United States Patent [19]

Browning et al.

[11] **3,893,130**

[45] **July 1, 1975**

[54] **RECORDER PEN**

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[73] Assignee: **Northern Illinois Gas Company**, Aurora, Ill.

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[21] Appl. No.: **381,209**

Related U.S. Application Data

[63] Continuation of Ser. No. 122,759, March 10, 1971, abandoned.

[52] **U.S. Cl.** **346/140**; 401/199

[51] **Int. Cl.** **G01d 15/16**

[58] **Field of Search** 346/140; 401/198, 199, 401/292

[56] **References Cited**

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[57] **ABSTRACT**

A recorder pen device having a closed cartridge or housing in which is enclosed an ink saturated fibrous material. A writing nib is secured to the cartridge with the opening of the nib communicating with the ink saturated material inside the housing. The nib feeds a smoothly flowing trace of ink to a recording chart upon which the point of the nib is in contact. By providing various tip lengths and staggering the pens, clearance is provided so that the pens can move past each other without interfering with their respective operation. In one form of the invention a retainer is provided for supporting the nib in position on the cartridge. A modified form of retainer serves as the one end cap for the cartridge and is adapted to support the nib in one of two positions whereby the cartridge may be mounted in either one of two 180° opposite positions. Two such oppositely mounted pens can be supported to move past each other without interference. The cartridge is disposable requiring no service during a long period of operation.

15 Claims, 10 Drawing Figures

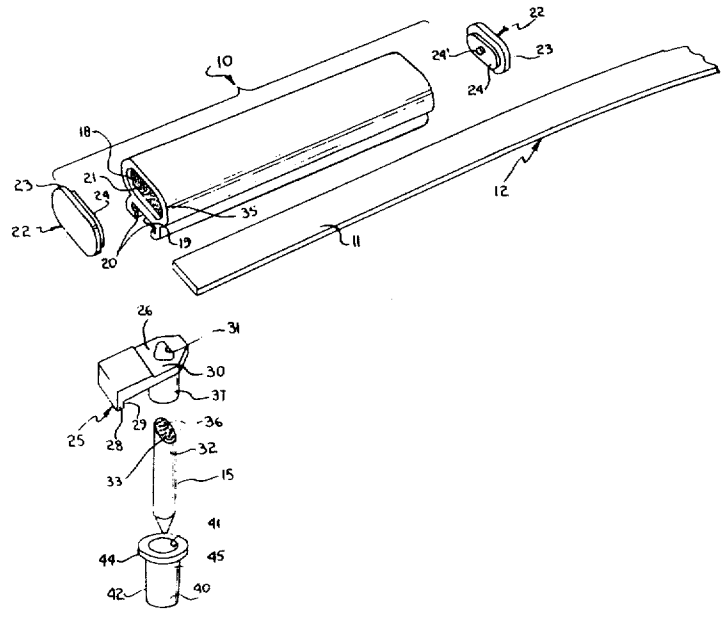
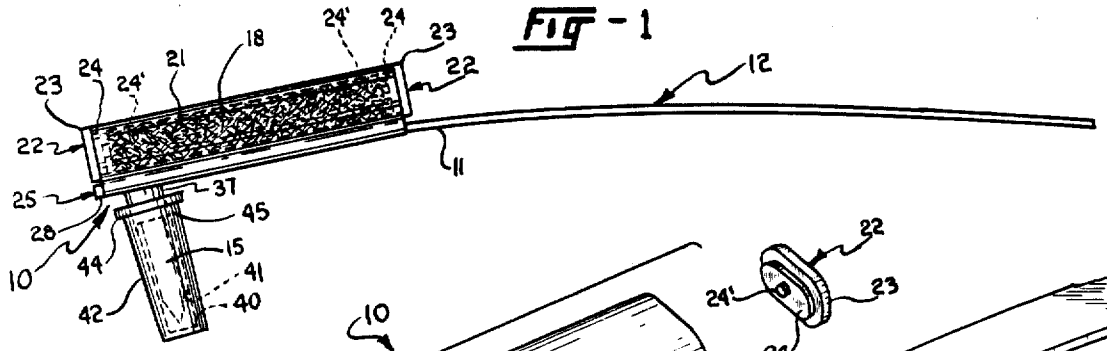


