

[54] MECHANICAL WRITING INSTRUMENT

[76] Inventor: **Nathan A. Zepell**, 1359 Teresita Dr., Santa Barbara, Calif. 93105

[22] Filed: **Nov. 20, 1973**

[21] Appl. No.: **417,515**

[52] U.S. Cl. **401/31**

[51] Int. Cl. **B43k 27/12**

[58] Field of Search..... **401/29-33**

[56] References Cited

UNITED STATES PATENTS

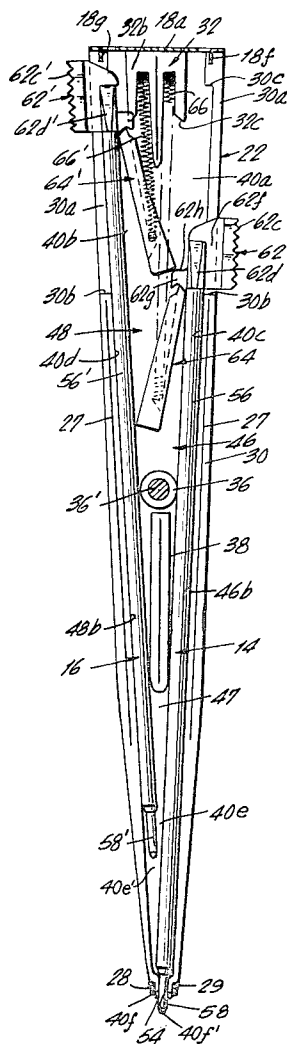
2,561,824	7/1951	Schmieglitz	401/31
3,170,441	2/1965	Levoine	401/31
3,604,816	9/1971	Levoine	401/31

Primary Examiner—Lawrence Charles
Attorney, Agent, or Firm—Amster & Rothstein

[57] ABSTRACT

A mechanical writing instrument having a substantially flat body shaped such that the writing instrument may be used as a bookmark or the like. At least two writing members are disposed within the body and are mounted for reciprocal movement between a retracted position and an extended writing position. The writing members are each provided with a manual actuating finger operable for moving the writing member into its extended writing position, a holding member operable in either of two positions for maintaining the other writing member in its writing position or for releasing it and a returning mechanism for returning the writing member to its retracted position.

