May 18, 1954 H. C. KLAGGES ET AL 2,678,635

WRITING EQUIPMENT

Filed July 11, 1949

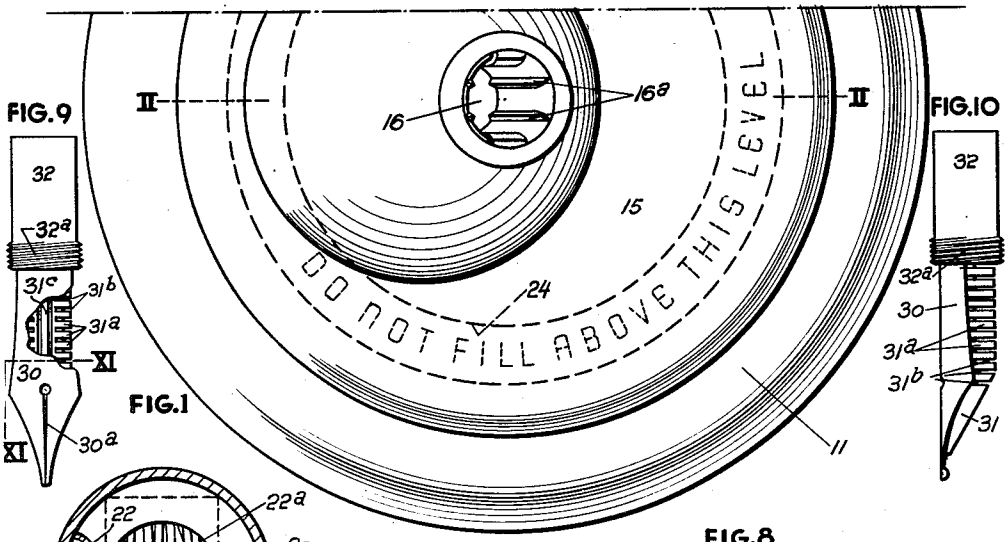


FIG. 1

FIG. 9

FIG. 10

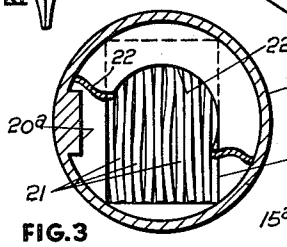


FIG. 3

FIG. 8

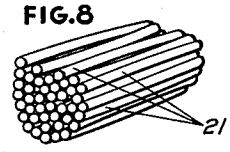


FIG. 2

FIG. 11

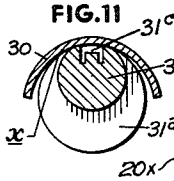


FIG. 5

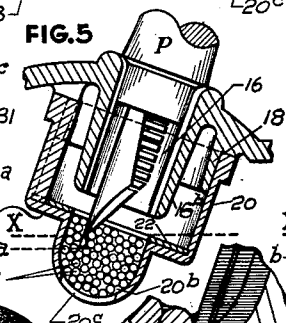


FIG. 6

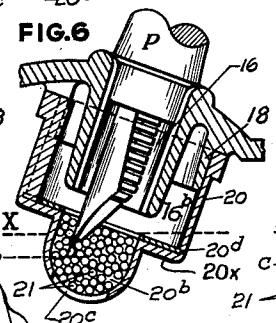


FIG. 7

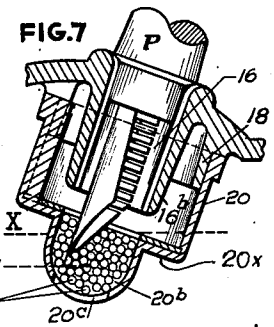


FIG. 4

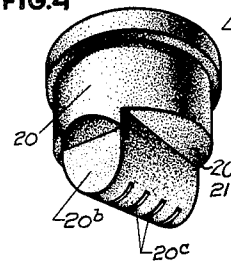
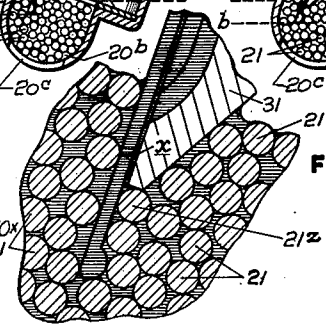


FIG. 12



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UNITED STATES PATENT OFFICE

2,678,635

WRITING EQUIPMENT

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Application July 11, 1949, Serial No. 104,038

12 Claims. (Cl. 120—57)

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Our invention relates to writing equipment in which fluid ink is employed and to means whereby ink is supplied to a writing assembly comprising a pen nib and a fountain feed-bar associated therewith; such ink being stored in capillary spaces of the writing assembly for instant delivery to the pen nib when the latter engages a writing surface.

