



# Freedom to Operate

We provide you with qualitative information

## Report

Patent examiner: Åsa Fohlin

Our ref: 178116

Date of search:

Your ref: Case Study

Your guide through the patents of the world.

**PRV** InterPat

SWEDISH PATENT AND REGISTRATION OFFICE

P.O. Box 5055, SE-102 42 Stockholm, Sweden

Phone +46 8 782 28 85, Fax +46 8 783 01 63

E-mail: [interpat@prv.se](mailto:interpat@prv.se), [www.prv.se/ip](http://www.prv.se/ip)

---

## **Freedom to Operate (FTO) - We provide you with qualitative information**

A freedom to operate search provides a good indication of the risk of infringement of existing patents. The search report is the result of your request and the search itself is performed by one or several patent examiners. An FTO search carried out by PRV InterPat primarily focuses on patents in Europe and the United States.

Please note that we do not state an opinion regarding the risk of infringement.

The report contains categorized citations and comments over the parts that the patent examiner finds relevant, to state the opinion about the risk of infringement.

An important part of the evaluation process of a patent is to be able to secure the legal status and the geographical area. As a support in this work you can order an Excel-file for your FTO-result. In the Excel-file we have linked up the patent numbers to the Espacenet database where from the information could be retrieved.

### **Patent Family Search – additional service**

There is also a possibility to use our information specialists to make the Patent family search for you. You will get a report showing a clear overview of the status and geographical coverage over the patent in question and where obvious information is missing the legal status will, if possible, be confirmed.

To perform this search as cost effective as possible you choose the patents that are of particular interest to you and then order a Patent family search on these. If you wish to complement a FTO search with a Patent family search reduced rates are available.

---

## Scope of the search

In agreement with the customer, the search has focused on the following:

The search has been directed towards finding a ball-point pen with the following technical characteristics:

- 1) The pen contains valves that automatically close when the writing point of the pen points upwards, so that no more ink is fed to the ball point.
- 2) The pen has a lamp arranged on it, in order to enable writing in the dark.

Only patents which are potentially valid in the USA are of interest to the customer. Therefore, in agreement with the customer, the search has been limited to US patent documents published 1990 or later. No non-patent literature has been included in the search.

---

## Search history

### IPC classes:

- \* B43K7/00 - ball-point pens
- \* B43K5/00 - pens with ink reservoirs in holders
  - B43K5/18V1 - arrangements for feeding the ink to the nibs by use of valves
  - B43K5/18V1B3 - automatically closing when the writing point points upwards
- \* B43K29/10 - combinations of writing implements with illuminating devices

### USPC classes:

- \* 362/118 - ILLUMINATION; Pen or pencil

Search words (truncations are not included, for the sake of clarity):

- \* ball-point pen
- \* ink reservoir
- \* feeding means, valves
- \* close, automatically, point up
- \* light, lighting, lamp, illumination, illuminating

The search was primarily conducted looking through all documents published 1990 or later in B43K5/18V1; B43K5/18V1B3; B43K7/00 combined with B43K29/10 or 362/118; and combinations of classes and relevant search words.

Citing/Cited documents for all relevant documents were retrieved and evaluated.

---

## Summary of the result

**The patent examiner's comments:**

Most of the US patents classified as either "B43K5/18V1B3 - automatically closing when the writing point points upwards" or "B43K29/10 - combinations of writing implements with illuminating devices", which are published 1990 or later, were found to be of interest and are therefore included in the report.

The search revealed a number of documents which could be of particular interest to study and analyze further. These documents are labeled "1". These documents disclose ball point pens including one of the technical characteristics 1) or 2) listed under "Scope of the search".

As agreed with the customer, other documents which are possibly relevant are also included for further analysis. These documents, which are labeled "2" in the list below, mainly relate to writing instruments other than ball-point pens, which disclose one of the previously mentioned technical characteristics 1) or 2).

The documents listed are potentially valid in the USA, but the current legal status has not been investigated. Therefore, potentially relevant applications are also included in the result together with documents of granted patent. If you wish to know the legal status of some, or all, of the documents in the list you are welcome to contact PRV InterPat for a price estimate.

If there are any questions regarding the result, please do not hesitate to contact the examiner.



---

## The following databases have been used:

EPODOC

World Patent Index

Full-text English

---

---

## Result

The following documents are considered to be relevant. They are categorized according to the codes:

1= Documents of particular interest

2= Documents of possible relevance

---

---

## Patent Literature - overview

---

Aspect	Patent number	Applicant	Class	Relevance
Valves that close	<a href="#">US5868512</a>	KOTOBUKI&CO LT	B43K	1
Valves that close	<a href="#">US5678942</a>	MITSUBISHI PEN	B43K	1
Valves that close	<a href="#">US6283662</a>	SAKURA COLOR P	B05C	1
Valves that close	<a href="#">US5348411</a>	SAKURA KUREPAS	B43K	1
Valves that close	<a href="#">US7140799</a>	MITSUBISHI PEN	B43K	1
Valves that close	<a href="#">US5929135</a>	MITSUBISHI PEN	B43K	1
Valves that close	<a href="#">US5899618</a>	MITSUBISHI PEN	B43K	1
Valves that close	<a href="#">US5709493</a>	MITSUBISHI PEN	B43K	1
Valves that close	<a href="#">US5655847</a>	MITSUBISHI PEN	B43K	1
Valves that close	<a href="#">US5387046</a>	DANNO A MIKA	B43K	2
Valves that close	<a href="#">US5067838</a>	MITSUBISHI PEN	A45D	2
Pen with light	<a href="#">US7241022</a>	INT WRITING IN	B43K	1
Pen with light	<a href="#">US7101103</a>	DIETZ D L	B43K	1
Pen with light	<a href="#">US6773191</a>	KILLION T	B43K	1
Pen with light	<a href="#">US6585388</a>	KIM J	B43K	1
Pen with light	<a href="#">US6129473</a>	HSU M SHU M	B43K	1
Pen with light	<a href="#">US6106132</a>	TAIWAN STAMP E	B43K	1