21 Claims, 10 Drawing Figures



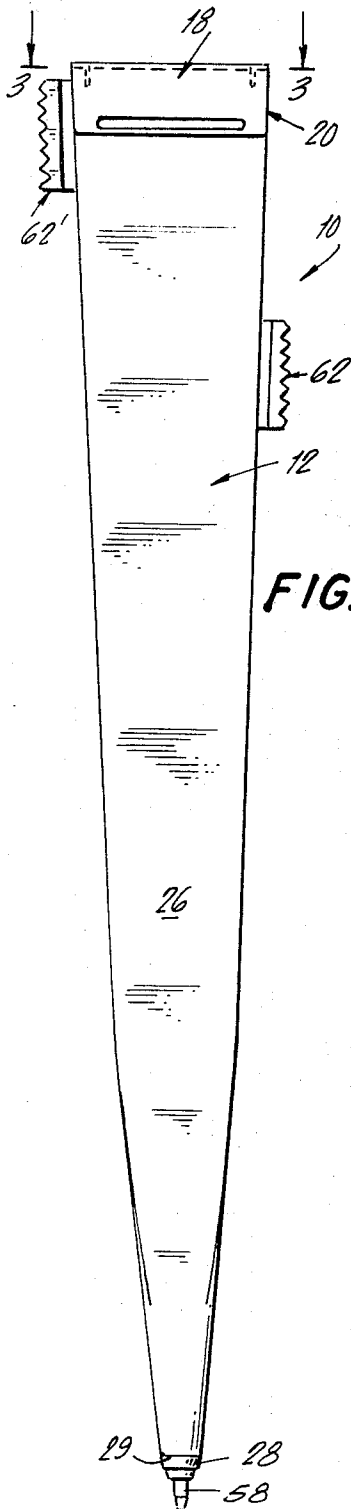


FIG. 1

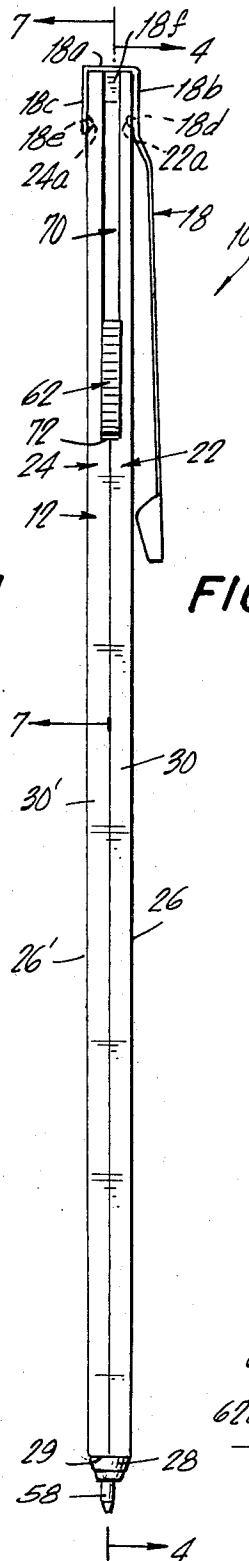


FIG. 2

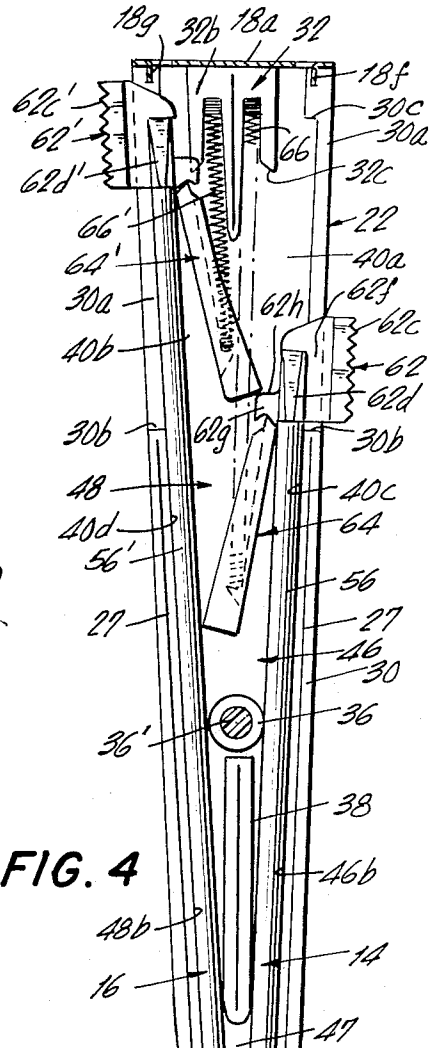


FIG. 4

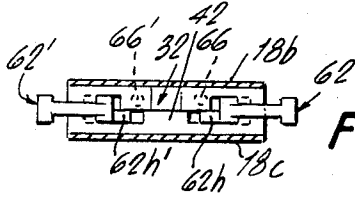


FIG. 3

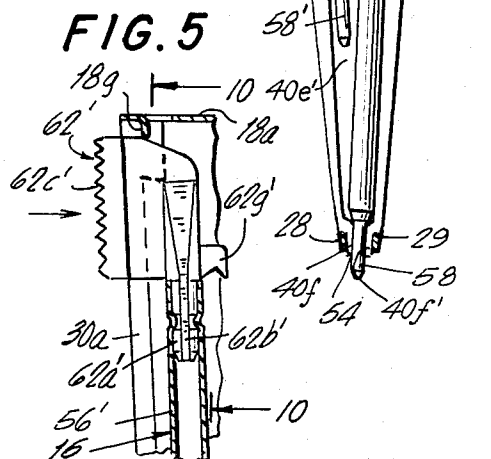


FIG. 5

MECHANICAL WRITING INSTRUMENT

This invention relates generally to writing instruments and, more particularly, to a mechanical writing instrument including a plurality of writing members.

Mechanical writing instruments, such as mechanical pens, pencils or the like, are generally well known in the art and often include a plurality of writing members which may be selected by a user. Typically, such writing instruments include an operating mechanism for moving one writing member from its retracted position into its extended writing position while simultaneously causing another extended writing member to be returned to its retracted position. However, the prior art writing instruments of this type have not been completely satisfactory in that they are generally bulky in configuration, difficult to operate and expensive to manufacture. In addition, the operating mechanism of such writing instruments are arranged such that the writing members cannot be removed from the writing instrument and replaced with "refills" as needed. Accordingly, it is necessary to dispose of the writing instrument when one or more of its writing members or ink cartridges run out of ink. Obviously, such writing instruments are costly and impractical to use. Further, it is also desirable that writing instruments be constructed such that they are adapted to receive "refills" of a standard type, rather than of a type which must be specially manufactured for the particular operating mechanism of that writing instrument.

Accordingly, it is a broad object of the present invention to provide a mechanical writing instrument which overcomes the difficulties experienced with writing instruments of the prior art. Specifically, it is an object of the present invention to provide a mechanical writing instrument having a plurality of writing members which is easy to manipulate or operate, is manufactured relatively easily and inexpensively on a mass-production basis and includes writing members which may be easily replaced with "refills" as needed.

In accordance with an illustrative embodiment demonstrating objects and features of the present invention, there is provided a mechanical writing instrument having a plurality of writing points which comprises a body having opposed substantially flat faces and opposed side walls and at least two channels disposed in a substantially common plane intermediate the flat faces. The two channels merge into a common point opening at one end of the body. A first and second writing member, each having a writing point which is disposed in the channels in retracted position, are mounted for reciprocation in the channels in order to extend their respective writing points through the point opening into an extended writing position. First and second manual actuating means are operatively connected to the respective first and second writing members and extend exterior to the body for manually moving the first and second writing members in their channels toward the point opening and into the extended writing positions. First and second holding and releasing means are operatively connected to the respective first and second actuating means and to the body and are operable in a first position to hold said second and first writing members, respectively, in extended writing positions and are operable in a second position to release the second and first writing members respectively. First and second returning means are

operatively connected to the body and to the first and second holding and releasing means, respectively, for returning the first and second writing members, respectively, from their extended writing positions to their retracted positions and are operable in response to the actuation to the second position of the second and first holding and releasing means, respectively. The spacing between the opposed substantially flat faces of the body are established to provide the requisite structural walls for the channels yet minimize the dimension of the body at right angles to the common plane thereby providing a body for the writing instrument which is relatively flat and thin in configuration.

Advantageously, the two channels define two cartridge-receiving openings formed in the top end of the body so that the first and second writing members may be inserted or withdrawn from their respective channels through their respective cartridge-receiving openings. A clip is removably mounted on the top of the body for closing the cartridge-receiving openings after the first and second writing members have been inserted into their respective channels and the clip may be removed from the body to enable the first and second writing members to be withdrawn from their respective cartridge channels through their respective cartridge-receiving openings when it is desired to replace the first and second writing members with refills.

