg portion and engaged by said cap when mounted on said barrel for changing the inclination of said transverse portion to release said side from gripping engagement with said elongate member.

9. In a marking pencil: a barrel having means engaging a pencil for supporting the pencil in said barrel against substantial rotation relative to said barrel while permitting the pencil to move axially of said barrel; feeding means in said barrel for engaging and feeding the pencil in a direction forwardly of said barrel to locate the forward end portion of the pencil externally of the barrel, said feeding means including an elongate member; a cap; means mounting said cap for longitudinal movement and rotation on said barrel; rotatable cutter means having a cutter edge secured to said cap and rotatable therewith when said cap is mounted on said barrel to engage said cutter edge with the forward end portion of the pencil and cut and sharpen the same; self-energizing, one-way latch means normally engaging said elongate member to prevent said feeding means form moving the pencil longitudinally in said barrel, said latch means being adapted to increase its gripping engagement against said elongate member as said member tends to move forwardly of said barrel, said latch means automatically releasing to permit rearward movement of said elongate member in said barrel, said latch means including an operating member extending lengthwise of said barrel and engaged by said cap when said cap is mounted on said barrel to move said operating member lengthwise of said barrel by said cap and release said latch means from said elongate member to permit said feeding means to urge the pencil in said forward direction.

References Cited in the file of this patent

UNITED STATES PATENTS

527,803	McCollum	Oct. 23, 1894
578,577	Moseley	Mar. 9, 1897
1,601,118	Hassenfeld	Sept. 28, 1926
1,780,581	Dillier	Nov. 4, 1930
2,000,487	Koch	May 7, 1935
2,303,273	Hendrick	Nov. 24, 1942
2,486,960	Mesh et al.	Nov. 1, 1949
2,507,089	Bridges et al.	May 9, 1950
2,565,715	Becker et al.	Aug. 28, 1951
2,604,877	Glass et al.	July 29, 1952
2,624,316	Blanco et al.	Jan. 6, 1953

FOREIGN PATENTS

1,014,921	France	June 25, 1952