

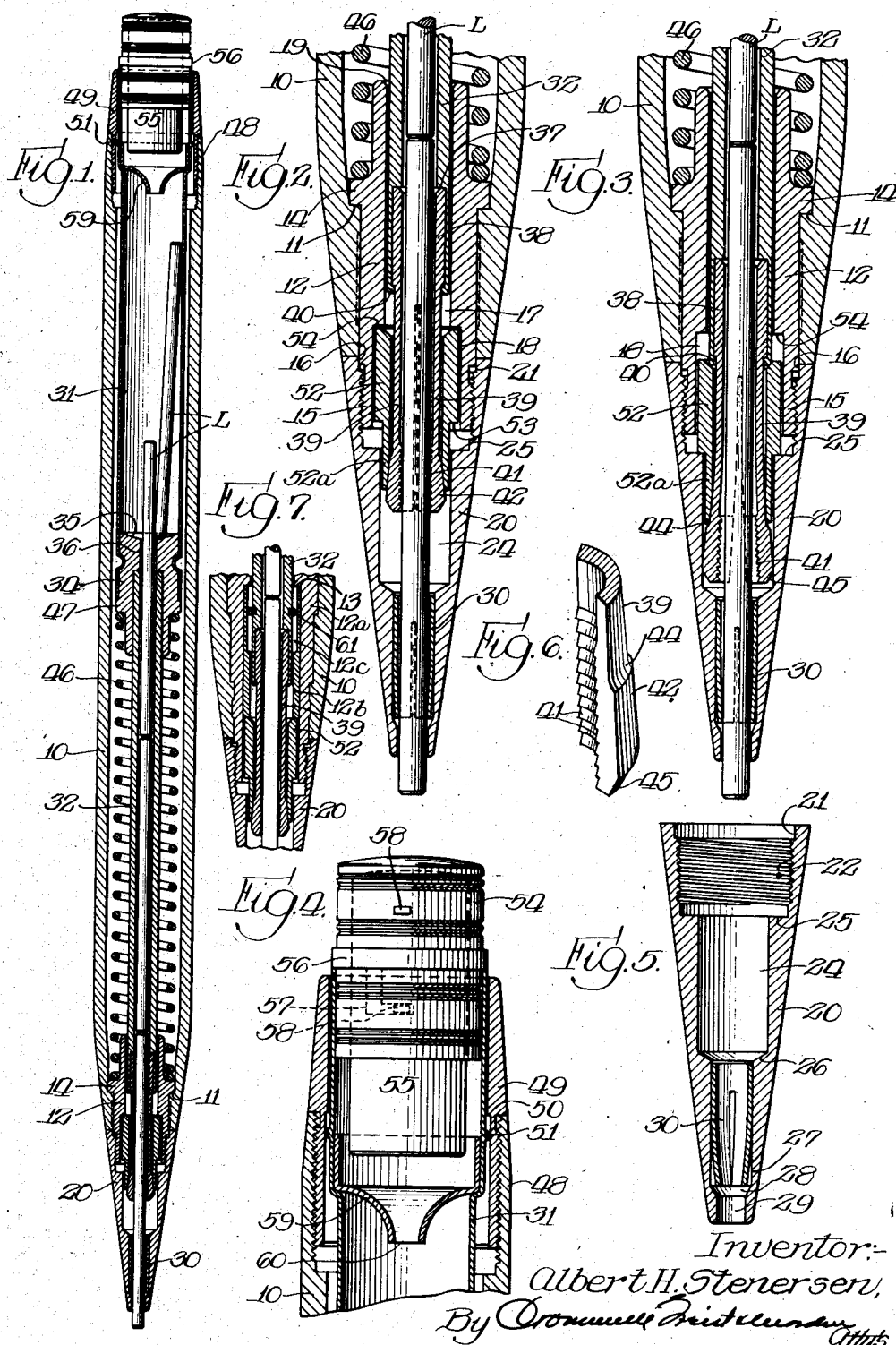
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MECHANICAL PENCIL

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MECHANICAL PENCIL

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This invention relates to mechanical pencils of the magazine type where the lead sticks are fed one after another from the magazine to the writing point incident to the normal step-by-step propulsion of the lead for writing.