FIG - 1



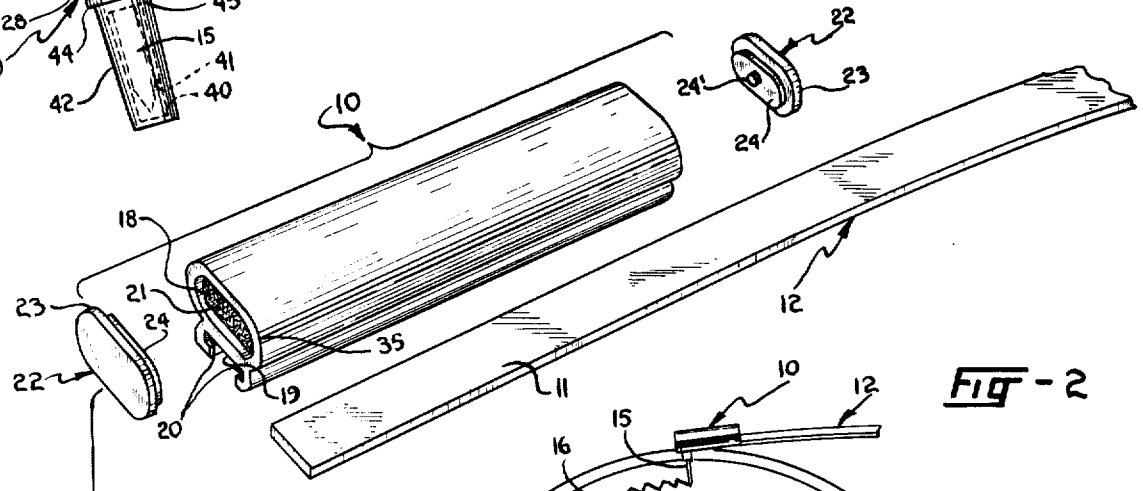


FIG - 2

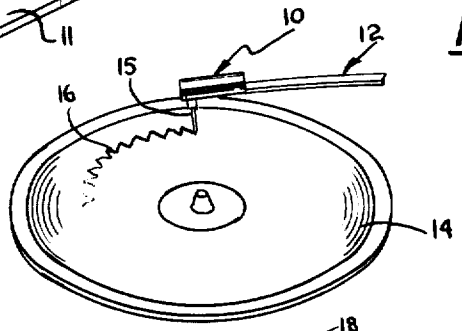
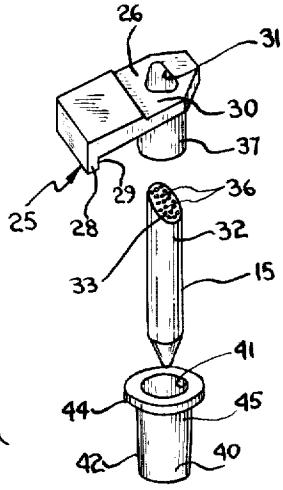