<b>Aspect</b>	<b>Patent number</b>	<b>Applicant</b>	<b>Class</b>	<b>Relevance</b>
Pen with light	<a href="#">US6158871</a>	GEDDES CO INC	B43K	1
Pen with light	<a href="#">US5845985</a>	XIONG K XION	B43K	1
Pen with light	<a href="#">US5720541</a>	BAYLES G	B43K	1
Pen with light	<a href="#">US5143465</a>	HOU H	B43K	1
Pen with light	<a href="#">US7419275</a>	HUANG M	B43K	2
Pen with light	<a href="#">US7220012</a>	LIU Y	B43K	2
Pen with light	<a href="#">US7093950</a>	KUI W	B43K	2
Pen with light	<a href="#">US7150555</a>	FANG D FANG	B43K	2
Pen with light	<a href="#">US7086797</a>	HUANG M	B43K	2
Pen with light	<a href="#">US6926421</a>	HUANG M	B43K	2
Pen with light	<a href="#">US6837639</a>	HUI V	B43K	2
Pen with light	<a href="#">US6830403</a>	TSAI H C	B43K	2
Pen with light	<a href="#">US7044672</a>	YU S	B43K	2
Pen with light	<a href="#">US6719473</a>	LIN T LIU D	B43K	2
Pen with light	<a href="#">US6623136</a>	KUO C	B43K	2
Pen with light	<a href="#">US6682202</a>	CHEERINE DEV H	B43K	2
Pen with light	<a href="#">US6682212</a>	GAO S GAU S	B43K	2
Pen with light	<a href="#">US6623135</a>	MOSS J L	B43K	2
Pen with light	<a href="#">US6428179</a>	SAFFRON D M	B43K	2
Pen with light	<a href="#">US6164856</a>	EXCEL SCIENTEC	B43K	2
Pen with light	<a href="#">US6099185</a>	EXCELLENCE OPT	B43K	2
Pen with light	<a href="#">US6000809</a>	BELO M	B43K	2
Pen with light	<a href="#">US5735592</a>	SHU C	B43K	2
Pen with light	<a href="#">US5673996</a>	DUCKER D W	B43K	2
Pen with light	<a href="#">US5803583</a>	HSIEH C	B43K	2
Pen with light	<a href="#">US5730539</a>	PRESS-A-LITE C	B43K	2
Pen with light	<a href="#">US5570967</a>	CHEN C CHEN	B43K	2
Pen with light	<a href="#">US5523928</a>	KIM D H	B43K	2
Pen with light	<a href="#">US5483429</a>	CHU A G	B43K	2
Pen with light	<a href="#">US5405208</a>	HSIEH C L	B43K	2
Pen with light	<a href="#">US5413429</a>	SHIAU S	B43K	2
Pen with light	<a href="#">US5388038</a>	YANG S A	B43K	2
Pen with light	<a href="#">US5446633</a>	HANGGI R	B43K	2
Pen with light	<a href="#">US5275497</a>	SHIAU S	B43K	2
Pen with light	<a href="#">US5131775</a>	CHEN C	B43K	2
Pen with light	<a href="#">US4964024</a>	TSAY H H	B43K	2

---

---

## Patent Literature - details

---

1

Aspect	Relevance	Patent number	Class
Valves that close	1	<a href="#">US5868512</a>	B43K5/18; B43K7/02; B43K7/08 (+1)

### Applicant

KOTOBUKI&CO LTD

### Title [retrieved from database]

Ballpoint pen with back flow prevention method - has toroidal protrusion provided in sealing to position ball valve deviate from central axial line to form clearance

### Comments

See claim 1 acc. A1 publ.: "A writing instrument comprising: a writing ink reservoir containing writing ink therein; a writing ink-passageway communicating with said ink reservoir; a writing tip communicating with said ink-passageway; and check valve means for preventing back-flow of writing ink, said check valve means comprising: a valve room provided at a portion of said writing ink-passageway, said valve room having a first area adjacent said writing tip and a second area adjacent said writing ink reservoir; a valve ball movably received within said valve room; and an inclined annular projection provided at said first area of said valve room, said inclined annular projection projecting inward towards an axial line of said writing ink-passageway proximate to said first area of said valve room and inclined at an angle other than 90 degrees relative to said axial line of said writing ink-passageway, wherein when said valve ball is located at said first area of said valve room, said valve ball contacts said inclined annular projection and deviates from a center of the axial line of said writing ink-passage to form a clearance between the valve ball and a portion of the inclined annular projection, thereby allowing writing ink to smoothly flow from said writing ink reservoir to said writing tip."

---

---

2

Aspect	Relevance	Patent number	Class
Valves that close	1	<a href="#">US5678942</a>	B43K1/08; B43K5/18; B43K7/02 (+2)

### Applicant

MITSUBISHI PENCIL CO LTD

### Title [retrieved from database]

Ball point pen - has ball valve to seal reservoir, when pen is place point upwards

## Comments

See claim 1 acc. A1 publ.: "A ball-point pen comprising: a coupling having a distal end and a proximal end; a tip coupled to said distal end of said coupling; a reservoir tube coupled to said proximal end of said coupling; a tip holder integrally formed on said distal end of said coupling, said tip holder having a tip fitting hole in which said tip is mounted; a bushing having a guide hole therethrough; and a ball valve; wherein: a valve chamber is formed in a rear portion of said coupling; said bushing is fixed within said coupling to form a ball seat on a rear portion of said valve chamber; a plurality of projecting ridges with grooves therebetween are formed on a circumferential wall of a front portion of said valve chamber; and said ball valve is loosely fitted in said valve chamber so that when said ball-point pen is positioned with said tip directed upward, said ball valve is brought into tight contact with said ball seat to hermetically close said guide hole, and when said ball-point pen is positioned with said tip directed downward, said guide hole is opened, said ball valve is brought into contact with rear ends of said projecting ridges, and ink flows into said tip through said guide hole, said valve chamber, and said grooves formed between said ribs."

---

---

3

Aspect	Relevance	Patent number	Class
Valves that close	1	<a href="#">US6283662</a>	B05C17/00; B43K1/08; B43K5/18 (+4)

## Applicant

SAKURA COLOR PROD CORP SAKURA KUREPASU KK

## Title [retrieved from database]

Ink applicator having ink back-flow prevention mechanism

## Comments

See claim 1 acc. B1 publ.: "An applicator comprising a penpoint tip having a distal end in which a writing ball is secured and having an ink-feeding bore extending through and axially of the penpoint tip and a proximal end, an ink reservoir for holding therein an amount of an ink, a connector for connecting the penpoint tip to the reservoir, a communicating bore formed through the connector so as to communicate with both the ink reservoir and the penpoint tip, and a valve seat formed in the communicating bore such that a valve body moving axially of the penpoint tip is allowed to rest on and engage with the valve seat, wherein the penpoint tip has an increased-inner-diameter region that is formed in and adjacent to an opening of the ink-feeding bore and located in the connector so that the valve body is capable of transferring partially or wholly into the ink-feeding bore, there being a single piece that defines the increased-inner-diameter region and at least a majority of an axial dimension of the ink-feeding bore in the penpoint tip, and the ink-feeding bore has an engagement portion defined by the single piece adjacent the proximal end of the penpoint tip that is capable of engaging with and stopping the valve body in such a manner that an interstice for passage of the ink is provided between the engagement portion and the valve body, whereby with the penpoint tip facing upwards, the valve body is allowed to tightly rest on the valve seat so as to prevent the ink from flowing backward, whilst the valve body is capable of moving at least partially into the ink-feeding bore and engaging with the engagement portion so as to allow the ink to flow through the interstice towards the writing ball if the penpoint tip is held in position facing downwards."