The above description, as well as further objects, features and advantages of the present invention will be more fully understood by reference to the following detailed description of a presently preferred, but nonetheless illustrative, embodiment in accordance with the present invention when taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a front elevational view of a mechanical writing instrument according to the present invention; FIG. 2 is a side elevational view of the mechanical writing instrument of FIG. 1;

FIG. 3 is a sectional view taken substantially along the line 3—3 of FIG. 1 and looking in the direction of the arrows, illustrating the top of the body with the clip removed therefrom;

FIG. 4 is a sectional view taken substantially along the line 4—4 of FIG. 2 and looking in the direction of the arrows, illustrating one piece or half of the body of the mechanical writing instrument with one writing member in its retracted position and one writing member in its extended writing position;

FIG. 5 is a fragmentary sectional view illustrating the connection between the actuating fingers and the ink cartridges;

FIG. 6 is a partial front elevational view of one piece of the body of the mechanical writing instrument showing one of the writing members being returned to its retracted position;

FIG. 7 is a sectional view, with parts cut away, taken substantially along the line 7—7 of FIG. 2 and looking in the direction of the arrows, illustrating the other piece or half of the body of the mechanical writing instrument with one writing member in its retracted position and one writing member in its extended writing position;

FIG. 8 is a partial view of the mechanical writing instrument with the clip removed showing the insertion or removal of one of the writing members;

FIG. 9 is a top plan view of the top of the body of the mechanical writing instrument with the clip removed

showing the removal of one of the writing members; and

FIG. 10 is a fragmentary sectional view, taken substantially along the line 10—10 of FIG. 5 and looking in the direction of the arrows, showing the clip removably mounted on the top of the body of the mechanical writing instrument.

Referring now to the drawings and, in particular, to FIGS. 1 through 8 thereof, there is shown an illustrative mechanical writing instrument embodying features of the present invention, generally designated by the reference numeral 10, which includes a body 12 in which is disposed writing members 14, 16. A clip, generally designated 18, is mounted near the top 20 of body 12 and is provided such that mechanical writing instrument 10 may be secured within a pocket or the like as is generally understood in the art.

Body 12 is of a two-piece construction and includes substantially symmetrical body members 22, 24 which have identical exteriors but dissimilar interiors. More particularly, body members 22, 24 are relatively flat and tapered in configuration and include substantially flat exterior faces 26, 26', respectively, having a width which generally decreases from the top to the bottom thereof (see FIG. 1). In addition, the interiors of body members 22, 24 are adapted to be maintained in confronting relation with each other, for example, by a snap ring 28 located at the bottom of the body members and by clip 18 located at the top of the body members. Alternatively, or in addition thereto, body members 22, 24 may be maintained in opposed relation by cementing or ultrasonically welding these two pieces or halves of body 12 together at contact surfaces defined by narrow plastic ribs 27.

Body member 22 is also formed with opposed side faces forming side walls, generally designated 30, which are generally perpendicular to the plane formed by face 26. Referring to FIG. 4, body member 22 includes at the upper end thereof a substantially W-shaped portion 32 which extends inwardly from face 26 intermediate of side walls 30. Body member 22 also includes, at its intermediate section, circular guide member 36 and elongated guide member 38 with guide member 36 also serving as the female member which is adapted to receive a male member 36' formed on body member 24 during assembly. Thus, W-shaped portion 32 and side walls 30 form upper guideways, generally designated 40a, 40b in body member 22, and guide members 36, 38 and side walls 30 form lower guideways, generally designated 40c, 40d in body member 22, with the upper guideways separated from each other and open at the top of body member 22 and the lower guideways converging, as indicated at 40e, near the bottom of the body member. The lower guideways terminate at an opening 40f in body member 22. As will be explained hereinafter, upper guideways 40a, 40b and lower guideways 40c, 40d of body member 22 are adapted to cooperate with corresponding and symmetrical guideways formed in body member 24 to define two cartridge channels which are adapted to receive writing members 14, 16.

Body member 24 includes a substantially identical exterior to and is symmetrical with body member 22. Thus, body member 24 is relatively flat and tapered in configuration and includes a substantially flat face 26' of a width which generally decreases from the top to the bottom of the body member and opposed side faces

forming side walls, generally designated 30', generally perpendicular to the plane formed by face 26'. Referring to FIG. 7, body member 24 at the upper end thereof includes an elongated camming member 42 which extends inwardly from face 26' intermediate of side walls 30'. Body member 24 also includes, at its intermediate section, a circular guide member 36' (not shown) and an elongated guide member (not shown) with the circular guide member 36' also serving as the male member which is adapted to be received within circular female guide member 36 during assembly. Thus, elongated camming member 42 and side walls 30' form upper guideways, generally designated 40a', 40b' in body member 24, and guide members 36', 38' and side walls 30' form lower guideways, generally designated 40c', 40d', in body member 24, such that the upper guideways are separated from each other and open at the top of body member 24 and the lower guideways converge and terminate at an opening formed at the bottom of body member 24.

Body member 22 and body member 24 are adapted to be held in confronting relation such that the corresponding guideways of these members define a first cartridge channel, generally designated 46, and a second and substantially identical cartridge channel, generally designated 48, formed in body 12 (see FIGS. 4 and 7) which are adapted to receive respective writing members 14, 16. Cartridge channel 46, which is adapted to receive writing member 14, and cartridge channel 48, which is adapted to receive writing member 16, are generally identical and symmetrical in configuration and are disposed in a substantially common place intermediate faces 26, 26' of body 12.