FIG - 3



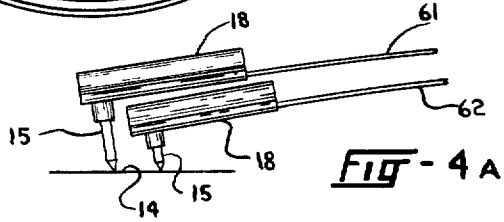


FIG - 4A

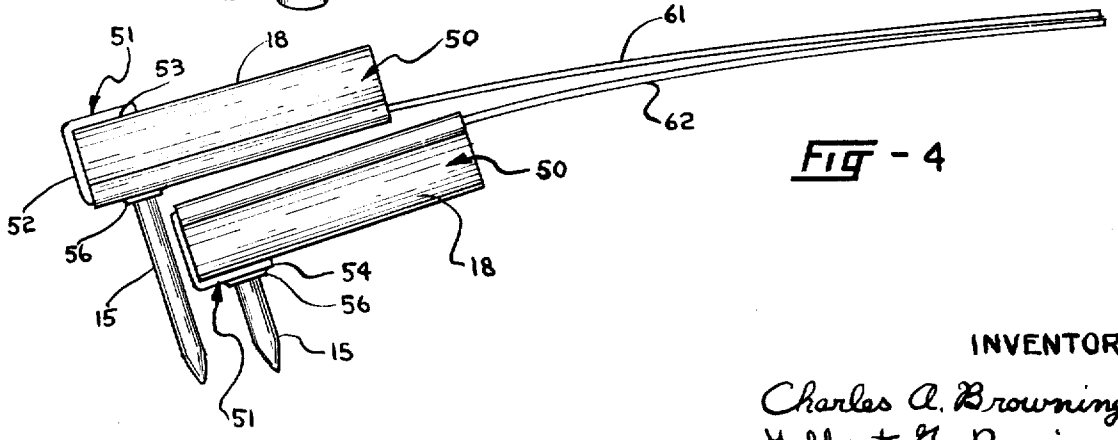


FIG - 4

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FIG - 5

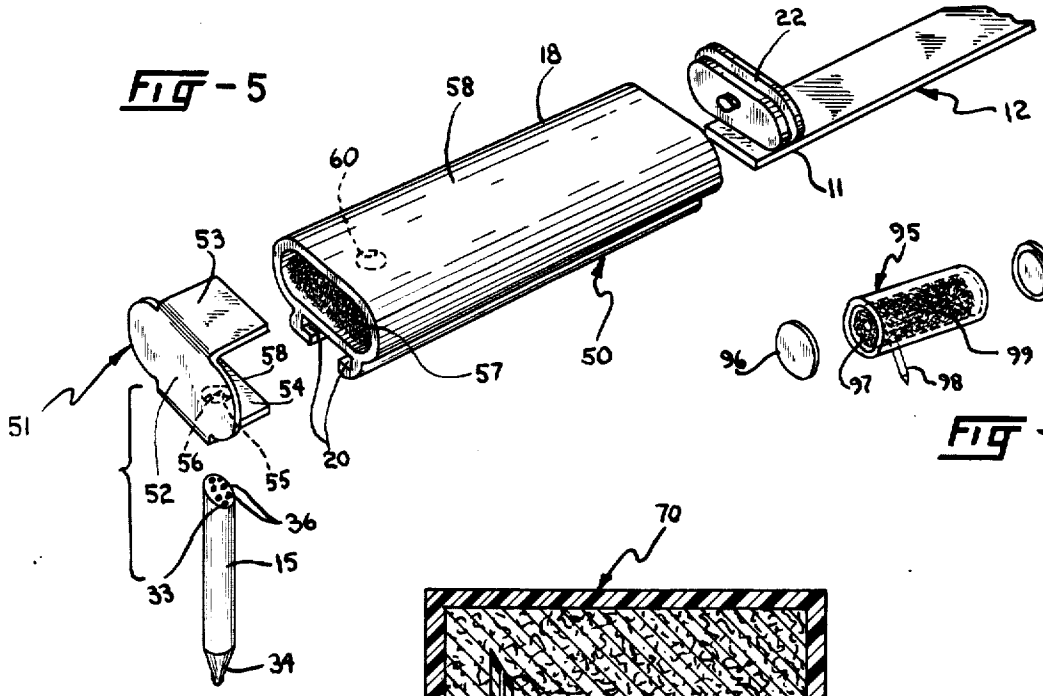


FIG - 9

FIG - 6

FIG - 7

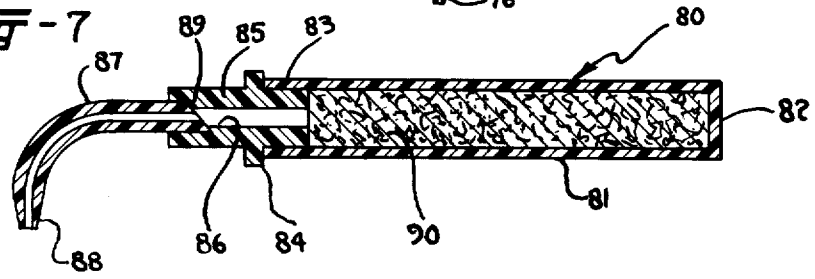
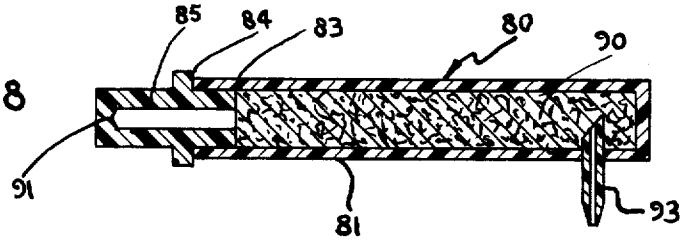


FIG - 8



RECORDER PEN

This is a continuation of application Ser. No. 122,759, filed Mar. 10, 1971, now abandoned.

BACKGROUND OF THE INVENTION

The present invention relates to recorder pens and more particularly to a novel disposable cartridge and writing nib structure.

Current writing or recorder pens require frequent servicing which includes cleaning, delinting and refilling. The recorder pens are clipped to the recorder arm and have a small metal shell or reservoir connected to metal nibs or a small metal tube which bears upon the record sheet to draw the appropriate data therein. Drops of ink are added periodically, i.e. every 2 or 3 days, to the shell or reservoir from which shell or reservoir the ink is fed by capillary action to the chart. Some of the problems of the just described apparatus lie in the abrading of the chart by the metal nibs or tubes; the criticality of the angle of contact of the metal nibs or tubes to the chart and dust and foreign material entering the shell or reservoir and clogging the nibs or tubes requiring frequent servicing. Typical of the just described current devices are the U.S. Pat. Nos. to Lovejoy 1,720,226, Amthor 1,122,053 and Baker 896,193. All three patents have openings to the atmosphere which facilitates filling the reservoir or venting the reservoir, but such openings permit the entry of dust and foreign matter and permit evaporation of the ink leaving non-flowing thickened ink or dry deposits requiring frequent service.