In carrying out our invention we preferably provide an ink container in the form of a relatively heavy receptacle having a broad base that precludes upsetting in normal use. This receptacle is provided with a detachable cover or top having an inclined dipping opening for the reception of the pen nib and fountain feed-bar assembly. When this assembly is disposed in the dipping opening of the cover, it is supported out of direct contact with the body of ink in the receptacle and receives a supply or charge of ink by capillary action from ink-filled spaces or interstices of a group of filaments loosely supported in the body of ink; the fountain feed-bar having capillary spaces in which the ink, rising by capillary action, is stored for subsequent use in a writing operation.

An important object of our invention is to provide simple and efficient means whereby a writing assembly comprising a pen nib and a fountain feed-bar carried by a pen staff or penholder may be supported in the dipping opening of the cover of the ink receptacle and receive and store a supply or charge of ink in their capillary spaces from the ink in the receptacle without direct contact of the writing assembly with such body of ink. In the present instance we have shown a fountain feed-bar having a comb providing capillary storage spaces at right angles to its longitudinal axis; such feed-bar being so associated with the pen nib as to assure the presence of a capillary channel or passage between the pen nib and the fountain feed-bar at the ends of the same so that ink may rise in such capillary channel or passage and enter the capillary spaces of the same including the storage spaces provided by the comb of the feed-bar and be held therein until the writing assembly is employed in a writing operation whereupon the ink will pass from said capillary storage spaces to the writing end of the pen nib as soon as the latter contacts with a writing surface. In one form of writing assembly which we employ, which form has come to be known in the trade or art as a "Renew Point," the fountain feed-bar and the pen nib are fixed in a sleeve having a threaded portion whereby it may be screwed into a threaded socket at the end of a pen staff or penholder. In another form of writing assembly which we have employed with

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our improved ink-charging means, the pen nib and the fountain feed-bar have cooperating parts whereby they are maintained in proper relationship and the fountain feed-bar is provided with a threaded portion whereby it may be screwed into the threaded socket at the end of the pen staff or penholder; the association of pen nib and fountain feed-bar in such position being such that the parts will be maintained in proper relationship after insertion in the pen staff or penholder. This latter form of writing assembly is found in the pending application of Henry C. Klagges, filed May 17, 1947, Serial No. 748,675, now Patent Number 2,601,846. In any form of writing assembly that may be employed with our improved writing equipment, a portion of the ink that advances or rises by capillary action will follow a part or all of the capillary slit of the nib.

A further and most important feature of our invention comprises the disposal within the ink receptacle; preferably supported by its cover, of a suitable group of filaments unaffected by the chemical nature of the ink and whose interconnecting and/or communicating interstices or voids will fill with ink from the main supply, and to arrange the writing assembly comprising a pen nib and a fountain feed-bar in such relation to the filaments that the end of the pen nib and the end of the fountain feed-bar will enter the ink-filled spaces thereof; a portion of which ink will rise or advance by capillary action and, via channels or passages at the end of the writing assembly, enter and fill the capillary storage spaces of the fountain feed-bar where it will be held for subsequent passage to the pen nib during a writing operation. Such ink supply or storage in the capillary spaces of the feed-bar will be maintained and replenished as long as the pen nib and the fountain feed-bar are in engagement with the ink-filled spaces of the group of filaments.

While we have referred to fountain feed-bars of the type having combs providing capillary storage spaces at right angles to their longitudinal axis, it is within the scope of our invention to employ any form of fountain feed-bar having capillary spaces for the reception and storage of ink for subsequent use in a writing operation.

To the end that the writing assembly comprising the pen nib and the fountain feed-bar may receive and store ink, the ink receptacle contains a loosely confined group of filaments which are of such nature and are so arranged as to provide a large number of void spaces or interstices of capillary dimensions in interconnected relation which will fill with ink, and to arrange the writing assembly in such position with respect to the loosely

confined filaments that the forward end of the pen nib and the forward end of the fountain feed-bar may dip into the ink-filled spaces in the upper zone of such group of filaments and, via passages or channels of suitable capillarity, transfer ink from such ink-filled spaces to the capillary spaces of the fountain feed-bar.