Each cartridge channel includes a top channel portion 46a or 48a which is generally rectangular in cross section and which defines a corresponding cartridge-receiving opening 50 or 52 at the top 20 of body 12 (see FIG. 7). Cartridge channels 46, 48 converge near the bottom of body 12, to define a common channel portion, generally designated 47, which common channel portion corresponds to the common or converged portions 40e, 40e' of the guideways. The common channel portion 47 terminates at a point opening 54 located at the end or bottom of body 12 with this point opening being formed by the corresponding openings 40f, 40f' of the guideways. Intermediate the top channel portions 46a, 48a and the common channel portion 47, each cartridge channel includes respective intermediate channel portions 46b, 48b, generally rectangular in cross section, which are adapted to receive the cylindrical ink cartridges or "refills" of writing members 14, 16.

Referring now to FIGS. 1, 2 and 10, clip 18 is adapted to be removably mounted at the top 20 of body 12 and includes a top portion 18a and sides 18b, 18c depending downwardly therefrom. Clip 18 is sized such that body 12 may be inserted between sides 18b, 18c with the clip frictionally engaging body 12. In order to further secure clip 18 to body 12, body member 22 may be formed with a notch 22a which is adapted to cooperate with an inwardly extending projection 18d located on side 18b, with the projection adapted to fit into the notch as indicated in FIG. 10. In addition, body member 24 may be formed with a notch 24a which is adapted to cooperate with an inwardly extending projection 18e located on side 18c, with the projection adapted to fit into the notch as indicated in FIG. 10.

With clip 18 mounted at the top 20 of body member 12, the top 18a of clip 18 substantially blocks or covers the cartridge-receiving openings 50, 52 at the top of body 12. As will be explained hereinafter, clip 18 thereby helps to maintain writing members 14, 16 within body 12. It is to be noted, however, that clip 18 may be removed from the top of body 12 in order to provide access to cartridge-receiving openings 50, 52, for example, by using a finger force sufficient to overcome the frictional force between clip 18 and body 12. As shown in FIGS. 4, 6 and 7, the top 18a of clip 18 is provided with two cutouts or prongs 18f, 18g which are inwardly bent at right angles to top 18a for a purpose to be explained hereinafter.

Mechanical writing instrument 10 includes writing members 14, 16 which, by way of example, may be of a type generally referred to as "ballpoint" pens or the like. As indicated in FIG. 4, writing members 14, 16 are substantially identical to each other with each writing member including respective pen cartridges 56, 56' terminating in "ball" or writing points 58, 58'. Pen cartridge 56 and writing point 58 of writing member 14 and pen cartridge 56' and writing point 58' of writing member 16 are similar to conventional ballpoint pen "refills" with each cartridge being filled with ink. Advantageously, the ink in cartridge 56 is different in color than the ink in cartridge 56'.

As will be explained in more detail hereinafter, locking members, generally designated 60, 60' are located, respectively, at the top of writing members 14, 16 and each is provided for manually releasing the other locking member and writing member from its extended writing position and for manually moving that writing member from its retracted position toward point opening 54. Specifically, each locking member is structured so as to be able to release the other locking member and writing member from an extended writing position and allow it to return to a retracted position so that this locking member and writing member may be moved from a retracted position to an extended writing position.

Locking member 60, which is substantially identical to locking member 60', includes a manual actuating finger 62, a locking blade 64 engageable with manual actuating finger 62, and an expansion spring 66 connected at one end to locking blade 64 and at the other end to W-shaped portion 32. Manual actuating finger 62 includes a downwardly extending projection 62a which is adapted to be inserted into the top of cartridge 56 in order to secure the actuating finger 62 to the cartridge 56. As shown in FIG. 5, cartridge 56' is provided with an indentation for securing projection 62a' within cartridge 56'. Writing member 14 may be factory assembled and sold with manual actuating finger 62 and cartridge 56 as a unit (for example, as a single "refill" for the writing instrument) or, in the alternative, writing member 14 may be constructed such that actuating finger 62 is removable from the cartridge enabling the user to discard empty cartridges while retaining the actuating finger which may be inserted into conventional "refills" which may be purchased separately. A flat face 62b' is formed on projection 62a' in order to enable air to enter cartridge 56 in order to provide a proper flow of ink out of writing point 58'.

The main body portion of actuating finger 62 includes a finger-receiving element 62c having ridges along the periphery thereof and which is adapted to fit

into openings formed in side walls 30, 30' of body 12. On each side of actuating finger 62, there are also formed shoulders 62d, 62e which are tapered toward the cartridge and which are adapted to be guided by and easily slide within top channel portion 46a. Between finger-receiving element 62c and shoulders 62d, 62e, actuating finger 62 is also provided with recesses 62f formed on both sides thereof and which are adapted to fit within and slide along openings formed in the side walls 30, 30' of body 12. Actuating finger 62 is also provided with a tab 62g formed on the inner side of shoulder 62d and includes an upper surface 62h and a V-shaped cutout 62j formed in its lower surface for engaging locking blade 64. Preferably, V-shaped cutout 62j should be formed to approximate a right angle.

As stated above, locking member 60 also includes a locking blade 64 having a rib 64a formed on one side thereof with the upper end of the rib 64a having a V-shaped tip 64b formed at a 45° angle for engaging the V-shaped cut-out 62j and defining a pivot point. The lower end of locking blade 64 includes a lower surface 64c and one side of locking blade 64 defines a cam follower surface 64d, for a purpose to be explained. Adjacent rib 64a, locking blade 64 is also provided with a recess 64e which is adapted to receive and be connected to one end of expansion spring 66.

