

[72] Inventor **Katsumi Otsuka**
1, Takanedai-cho 3-chome, Funabashi,
Japan
 [21] Appl. No. **747,179**
 [22] Filed **July 24, 1968**
 [45] Patented **Oct. 19, 1971**
 [32] Priority **July 25, 1967**
 [33] **Japan**
 [31] **43/59046**

FOREIGN PATENTS

433,012 4/1948 Italy 401/292
 1,519,960 2/1968 France 401/198

Primary Examiner—Leon G. Machlin
Attorney—McGlew and Toren

[54] **PEN WICK MADE OF SYNTHETIC RESIN**
4 Claims, 4 Drawing Figs.

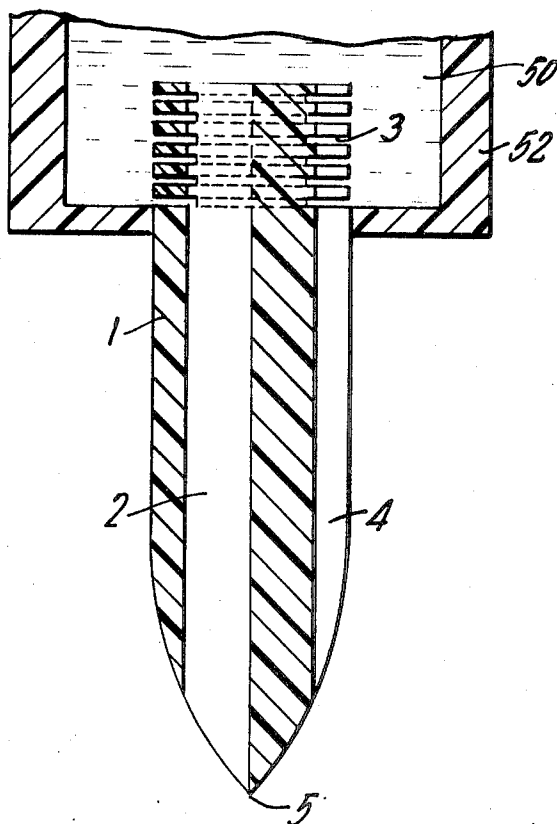
[52] U.S. Cl. **401/292,**
 15/445
 [51] Int. Cl. **B43k 8/00**
 [50] Field of Search 15/445,
 446, 447; 401/198, 199, 258, 260, 292, 265, 266

[56] References Cited

UNITED STATES PATENTS

1,379,602 5/1921 Abegg 401/258
 3,338,216 8/1967 Roller, Sr. 401/258
 3,306,267 2/1967 Matsumoto 401/292 X

ABSTRACT: A pen wick made of a synthetic resin material comprises a cylindrical body having a lower inwardly curved transition portion which terminates at the lower end in a writing point. A plurality of internal capillary size axially extending passages are defined in the body and they terminate around the point in respective radially extending slots. The upper end of the body, which is adapted to be located within a reservoir of ink, is provided with one or more circumferentially extending grooves and the exterior of the body is provided with longitudinally extending grooves which intersect at their upper ends with the circumferential grooves and extend downwardly into closely spaced relationship to the slots. Ink is distributed to the point through the internal passages to the slots and an additional supply is directed from the circumferential grooves downwardly along the longitudinal grooves to the vicinity of the slots for supplying an additional supply of ink to the point.