The filaments which we employ and which provide the capillary interstices or voids for the reception of ink are preferably the product of an extrusion operation whereby a jelly-like mass of a suitable plastic composition is extruded as a single filament through an orifice of the desired shape and size and subsequently cured or hardened. As plastic materials which may be employed in the production of these filaments by a continuous extruding operation may be mentioned polyethylene (polythene); polyvinylidene chloride (Saran); polystyrene (Styron); polyamides (nylon), etc. It is also possible to employ filaments of certain metals unaffected by the chemical nature of the ink. And, in some instances, filaments of certain types of glass may be employed. In all instances the filaments must be of a nature to be readily wettable by the ink.

Filaments produced by an extruding operation are single, unitary, bodies of substantially the same gauge or cross-sectional dimensions throughout their length. While they are usually straight, they are frequently more or less wavy in surface appearance. We prefer to employ filaments made from a plastic composition since they offer slight resistance and the ink-filled spaces or interstices between them are readily penetrable by the end of the pen nib and the end of the fountain feed-bar. We have successfully used groups of straight filaments as well as those having a wavy appearance. Filaments of polythene, for instance, which we have successfully used in our improved writing equipment, are relatively soft and pliable but lack resilience. Their tensile strength is slight and they may be stretched to decrease their cross-sectional area or dimension. Nylon, on the other hand, which has also been successfully used in our improved writing equipment, has greater tensile strength and is relatively non-stretchable. Polythene filaments are of less specific gravity than fluid ink and tend to float in their loosely assembled condition in the chamber of the carrier in which they are disposed when the latter is placed in a supply of ink. Nylon filaments are of greater specific gravity than fluid ink and will not rise in the same.

In preparing this filamentous material for use in carrying out our invention, the continuous filament, of whatever material used, is cut into relatively short sections of predetermined length, for a reason hereinafter set forth. These individual sections we have termed "mono-filaments"; a term that will be used throughout the specification and claims. When the desired quantity of these mono-filaments are assembled for use, they lie horizontally and in substantial parallelism; an arrangement that may be modified by any wavy configuration that may exist. In this substantially parallel arrangement of the mono-filaments they present a large number of void spaces or interstices of capillary dimensions, variable cross-sections and variable capacities, and when any group of the same assembled for our purpose is placed in a supply of ink, ink will rise and fill these interconnected capillary spaces or interstices. When the writing assembly comprising the pen nib and the fountain feed-bar is

presented to the same and entered between the mono-filaments in the upper layer or zone thereof, the ink from such ink-filled spaces will pass via capillary passages or channels at the end of the writing assembly into the capillary storage spaces of the fountain feed-bar.

Due to inherent capillarity, the void spaces or interstices between loosely confined mono-filaments will maintain a supply of ink extending to the spaces or interstices of the upper area or zone as long as any ink remains in the ink receptacle. Hence, while the mono-filaments within their container may be practically submerged in the ink after initial or any subsequent filling of the ink-receiving space of the receptacle and have their capillary spaces or interstices filled; as the ink is consumed and its level in the receptacle lowers to and passes below the writing point of the pen, ink will be held by capillary tension in the spaces or interstices throughout the group of mono-filaments including the upper zone thereof and will be supplied thereto by capillary action as long as any ink remains in the receptacle, ready for transfer by capillary action to the writing assembly for storage in the capillary spaces of the fountain feed-bar.

It is desirable that the gauge or cross-sectional dimension of the mono-filaments shall be such as to present a multiplicity of capillary spaces or interstices whereby sufficient capillarity of the whole group will be provided. After countless experiments with filaments of various materials and cross-sectional dimensions we have found that a group of approximately 150 to 160 mono-filaments having a gauge of approximately .028" will provide the desired capillary spaces or interstices throughout the same for the reception of a supply of ink that may be transferred by capillary action to the pen nib and fountain feed-bar associated therewith and stored in the capillary spaces of the latter. So far as this testing of the capillarity of the group of mono-filaments is concerned there has been found to be little difference between any group of the mono-filaments picked at random and placed in the container for submergence in the body of ink in the receptacle containing the main supply. In other words, the random straight line condition or waviness of the mono-filaments is such that, relatively speaking, the same amount of capillarity is present in each group thus selected.