The U.S. Pat. Nos. to Newman 2,082,591, Rose 1,154,438 and Melas 2,876,740 all have closed containers and nib outlets, but they have not proven practical in use. None of the devices have provision for feeding ink to the nib when the container is tilted with the ink out of communication with the inner end of the nib. Newman U.S. Pat. No. 2,082,591 compresses the collapsible containers to create the communication of the ink with the nib, while Rose U.S. Pat. No. 1,154,438 and Melas U.S. Pat. No. 2,876,740 must tilt the container in the proper direction in order to make it possible for the nib to write.

The Gauley U.S. Pat. No. 3,090,357 has a recorder device which will write in one of two positions but he must provide a vent into his chamber in order to get the ink flow he desires.

SUMMARY OF THE PRESENT INVENTION

In accordance with one embodiment of the invention, a cartridge or housing is provided with an ink impregnated fibrous material closed therein. A nib of tubular plastic, of collimated or linear fiber material of open-cell or porous plastic or of some such appropriate material projects through one wall of the cartridge or housing whereupon ink is fed by capillary action to the writing point of the nib. The nib has on the end remote from the writing point an axially directed surface which has a component facing in the direction of the major area of the inside of the cartridge or housing. The cartridge is provided with a member for attaching the recorder pen to the end of an arm of a recorder instrument. The improved recorder pen generally operates effectively for about three months whereupon it is removed, discarded and a new cartridge and nib is installed in its stead. There is a minimum amount of service required to maintain the pens and since the reservoirs are closed, there is no accumulation of dust and foreign matter to clog the nib and there is no evaporation so that the likelihood of clogging from dried ink is eliminated. The nibs are such that the angle of contact with the paper is not critical and the points on the nibs are non-scratching and non-abrading. The recorder pen is very light in weight and has a low moment of inertia, thereby making it possible to use the pen on very sensitive instruments with little or no compensation required for the weight and momentum of the pen on the end of the arm.

In modified forms of the invention improved end clips are provided for supporting the nibs on the cartridge and in one form the end clip also plugs the end of the cartridge. Provision is made for fastening the cartridge to a recorder arm and for reversing the direction of orientation of the cartridge for use on special types of recording instruments.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a side elevational view of a recorder pen embodying the invention and shown as attached to the outer end of a recorder arm;

FIG. **2** is a perspective view of the improved recorder pen in use on a record sheet;

FIG. **3** is an enlarged and exploded apart perspective view of the invention of FIG. **1**;

FIG. **4** is a modified form of the invention as installed on the ends of overlapping recording arms for cross-over use;

FIG. **4A** is another modified form for mounting two or more recorder pens for cross-over use;

FIG. **5** is an enlarged and exploded apart perspective view of one of the modified recorder pens of FIG. **4**;

FIG. **6** is a cross-sectional view of a simplified and modified form of the invention;

FIG. **7** is still another cross-sectional view of another modified version of the invention;

FIG. **8** is a different version of the modified recorder pen of FIG. **7**; and

FIG. **9** is a perspective view of a modified form of the invention.

Referring to the drawings and in particular to FIGS. **1–3**, a recorder pen **10** is shown in position on the end portion **11** of a recording or pen arm **12**. The pen arm **12** is attached to an instrument, not shown, of conventional design wherein continuous readings of the state of some condition is transmitted to the arm **12** and recorder pen **10** and then to a record sheet **14** which can be circular, as shown, or can be a straight sheet or any appropriate recording surface. The nib or tip **15** on the recorder pen traces a line **16** on the sheet **14** leaving a permanent record of the condition of the readings. For instance, the temperature of a furnace correlated to time or the pressure in a boiler correlated to time are the types of readings recorded by the instrument.

The recorder pen **10** consists of an integral extruded or molded tube preferably of a suitable plastic material, such as polyethylene or polypropylene or other appropriate material. The tube could also be made of metal although some of the advantages of the design might be lost thereby. The tube has two parts, a continuous hollow sleeve portion forming the cartridge vial or housing **18** and a channel-shaped mounting member **19** formed by a pair of spaced apart but facing U-shaped members **20** for receiving and resiliently retaining the end **11** of the pen arm **12.** A wad or length of fibrous absorbent

material 21 is stuffed in the sleeve portion of the housing 18. A pair of shaped end plugs 22 made of plastic or other appropriate material are adapted to be press-fit into the respective ends of the housing 18. Each plug 22 has an enlarged flange 23 for abutting the end face of the housing and a projecting body portion 24 for fitting into the open ends of the housing. A small button or projection 24' extends inwardly from the body portion 24 so as to retain the wad of absorbant material 21 spaced from the junction between the plug 22 and the walls of the housing 18. The purpose of the just described spacing is to prevent capillary leaking of ink from the ink-impregnated wad through said junction between the plug and the housing.