Expansion spring 66 may be connected to locking blade 64 and W-shaped portion 32 in any suitable manner. For example, if locking blade 64 is molded from plastic material, one end of expansion spring 66 may be heated and brought into contact with recess 64e so that a portion of the plastic therein will be caused to melt. In this manner, by capillary action, the melted plastic will run between and around the lower end windings of expansion spring 66 so that upon cooling, metal expansion spring 66 is securely fastened within recess 64e formed in plastic locking blade 64.

As may be seen most clearly in FIGS. 4, 6 and 8, the upper end of expansion spring 66 is connected to W-shaped portion 32. More particularly, W-shaped portion 32 is preferably formed of plastic and includes two side arms 32a, 32b which terminate at about a 45° angle and form respective shoulders 32c, 32d for engaging respective locking blade tips 64b, 64b', for a purpose to be explained. In addition, W-shaped portion 32 also includes an elongated central finger 32e so that side arm 32a and elongated finger 32e form a recess 32f therebetween, and so that side arm 32b and elongated finger 32e form a recess 32g therebetween. Recesses 32f, 32g are adapted to receive and have secured therein the upper ends of respective expansion springs 66, 66' which may be connected to these recesses in any suitable manner. For example, as explained above, the upper ends of the springs are heated and brought into contact with the plastic in the respective recesses. In this manner, by capillary action, the melted plastic will run between and around the end windings of the expansion springs 66, 66' so that upon cooling, the upper ends of expansion springs 66, 66' are securely fastened to the respective recesses 32f, 32g of W-shaped portion 32 of body member 22.

As with writing members 14 and 16, locking member 60 is substantially identical to locking member 60'. Thus, locking member 60' includes an actuating finger 62', a locking blade 64' for engagement with actuating finger 62' and an expansion spring 66'. Further description of locking member 60' is deemed unneces-

sary, it being understood that the reference numerals having a prime designation correspond and are substantially identical to the parts of locking member 60 which have heretofore been described.

Referring to FIGS. 2 and 4, side walls 30 of body member 22 are recessed at the upper ends thereof at 30a and define lower shoulders 30b and upper inwardly extending shoulders 30c; similarly, in FIG. 7, side walls 30' of body member 24 are recessed at the upper ends thereof at 30a' and define lower shoulders 30b' and upper inwardly extending shoulders 30c'. In this manner, when body member 22 is held in confronting relation with body member 24, the respective recessed portions 30a, 30a' define cartridge-guiding tracks 70, disposed on each side of body 12; the respective lower shoulders 30b, 30b' define lower track abutments 72, disposed on each side of body 12; and the respective inwardly extending shoulders 30c, 30c' define upper track abutments 74, disposed on each side of body 12. Tracks 70 extend along each side of body 12, substantially from the middle of the body to the top 20 of the body; that is, each track extends along the side of body 12 a distance corresponding to top cartridge channel portions 46a and 48a. Further, the width of tracks 70 are sized such that actuating finger recesses 62f or 62f' are adapted to fit into tracks 70 thereby enabling the respective writing members 14, 16 to be moved, in a reciprocating manner, from the retracted to the extended writing positions.

In order to provide a more complete understanding of the present invention, a typical assembly and operational sequence of the mechanical writing instrument 10 will now be described.

Mechanical writing instrument 10 is formed substantially from body members 22, 24, writing members 14, 16, clip 18 and locking members 60, 60'. Production costs are held low since there are relatively few parts. Further, since the parts are not especially complex in shape, costs of molds, etc., are also kept low.

To assemble the mechanical writing instrument 10, expansion springs 66, 66' are preferably first attached to respective locking blades 64, 64', as above described. Then, the upper ends of expansion springs 66, 66' are connected to the respective recesses 32f, 32g formed in W-shaped portion 32 of body member 22, as above described. The tension of expansion springs 66, 66' is such that the upper tips 64b, 64b' of locking blades 64, 64' will engage and be held against respective shoulders 32c, 32d formed on the lower ends of respective arms 32a, 32b.

Body 12 is then assembled such that body member 22 is held in opposed or confronting relation with body member 24, for example, by permanently fastening the body members together, as by utilizing cement or an ultrasonic welding process or the like. In addition, snap ring 28 is pressed and snap-fitted about grooves 29, 29' formed in the bottom ends of respective body members 22, 24. With body members 22 and 24 so assembled, the various guideways formed in the body members cooperate to form cartridge channel 46 and cartridge channel 48 with the cartridge channels disposed in a substantially common plane intermediate the flat faces 26 and 26' of the body members. Cartridge channel 46 and cartridge channel 48 are separate from each other and open at the top 20 of body 12 to include cartridge-receiving openings 50, 52. However, the cartridge

channels merge into a common point opening 54 formed at the bottom of body 12.

As indicated in the various figures, body 12 is formed to be generally flat in configuration. For example, the spacing between the opposed substantially flat faces 26, 26' is established to provide the requisite structural side walls 30, 30' for the cartridge channels but are so sized as to minimize the dimension of body 12 at right angles to the plane of the faces. Thus, body 12 is relatively flat in configuration and, as a result thereof, the mechanical writing instrument is easily adapted to be used not only as a writing instrument but also as a bookmark or the like. Body 12 is also tapered in configuration with side walls 30, 30' converging toward point opening 54.