The optimum capillarity of the group of mono-filaments is one having the maximum volume of what may be termed "effective usable void space." The effective usable void space is that space which is of sufficiently high capillarity to insure that ink will be drawn therein by capillary action from the supply in the ink receptacle and held by surface tension no matter how much or how little ink remains in the receptacle, and of sufficiently low capillarity to permit ink to be drawn from the ink-filled spaces of the group of mono-filaments via channels or passages of the writing assembly for storage in the capillary spaces of the fountain feed-bar.

A further object of our invention is to provide the lower part of the carrier shell with a chamber in which the mono-filaments are loosely confined; such carrier shell having an apertured ring overlying this chamber and holding the mono-filaments against upward displacement. This ring may be retained in place in an annular groove formed in the inner wall of the carrier shell into which it may be snapped when assembling the parts.

A further object of our invention is to aperture the bottom wall of the chamber receiving the mono-filaments; such chamber extending to the bottom of the ink receptacle and the apertures affording passage of ink to the spaces or interstices of the mono-filaments contained in the chamber.

A further object of our invention is to provide the chamber receiving the mono-filaments with a rounded bottom so that under the effect of repeated insertions of the pen nib and feed-bar of the writing assembly in the ink-filled spaces in the upper zone thereof, there will be a tendency to impart motion to the mono-filaments at each insertion and effect relative displacement of the upper layer. Such displacement will present fresh ink-filled spaces into which the writing assembly will dip. While a chamber with a rounded bottom is preferred, such chamber may be of a different internal contour without departing from our invention.

A further object of our invention is to so mount the carrier for the mono-filaments on the underside of the cover for the ink receptacle that while it may be removed with the cover when it becomes necessary to replenish the supply of ink or to clean the receptacle, such carrier may be readily detached from the cover. If it is necessary to rinse ink residue from the mono-filaments the carrier, after disengagement from the cover, may be held under a stream of water without displacing the mono-filaments; any retained water being drained away before replacement on the cover.

These and other features of our invention are more fully set forth hereinafter; reference being had to the accompanying drawings, more or less diagrammatic in character, in which:

Figure 1 is a plan view, partly broken away, of an ink-container and removable cover therefor forming part of our improved writing equipment.

Fig. 2 is a cross-sectional view of the ink-container and cover, taken on the line II—II, Fig. 1.

Fig. 3 is a sectional plan view, on a slightly larger scale, of the detachable carrier element by the cover of the ink-container, taken on the line III—III, Fig. 2.

Fig. 4 is a perspective view, looking from the underside, of the carrier element supported by and suspended from the cover of the ink-container.

Figs. 5, 6 and 7 are diagrammatic sectional views of the carrier and the pen nib and fountain feed-bar assembly disposed in the dipping opening; such views illustrating the position of pen nibs of different lengths with respect to the mono-filaments supported in the lower chamber of the carrier.

Fig. 8 is a diagrammatic perspective view illustrating a group of the mono-filaments in the form or shape they assort themselves when loosely disposed with in the lower chamber of the carrier.

Figs. 9 and 10 are, respectively, a front elevation and a side elevation of a unit writing assembly especially adapted for use with our improved writing equipment.

Fig. 11 is a cross-sectional view on the line XI—XI, Fig. 9.

Fig. 12 is a diagrammatic view, on a greatly enlarged scale, illustrating a possible position of the mono-filaments with respect to the ends of the pen nib and fountain feed-bar when the latter are in ink-receiving position in the ink-filled spaces of the mono-filaments.

Referring to the accompanying drawings,

more particularly Figs. 1 and 2, the receptacle for ink forming part of the improved writing equipment of our present invention is of substantially the same character as that illustrated in our pending application filed December 31, 1948, Serial No. 68,485. This receptacle comprises a shallow base 11, relatively heavy, which may be made of glass, a suitable ceramic, a suitable synthetic resin or other plastic—which may be weighted—or a suitable metal. The base is preferably circular in shape and has a shallow internal space 12, also round, to receive ink.