A general object of the invention is the provision of an improved construction for a mechanical pencil of this type which will be reliable and positive in operation and which may be manufactured economically because of the simplicity and small number of parts involved and the facility with which they may be assembled.

A more particular object is the provision of a construction wherein the lead feeding and holding parts are definitely maintained in proper alignment, to insure proper feed of the lead and avoid fracture of the lead stick within the pencil incident to the lead feeding operations or use of the pencil in writing.

Another particular object is the provision of an improved construction wherein the parts which grip the lead in the lead propelling operation operate close to the writing point of the pencil, so as to minimize possibility of fracture of the lead stick, and wherein the weight of the lead sticks is availed of to best advantage to insure the feeding of the successive lead sticks from the magazine to the lead gripping parts.

Another particular object is the provision of a construction which is particularly qualified for use in pencils wherein the pencil barrel may be formed of pyroxylin or similar materials which are desirable because of their decorative or ornamental value but which are susceptible to slight distortion or shrinkage in the course of time, the advantage of the present improvements residing in the fact that the reliability and operability of the lead feeding mechanism and the protection of the lead sticks against fracture are effectively maintained irrespective of such variations of the pencil barrel.

Another particular object is the provision of a construction whereby the extent to which the lead is propelled in each operation is definitely controlled, and over-feed and partial retraction of the lead stick following the propelling movement are obviated.

Yet another object is the provision of a construction whereby clogging or jamming of the lead feeding parts are obviated and said parts are easily accessible for cleaning.

Yet another object is the provision of a mechanism having the advantages above specified and which may be embodied in very slender pencils

without sacrifice of necessary strength or reliability in operation.

Other and further objects will be pointed out or indicated hereinafter or will be apparent to one skilled in the art upon an understanding of the invention or its employment in use.

For the purpose of aiding in an explanation of the invention I show in the accompanying drawing forming a part of this specification, and hereinafter describe, forms in which the invention may be embodied. It is to be understood, however, that this is presented for purpose of illustration only, as the invention may be embodied in various other forms, and hence that the example here presented is not to be construed in any fashion for the purpose of limiting the appended claims short of the true and most comprehensive scope of the invention in the art.

In the drawing,

Fig. 1 represents a longitudinal sectional view of a mechanical pencil representing an embodiment of the invention;

Fig. 2 is a similar sectional view of the lower portion of Fig. 1 on a larger scale, showing the parts in normal position;

Fig. 3 is a view similar to Fig. 2 but showing the parts in the positions which they assume at the conclusion of their forward or lead propelling movement;

Fig. 4 is an enlarged view of the upper portion of Fig. 1;

Fig. 5 is an enlarged view of the pencil tip removed from associated portions of the device;

Fig. 6 is an enlarged perspective detail of one of the clutch jaws; and

Fig. 7 is a longitudinal sectional view illustrating a slightly modified construction.

Described generally, the invention contemplates a lead feeding mechanism which comprises a longitudinally reciprocable tubular element the upper portion of which affords a magazine adapted to hold a number of lead sticks in side-by-side relationship, and the lower portion of which carries a plurality of gripping jaws adapted to clutch a lead stick adjacent the point of the pencil. The lead gripping action of the jaws is imparted by a constraining element which exercises a wedging or camming action on the jaws to press them toward one another, said element being reciprocable to a limited extent with the jaws incident to reciprocation of the tubular member. The cooperation between the jaws and the constricting member is such that the latter is definitely retained against exerting its wedging action upon them in the course of the return or