A retainer member 25 is provided with a shaped body portion 26 adapted to slide into one open end of the spaced U-shaped member 20 into the mounting member 19. The retainer 25 has a downwardly depending handle portion 28 that has a wall 29 which bears against the end of the tube. The top face of the retainer 25 is composed of two planar surfaces, one surface being offset downwardly along a ledge 30 a short distance from the other surface. With the retainer 25 in position in the mounting member 19, the ledge 30 will provide a small space between the lower planar face and the bottom wall of said member 19. With the wall 29 located against the end of the tube, an opening 31 in the body portion 26 is properly positioned for holding the nib 15 to the tube (as will be described hereinafter) such that when the portion 11 of arm 12 is positioned in mounting member 19 the end of the arm will slide between the top face of the retainer 25 and the bottom of the member 19 and the end wall of the arm will abut the side wall of the nib to accurately position the tip or nib 15 relative to the root of the arm for correct positioning of the point on the chart 14. The end of arm 12 may be notched or bifurcated whereby it will engage the nib 15 at two points in locating the pen on the arm 12.

The retainer 25 has the opening 31 through the body portion 26. Said opening has chords cutting across the walls thereof so as to give the opening somewhat of a triangular shape. The tip or nib 15 is a generally tubular member having one end 32 cut off at an angle to form a face 33 and having the other end gradually rounded and tapered to form a writing point 34. The angle of the face 33 with respect to the axis of the nib 15 should be between 30° and 60° for best results, however, an angle greater or less than 30°–60° does produce advantages but not as great as in the 30°–60° range. The end 32 is press-fit through opening 31 and passes through an opening 35 in the wall of the housing. The opening 35 in the housing is shaped or constructed to permit a very slight venting past the nib 15 into the housing. The venting can be accomplished by making the opening 35 slight out of round so as to not seal against the nib or by forming a slight groove in the opening 35 or some such similar arrangement whereby a limited venting into the housing is permitted. The shape of the opening 31 serves to grip and retain the nib in place. The end face 33 of the nib rests interiorly of the cartridge or housing 18 and has a component lying parallel to the major axis of the cartridge and facing into the major inside area of the cartridge or housing 18 with the capillary ends or passages 36 communicating between the inside of the cartridge 18 and the writing point 34. With the face 33 of the nib facing into the major area of the cartridge improved capillary action is established over a longer period of time thereby extending the life and usefulness of the recorder pen. A depending sleeve 37 is integrally formed on the lower face of the body 26 of the retainer 25 and has an opening therein aligned with the opening 31 in said body. The size of the opening in the sleeve can be the same as opening 31 in retainer 25 or may be round and substantially equal to the outside diameter of the tip or nib 15 so as to engage and support said nib during use.

The nip or tip 15 is formed by molding, extruding or compaction and is made of any one or possible combinations of materials having capillary capabilities. Typical of the types of constructions and materials that have been found to operate successfully are collinated or linear fibers, open cell porous plastic, compacted random fibers, extruded plastic with a convoluted capillary passage or a composite of an extruded tubular shell over a core that can be linear fibers, porous plastic random fibers or the like. The material to be selected for the nib or tip 15 is preferably plastic and has appropriate capillary characteristics of the general type provided by the just enumerated constructions.

With the nib 15 in position in the retainer 25 and in the cartridge 18, the ledge 30 of the retainer 25 provides a small space for air to enter between the face of the retainer 25 and the bottom wall of the mounting member 19. The combined effect of said spacing and the venting shape of the opening 35 into the cartridge 18 permits limited but adequate venting of the inside of the chamber of the cartridge or tube 18. The venting is only sufficient to permit free flowing by capillary action of the ink through the nib 15, but is not sufficient to dry the ink absorbed in the wad of absorbant material 21.

A cap 40 is formed with a hollow interior recess 41 adapted to enclose the point 34 and the exposed body of the nib 15 when the recorder pen is not in use. The cap 40 has a tapered body portion 42 and a flanged lip 44 at the open enlarged end portion 45. The end portion 45 slips over the depending sleeve 37 and grips thereto so as to position the cap 40 in nib protecting relationship. The walls of the recess 41 of cap 40 are spaced from the point 34 for protecting the point during shipment and storage. The cap is easily removed by gripping the outer surface and pulling axially away from the cartridge 18.