For closing the ink receptacle we provide a cover 15; flat for the greater part of its extent, and having a rounded, dome-like, portion 15^a provided with a dipping opening 16, which may be of the same character as that found in our pending application; being provided with ribs 16^a forming air channels when the writing assembly is in place. The cover has a depending annular wall or flange 15^b entering the ink-receiving space of the base, and this wall receives a gasket 17 to insure a leak-proof connection therewith. The gasket may be of the character illustrated in Fig. 2, where it is shown as having an annular resilient flange 17^a engaging the inner wall of the ink-receiving space, or we may use a gasket of the type illustrated in our pending application. In such instance, the depending annular wall 15^b of the cover will be recessed for the reception of the same. The dome-like portion 15^a of the cover is provided on its underside with a depending portion or flange 18, which is notched at 18^a, and this depending portion is concentrically arranged with respect to the dipping opening 16, and is eccentric to the annular wall or flange 15^b. In general, the cover of our present writing equipment is substantially the same as that illustrated in our pending application above referred to.

Detachably supported by the slotted depending portion 18 of the cover is a carrier 20, of a shape more particularly illustrated in the perspective view, Fig. 4. This carrier is provided with an internal rib 20^a which enters the notch 18^a of the depending portion 18; such cooperating parts serving as a guide for the proper positioning of the carrier with respect to the cover. The carrier is of cylindrical construction in its upper part and is provided at the bottom with a transversely disposed chamber 20^b for the reception of the group of mono-filaments indicated at 21. The wall at the bottom of the chamber 20^b is slotted at 20^c for the inlet of ink when such chamber is set in place in the ink receptacle; such slotted wall extending to the bottom of the latter. The mono-filaments are loosely arranged in this chamber and are retained in place by a plate 22 which rests on the bottom wall portion 20^x of the cylindrical upper part of the carrier 20 and overlies the mono-filaments loosely disposed in the lower chamber 20^b, as illustrated in Fig. 3; such plate being held in place in an annular groove 20^d formed in the inner wall of the carrier above the bottom wall portion 20^x into which the outer edge of the plate 22 may be snapped when set in place. The plate 22 is provided with a central aperture 22^a, preferably circular, whereby the pen nib and the fountain feed-bar may contact with and enter an ink-filled space between the mono-filaments when they are inserted in the dipping opening of the cover.

By reason of the fact that the depth of a full supply of ink in the receptacle is relatively limited, the dimensions of the chamber in the lower part

of the carrier are relatively limited to insure that there will be substantial immersion of the greater part of the mass of mono-filaments in any full supply of ink. The length or greatest dimension of this chamber is not greater than the diameter of the carrier and the mono-filaments, which are approximately .675" to .680" in length, are arranged lengthwise of this chamber whose dimension is such that they preferably just fit between the end walls and substantially fill the chamber. This arrangement, plus the presence of the plate 22 overlying the mass of mono-filaments, insures retention of ink in their ink-filled spaces should the receptacle upset at any time. The widthwise dimension of the chamber is approximately two-thirds of its lengthwise dimension and it receives approximately 150 to 160 mono-filaments of the gauge hereinbefore referred to.

The mono-filaments substantially fill the chamber 20b but are loosely confined therein by the plate 22 so that when the pen nib and the fountain feed-bar enter the ink-filled spaces in their upper zone the individual filaments between which such spaces are provided readily move to permit such insertion. The bottom wall of the chamber 20b receiving the mono-filaments is preferably rounded and successive engagement of the elements of the writing assembly with the upper zone of the mass of mono-filaments has a tendency to impart movement to the same so that there is, relatively speaking, a certain amount of displacement imparted to the group to change the relative position of the individual filaments without affecting the capillarity of the group or diminishing the usable void spaces or interstices filled with ink. It will be understood, of course, that we do not wish to be limited to a chamber for the mono-filaments having a rounded bottom, since other shapes may be employed in which the mono-filaments are loosely held and present the desired spaces or interstices of capillary dimensions for the reception of ink to be supplied to the writing assembly.

The tubular portion 18 depending from the cover is notched at 18a, as hereinbefore noted, and the carrier supporting the mono-filaments has an internal rib 20a engaging this notch for positioning purposes; such notch extending to the underside of the dome-like portion of the cover. Above the upper rim of the carrier the top of the notch provides a passage for free circulation of air from the interior of the receptacle to the atmosphere via the spaces between the ribs of the dipping opening. This free circulation of air is desirable when replacing the cover on the base to prevent surging of the ink.