recessive movement of the tubular member, and the lower portion of the tubular member, the jaws, and the jaw constricting member are all definitely maintained and guided in coaxial relationship with one another and with the pencil tip which supports the lead at the writing point, so that the lead stick is definitely safeguarded against lateral bending or breaking stresses. The portions of the tubular member through which the lead sticks are transmitted from the magazine to the clutch are of such cross-sectional size as to prevent the ends of lead sticks overlapping therein, but such as to permit the lead sticks to move freely therein by gravity and to allow for some lateral deflection of the tubular member without imposing lateral bending or breaking pressures on the contained lead sticks. The improved construction includes other features which, together with the foregoing, will now be described in detail from the illustrative embodiment shown in the drawing.

The mechanical pencil here illustrated includes a tubular barrel 10, the lower portion of which is slightly tapered and formed with an internal shoulder or seat 11. A rigid guide bushing 12 is mounted coaxially in the lower end of the barrel, said guide bushing having a peripheral flange 14 which seats upon the shoulder 11. The guide bushing may be secured in the barrel by screw threads, which may be preferable when the barrel is of metal, or it may be secured by a pressed fit or in other fashion. It projects out of the truncated lower end of the barrel, the projecting portion affording a screw-threaded part 15 and a centering part 16 which has a circular peripheral surface. The guide bushing has a cylindrical bore 17 and an enlarged counterbore 18 coaxial therewith. At its upper terminus the bore 17 is slightly flared or funneled, as at 19.

The tip 20 is formed of rigid material, such as metal, and is of tapering form, its upper end being of a diameter corresponding to the lower end of the barrel. The tip has a coaxial stepped bore which forms at its top a circular aligning portion 21 adapted to fit the periphery of the aligning portion 16 of the guide bushing, and below that a screw-threaded portion 22 for screwing onto the threaded portion 15 of the bushing. Below the screw-threaded portion 22 the bore is reduced to form a clutch chamber 24 which terminates at its upper end at a shoulder 25. Below the clutch chamber 24 the bore converges in funnel shape, as at 26, to a clamp chamber 27, and at the lower end of the latter again converges at 28 to an end orifice 29. A resilient clamp 30 is fixed in the clamp chamber, said clamp being of tubular form and springing inwardly at its lower end to a size somewhat less than the end orifice 29.

A reciprocable tubular member is provided, same comprising the magazine 31 and lead guide tube 32. These are connected in coaxial relationship by a joining member 34, the upper portion of which is fitted into the magazine tube and is formed with a conical top surface 35 which constitutes the bottom of the magazine. The lower portion of the joining member 34 is provided with a socket in which the upper end of the lead guide tube 32 is fitted and secured, the bore of said lead guide tube being in alignment with an axial aperture 36 of the joining member, which aperture constitutes an outlet affording passage for lead sticks from the magazine tube into the lead guide tube.

The lower end of the lead guide tube is counter-

bored so as to form an internal shoulder 37 (see Fig. 2) and provide a socket for the clutch member 38. The clutch member is a tubular element which is split longitudinally for a considerable distance upwardly from its lower end to provide a plurality of resilient arms 39 which are given a set that induces them to assume normally a spread or downwardly diverging relationship. The upper end portion of the clutch member fits accurately in the counterbored portion of the lead guide tube 32 so that it is retained in coaxial relationship therewith. The upper end of the clutch member abuts the shoulder 37 in the lead guide tube, and the lower end portion of the lead guide tube is swaged inwardly under a shoulder on the clutch member, as at 40, to hold the clutch member securely and immovably connected with the lead guide tube. The normal bore of the clutch member is slightly smaller than the bore of the lead guide tube.

At their lower ends the resilient arms or sections 39 of the clutch member are thickened and formed into respective clutch jaws having lead engaging-ports 41, preferably serrated or toothed, which extend inwardly beyond the normal inner wall surfaces of the arms, and with peripheral conic or flaring surface portions 42. These flaring surface portions diverge downwardly and terminate at their upper ends at abruptly inwardly sloping shoulders 44 and at their lower ends at downwardly converging conic surfaces 45.