After body 12 has been assembled, projection 62a of actuating finger 62 is inserted into the top of cartridge 56 in order to secure actuating finger 62 to the cartridge 56. In a like manner, projection 62a' is inserted into the top of cartridge 56' in order to secure actuating finger 62' to cartridge 56'. Writing member 14 and writing member 16 are then inserted into their respective cartridge channels, that is, writing member 14 is inserted into cartridge channel 46 through cartridge-receiving opening 52 and writing member 16 is inserted into cartridge channel 48 through cartridge-receiving opening 50.

Specifically, writing member 14 is inserted into cartridge channel 46 such that the recesses 62f of actuating finger 62 engage and slide relative to upper track abutment 74, shoulders 62d, 62e of actuating finger 62 slide relative to top channel portion 46a, and tab 62g engages and slides relative to and above arm 32a until shoulders 62d, 62e pass below upper track abutment 74. In addition, when tab 62g reaches the bottom end of arm 32a, V-shaped cutout 62j engages the upper tip 64b of locking blade 64. Accordingly, once shoulders 62d, 62e have passed below upper track abutment 74 and the V-shaped cutout 62j has engaged the upper tip 64b, the pressure being applied to actuating finger 62 to insert it into channel 46 may be released so that actuating finger 62 will move or "spring" outwardly due to the outward bias caused by spring 66 acting on locking blade 64. In addition, this spring action is enhanced due to the resiliency of cartridge 56. That is, as may be seen in FIG. 4, when actuating finger 62' is pushed inwardly, cartridge 56' is slightly bent or deflected about guide members 36, 38 so that when the finger pressure is released, the resiliency of cartridge 56' will cause it to spring outwardly. In this position, the upper surfaces of shoulders 62d, 62e engage upper track abutment 74 to prevent locking member 60 from moving out through cartridge opening 52 as a result of the force which spring-biased locking blade 64 places against actuating finger 62. With shoulders 62d, 62e engaging upper track abutment 74, writing member 14 is maintained in a "retracted" position, with the top end of the writing member being disposed near the top 20 of body 12 and the bottom end of writing member 14 or the writing point 58 being disposed near the converged or common channel portion 47 (but still maintained in intermediate channel portion 46b).

In a similar manner, writing member 16 is inserted into cartridge channel 48 until shoulders 62d', 62e' pass below upper track abutment 74 and the V-shaped cutout 62j' engages the upper tip 64b' so that the pressure being applied to actuating finger 62' may be re-

leased so that actuating finger 62' will move or "spring" outwardly due to the bias of spring 66' acting on the locking blade 64' and the resiliency of cartridge 56'.

After both writing members have been inserted into their respective cartridge channels, clip 18 is snapped onto the top of body 12 with projection 18d of the clip inserted into notch 22a of body member 22 and with projection 18e of the clip inserted into notch 24a of body member 24. Also, as stated above, the top 18a of clip 18 is provided with two downwardly extending prongs 18f, 18g which are adapted to be inserted into tracks 70 formed on each side of body 12 and serve a dual purpose: first, they function as a spacer in tracks 70 so that a user of the mechanical writing instrument cannot compress body members 22 and 24 at the upper end while manipulating the mechanical writing instrument because such compression may interfere with the workings of locking blades 64, 64' and expansion springs 66, 66'; second, they function to abut the upper angled surface of actuating fingers 62, 62' and act as a stop when they are pressed inwardly, for a purpose to be explained. With clip 18 in place, it is readily apparent that the top 18a of the clip closes off the cartridge-receiving openings 50, 52 and, therefore, helps to maintain the writing members 14, 16 within body 12.

In operation, both writing members 14, 16 are disposed within body 12 such that the writing members are mounted for reciprocal movement from their retracted positions to their extended writing positions. Note that although writing members 14, 16 lie in a common plane within body 12, the longitudinal axes of the writing members are not parallel, that is, the longitudinal axes of the writing members converge toward point opening 54. When a user desires to write with writing member 14 or writing member 16 (which may depend, for example, on the particular color ink desired), the user moves the chosen writing member from its retracted position to its extended writing position such that the writing point extends out of the point opening 54 of body 12.

For example, as shown in FIG. 4, if writing member 14 is selected, the user applies finger pressure to finger-receiving element 62c and pulls it toward point opening 54. Note, however, that recesses 62f are still within track 70 and the actuating finger 62 still "guides" writing member 14 in track 70 as the writing member is moved in cartridge channel 46. Continued motion of actuating finger 62 causes writing member 14 to reach its extended writing position in which the lower surface of actuating finger 62 engages lower track abutment 72, corresponding to writing point 58 being extended through point opening 54. Once this position is reached, the user releases actuating finger 62 and locking blade 64', which has pivoted into engagement with the upper surface 62h of tab 62g, holds and locks writing member 14 in its extended writing position even as pressure is exerted on writing point 58 as, for example, during writing with the instrument. More particularly, it should be noted that as the user moves the actuating finger 62 toward lower track abutment 72, tab 62g of actuating finger 62 moves locking blade 64 downwardly and stretches its corresponding expansion spring 66. As expansion spring 66 is attached at its lower end to recess 64e of locking blade 64 which is substantially inward relative to pivot point 64b, locking blade 64 will consequently move inwardly and come to

a stop when its lower surface 64c abuts retracted writing member 16. In addition, as locking blade 64' of the retracted writing member 16 is similarly attached to its expansion spring 66', locking blade 64' also has a tendency to move inwardly so that its lower surface 64c' will engage the upper surface 62h of tab 62g to hold and lock writing member 14 in its extended writing position.