The depending tubular portion 16b of the cover providing the dipping opening extends some distance into the carrier shell 20, as clearly illustrated in Figs. 2, 5, 6 and 7. Upon initial filling, which should not be above the ledge 23 of the base; such ledge preferably carrying a thin ring of suitable material indicated at 24 and having the legend: "Do Not Fill Above This Level" (shown by dotted lines, Fig. 1), there may be a small amount of loose ink in the lower part of the carrier shell above the mono-filaments, which ink will be gradually consumed as the writing equipment is used. Should the structure accidentally upset, this loose ink will not spill through the dipping opening since it will be trapped in the space surrounding the depending tubular portion 16b in which the dipping opening is formed. Additionally, the presence of the mono-filaments in the lower chamber of the carrier and the retaining plate precludes the possibility of ink spilling from the receptacle if it should upset after the loose ink that may be in the carrier after initial filling and lying above the upper surface of the mono-filaments, has been consumed in a writing operation.

As in the structure of our pending application before referred to, the base is provided with an upstanding wall 25 surrounding the ink-receiving space upon which the cover or closure rests; the outer marginal edge of such cover extending outwardly beyond the margin of such wall. In this position, there is a shallow space between cover and base and the cover may be readily lifted as desired by the use of a small pry—a thin coin, for instance—inserted in the space between cover and base.

While not limited thereto in any way, our improved writing equipment has been especially designed for use with a writing assembly comprising a pen nib and a fountain feed-bar in permanent association and known to the trade and in the art as a "Renew-Point" unit; such structure being illustrated in Figs. 9, 10 and 11. In this construction the pen nib is indicated at 30, and the fountain feed-bar at 31, and these parts are mounted in permanently adjusted position and secured together in a sleeve 32 which is threaded at 32a for connection with a threaded socket at the end of a pen staff or penholder. The parts are arranged in predetermined and carefully adjusted relation and are permanently connected together to maintain this relation and adjustment.

The pen nib is slit in the usual manner, as indicated at 30a; such slit preferably tapering from the writing point end to the pierce hole, and the fountain feed-bar is provided with a comb 31a presenting capillary storage spaces 31b for the reception and storage of ink passing thereto from the ink-filled spaces of the mono-filaments. There is also a capillary channel 31c on the upper side of the fountain feed-bar for the passage of air and ink. In practice, there is a narrow space or channel of capillary dimensions between the underside of the pen nib and the upper surface of the feed-bar. This space is too small to be illustrated in the cross-sectional view, Fig. 11, but its position is indicated, and it is particularly illustrated in the enlarged diagrammatic view, Fig. 12, at *x*. When the end of the writing assembly enters an ink-filled space or interstice of the mono-filaments, this capillary channel *x* provides for the transfer of ink to the capillary storage spaces 31b of the fountain feed-bar. It is possible, also, that some ink will enter via the slit 30a of the pencil nib. When the writing assembly is inserted in the dipping opening and the end of the pen staff or penholder P is seated in engagement with the ribbed wall thereof, the forward ends of the pen nib and the fountain feed-bar reach to and enter an ink-filled space or interstice of the group of mono-filaments, as clearly shown in Figs. 2, 5, 6 and 7.

In the commercial development of the "Renew Point" units the pen nibs accompanying the same are of different lengths, a factor connected with the particular type of pen and the use to which it is to be put, and three nibs of differing length are illustrated in Figs. 5, 6 and 7. In these diagrammatic views, the lines "X" indicate the initial level of ink in the receptacle provided by the base, and the lines *"a," "b"* and *"c"* indicate the extreme lengths of the respective pen nibs dipping

into the ink-filled spaces or interstices in the upper zone of the respective masses of mono-filaments. It will be noted, in each instance, that there is material entrance of the pen nib and fountain feed-bar between individual mono-filaments and into association with the interconnecting ink-filled spaces or interstices presented thereby for the passage of ink under capillary action to the storage spaces of the writing assembly.

It will be understood, of course, that any other type of writing assembly, including a pen nib and a fountain feed-bar, may be employed with our improved writing equipment; the only essential condition being that the fountain feed-bar shall have capillary storage spaces receiving ink by capillary action from ink-filled spaces or interstices of the mono-filaments. As hereinbefore set forth, we may employ the form of writing assembly set forth in the application of Henry C. Klagges, one of the present applicants, filed May 17, 1947, Serial No. 748,675, now Patent Number 2,601,846.