---

---



4

---

Aspect	Relevance	Patent number	Class
Valves that close	1	<a href="#">US5348411</a>	B43K15/00; B43K5/18; B43K7/02 (+1)

**Applicant**

SAKURA KUREPASU KK

**Title** [retrieved from database]

Writing implement valve assembly - comprises valve chamber of non-circular cross=section accommodating ball in axially movable fashion with sealing portion engaging ball to seal and ink passage at one end

**Comments**

See claim 1 acc. A1 publ.: "A writing implement comprising: valve means provided at a specified position along a liquid passage along which liquid to be applied flows, the valve means including: a valve member in the form of a ball; a chamber portion in which the ball valve member is placed, the chamber portion having a cross-section in the form of a non-circular substantially circumscribing the ball valve member; a sealing portion defined on a bottom end of the chamber portion, the seal portion being operable to come to contact with the ball valve member entirely along a circumference of the ball valve member to interrupt the flow of liquid; and a restricting portion defined on a leading end of the chamber portion, the restricting portion being operable to come to contact with a circumferential portion of the ball valve member to restrict the movement of the ball valve member toward a leading end of the writing implement."

---

5

---

Aspect	Relevance	Patent number	Class
Valves that close	1	<a href="#">US7140799</a>	B43K5/18; B43K7/02; B43K7/08 (+2)

**Applicant**

MITSUBISHI PENCIL CO LTD KOBAYASHI T

**Title** [retrieved from database]

Ball-point pen has reverse flow prevention mechanism including valve chamber arranged with valve element and control element to which valve element is allowed to abut, when writing tip is made to face downward

**Comments**

See claim 1 acc. B2 publ.: "A writing implement comprising: an ink storage part storing ink, a writing tip applying the ink, an ink guiding hole connecting said ink storage part and said writing tip, and a reverse flow prevention mechanism provided in a midway of said ink guiding hole and preventing reverse flow of the ink; said reverse flow prevention mechanism comprising: a valve chamber consisting of a part of said ink guiding hole, an inflow port opened to the ink storage part side of said valve chamber and having a smaller inner diameter than that of the valve chamber, an outflow port opened to the writing tip side of said valve chamber and having a smaller inner diameter than that of the valve chamber, a valve element stored in said valve chamber and being movable in the valve chamber by its own weight, a restricting body being stored in said valve chamber at a position on the outflow

port side of said valve element, being formed not to touch said writing tip, and being formed in a shape not to interrupt an ink flow in the valve chamber and not to close said outflow port, and being movable in said valve chamber by its own weight, and a valve seat provided around said inflow port; said inflow port being closed by said valve element falling toward the inflow port by its own weight to touch said valve seat when said writing tip is faced upward; said inflow port being opened by said valve element falling toward said outflow port by its own weight to depart from said valve seat and touching said restricting body not to reach the outflow port when said writing tip is faced downward."

---

---

6

Aspect	Relevance	Patent number	Class
Valves that close	1	<a href="#">US5929135</a>	B43K1/08; B43K23/12; B43K5/18 (+4)

#### Applicant

MITSUBISHI PENCIL CO LTD

#### Title [retrieved from database]

Water dispersed ink for ball point pens - contg. (di)ethylene glycol, propylene glycol or glycerine solvent, crosslinked acrylic acid polymer and pigment

#### Comments

See claim 1 acc. A1 publ.: "A ball-point pen for low-viscosity aqueous ink comprising: a ball-point pen refill in which an ink reservoir communicates with a tip ball via a joint; wherein: said ink reservoir is filled with an aqueous ink, said aqueous ink containing at least one of a solvent selected from the group consisting of ethyleneglycol, diethyleneglycol, propyleneglycol, and glycerin in an amount of 5 to 40 wt % of a total ink amount, a crosslinking acrylic acid polymer in an amount of 0.2 to 0.5 wt % of the total ink amount, a pigment in an amount of 5 to 10 wt % of the total ink amount, a water-soluble polymer in an amount of 1 to 2 wt % of the total ink amount, and the balance primarily consisting of water; and said tip has a spring which in a normal state urges and brings said tip ball into intimate contact with an inner edge of a ball holding portion at a front end of said tip and releases the intimate contact when writing is performed."

---

---

7

Aspect	Relevance	Patent number	Class
Valves that close	1	<a href="#">US5899618</a>	B43K1/08; B43K24/04; B43K24/06 (+8)

#### Applicant

MITSUBISHI PENCIL CO LTD

#### Title [retrieved from database]

Multiple tip writing implement - has cylindrical housing with multiple writing heads including ball point with spring loaded head

#### Comments

See claim 1 and 3 acc. A1 publ.: Claim 1: "A multiplex writing implement comprising: a barrel cylinder; and a plurality of writing elements incorporated in said barrel

cylinder, said multiplex writing implement being characterized in that, the writing tip portions of said writing elements can selectively be projected from or retracted into the barrel front, at least one of said plurality of writing elements is a ball-point pen element which comprises: a point assembly which is composed of a tip ball held in a tip holding portion at the tip end thereof and a spring which is arranged so as to constantly bring said tip ball into sealing contact with the inner brim of said tip holding portion and release the sealed state during writing; an ink reservoir which is disposed behind said point assembly and is filled up with a thixotropic water-soluble or low-viscosity oil-based ball-point ink whose viscosity decreases as the tip ball rolls during writing so as to allow smooth distribution of ink; and an ink follower which consists of a translucent, nondrying greasy material and is disposed at the rear end of the ink so as to move in contact with the ink surface following the consumption of the ink, the ink reserving portion of said ink reservoir is non-flexible and has a relatively large cross-section, and a portion for jointing said point assembly with said ink reserving portion is formed so that the point assembly of the writing element can readily be deflected transversely with respect to the ink reserving portion of the writing element. " Claim 3: " A multiplex writing implement according to claim 1, wherein said ball-point pen element comprises: a valve chamber which is disposed facing the rear end of said point assembly and has a ball valve held therein with play; a ball seat which is formed in the rear of valve chamber and which the ball valve comes in sealing contact with to prevent back leaking of ink; and a conduit which extends from said ball seat to said ink reservoir."