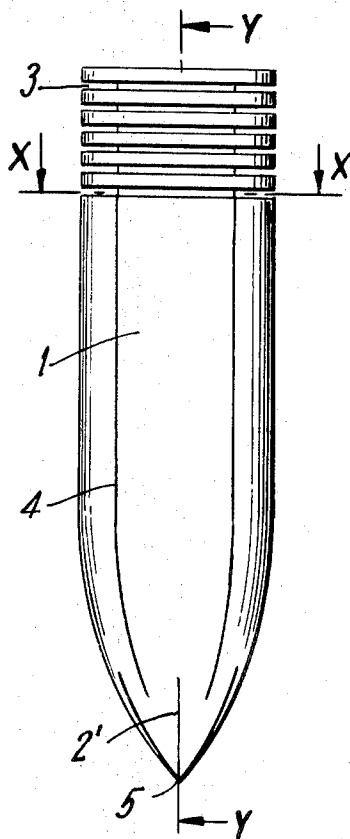


FIG. 1

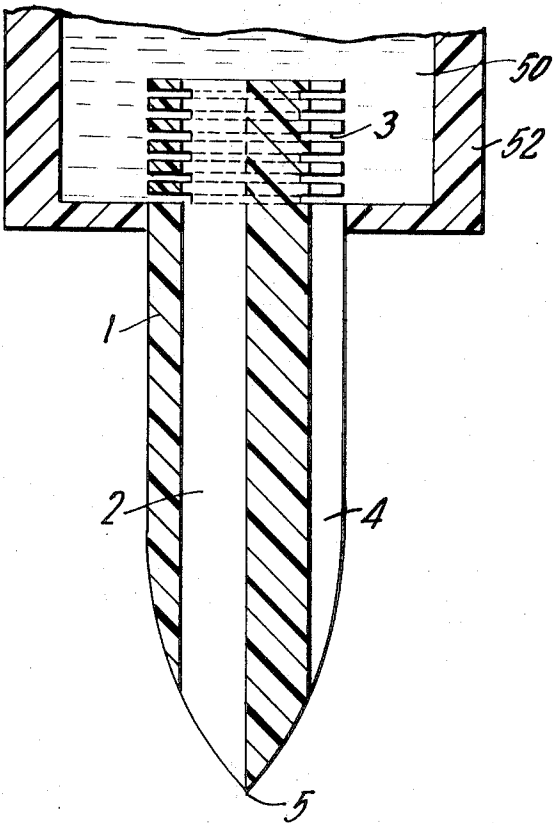


FIG. 2

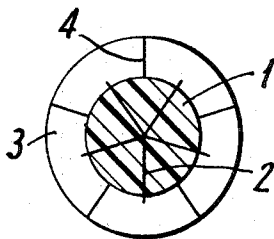


FIG. 3

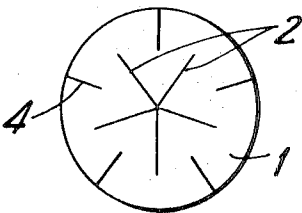


FIG. 4

INVENTOR.
KATSUMI OTSUKA
BY
McGraw & Tuttle
ATTORNEYS

PEN WICK MADE OF SYNTHETIC RESIN

SUMMARY OF THE INVENTION

This invention relates in general to the construction of pens and in particular to a new and useful wick for pens which comprises a cylindrical body having a circumferential groove at its upper end which is in communication with an ink reservoir and a plurality of internal axially extending passages which terminate in slots spaced around a writing point defined at the lower end of the body, the wick further including longitudinally extending grooves for distributing ink by capillary action from the circumferential grooves to the point.

The present invention is an improvement over the prior art particularly in respect to the means for providing an additional supply of ink to a writing point by the use of a system of circumferential and longitudinal grooves in addition to internal ink supply passages which terminate at the writing point in a plurality of slots.

The various features of novelty which characterize the invention are pointed out with particularly in the claims annexed to and forming a part of this specification. For a better understanding of the invention, its operating advantages and specific objects attained by its use, reference should be had to the accompanying drawing and descriptive matter in which there is illustrated and described a preferred embodiment of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front elevational view of a pen wick constructed in accordance with the invention;

FIG. 2 is a section taken along the line Y—Y of FIG. 1;

FIG. 3 is a section taken along the line X—X of FIG. 1; and

FIG. 4 is a top plan view of the wick shown in FIG. 1.

GENERAL DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to the drawings and in particular the invention embodied therein comprises a pen wick made of a synthetic resin material and comprising a substantially cylindrical body having a lower curved transition portion which terminates in a lowermost point forming a writing point 5.

In accordance with the invention, the pen wick includes a plurality of internal axial passages 2 which are of capillary size and a very slight depth and which extend downwardly from the top to the lowermost end and terminate in respective radially extending slots 2' which are distributed around the point 5. The upper end of the cylindrical body 1 is provided with at least one circumferential groove, and in the embodiment indicated a plurality of axially spaced circumferentially extending grooves 3 are provided which are located in an area adjacent the upper end of the body 1. The grooves 3 are adapted to be placed in communication with an ink supply or reservoir. Instead of the multiple number of grooves 3 which are in-

dedicated, a single continuous spiral groove may be provided. In order to provide for an additional supply of ink down to the vicinity of point 5, a plurality of circumferentially spaced longitudinally extending grooves 4 are defined in the exterior surface of the wick body 1 and they communicate at their upper ends with the grooves 3 and end at their lower ends adjacent respective slots 2'. The longitudinal grooves 4 have substantially the same depth as the grooves 3.

With a body 1 constructed as described ink from the ink reservoir or filler is communicated with the circumferential grooves 3 and also flows downwardly through the passages 2. A supplemental supply of the ink flows from the grooves 3 along the longitudinal grooves 4 which terminate at their lower ends in closely spaced relationship to the slots 2' through which the ink issues from the passage 2. The longitudinal grooves provide a supplemental supply of ink to the vicinity of the writing point 5 and also have a further advantage inasmuch as they provide a flexibility for the pen wick body 1 and aid in facilitating a smooth writing therewith. The pen wick according to the invention is inserted into an ink reservoir 50 of a pen casing 52 so that the rear portion having the circumferential grooves or spiral grooves 3 are located within the reservoir.

What I claim:

1. A pen wick made of a synthetic resin material for use with an ink supply cartridge or ink reservoir, comprising a substantially cylindrical body having an upper end adapted to be in communication with an ink reservoir and terminating in a lower end with a writing point, at least one axially extending internal capillary ink supply passage defined through said body from the upper end thereof to the lower end adjacent said writing point, said passage terminating in a slot extending outwardly from said point, at least one circumferential ink supply groove defined around the periphery of the exterior of said body adjacent the upper end thereof at a location which is adapted to be in communication with the ink reservoir, and a plurality of longitudinal grooves defined in the periphery of said body communicating at their upper end with said circumferential grooves and extending downwardly into the curved paper contacting part of said writing point.

2. A pen wick, according to claim 1, including a plurality of internal passages of capillary size oriented radially around the axis of said body and extending longitudinally through said body to said point, the lower ends of said passages terminating in slots which extend radially upwardly from said writing point.

3. A pen wick, according to claim 2, wherein there are a plurality of longitudinally extending grooves defined in the periphery of said body communicating at their upper ends with said circumferential grooves and having their lower ends closely spaced in relation to said slots.

4. A pen wick, according to claim 3, wherein there are a plurality of circumferential grooves located adjacent the upper ends of said body.