It will be understood that the mono-filaments in their loosely confined position in the chamber 20^b of the carrier will present various forms of interstices or void spaces; a condition due to their arrangement and to any irregular or wavy configuration that may be present. We have shown in Fig. 12 a greatly enlarged diagrammatic view of a group of the mono-filaments in their position relatively to the inserted portions of the pen nib and the fountain feed-bar. The optimum relation would be to have one of the mono-filaments, that indicated at 21^z, for instance, lie at the end of the fountain feed-bar adjacent to the underside of the pen nib, with other mono-filaments presenting ink-filled spaces or interstices in relative position with respect thereto so that ink will rise from these ink-filled spaces and, passing via the narrow capillary channel x between the pen nib and the end of the fountain feed-bar, fill the capillary storage spaces of the latter.

In our improved writing equipment, the capillary material—the group of mono-filaments—providing the ink-filled spaces or interstices and from which the fountain feed-bar and pen nib receive a supply of ink is so positioned with respect to the dipping opening in the cover that the writing assembly may receive, in any position it may occupy with respect to the dipping opening, a supply of ink by capillary action from that contained in the ink-filled spaces of the mono-filaments no matter what the position of such filaments may be with respect to the inserted portion of the writing assembly.

The unitary extruded mono-filaments are usually substantially circular in cross-section. Some of the plastic compositions when extruded, hardened and/or cured may have other cross-sectional contours or shapes, and the same filament may vary in cross-sectional shape throughout its length. Some filaments are substantially non-stretchable while others may be stretched to vary or reduce their cross-sectional dimension. When arranged in substantially parallel relation and placed in the chamber of the carrier their position, with or without a wavy configuration of some filaments, insures the presence of a large number of usable void spaces or interstices functioning under capillary action to receive, elevate and retain a supply of ink for passage to the capillary spaces of the writing assembly.

As used in this specification the term capillarity or capillary action designates the tendency of a fluid to advance and/or rise into capillary spaces or channels. If, for example, the capillary channels lead from a common reservoir containing a liquid, the capillary channels into which the liquid advances to the greatest height against the force of hydrostatic pressure may be referred to as having the "greater capillarity." With similarly shaped capillary channels having similar surface configurations or contours that capillary with the smallest effective area would produce the greatest capillary ascension and thus could be said to have the greatest capillarity. On the other hand, with two capillary channels of identical effective areas and different surface properties, the one having such surface properties as would produce the greater rise of liquid therein would be referred to as having the greater capillarity.

A further important feature of our improved writing equipment resides in the fact that as only the extreme end of the pen nib dips into the ink-filled spaces or interstices of the mono-filaments, the pen nib is maintained in a cleanly condition at all times.

It will be understood that the constructional details shown in the accompanying drawings and hereinbefore described are for illustrative purposes only and not as limitations, since modifications may be made therein without departing from the spirit of our invention; all of which is deemed to be within the scope of the appended claims.

We claim:

1. An inkwell comprising a base receptacle containing ink, a cover therefor having a depending flange and a dipping opening inclined to the perpendicular; a flexible gasket between the depending flange and base receptacle whereby the cover may be maintained in liquid tight engagement yet readily removable, a carrier detachably hung from the underside of the cover in axial alignment with the dipping opening; said carrier having a chamber in its bottom portion having a rounded and apertured wall extending to the bottom of the ink-containing portion of the base receptacle whereby ink may enter said chamber, and a group of mono-filaments loosely confined in the rounded bottom chamber of the carrier; said mono-filaments being horizontally arranged and in substantial parallel relation and presenting a plurality of initially void spaces or interstices in which ink may rise by capillary action; such structure being adapted for association with a writing assembly including a pen nib and a fountain feed-bar having capillary storage spaces which may be mounted in the dipping opening whereby the pen nib and feed-bar may dip into the ink-fiilled interstices of the group of mono-filaments.

2. An inkwell structure comprising a base receptacle having a shallow ink-containing space, a removable cover therefor having a dipping opening inclined to the perpendicular, a flange integral with the cover and arranged below the same and in concentric relation with respect to the dipping opening, a carrier detachably hung from said integral flange; said carrier extending to the bottom of the ink-containing space and having an opening in its bottom wall for the entrance of ink, a plurality of independent mono-filaments disposed in the bottom of said carrier and arranged horizontally and in substantially parallel relation; said mono-filaments presenting

a plurality of initially void spaces or interstices in which ink may rise by capillary action; such structure being adapted for association with a writing assembly including a pen nib and fountain feed-bar having capillary storage spaces for ink arranged within the dipping opening and dipping into the ink-filled interstices of the mono-filaments.