The tubular member is mounted for longitudinal reciprocation within the pencil barrel, the lower end portion of the lead guide tube being positioned in the upper portion of the bore of the guide bushing 12 and accurately guided by said member. A coiled spring 46 is compressed between the flange 14 of the guide bushing and a shoulder 47 of the joining member 34. At its upper end the barrel is internally screw threaded at 48, and a ferrule 49 is screwed therein, said ferrule encompassing the upper end portion of the magazine tube 31. Said ferrule has an inwardly jutting shoulder 50 which overhangs an outwardly projecting stop member 51 on the magazine tube. Thus the ferrule retains the reciprocable tubular member against withdrawal from the barrel and has guiding cooperation with it in its reciprocatory movement. With the reciprocable tubular member thus assembled in the barrel, the clutch jaws project somewhat beyond the lower end of the guide bushing 12.

A clutch constricting member 52 is arranged for longitudinal reciprocatory movement in the counterbore 18 of the guide bushing, said member 52 being accurately maintained by the guide bushing in coaxial relationship with the lead guide tube 32 and the clutch member 38. Upward movement of the member 52 is limited by the shoulder 54 at the upper end of the counterbore 18. The clutch constricting member 52 is of annular form and encompasses the resilient arms or sections 39 of the clutch member, affording sufficient clearance therefrom to permit said arms to spring outwardly into divergent relationship. The lower portion of the clutch constricting member 52 is extended downwardly beyond the lower end of the guide bushing 12 in the form of a sleeve 52a having a conic bore that is complementary to the conic peripheral surfaces 42 of the clutch jaws. The length of this sleeve is such that it extends for a distance downwardly on the clutch jaws when the reciprocatory tubular member is in its upper limit position. Accordingly, when the

tip is in position on the guide bushing 12, the clutch jaws and the sleeve 52a extend into the clutch cavity 24.

On the upper end of the magazine tube 31 is mounted an eraser holder 54 which carries an eraser 55 projecting from one end thereof, the other end being closed. Either end of the eraser holder may be inserted into the open upper end of the tube 31 to the extent permitted by a peripheral flange 56 formed on the eraser holder and adapted to abut the upper end of the tube 31. The wall of the tube may be provided with a shallow bayonet groove 57 and the eraser holder with lugs 58 adapted to be received in said groove to retain the holder against accidental displacement. In Fig. 4 the eraser holder is shown in the position wherein the eraser is housed within the upper end portion of the tube 31. In the reversed position of the eraser holder the eraser will be exposed at the end of the pencil in position for use. The eraser holder is of such diameter that when in either of said positions it may enter further into the ferrule 49 or the upper end of the barrel when the reciprocatory tubular member 31, 32 is moved forwardly therein.

In the upper portion of the tube 31 is mounted a gauge member 59, which closes the tube excepting for an aperture 60 in said member, said aperture affording the passage through which lead sticks are introduced into the magazine, and being of size and shape such as to prevent the introduction of lead sticks of excessive size or improper form for proper operation in the pencil. This also acts as a lead retaining closure for the upper end of the magazine.

In the operation of the pencil, a plurality of lead sticks L having been disposed in the magazine tube 31, some of them will be fed by gravity into the lead guide tube 32 when the pencil is held with the point downwardly. The lowermost lead stick will be stopped by the clutch jaws, which will be held in inward position by the sleeve 52a. Pressure being applied to the upper end of the eraser holder, the tubular member will be moved downwardly against the pressure of spring 46. The clutch constricting member 52 will be carried downwardly with the tubular member because of the frictional engagement of the sleeve 52a with the peripheral surfaces of the clutch jaws which are urged radially outwardly by the tension of the resilient arms 39. Such downward movement of the clutch constricting member will continue until its shoulder 53 engages shoulder 25 of the tip. Downward movement of the tubular member continues, however, until it is arrested by engagement of its stop 40 with the upper end of the clutch constricting member 52. Incident to such further downward movement of the tubular member the conic peripheral surfaces 42 of the clutch jaws are moved beyond the lower end of the sleeve 52a, and the jaws are thus permitted to spring outwardly to a position such as shown in Fig. 3. This permits the lowermost lead stick to slide down until it is stopped in the clamp 30, such downward movement of the lowermost lead stick being aided by the weight of the following lead sticks in the lead guide tube 32.