The recorder pen 10 which is received filled with recorder ink or fluid and which has the nib sealed by the cap 40, is put in use by removing the cap 40 and drawing the point 34 across a surface to be sure the capillary action of the writing fluid has begun. The arm 12 has the end 11 threaded into the facing U-shaped openings 20 until the end of the arm abuts the wall of the nib 15 between the retainer 25 and the bottom of the mounting member 19. The point 34 on nib 15 is lowered into contact with the chart 14 and is held in contact therewith by the spring urging of the arm 12. The pen will trace the record on the chart 14 as the chart rotates (FIG. 2) or as the chart is drawn underneath the recorder pen.

The wad of absorbant material 21 is impregnated with recorder ink or fluid which recorder ink or fluid is selected depending on the conditions under which the recorder pens will operate. The conditions of the area where the recording is made are important and, in particular, the room temperature, the humidity, the

conditions of the air, i.e., dusty, solvent laden and the like. The chemical composition including the viscosity of the ink to be used will be varied depending on the operating conditions mentioned above. One type of recorder ink found to be highly successful with the recorder pen is a waterbased ink with a plasticizer which operates successfully in a temperature range of from −30°F. to 120°F.

The light-weight plastic materials used for the integral tube and mounting channel together with the light-weight absorbant wad and recorder ink result in a low moment of inertia recorder pen which can be used successfully in extremes of temperature, vibrations and atmospheric conditions. The plastic type nibs **15** will continue to trace the record on the sheet and will not gouge holes in the sheet even under extreme vibrations of the instrument.

Since the reservoir is closed no dust or foreign matter gets into the chamber with recording ink or fluid impregnated wad **21** for the point **34** and, therefore, no daily service is required. Recorder pens made according to the invention have been in use continuously for more than three months without requiring replacement. When service is required the recorder pen **10** is usually removed, discarded and replaced by another recorder pen.

FIGS. **4** and **5** show a modified form of the invention, and, referring to FIG. **4** a pair of recorder pens **50** are shown, and the one end plug **22** and retainer **25** of the form of invention shown in FIG. **3** are replaced by a one piece plug retainer **51** which clips over the forward end of the cartridge or housing **18** and serves both as a plug and as a nib retainer. Specifically, retainer **51** has a body portion **52** shaped to conform to the shape of the cross-section of the cartridge and has projecting parallel legs **53, 54.** The leg **54** of retainer **51** is inserted into the open end of the mounting channel between the U-shaped members **20** with the leg **53** positioned over and bearing against the top of the cartridge vial **18.** When the retainer **51** is in position the body portion **52** will bear against the end wall of the housing **18** to seal the end of the housing. The leg **54** has an opening **55** formed therein in such a way as to provide a downward projecting skirt **56** around the opening, which skirt serves as a support for the tip or nib **15.** That is, the tip or nib **15** is essentially the same as in FIGS. **1–3** and projects through the skirt **56,** opening **55,** opening **57** in the wall of the housing **18** into the recorder ink impregnated fibrous wad in the housing **18.** The remainder of the recorder pen **50** is essentially the same as the pen **10** of FIG. **1** and has the end plug **22** seated in the rear end of the housing, has the ink-impregnated fibrous material **21** in the reservoir and when the end portion **11** of the arm **12** is nested in the channel **20** the end of said arm abuts against the nib **15** between the bottom of the mounting **19** and the top surface of the retainer **51** for correctly positioning the recorder pen relative to the instrument.

The retainer **51** is adapted to be reversible with respect to the end of the housing **18** so that the leg **54** with the opening **55** and skirt **56** may be positioned on the non-channelled wall **58** of the housing **18** so that the end wall **33** and end portion of the nib **15** extend through an opening **60,** shown in dotted lines, in the wall **58** of the housing. The nib **15** with point **34** is now pointing 180° opposite to its previous direction and the mounting member **19** is on the wall opposite to the wall **58** containing the nib **15.**

The reversible, oppositely projecting nib **15** concept has particular use on multiple arm recording instruments such as shown in FIG. **4.** Two spring urged arms **61, 62** project outwardly from the instrument in overlapping relationship, with the upper arm **61** being longer than the lower arm **62.** The recorder pen **50** as described above with the nib **15** projected downwardly from between the mounting **19** is mounted on the upper arm **61** and employs a longer nib **15** so as to contact the recording surface. The lower arm **62** receives a recorder pen **50** with the retainer **51** reversed so that the nib **15** projects from the unchannelled wall **58** of the housing. The arm **62** nests in the channel **20** with the housing **18** below the arm so that the nib **15** extends downward into contact with the recording surface. The two recorder pens mounted in 180° opposite positions with respect to the housing **18** provide a dual recording instrument which can be used for cross-over systems or the like with all of the same advantages of the invention as previously described.