18

Aspect	Relevance	Patent number	Class
Valves that close	1	<a href="#">US5709493</a>	B43K23/08; B43K23/12; B43K5/18 (+3)

#### Applicant

MITSUBISHI PENCIL CO LTD

#### Title [retrieved from database]

Ball-point pen equipped with back leaking preventing mechanism - has joint with valve chamber having fitting hole disposed in front and conduit disposed in rear

#### Comments

See claim 1 acc. A1 publ.: "A ballpoint pen equipped with a backflow preventing mechanism, comprising: a joint comprising: a valve chamber disposed in an approximately middle portion of said joint with respect to the axial direction thereof for holding a ball valve therein with play, said valve chamber further having a ball valve seat in a rear portion thereof; a cavity having an entrance disposed in front of said valve chamber; and a conduit disposed in said rear portion of said valve chamber and communicating therewith via said ball valve seat, said joint holding a tip in said cavity and holding an ink reservoir communicating with said conduit; and means which allows said ball valve to fit on said ball valve seat so as to block said conduit when said cavity is oriented upward and which allows said ball valve to be spaced from a wall surface of said valve chamber and be held so as not to block said entrance of said cavity when said cavity is oriented downward, said means constructed such that an axis of path holding said ball valve with play is made eccentric relative to the axis of said entrance wherein a channel is provided on one side of said valve chamber."

9

---

Aspect	Relevance	Patent number	Class
Valves that close	1	<a href="#">US5655847</a>	B43K1/08; B43K24/08; B43K5/18 (+5)

**Applicant**

mitsubishi pencil co ltd

**Title** [retrieved from database]

Ball point pen - has shaft containing ink refill having connecting piece between tip and ink holder with ball valve

**Comments**

See claim 1 acc. A1 publ.: " A ball-point pen comprising: a barrel cylinder for holding a ball-point pen refill; and a ball-point pen refill accommodated in said barrel cylinder, said refill comprising: a hollow tip with a tip ball held in a holding portion at the front end thereof, said tip further including a rear end having a rearmost press-bent portion; an ink reservoir which goes low-viscosity oily ink having excellent resistance to dryness and has an ink follower provided in the rear end of said ink reservoir; and a joint disposed between said tip and said ink reservoir and having an inside hollow, said joint comprising; a ball valve; a valve chamber loosely holding said ball valve therein and communicating with said rear end of said tip; a ball valve seat disposed on the rear side of said valve chamber; and a conduit disposed in the rear side of said ball valve seat and providing communication between said valve chamber and said ink reservoir; wherein; said valve chamber is formed to permit said ball valve to rest alternately on said press-bent portion of said tip and said ball valve seat; said valve chamber is formed and positioned such that said ball valve allows ink to flow to said tip when said ball valve rests on said press-bent portion of said tip; and said ball valve hermetically seals said valve chamber in order to prevent backward flow of ink when said ball valve rests on said ball valve seat."

---

10

---

Aspect	Relevance	Patent number	Class
Valves that close	2	<a href="#">US5387046</a>	B43K5/18; B43K8/00; B43L19/00

**Applicant**

danno a mikado mfg kk mikado seisakusho kk

**Title** [retrieved from database]

Correction fluid applicator - comprises application tip which is independent of valve body and movable axially of head cylinder

**Comments**

See claim 1 acc. A1 publ.: "An applying implement comprising: a main body having an application fluid storage; a hollow head cylinder mounted on said main body, said hollow head cylinder including a front end portion having an opening, a rear end portion having a communication hole communicating with said application fluid storage, and a tapered portion formed between said front and rear end portions so as to increase its radius as it advances rearward, said front end portion, said tapered portion, and said rear end portion of said hollow head cylinder being formed by a continuous wall of a substantially uniform thickness; a valve body means in said

hollow head cylinder, said valve body means comprising a valve body member of a soft and resilient material accommodated inside said hollow head cylinder so as to be slidable in an axial direction; an urging means in said hollow head cylinder for resiliently urging said valve body means forward so that the valve body means can be firmly pressed against the inside surface of the tapered portion by the urging force of said urging means; and an application tip in said hollow head cylinder provided in front of and independent of said valve body means so as to be shiftable in the axial direction until said application tip, protrudes out of said hollow head cylinder, said application tip being spaced from a front edge of said valve body means when said application tip is shifted to an outermost position."

[11](#)

Aspect	Relevance	Patent number	Class
Valves that close	2	<a href="#">US5067838</a>	A45D34/04; A61M35/00; B05C11/10 (+4)

**Applicant**

mitsubishi pencil co

**Title** [retrieved from database]

Pumping unit for writing instrument or a liquid applicator - has valve stem and piston sliding in seat of pump unit, displacing liq. by pushing stem

**Comments**

See claim 1 acc. A1 publ.: "A valve unit for liquid application instruments including writing pens which comprises: (a) a spring support provided with front and rear axial openings and having an annular projection to cooperatively serve as a virtual sealing means; (b) an annular valve seat member affixed to said spring support and having an annular valve seat and an adjacent cylindrical portion on its inner periphery; (c) a valve stem slidably mounted in said spring support and valve seat member with a valve body having a rearwardly facing outwardly directed skirt portion formed by a frusto-conical external surface to serve as a valve body while in contact with said annular valve seat, the free edge of said skirt being in sealing contact with said cylindrical portion; and (d) a coil spring interposed between said spring support and said valve stem urging said valve stem towards said valve seat."

[12](#)

Aspect	Relevance	Patent number	Class
Pen with light	1	<a href="#">US7241022</a>	B43K29/10; F21V33/00

**Applicant**

INT WRITING INSTR CORP LIN T

**Title** [retrieved from database]

Pen with light source for performing decorative functions, has lighting device with end pins electrically connected and disconnected by pressing on press-on turning device and switching on and off LED

**Comments**

See claim 1 acc. B2 publ.: "A pen with a light source, comprising: an upper case, in which a press-on turning device is inserted; a lower case, being at least semi-transparent, mounted on said upper case and containing a pen refill; and a lighting device, inserted inside said upper and lower cases, further comprising two end pins, two springs, a battery socket, batteries, a lamp socket, and a lamp, wherein said battery socket has an upper side with two through holes, in which said end pins, passing through said springs, are respectively inserted, with a conducting plate eccentrically attached to a lower side of a lower gear of said press-on turning device and contacting said end pins according to an angular position of said conducting plate, and wherein said lamp has two connecting feet, one connecting to one of said end pins and one connecting to one terminal of said batteries."