It will be observed, as in Fig. 3, that the further downward movement of the tubular member, after the clutch constricting member 52 has been stopped, brings the abruptly sloping shoulders 44 to a position beyond or below the lower end of the sleeve 52a. Accordingly, when the downward pressure on the eraser holder is relieved so as to permit the spring 46 to move the tubular

member upwardly, the clutch constricting member 52 will be positively propelled upwardly, due to engagement of the shoulders 44 with the end of sleeve 52a, said shoulders 44 functioning as a catch or latching members preventing sleeve 52a from sliding downwardly onto the conic surfaces 42 and hence avoiding any premature inward movement of the clutch jaws. However, when the upper end of the clutch constricting member 52 contacts the stop shoulder 54, the upward movement of the member 52 will be arrested but the upward movement of the tubular member will continue, thereby moving the shoulders 44 and more or less of the conic surfaces 42 of the clutch jaws into the sleeve 52 and camming or wedging the clutch jaws inwardly against the spring pressure of their arms 39. This inward movement of the jaws continues until the lead engaging members 41 engage the lead stick, which normally will occur before the stop 51 (Fig. 4) reaches the stop shoulder 50 of the ferrule 49 and while the spring 46 remains partially compressed. Consequently, the parts are maintained at rest against the pressure of spring 46 through the medium of the clutch constricting member 52 and its wedging cooperation with the clutch jaws. This induces a very firm clutching engagement of the jaws with the lead stick. Consequently, when the tubular member is again pressed downwardly, the lead stick will be carried downward with the jaws and propelled through the restricted portion of the resilient clamp 30, which thereupon clamps the lead stick and holds it definitely against retraction. By such repeated operations of the reciprocable tubular member the lead stick is propelled step by step through the writing tip of the pencil. As soon as one lead stick is ejected, the next one follows on immediately, step by step, this continuing until the magazine tube and lead guide tube have been completely emptied of lead sticks. When there is no lead stick engaged in the clutch, the tubular member is retained against withdrawal from the barrel by engagement of the stop 51 with stop 50 of the ferrule, and the resulting additional projection of the tube 31 above the upper end of the ferrule serves an indication that the clutch is unoccupied.

In some instances it may be desirable to avoid the use of the separate ferrule 49 at the upper end of the barrel. In such instances the modified construction shown in Fig. 7 may be employed, in order to provide the necessary stop for retaining the reciprocable tubular member in the barrel when there is no lead in the clutch, which function is performed by the stops 50 and 51 in the form above described. In this modified construction the guide bushing 12a is secured in the lower end of the barrel and is provided with a cylindrical axial bore, and a cylindrical tubular member 12b is adapted to fit slidably in the upper portion of said bore and abut at its upper end against an inwardly projecting shoulder 13. The lower end of the cylindrical lead guide tube 32 is guided and maintained in the proper axial position by the members 12a and 12b, and the clutch constricting member 52 is guided and maintained in coaxial alignment with the lower end portion of the lead guide tube by the lower portion of the member 12a. The lower end of the member 12b forms the upper or rearward limit stop for the clutch constricting member 52. The upper portion of the member 12b is counter-bored at 12c to accommodate movement of a stop member 61 incident to longitudinal movement of the lead guide tube. This stop member 61 may

be in the form of a split spring ring seated in a circumferential groove or kerf in the lead guide tube. When there is a lead stick engaged in the clutch, the lead guide tube will normally be arrested in the position shown in Fig. 7, the stop member 61 being some distance from the stop 13. However, when there is no lead stick in the clutch, and the clutch jaws as a consequence may move inward to such an extent that the rearward movement of the clutch is not arrested by the constricting member 52, the tubular member 31-32 is retained against removal from the barrel by engagement of the stop member 61 with the stop shoulder 13.