FIG. **4A** is another way of mounting the cartridge or housing **18** for cross-over systems. That is, the nib **15** projects from the side of the housing having the mounting member **19** and the retainer member **25** for both housings **18** so that the pen arms **61** and **62** will rest in said members **19** at the bottom of both housings. The lengths of the nibs **15** are such as to permit cross-over use of the system without the arms **61, 62** or housings **18, 18** interfering with each other.

The modification of FIG. **6** shows a recorder pen **70** with a closed housing or cartridge **71** containing an ink saturated fibrous material **72.** A nib **73** having an angled wall **74** projects through an opening **75** in the wall of the housing **71** and has a writing point **76** projecting outwardly from said housing. Appropriate holding means such as spring clips and the like (not shown) can be provided for securing the recorder pen **70** on an arm for use. The recorder pen **70** functions in substantially the same manner as the modifications of FIGS. **1–3** and **4–5.**

FIGS. **7** and **8** show another form of recorder pen **80** having a housing or cartridge **81** sealed at one end **82** and having an apertured plug **83** sealingly inserted in the other end thereof. The plug **83** has a positioning flange **84** for abutting the end of the housing. A nozzle **85** projects from the plug **83** and has an opening **86** extending therethrough into the reservoir in the housing **81.** A curved tip or nib **87** has a writing point **88** on one end and has a wall **89** cut off at an angle at the opposite end. The angled wall **89** is force fit into the plug **83** whereupon ink in the ink-impregnated fibrous material **90** in the reservoir of the housing **81** flows by capillary action to the point **88.** The wall **89** on the nib **87** is adapted to penetrate and puncture a seal **91** in the end of the plug **83** which seal **91** can be best seen in FIG. **8.**

FIG. **8** shows the recorder pen **80** and cartridge or housing **81** of FIG. **7** as used with another nib or tip **93.** In the modification of FIG. **8** the seal **91** is unbroken and the nib **93** similar to the nibs of FIGS. **1** and **5** is used. The nib **93** penetrates an opening **94** in the wall of the housing **81** so as to provide a capillary communciation of recorder ink from the fibrous material **90** to the point of the nib **93.**

Both FIGS. 7 and 8 recorder pens are adapted to be mounted on recording arms by appropriate means such as spring clips and the like.

FIG. 9 is another modification wherein a breather tube is provided to equalize pressure from one end of the cartridge or tube to the other. That is a circular cartridge or tube 95 is provided with end plugs 96 force fit into the ends of said tube. A wad of fibrous absorbant material 97 is pressed into the tube and is impregnated with recorder ink. A nib 98 similar to nib 15 is mounted in the wall of the tube 95 with the component of the end face 98' facing into the major area of the tube. A hollow breather tube 99 is pressed into the tube between the wad of material 97 and the inner wall of the tube 95 with the ends of the breather tube opening into the end areas of the inside of the tube 95. In the illustrated position of the breather tube 99 unequal pressure between the end portions of the cartridge or tube 95 is avoided, in that as ink is bled off through nib 98 pressure in the end of the tube in which nib 98 is located is equalized by air passing through breather tube 99. In this way the flow of ink to nib 98 is not interrupted by a pressure block developing in the tube 95.

The tips or nibs of the several modifications are plastic parts which have a shaped writing point which does not scratch, does not clog from dust or other foreign particles and will continue to write at a wide variety of contact angles with the writing surface. The angle of writing contact is, in other words, not critical as it is with conventional metal nibs or points. The plastic nibs can be made to provide a very fine line tracing, can operate at slow or fast speeds and are not subject to obstruction by air bubbles in the delivery tubes. Since the improved recorder pen is sealed, the spillage of ink is eliminated, the device is inexpensive to manufacture and, therefore, can be thrown away when it runs dry, the device is cheaper to service since it is not necessary to frequently fill and clean the pen, different color inks can be readily used since all that is required is to switch one cartridge of one color ink for another cartridge of a different color, the device is universally usable with practically all current recording instruments and the device has a long shelf life since the reservoir is closed and the nib is enclosed by the cap 40.

We claim:

1. A recorder pen for a recording instrument comprising a cartridge having a closed chamber, means for maintaining a supply of fluid in said chamber, means for venting said closed chamber, a tubular member carried by the cartridge and having a capillary passageway therethrough communicating with the inside of said chamber, a point formed on said tubular member with said passageway communicating with said point, said fluid in said chamber flowing through said passageway to said point, said cartridge having a channel means formed on one side thereof for receiving the end portion of an arm of the recording instrument, and a retainer having a body portion for closing the one end of the chamber in the cartridge and having a pair of legs extending from said body portion, said legs engaging opposite sides of said cartridge to hold said retainer on said cartridge in said closed relationship, one of said legs extending into retaining relationship with said channel means.