When the user desires to retract the extended writing member 14, he simply presses inwardly on the opposite actuating finger 62' which is in its retracted position. This finger pressure causes writing member 16 to bend slightly inwardly with actuating finger 62'. This inward motion of actuating finger 62' (and tab 62g') causes cam follower surface 64d' of locking blade 64' which is engaging camming member 42 at point 42a to pivot. The pivotal movement of locking blade 64' will cause it to rotate in a clockwise direction from the holding position shown in FIG. 4 to the releasing position in FIG. 7, which is shown in dotted lines. As locking blade 64' is no longer engaging tab 62g of the extended writing member 14, expansion spring 66 will cause locking blade 64, actuating finger 62 and writing member 14 to return to their retracted position, as shown in FIG. 6. Of course, the upward movement will be stopped when the upper surfaces of shoulders 62d, 62e engage upper track abutment 74. Now that writing member 14 is retracted, if the user desires to write with writing member 16, it is only necessary for the user to move actuating finger 62' toward lower track abutment 72 causing writing member 16 to move towards point opening 54. However, in this case, locking blade 64 will pivot in a clockwise direction about camming member 42 to engage tab 62g' and thereby hold and lock writing member 16 in its extended writing position.

It should be understood that inwardly extending prongs 18f, 18g of clip 18 will prevent respective actuating fingers 62, 62' from sliding upwardly (toward clip 18) when the user applies inward pressure thereto for retracting one of the writing members. As shown in FIG. 4, prongs 18f, 18g do not engage the inclined upper surfaces of actuating fingers 62, 62'. However, when actuating fingers 62, 62' are pressed inwardly, for example, as shown in FIG. 6, prong 18g engages the inclined upper surface of actuating finger 62' so that the user cannot accidentally allow writing member 16 to slide outwardly toward clip 18 which would cause V-shaped cutout 62j' to be disengaged from V-shaped tip 64b'.

When it is required to put in a new writing member, for example, a "refill" or the like, clip 18 is first removed. Then, the user presses inwardly, as shown in FIG. 8, on actuating finger 62 and pulls it upwardly towards cartridge-receiving opening 50. Actuating finger 62 and cartridge 56 will slide upwardly, but the upper tip 64b of locking blade 64 will be biased against shoulder 32c by expansion spring 66 and will be held in this position. It should be noted that the inward motion of actuating finger 62 causes shoulders 62d, 62e to be moved out of engagement with upper track abutment 74 so that shoulders 62d, 62e will be free to slide within top channel portion 46a. When a new writing member is inserted into channel 46, tab 62g of actuating finger 62 will slide along the upper surface of arm 32a until V-shaped cutout 62j engages V-shaped tip 64b with expansion spring 66 causing locking blade 64 to be maintained in engagement with tab 62g.

Obviously, numerous modifications are possible in light of the above disclosure. It is to be understood, therefore, that above-described embodiment is merely an example of the application of the principles of the present invention. Further embodiments will be apparent to those skilled in the art without departing from the spirit or scope of the invention as delineated by the scope of the following claims.

What is claimed is:

1. A writing instrument having a plurality of writing points comprising a body member having first and second channels merging into a common point opening at one end thereof, first and second writing members each having a writing point disposed in said respective first and second channels in retracted positions and mounted for reciprocation therein to extend their respective writing points through said point opening into an extended writing position, first manual actuating means operatively connected to said first writing member and extending exteriorly of said body member for manually moving said first writing member in said first channel toward said point opening and into said extended writing position, second manual actuating means operatively connected to said second writing member and extending exteriorly of said body member for manually moving said second writing member in said second channel toward said point opening and into said extended writing position, first holding and releasing means operatively connected to said first actuating means and to said body member and being operable in a first position to hold said second writing member in said extended writing position and being operable in a second position to release said second writing member, second holding and releasing means operatively connected to said second actuating means and to said body member and being operable in a first position to hold said first writing member in said extended writing position and being operable in a second position to release said first writing member, first returning means operatively connected to said body member and to said second holding and releasing means for returning said second writing member from said extended writing position to said retracted position in response to the actuation of said first holding and releasing means to said second position and second returning means operatively connected to said body member and to said first holding and releasing means for returning said first writing member from said extended writing position to said retracted position in response to the actuation of said second holding and releasing means to said second position.

2. A writing instrument according to claim 1 wherein said body member includes opposed substantially flat faces with said first and second channels being disposed in a substantially common plane intermediate said flat faces.

3. A writing instrument according to claim 2 wherein said body member includes opposed side walls being tapered toward each other from substantially the top end to the bottom end thereof and converging at said point opening such that said body member has a continuously decreasing cross section from substantially the top end to the bottom end thereof with said first and second channels converging in substantially parallel relation to said side walls.

4. A writing instrument according to claim 3 wherein the spacing between said opposed substantially flat

faces is of a dimension substantially equal to the dimension of said first and second writing members in transverse section and being established to provide said tapered side walls for said first and second tapered channels yet to minimize the dimension of said body member at right angles to said plane whereby said body member is relatively thin.

5. A writing instrument according to claim 1 wherein said first and second channels define respective first and second cartridge-receiving openings formed in the top end of said body member, and clip means removably mounted on the top end of said body member for substantially closing said first and second cartridge-receiving openings after said first and second writing members have been inserted into their respective cartridge channels, said clip means adapted to be removed from said body member to enable said first and second writing members to be inserted or withdrawn from their respective cartridge channels through said first and second cartridge-receiving openings.