In the assembly of this construction, the tubular member is inserted through the upper end of the barrel and through the member 12a until the circumferential kerf or groove of the lead guide tube is projected beyond the lower end of the member 12a. Then the split ring 61 is placed in the groove, and the member 12b telescoped over the clutch and the lower end of the lead guide tube and into the member 12a, after which the constricting member 52 is telescoped over the clutch and into the lower end of the member 12a.

Certain particular advantages of the construction are to be observed. It will be noted that due to the engagement of the sleeve 52a above the shoulders 44 of the clutch jaws, the clutch constricting member will be positively propelled on return movement of the reciprocatory tubular member, and premature clamping of the lead stick will be thereby prevented, thus avoiding retraction of the lead stick. It will also be noted that the guide bushing 12 forms a definite aligning guide for the lower end of the lead guide tube 32 and the clutch constricting member 52, holding them accurately in coaxial relationship. This insures the proper concentric action of the clutch jaws and prevents any eccentric displacement of the lead propelling parts such as might impose lateral breaking stresses on the lead stick which is held in the clutch. This coaxial alignment of the lead propelling parts with the clamp 30 and tip orifice 29 is maintained by the centering guide afforded by cooperation of the fitting surfaces 16 and 21 of the guide bushing and tip respectively as well as by the screw-thread connection of the tip with the lower end portion of the guide bushing. Consequently, even though the barrel 10 may be made of a material which may be subject to slight warping, the accuracy and certainty of the operation of the lead feeding mechanism are maintained. The provision of the inwardly projecting lead-engaging portions 41 of the clutch jaws affords sufficient clearance between the arms 39 and the lead stick to permit the initial lead stick to feed freely by gravity when the jaws are in their opened or cast-off position, and the provision of the abrupt shoulders 44 on the jaws permits them to open widely so as to allow similar clearance between the lead stick and the lead engaging portions 41, without requiring undesirably long longitudinal movement of the clutch jaws. The ease of assembly and disassembly are of particular advantage. When the pencil is positioned with its point upwardly and the reciprocatory tubular member held in its inward position, the tip 20 may be unscrewed and removed, carrying the clamped lead stick with it, such removal affording access to the lead handling parts for purpose of cleaning. By thus removing the tip and unscrewing the ferrule 49, all of the operating parts may be removed from the barrel.

What I claim is:

1. In a mechanical pencil, in combination, a tubular barrel, a longitudinally reciprocable tubular member therein, the lower portion of said tubular member being in the form of a slender lead guide tube and the upper portion constituting a magazine of larger diameter than the lead guide tube, a clutch member at the lower end of the tubular member and reciprocable longitudinally therewith, a clutch constricting member cooperating with the clutch member and reciprocable longitudinally relative thereto, and an inflexible guide bushing fixed in the lower portion of the barrel and having guiding cooperation with the clutch constricting member and the lower end portion of the lead guide tube to maintain them in coaxial alignment.

2. In a mechanical pencil, in combination, a tubular barrel, a longitudinally reciprocable tubular member therein, said tubular member having its lower portion in the form of a slender tube adapted to maintain a plurality of lead sticks in single file therein, a clutch member at the lower end of said lead guide tube and reciprocable therewith, a clutch constricting member encompassing said clutch member and reciprocable longitudinally relative thereto, a guide bushing fixed in the lower end of the barrel and having guiding cooperation with said clutch constricting member and the lower end portion of the lead guide tube to maintain them in coaxial alignment, and a tip member affixed to said guide bushing at the lower end of the barrel and having an axial orifice for passage of a lead stick from the clutch member, said guide bushing and tip member having concentric guide surfaces cooperating to position the tip member in coaxial relationship with the clutch constricting member.