2. A recorder pen as claimed in claim 1 wherein said retainer has a sleeve member on one of said legs, said sleeve member surrounding and supporting said tubular member in position on said cartridge.

3. A recorder pen as claimed in claim 2 wherein said retainer is reversible so that the tubular member projects from the cartridge either from between the sides of said channel means or from the side opposite said channel means.

4. A recorder pen as claimed in claim 3 wherein the cartridge may be mounted on the recording instrument arm either with the arm beneath the cartridge or with the arm above the cartridge.

5. A recorder pen as claimed in claim 1 wherein one leg of said retainer has an opening and a depending sleeve in alignment with said opening, and wherein said tubular member is supported by said sleeve when said tubular member is in position on said cartridge.

6. A recorder pen for a recording instrument comprising a tube having a closed chamber, means for maintaining a supply of fluid in said chamber, a tubular member carried by the tube and having capillary passageways therethrough communicating with the inside of said chamber, vent means communicating with the inside of said chamber, a point formed on said tubular member with said passageways communicating with said point, said fluid in said chamber flowing through said passageways to said point, and a retainer mounted on said tube and having a sleeve formed thereon for surrounding and supporting said tubular member, said tube having a channel means integrally formed on one side thereof for receiving the end portion of an arm of the recording instrument, said retainer is resiliently urged into one end of said channel means, said depending sleeve being formed on the body of said retainer, said tubular member extending through said sleeve and retainer into said chamber, and means on said retainer forming an abutment for engaging the end of the tube for positioning the tubular member on said tube such that abutting the end of the arm of the recording instrument against said retainer in said channel means properly positions the point relative to the instrument.

7. A recorder pen for use on a recording instrument comprising a tube having a closed chamber, fibrous means impregnated with a supply of ink closed in said chamber, means for venting said chamber, a plastic nib carried by the tube and having a capillary passageway therein, a writing point formed on said nib with said passageway communicating between said point and the inside of said closed chamber, said fluid in said chamber flowing through said passageway to said point, channel means formed on said tube exteriorly of said chamber, said channel means being adapted to receive and retain the end portion of a recording arm, retainer means nested in one end of said channel means and having a sleeve formed thereon for surrounding and supporting said nib.

8. A recorder pen for use on a recording instrument comprising a tube having a closed chamber, fibrous means impregnated with a supply of ink closed in said chamber, means for venting said closed chamber, a plastic nib carried by the tube and having a capillary passageway therein, a writing point formed on said nib with said passageway communicating between said point and the inside of said closed chamber, said fluid in said chamber flowing through said passageway to said point, and means provided in said chamber for equalizing pressure between the opposite ends thereof.

9. A recorder pen as claimed in claim 8 wherein said tube has a channel means formed on one side thereof for receiving the end portion of an arm of the recording instrument.

10. A recorder pen as claimed in claim 9 wherein said tube and channel means are integrally formed as a one-piece plastic member.

11. A recorder pen as claimed in claim 8 wherein the inner end portion of said nib lies in a plane disposed at an angle to the axis of the nib, said inner end having a component lying parallel to the major axis of the chamber and facing into the major area of the chamber.

12. A recorder pen as claimed in claim 11 wherein said plane of said inner end portion of said nib forms a 45° angle with respect to the axis of said nib.

13. A recorder pen as claimed in claim 8 wherein said nib has a longitudinal axis which is disposed at a right angle to the longitudinal axis of said closed chamber in said tube.

14. A recorder pen as claimed in claim 8 wherein said tube has a plug means force fit into one end of said tube to close the end of said tube, said plug means having an inwardly projecting member which engages with and holds the fibrous means spaced from the juncture between the plug and the inside wall of said tube.

15. A disposable, continuous capillary recorder pen for recording information on a surface comprising a tube having a closed chamber and a sleeve projecting laterally therefrom, fibrous means substantially filling said closed chamber, said fibrous means being impregnated with a supply of ink, a plastic nib carried by said sleeve on said tube and having a capillary passageway therethrough, vent means between said nib and said tube immediately adjacent said nib to permit pressure equalization in said closed chamber, said nib having the face of one end disposed at an angle with respect to the axis of the nib, said one end of the nib extending into said closed chamber with the angled face projecting toward the bulk of the fibrous means and into engagement with said ink impregnated fibrous means, a writing point formed on said nib with said capillary passageway communicating between said point and the inside of said closed chamber, said ink in said fibrous means being transferred by continuous capillary action from said fibrous means through said capillary passageway to said point and onto said surface regardless of the angle of orientation between said recorder pen and said surface and means provided in said chamber for equalizing pressure between the opposite ends thereof.

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