3. An inkwell comprising a base receptacle having a shallow ink-receiving space circular in contour, a detachable cover having a dipping opening with a bore inclined to the perpendicular; said cover having a depending annular flange entering the ink-receiving space of the base receptacle, a flexible gasket carried by said annular flange and providing a liquid-tight joint between the cover and the wall of the ink-receiving space, a second annular flange depending from the cover and concentrically arranged with respect to the bore of the dipping opening, a carrier shell detachably hung from said last-mentioned flange in axial alignment with the bore of the dipping opening, a group of mono-filaments horizontally disposed in said carrier shell in substantially parallel relation and presenting a plurality of interstices in which ink may rise by capillary action, and means for confining said mono-filaments in a relatively loose condition in the bottom portion of said carrier shell; said carrier shell dipping to the bottom of the ink-receiving space and having an opening in its bottom wall only for the passage of ink from the supply in the base receptacle to the group of mono-filaments.

4. An inkwell comprising a base receptacle containing ink, a removable cover therefor having a pair of depending flanges and a dipping opening inclined to the perpendicular and concentrically arranged with respect to the inner depending flange, a flexible gasket between the outer depending flange and base receptacle whereby the cover may be maintained in liquid-tight engagement therewith yet readily removable, a carrier detachably hung from the inner depending flange in axial alignment with the dipping opening; said carrier having an apertured bottom wall extending to the bottom of the ink-containing space of the base receptacle, and a group of mono-filaments horizontally arranged in substantial parallel relation loosely confined in the bottom of the carrier and presenting a plurality of initially void spaces or interstices into which ink passing through said apertured bottom wall may rise by capillary action; such structure being adapted for association with a writing assembly including a pen nib and a fountain feed-bar having capillary storage which may be mounted in the dipping opening whereby the pen nib and the feed-bar may dip into the ink-filled interstices of the group of mono-filaments.

5. An inkwell comprising a receptacle for containing a supply of ink, a cover therefor having a dipping opening constructed to receive the point of a writing assembly, carrier means depending from said cover into the ink space of the receptacle and being disposed below the dipping opening and in liquid communication with said ink space, a group of mono-filaments loosely confined in said carrier means, said mono-filaments being arranged horizontally and in substantially parallel relation and together presenting a multiplicity of inter-filament voids into which ink may flow by capillary action from said ink space, said carrier means positioning said group of

mono-filaments at a level such that a writing point received in the dipping opening may reach and dip into said group, said mono-filaments consequent to their loose confinement in said carrier means being readily displaceable with respect to one another whereby the writing point may dip freely into said group of mono-filaments.

6. An inkwell as set forth in claim 5, wherein the cover is removable from the receptacle and is provided with sealing means for sealing said cover in liquid-tight engagement with the receptacle.

7. An inkwell as set forth in claim 5, wherein the carrier means is detachably hung from the under side of the cover.

8. An inkwell as set forth in claim 5, wherein the carrier means includes an upper cylindrical portion and a rounded bottom portion in which latter the mono-filaments are disposed, said rounded bottom portion being apertured whereby ink may flow from the receptacle ink space to the inter-filament voids.

9. An inkwell as set forth in claim 5, wherein the cover is provided on its under face with an annular flange concentric with the dipping opening, and said carrier means includes an upper cylindrical portion detachably secured to said flange and a rounded bottom portion in which the mono-filaments are disposed and which is provided with an aperture opening to the receptacle ink space.

10. An inkwell as set forth in claim 5, wherein said cover is provided on its under face with concentric flanges of which the inner flange defines the dipping opening, and wherein said carrier means includes a cylindrical upper portion detachably secured to the outer cover flange and a rounded bottom portion in which the mono-filaments are disposed, in combination with an apertured retainer plate disposed intermediate the upper and lower portions of the carrier means for retaining the mono-filament in said rounded bottom portion.

11. An inkwell as set forth in claim 5, wherein the cover is provided on its under face with a depending flange concentric with the dipping opening and said carrier means includes an upper portion fitted to said flange, said flange being provided with a vent establishing atmospheric communication between the receptacle interior and said dipping opening.

12. An inkwell as set forth in claim 5, wherein the mono-filaments consist of extruded strands of "Nylon."

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