[13](#)

Aspect	Relevance	Patent number	Class
Pen with light	1	<a href="#">US7101103</a>	B43K23/02; B43K25/00; B43K29/00 (+1)

**Applicant**

DIETZ D L

**Title** [retrieved from database]

Illuminated writing instrument e.g. ballpoint pen has pivot pin that extends through the stand and a pivot end of the retainer to provide a pivot point for the retainer arm to rotate

**Comments**

See claim 1 acc. B1 publ.: "An illuminated writing instrument comprising: a writing element;an illuminating element;a dual clip having a pair of tubular shaped elements, each said tubular shaped element having an open side and two open ends such that each element forms a channel, each tubular shaped element also having a closed side which is an outer wall, with the closed sides of the tubular shaped elements being joined; and a magnetic retainer clip, having a retainer magnet and a retainer arm, the retainer magnet and retainer arm being positioned on the dual clip, the magnet and the retainer arm of said magnetic retainer clip are attached directly to an outer wall of one of the tubular shaped walls of said dual clip, the retainer clip further having a stand for securing a pivot end of the retainer arm to the tubular wall, a pivot pin extending through the stand and pivot end of the retainer to provide a pivot point for the retainer arm to rotate and poles positioned adjacent the retainer magnet to secure the retainer magnet to the tubular wall."

[14](#)

Aspect	Relevance	Patent number	Class
Pen with light	1	<a href="#">US6773191</a>	B43K29/10

**Applicant**

KILLION T

**Title** [retrieved from database]

Writing instrument e.g. pen, has luminescent filament in interior passageway of body

portion with end portion extending into shaped head portion, where filament emits light along its entire length within passageway

### Comments

See claim 1 acc. B2 publ.: "A lightable writing instrument comprising: a first end portion including a colorant dispenser, a middle portion including a component housing; a second end portion including a generally tubular body portion having an interior passageway therein; and a lightable filament disposed in the interior passageway and extending along a portion of the interior passageway."

15

---

Aspect	Relevance	Patent number	Class
Pen with light	1	<a href="#">US6585388</a>	B43K29/10

### Applicant

KIM J

### Title [retrieved from database]

Ball pen has LED assembly that is illuminated whenever push button is pushed or ball pen point attached at end of ink cartridge is pressed on paper

### Comments

See claim 1 acc. B2 publ.: "A ball pen including an ink cartridge, the ball pen comprising: a light emitting device in which first and second electric wires are connected to a light emitting diode (LED) (12); a battery (14) installed at the bottom of the light emitting device, one electrode of the battery being in contact with the first electric wire (16b) connected to the LED; a cone-shaped spring (15) installed near the other electrode of the battery (14), the tip of the cone-shaped spring contacting the ink cartridge (30) and the base of the cone-shaped spring contacting the second electric wire (16a) connected with the LED, a push button member (10) containing the LED (12), the battery (14) and the cone-shaped spring (15), the push button member having a positioning hole (17) formed at its bottom; a stick (21) having longitudinal hole through which the ink cartridge (30) can pass, and having a plurality of cylinder-rotation side protrusions (23) formed in the middle of the stick, the upper end of the stick being inserted into the positioning hole of the push button member; a rotational cylinder (24) encircling the lower portion of the stick (21) and having an inclined protruding stopper (25) protruding from its inner wall at the upper end of the rotational cylinder nearest the push button member (10) and a cylinder-rotation sawtooth (26) protruding from its inner wall at the lower end of the rotational cylinder; a trunk portion (20) having a cylinder shape and open ends and being divided into an upper portion and a lower portion by a partition formed in the middle of the trunk portion, the partition having a through hole (27b) at its center, the push button member (10) being inserted into the upper portion, the rotational cylinder (24) being inserted into the lower portion, the stick (21) extending through the through hole (27b) so that the push button member (10) and the rotational cylinder (24) may be assembled by means of the stick, the trunk portion (20) having a helical compressive spring which is installed between the push button member (10) and the partition, and encircles the stick (21); and a barrel (40) having the ink cartridge (30) therein, the upper end of the barrel being inserted into the lower portion of the trunk portion (20) so that the barrel may be combined with the trunk portion to rotatably fix the rotational cylinder (24) between the upper end of the barrel and the partition of the trunk portion, wherein pressing the push button member (10) or pushing a point

of the ball pen attached to the end of the ink cartridge (30) causes the ink cartridge (30) to compress the cone-shaped spring (15), causing the tip of the cone-shaped spring (15) to contact the other electrode of the battery, thereby illuminating the LED."

---

---

[16](#)

Aspect	Relevance	Patent number	Class
Pen with light	1	<a href="#">US6129473</a>	B43K29/10

#### Applicant

HSU M SHU M

#### Title [retrieved from database]

Pen for children, has illuminating modules which generate light that travels from protective seat top end to movable seat bottom end such that light from bottom end is refracted by inner wall of case

#### Comments

See claim 1 acc. A1 publ.: "A writing implement with dual illuminating ends comprising: a light transmitting case, a protective seat connected to a top end of the light transmitting case, a top illuminating module mounted within the protective seat, a light transmitting moveable seat mounted at the bottom of the protective seat, a bottom illuminating module mounted within the light transmitting moveable seat and a refill mounted within the light transmitting case and urged against the moveable seat, characterized in that an interior of the protective seat is mounted with the top illuminating module and the bottom illuminating module and the light transmitting moveable seat, structures of the top and bottom illuminating module are similar and are mounted asymmetrically, the top illuminating module is fixed at a top section of the protective seat and the bottom illuminating module is mounted within the light transmitting moveable seat, the moveable seat is movably mounted at the bottom section of the protective seat, the top and bottom illuminating modules each include a light emitting diode, a light emitting seat, batteries, a battery seat, a metallic spring, and a metallic blocking nut to form circuits in parallel wherein the light emitting diode is located within the light emitting seat, and the light emitting seat is mounted on a top of the battery seat, the batteries are located within the battery seat, and the metallic blocking nut is mounted at the bottom of the battery seat, and the metallic spring is mounted between the metallic nut and the batteries, thereby when the refill exerts a force, a reaction causes the refill to move upward to push the moveable seat such that the blocking nuts of the two illuminating modules touches the batteries to form a closed circuit, which causes the two illuminating modules to illuminate, light from the modules travels from the top end of the protective seat to the bottom end of the moveable seat, and the light from the bottom end is refracted via an inner wall of the light transmitting case to produce an illumination effect."