6. A writing instrument according to claim 1 wherein said first actuating means includes a first extension operatively connected to said first holding and releasing means and operable when said first writing member is in an extended writing position to be engaged by said second holding and releasing means.

7. A writing instrument according to claim 6 wherein said second actuating means includes a second extension operatively connected to said second holding and releasing means and operable when said second writing member is in an extended writing position to be engaged by said first holding and releasing means.

8. A writing instrument according to claim 1 further including a camming member on said body member, said first holding and releasing means being operable to engage said camming member when in said first position and being operable in response to actuation by said first actuating means to pivot about said camming member to said second position, and said second holding and releasing means being operable to engage said camming member when in said first position and being operable in response to actuation by said second actuating means to pivot about said camming member to said second position.

9. A writing instrument according to claim 6 wherein said first returning means includes first biasing means operable in a normal position to maintain said second writing member in a retracted position and adapted to be operated to a biased position to maintain said second extension in engagement with said first holding and releasing means.

10. A writing instrument according to claim 9 wherein said second returning means includes second biasing means operable in a normal position to maintain said first writing member in a retracted position and adapted to be operated to a biased position to maintain said first extension in engagement with said second holding and releasing means.

11. A writing instrument according to claim 3 wherein said opposed side walls are constructed and arranged to define track means for guiding said first and second manual actuating means as said respective first and second writing members are moved between said extended and retracted positions.

12. A writing instrument according to claim 11 wherein said first and second manual actuating means each include guide means for guiding said first and sec-

ond manual actuating means within said track means as said respective first and second writing members are moved within said body member between said retracted positions and said extended writing positions.

13. A writing instrument according to claim 1 wherein said first and second writing members are disposed in a substantially common plane, the longitudinal axes of said first and second writing members converging toward said common point opening.

14. A writing instrument according to claim 11 wherein said track means include abutment means for engagement with said first and second manual actuating means in their retracted positions.

15. A writing instrument according to claim 1 wherein said first and second writing members are each provided with indentations and wherein said first and second manual actuating means are each provided with projections for securing said first and second writing members to said respective first and second manual actuating means.

16. A writing instrument according to claim 3 wherein said body member includes a circular groove formed at substantially the bottom end thereof and a tapered ring which is adapted to be snap-fitted into said groove.

17. A writing instrument according to claim 1 wherein said first and second writing members are resilient and are adapted to be deflected within said respective first and second channels upon actuation of said respective first and second manual actuating means.

18. A writing instrument according to claim 10 wherein said first and second biasing means include metal expansion springs embedded in said body member.

19. A writing instrument according to claim 1 wherein said first and second channels define respective first and second cartridge-receiving openings formed in the top of said body member, and said first and second manual actuating means include tapered shoulders for facilitating the insertion of said first and second writing members into their respective channels through said respective first and second cartridge-receiving openings.

20. A writing instrument having a plurality of writing points comprising a body member having first and second channels merging into a common point opening at one end thereof, first and second writing members each having a writing point disposed in said respective first and second channels in retracted positions and mounted for reciprocation therein to extend their respective writing points through said point opening into an extended writing position, first manual actuating means operatively connected to said first writing member and extending exteriorly of said body member for manually moving said first writing member in said first channel toward said point opening and into said extended writing position, second manual actuating means operatively connected to said second writing member and extending exteriorly of said body member for manually moving said second writing member in said second channel toward said point opening and into said extended writing position, first holding and releasing means operatively connected to said first actuating means and to said body member and being operable in a first position to engage said second actuating means to hold said second writing member in said extended writing position and being operable to a second position to

tion by said first actuating means to disengage said first holding and releasing means from said second actuating means to release said second writing member, second holding and releasing means operatively connected to said second actuating means and to said body member and being operable in a first position to engage said first actuating means to hold said first writing member in said extended writing position and being operable to a second position by said second actuating means to disengage said second holding and releasing means from said first actuating means to release said first writing member, first returning means operatively connected to said body member and to said second holding and releasing means for returning said second writing member from said extended writing position to said retracted position in response to the actuation of said first holding and releasing means to said second position and second returning means operatively connected to said body member and to said first holding and releasing means for returning said first writing member from said extended writing position to said retracted position in response to the actuation of said second holding and releasing means to said second position.

21. A writing instrument having a plurality of writing points comprising a body member having first and second elongated and substantially straight channels merging into a common point opening at one end thereof, first and second writing members each having a writing point disposed in said respective first and second channels in retracted positions and mounted for substantially straight line reciprocation therein to extend their respective writing points through said point opening into an extended writing position, first manual actuating means operatively connected to said first writing member and extending exteriorly of said body member for manually moving said first writing member in said first channel toward said point opening and into said extended writing position, second manual actuating means operatively connected to said second writing member and extending exteriorly of said body member for manually moving said second writing member in said second channel toward said point opening and into said extended writing position, first holding and releasing means operatively connected to said first actuating means and to said body member and being operable in a first position to hold said second writing member in said extended writing position and being operable in a second position to release said second writing member, second holding and releasing means operatively connected to said second actuating means and to said body member and being operable in a first position to hold said first writing member in said extended writing position and being operable in a second position to release said first writing member, first returning means operatively connected to said body member and to said second holding and releasing means for returning said second writing member from said extended writing position to said retracted position in response to the actuation of said first holding and releasing means to said second position and second returning means operatively connected to said body member and to said first holding and releasing means for returning said first writing member from said extended writing position to said retracted position in response to the actuation of said second holding and releasing means to said second position.