3. In a mechanical pencil, in combination, a tubular barrel, a longitudinally reciprocable tubular member therein, said tubular member having its lower portion formed as a slender lead guide tube and its upper portion as a magazine of greater diameter than the lead guide tube, a clutch member at the lower end of the lead guide tube and reciprocable thereby, a clutch constricting member encompassing the clutch member and reciprocable relative thereto, a guide bushing fixed in the lower portion of the barrel and having guiding cooperation with the clutch constricting member and the lower end of the lead guide tube to maintain them in coaxial alignment, upper and lower stops for limiting the reciprocatory movement of said clutch constricting member to a scope less than that of the clutch member, and a stop on the lead guide tube for cooperation with the clutch constricting member to limit the downward movement of the clutch member.

4. In a mechanical pencil, in combination, a longitudinally reciprocable tubular member for holding and conducting lead sticks, a reciprocable clutch for receiving lead sticks from said tubular member, said clutch having outwardly spring-pressed jaws movable inwardly to grip the lead stick, a reciprocable clutch constricting member encompassing the jaws and adapted to constrict them into lead-gripping position upon movement of said jaws in one direction relative to said constricting member, and means for limiting the reciprocatory movement of the constricting member to a scope less than that of the clutch, said clutch having means for latching the constricting member out of jaw-constricting position during movement of the constricting member in one direction.

5. In a mechanical pencil, in combination, a reciprocable tubular member, a clutch reciprocable therewith, said clutch including lead-gripping jaws which are movable outwardly and inwardly, a constricting member reciprocable with the clutch but through a lesser distance, said constricting member having a portion adapted to wedge the jaws inwardly incident to rearward movement of the jaws relative to the constricting member, a spring effective on the tubular member to restore it to rearward position after it has been moved forwardly, and means on the clutch for latching the constricting member out of jaw-wedging position during its rearward movement.

6. In a mechanical pencil, in combination, a longitudinally reciprocable lead-feeding clutch having an outwardly spring-pressed lead-gripping jaw, a lead guiding member for conducting a lead stick to the clutch, a clutch constricting member encompassing the clutch and reciprocable therewith, stops limiting the movement of the constricting member to only a portion of the stroke of the clutch in each direction, said constricting member adapted to wedge the jaw to lead-gripping position during rearward movement of the clutch relative to the constricting member, and said clutch including a catch portion for engagement with the constricting member to hold it out of wedging cooperation with the jaw during the simultaneous rearward movement of the clutch and constricting member.

7. In a mechanical pencil, a combination as specified in claim 6 and wherein said catch is spring-pressed to position for engagement with the constricting member when the clutch approaches its limit of forward movement.

8. In a mechanical pencil, a combination as specified in claim 6 and wherein said catch is movable inwardly and outwardly with the jaw.

9. In a mechanical pencil, a combination as specified in claim 6 and wherein said catch is movable to ineffective position by rearward movement of the clutch relative to the constricting member after the latter has reached its limit of rearward movement.

10. In a mechanical pencil, a combination as specified in claim 6 and wherein the clutch comprises a plurality of outwardly spring-pressed jaws, each having a catch portion which is moved to effective position to engage the restricting member upon a predetermined extent of forward movement of the clutch relative to the constricting member.

11. In a mechanical pencil, a combination as specified in claim 6 and wherein said jaw is one of a plurality of cooperating jaws which are spring-pressed outwardly and movable inwardly toward a common axis by the wedging action of the constricting member.