---

---

[17](#)

Aspect	Relevance	Patent number	Class
Pen with light	1	<a href="#">US6106132</a>	B43K29/10

#### Applicant



**Title** [retrieved from database]

Illuminating ball pen includes movable stamp seat provided at lower end of top seat that has inner space which receives cell seat

**Comments**

See claim 1 acc. A1 publ.: "An illuminating ball pen comprising a barrel (10), a joint pipe (11) threadedly engaged on an upper end of the barrel (10), an ink cartridge (12) received in the barrel (10), a protective cap (14) covering a lower end of the barrel (10) and a top seat (20) easily connected and disconnected on an upper end of the joint pipe (11); wherein the top seat (20) includes a right portion (21) and a left portion (22) detachably combined together with a transparent globe (25) secured on a top thereof, and a positioning hole (26) and an inner space (27) defined in the top seat (20); lighting assembly (30) is provided in the inner space (27) with a lighting element (31) fitted in the positioning hole and protruded into the globe (25); a cell seat (32) is received in the inner space (27) with two electric cells (33) fixed therein by two normally isolated metal clips (34, 35), wherein an extended portion (351) of a second of the metal clips (35) is elastic and movable to contact the first metal clip (34) by an upward force; and a stamp seat (40) is movably fitted in a lower end of the top seat (20)."

18

Aspect	Relevance	Patent number	Class
Pen with light	1	<a href="#">US6158871</a>	B43K29/10

**Applicant**

GEDDES CO INC RAYMOND

**Title** [retrieved from database]

Illuminating ball-point pen has reservoir tube inside holder, with upper end contacting metal stopper which in turn is fitted to bottom of battery mounting

**Comments**

See claim 1 acc. A1 publ.: "An illuminating ball-point pen comprising: an elongated tubular holder; a hollow protective member fitted on an upper end of said elongated tubular holder; a battery mounting arranged inside said protective seat; batteries fitted inside said battery mounting and electrically connected in series; a seat mounted in a top of said battery mounting; a metal stopper mounted under said battery mounting and having a bottom provided with a flange; a spring enclosing said battery mounting and said metal stopper and having an upper end bearing against said battery mounting and a lower end bearing against said flange of said metal stopper; a light-emitting means disposed on said seat and having a leg extending downwardly through said seat to contact an electrode of said batteries and another leg extending downwardly between said battery mounting and said spring; a transparent hood engageable with an upper end of said hollow protective member; and a reservoir tube fitted inside said elongated tubular holder and having an upper end bearing against a bottom of said metal stopper."

[19](#)

Aspect	Relevance	Patent number	Class
Pen with light	1	<a href="#">US5845985</a>	B43K25/02; B43K29/10

**Applicant**

XIONG K XIONG T T

**Title** [retrieved from database]

Ball point pen with light source mounted pocket clip - has mini flash light source with LED mounted in external pocket clip for emitting light towards front writing tip, when connected to battery

**Comments**

See claim 1 acc. A1 publ.: "A writing implement having an attached pocket clip with a light source comprising: a writing implement having a hollow body with a front portion, a front writing element capable of deploying or retracting in the front portion of said body and a rear portion opposite said front portion, said hollow body also having a rear body mounted external pocket clip adapted to fasten the writing implement to a clothing pocket of a user; a push button switch mounted in the rear portion of said hollow body and extending therefrom; a self-contained electrical power source mounted within the hollow body and electrically connectable to said push button switch; and a mini-light source mounted in said external pocket clip and electrically connectable to said power source in the hollow body by pushing on said push button switch, said light source being capable of emitting a light towards the front writing element when connected to said power source." See also claim 2.

---

---

[20](#)

Aspect	Relevance	Patent number	Class
Pen with light	1	<a href="#">US5720541</a>	B43K29/10

**Applicant**

BAYLES G

**Title** [retrieved from database]

Illuminated hand-held writing instrument - has housing containing writing portion and upper portion with reflector directing light through transparent window, with optical fibres transferring light to writing portion

**Comments**

See claim 1 acc. A1 publ.: "An illuminating writing instrument comprising: an upper portion having a transparent window portion disposed therein; a writing portion supporting a writing point; a housing having a grasping portion disposed between said upper portion and said writing portion; an electrical circuit disposed in said housing including a power source coupled to a switch, said switch coupled to a light source that is coupled back to said power source; and, a reflector disposed within said upper portion so that light from said light source is reflected off said reflector and through said transparent window portion to a region outside said upper portion above the grasping position toward a writing surface to illuminate the writing surface."

---

Aspect	Relevance	Patent number	Class
Pen with light	1	<a href="#">US5143465</a>	B43K29/10; F21V33/00

**Applicant**

HOU H

**Title** [retrieved from database]

Flashlight ball-point pen - with battery and light located in cap and shank and nib located in pen shaft

**Comments**

See claim 1 acc. A1 publ.: "An improved flashlight ball-point pen comprising: a cap which includes a cylindrical body; a shaft on which the cylindrical body is rotatably mounted; a battery contained within said cylindrical body; an actuating ring movable with the cap; an engaging member; a shield; an anode plate; a cathode; a shank which forms a ball-point pen reservoir and which includes a nib at one end; a conducting strip; a reflector; a light bulb; a coiled spring and a spiral spring, wherein said actuating ring has a central hole; a ledge at one side facing downwardly towards said nib end; and a recess at a periphery of said actuating ring which forms means for moving said conducting strip with respect to said cathode in response to movement of the cap; wherein said engaging member includes a boss at a central portion, and a passage extending through the boss along an axis of the boss and divided into two partitions; and a through hole extending in a direction of said axis between said boss and the cylindrical body, said engaging member and boss being fixedly connected to said shaft, wherein said shield includes an arcuate glass portion which faces downwardly toward said nib end and a protrusion portion facing upwardly toward said cap and protruding through said through hole to engage said ledge, wherein said shank includes a reflector at a top portion opposite said nib and located underneath and in contact with said shield, wherein said battery has a negative end connected to an end of said coiled spring and a positive end connected to an end of said anode plate, wherein another end of said anode plate extends through the central hole of said actuating ring and through one of said partitions of said engaging member, and is connected with one contact of said light bulb, wherein another contact of said bulb is inserted into the other of said two partitions and electrically connected with said cathode, wherein said conducting strip has an end in contact with the other end of said coiled spring, another end of said conducting strip extending downwardly toward said nib end and having a protuberance near said other end in contact with an outer surface of said engaging member and forming means for engaging and disengaging said cathode upon rotation of said cap and shaft relative to one another, and wherein said spiral spring is arranged on a circular bulged portion within said shaft and has a second end which engages a bottom end of said reflector to bias said shank against said shield and said protruding portion of said shield against said actuating ring, such that rotation of said shield and actuating ring relative to each other cause engagement and disengagement of said ledge and protruding portion and consequent extension and retraction, respectively, of said nib, wherein by rotating said cap or said shaft, said bulb is lit when said protuberance contacts said cathode and said nib is extended or retracted in response to engagement and disengagement of said ledge from said protruding portion of said shield, simultaneously or at different times depending on the relative rotational position of the cap and shaft."

[22](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US7419275</a>	B43K29/10; F21V33/00

**Applicant**

HUANG M

**Title** [retrieved from database]

Magnetic attraction illuminated pen, has magnet attracted to distal ends of conducting pole and conducting shell with magnetic attraction for conducting electric current to light up LED

**Comments**

See claim 1 acc. B2 publ.: "A magnetic attraction illuminated pen comprising a luminary (5) includes a conducting shell (55), a plurality of batteries (54) mounted inside the conducting shell (55), and a light emitting diode (LED) (50); a light guide tube (4) disposed to a proximal end (55a) of the conducting shell (55), a conducting member (6) with a conducting pole (60) disposed to a distal end (55b) of the conducting shell (55), a conical metal hood (2) is disposed to a proximal end of the light guide tube (4), a refill (3) can move to and fro inside the conical metal hood (2) and the light-guide tube (4), a cap member (1) fits over the conducting shell 55 for writing characterized in that: the LED (50) inside the conducting shell (55) emits light toward the light guide tube (4), a first lead (502) of the LED (50) connected to an anode of the battery (54), a second lead (501) connected to the conducting shell (55); a cathode of the battery (54) connected to the conducting pole (60), an insulated film (56) wraps around an outer wall of the battery (54), which is therefore out of contact with the conducting shell (55); an insulation ring (61) disposed around the conducting pole (60), which is thereby insulated from the conducting shell (55); a magnet (19) mounted inside a cap (14) of the cap member (1) attracts distal ends (601), (551) of the conducting pole (60) and the conducting shell (55) with magnetic attraction to conduct electric current to light up the LED (50)."

---

[23](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US7220012</a>	B43K29/10

**Applicant**

LIU Y

**Title** [retrieved from database]

Clip for pen e.g. ball pen, has conducting-clamp with conductors disposed separately, and illuminating device disposed on clamp, where switch is disposed on pen to control one of circuits between conductors and batteries

**Comments**

See claim 1 acc. B2 publ.: "A clip for pen can emit light comprising: a conducting-clamp (6) having a first conductor (61) and a second conductor (62) disposed separately, both top ends of the first, second conductors led into a ball pen (10) to contact with the anode and cathode of a set of batteries (3) the top end of the second conductor (62) is separated from the upper shaft of pen by an insulated cover (63), and at least an illuminating device (7) disposed on the clamp (6), at least an LED (73) with two metal leads (74), (75) extended out to contact said conductors

(61) and (62), a switch disposed on the ball pen (10) can control one of circuits between the conductors and the set of batteries.”

---

[24](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US7093950</a>	B43K29/10

**Applicant**

KUI W

**Title** [retrieved from database]

Illumination pen, has driving unit moving downwardly to drive pushing arm towards illuminator for moving tip of core from bottom opening of pen holder when rotor is rotated at counter-clockwise direction

**Comments**

See claim 1 acc. B2 publ.: “An illumination pen, comprising: a hollow pen holder having a receiving cavity, a lower light transmissible body, and a bottom opening communicating said receiving opening; a writer device, which comprises: a pen core, having a writing tip, disposed in said receiving cavity of said pen holder; an illumination device comprising a replaceable battery supported in said receiving cavity and at least an illuminator mounted in said receiving cavity; and an actuator, which comprises: a rotor rotatably provided on said pen holder; and a driving member, which comprises a conductive arm and a pushing arm, being driven by said rotor to move said pen core from a normal unemployed position to an operation position, wherein at said operation position, said rotor is rotated to drive said driving member to push said writing tip out of said pen holder at said bottom opening thereof, and at said unemployed position, said writing tip of said pen core is retracted in said receiving cavity; wherein said conductive arm functions as a switch and is arranged in such a manner that when said rotor is rotated at a clockwise direction from said unemployed position to move said driving member downwardly, said conductive arm is driven to electrically connect with said illuminator, such that said illuminator generates a light effect within said light transmissible body to an exterior thereof, so as to move said writing tip of said pen core out of said bottom opening of said pen holder; wherein when said rotor is rotated at a counter-clockwise direction from said unemployed position to move said driving member downwardly, said pushing arm is driven towards said illuminator to move said writing tip of said pen core out of said bottom opening of said pen holder.”

---

[25](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US7150555</a>	B43K29/10

**Applicant**

FANG D FANG T

**Title** [retrieved from database]

Lighting pen for projecting light onto light guider, has sign disposed on surface of

light guiding plate such that light passes through plate and sign is reflected onto preset position after illuminating section is lit

### Comments

See claim 1 acc. B2 publ.: "A lighting pen having a writing section and an illuminating section disposed at its bottom and middle respectively, and said illuminating section being controlled by a control switch to selectively turn on and off an illuminating member, characterized in that said illuminating section being coupled to a hollow tubular member of a display section, and said tubular member having a light guiding plate disposed on an inner wall of said tubular member and at least one sign disposed on the surface of said light guiding plate; thereby after said illuminating member is lit, a light passes through said light guiding plate and reflects said light onto a predetermined position of said sign, wherein said tubular member comprises an end seal plate located on a first end thereof adjacent said illuminating section, and a seal cover located on a second end thereof, wherein said seal cover seals said opening of said tubular member with an end cover, and said end cover has a cap thread for accommodating a decorative plate, and a top seal plate is coupled to said cap thread."