12. In a mechanical pencil, in combination, a longitudinally reciprocable lead-feeding clutch having an outwardly spring-pressed jaw, a longitudinally reciprocable clutch-constricting member, stops for limiting the movement of said constricting member to a distance less than the stroke of the clutch in each direction, said jaw having a flaring surface portion adapted for wedging engagement with the constricting member to cam the jaw inwardly upon rearward movement of the clutch relative to the constricting member, said jaw having also a shoulder sloping abruptly inwardly from the rear terminus of said flaring surface portion; in position to engage a forwardly facing margin of the con-

stricting member when the flaring surface portion is moved forwardly therebeyond.

13. In a mechanical pencil, a combination as specified in claim 12 and wherein said jaw is one of a plurality of similar outwardly spring-pressed jaws which are movable inwardly toward a common axis by wedging cooperation with the constricting member.

14. In a mechanical pencil, in combination, a longitudinally reciprocable lead-feeding clutch having a plurality of outwardly spring-pressed jaws, a longitudinally reciprocable constricting member encompassing the clutch, stops for limiting the movement of said constricting member to a distance less than the stroke of the clutch in each direction, said jaws having forwardly flaring peripheral surface portions adapted for wedging engagement with the constricting member to cam the jaws inwardly toward a common axis upon rearward movement of the clutch relative to the constricting member, said jaws having also peripheral shoulders sloping abruptly inwardly from the rear terminus of said flaring surface portions in position to retentively engage the constricting member when the flaring surface portions are moved forwardly out of engagement therewith, a lead guide tube for guiding a lead stick to an axial position between the jaws, and means for maintaining said constricting member in coaxial alignment with the lead guide tube.

15. In a mechanical pencil, in combination, a tubular barrel, an inflexible guide bushing fixed in the lower end thereof, a longitudinally reciprocable tubular member in the barrel, a longitudinally reciprocable clutch at the lower end of the tubular member, a longitudinally reciprocable clutch-constricting member associated with said clutch, and a tip having a bore in which said clutch operates, said guide bushing having positioning cooperation with said tip and said constricting member and the lower portion of said tubular members to maintain them in coaxial alignment.

16. In a mechanical pencil, a combination as specified in claim 15 and wherein the clutch has a plurality of outwardly spring-pressed jaws and the constricting member is adapted for wedging cooperation with said jaws to move them inwardly toward the axis of the guide bushing.

17. In a mechanical pencil, in combination, a tubular barrel, a lead guide tube reciprocable therein, a clutch reciprocable with the lead guide tube, a reciprocable clutch constricting member, a guide bushing guiding said constricting member and the lower end of said lead guide tube in coaxial alignment, a stop provided on the lead guide tube for cooperation with the guide bushing to limit rearward movement of the lead guide tube, and a tubular member encompassing the lower end of the lead guide tube and having its upper end abutting the guide bushing and its lower end affording an abutment for limiting upward movement of the constricting member.

18. In a mechanical pencil, in combination, a tubular barrel, a guide bushing fixed in the forward end thereof, a lead guide tube reciprocable in the barrel and extending into and guided in said guide bushing, said guide bushing having an inwardly projecting stop portion, a stop member on the lead guide tube adapted for cooperation with said stop portion of the bushing to limit rearward movement of the lead guide tube, clutch jaws reciprocable with the lead guide tube, a clutch constricting member and a tubular por-

tion movably guided in the guide bushing and encompassing the clutch jaws and lower end of the lead guide tube, said tubular portion adapted for abutment with the stop on the guide bushing to limit rearward movement of the clutch constricting member, and a spring pressing the lead guide tube rearwardly.

19. In a mechanical pencil, in combination, a tubular barrel, a guide bushing fixed therein, a longitudinally reciprocable clutch constricting member guided by the guide bushing, a clutch reciprocable in said clutch constricting member

and having an outwardly spring-pressed jaw adapted to be wedged inwardly thereby at the end of the rearward movement of the clutch, said jaw having a catch portion adapted to engage said clutch constricting member after the clutch has been moved forwardly relative thereto and to restrain the clutch constricting member out of jaw-wedging position throughout the rearward movement of the clutch constricting member.

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