**26**

---

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US7086797</a>	B43K29/00

### Applicant

HUANG M

### Title [retrieved from database]

Light-emitting pen has cam swing rod pivotally fixed within top of sleeve and cover fixed on sleeve

### Comments

See claim 1 acc. B1 publ.: "A light-emitting pen with pullable cover comprising an upper portion and a lower portion; the upper portion being a control portion and the lower portion being a pen tube; the pen tube being formed by a transparent outer tube; a refill within the transparent outer tube; and a spring being at a lower end of the refill so that the refill is retained in a reduced state in the pen tube; the control portion including the sleeve, the transparent outer tube connected to the sleeve; a cover on the sleeve; a light-emitting unit in the sleeve and a lower end thereof pressing the refill; a conductive terminal in the sleeve and on the light-emitting unit; wherein a cam swing rod is pivotally installed within a top of the sleeve; one side of the cam swing rod is a cam and another side thereof is a hook plate; an inner wall of the cover is installed with an upper block and a lower end thereof is a lower block; the upper and lower blocks are on the upper and lower sides of the hook plate; a bottom end of the conductive terminal is installed with a conductive reed; the conductive reed resists against a top of the light-emitting unit and is in contact with a battery electrode at a top thereof; by the expansion of the conductive reed, the conductive terminal has a gap from a top of the light-emitting unit; and a casing top of the light-emitting unit receives a light-emitting body and has a long conductive pin extended from the light-emitting body; the long conductive pin is not in contact with the battery electrode; a short conductive pin of the light-emitting body is directly in contact to another battery electrode."

[27](#)

---

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US6926421</a>	B43K29/10

**Applicant**

HUANG M

**Title** [retrieved from database]

Light emitting pen, has switch button descending to contact light emitting device to light up pen, when clip rotates upwards, and light emitting body that does not light up, when clip pivotally rotates

**Comments**

See claim 1 acc. B2 publ.: "A light emitting pen actuated by pivotally rotating a clip comprising an upper pen tube and a lower pen tube, the upper pen tube including a pen tube, a switch button in the pen tube, a light emitting device in the pen tube and below the switch button; and the lower pen tube including cylinder, a refill in the cylinder, a conduit resisting against a bottom of the light emitting device for receiving the refill; and a resilient spring enclosing the refill; wherein a base is at an upper end of the upper pen tube; the base has a slot; an end portion of the clip is buckled into the slot; the end portion of the clip is an eccentric block; the eccentric block is pivotally installed in the slot by using a stud; a top stud of the switch button protrudes from a central round hole of the base; a top of the top stud resists against the eccentric block of the clip; when the clip pivotally rotates upwards, the eccentric block presses the top stud so that the switch button descends to contact the light emitting device to cause a light emitting body in the light emitting device lights up; then, the light emitting device moves downwards to cause the refill to move downwards; then a pen tip of the refill protrudes out of the pen tube; when the clip pivotally rotates, the light emitting body does not light up and the tip embeds into the pen tube."

---

[28](#)

---

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US6837639</a>	B43K29/00; B43K5/12; B43K5/16 (+1)

**Applicant**

HUI V

**Title** [retrieved from database]

Illuminable writing instrument e.g. pen, has switch control that activate illuminating unit for providing lighting effect throughout elongated body while actuating writing unit via actuator

**Comments**

See claim 1 acc.B2 publ.: "An illuminable writing instrument, comprising: a hollow elongated body having a first end, an opposed second end, and a receiving cavity, wherein said elongated body is adapted for a light passing from said receiving cavity to outside; a writing unit, having a writing tip, disposed in said receiving cavity of said elongated body; an actuator mounted at said second end of said elongated body to move said writing unit from a normal unemployed position that said writing tip of said writing unit is received within said receiving cavity to an

operation position that said writing tip of said writing unit is pushed out of said elongated body at said first end thereof; and an illumination arrangement comprising an illuminating unit supported within said receiving cavity of said elongated body and a switch control which is electrically connected to said illuminating unit and is arranged to activate said illuminating unit for providing a lighting effect throughout said elongated body while actuating said writing unit via said actuator, wherein said illuminating unit comprises a power source received in said receiving cavity of said elongated body at said second end thereof, an IC board supported within said receiving cavity of said elongated body to electrically connect to said power sources, and at least an illuminator electrically mounted on said IC board in such a manner that when said illuminating unit is activated via said switch control, said illuminator is arranged for producing said lighting effect throughout said elongated body, wherein said IC board, having a predetermined length, is positioned within said receiving cavity of said elongated body between said first and second ends thereof for diffusing said lighting effect throughout said elongated body."

[29](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US6830403</a>	B43K29/00; B43K29/10; F21V33/00

**Applicant**

TSAI H C

**Title** [retrieved from database]

Light-emitting pen for writing in dark, includes light reflecting chamber having cylindrical light reflecting tube covering cylindrical barrel and threaded tube sections of front pen tube

**Comments**

See claim 1 acc. B2 publ.: "A writing implement having a built-in illumination system and a light reflecting chamber comprising: a front pen tube having three sections, cone of front pen tube, cylindrical barrel, and threaded tube, said front pen tube having a hollow space and housing an ink cartridge; an ink cartridge accommodated in the front pen tube; a cylindrical light reflecting tube covering the cylindrical barrel section and the threaded tube section of the front pen tube, said reflecting tube functioning as the major part of a light reflecting chamber; a annular light reflecting plate located behind a light-emitting body or surrounding a light-emitting body; a middle ring positioned between the front pen tube and rear pen tube, said middle ring combining front pen tube and rear pen tube by a thread and groove conjugation; a rear pen tube housing a power system consisting of a light-emitting body, a power chamber, and part of the switching on system, said power chamber comprising of a threaded tube, a LED conducting wire channel and a battery room; a switching on system including a switching cap, a push tube, a joint, and a conducting spring; a separable pen cap covering and protecting the ink cartridge tip and having a clip, said pen cap having a small hole allowing light inside to be seen and functioning as a light indicator when the writing implement being capped and lighted."

[30](#)

Aspect	Relevance	Patent number	Class
--------	-----------	---------------	-------



Pen with 2  
light

[US7044672](#)

B43K29/00; B43K29/10

**Applicant**

YU S

**Title** [retrieved from database]

Self-illuminating writing implement e.g. input pen has multiple light sources which are mounted to demultiplexing switch for electrical communication with battery arranged within housing

**Comments**

See claim 1 acc. B2 publ.: "A self-illuminating writing implement comprising: a housing having an illuminating portion and a marking portion, the marking portion having a wall defining a bore and a translucent portion adjacent to a marking end; a marker mounted within said housing adjacent said marking end; a battery mounted within said housing; a plurality of light sources of differing colors secured to the illuminating portion of said housing and extending within the marking portion, each of said plurality of light sources operative to emit light through the marking portion when placed in electrical communication with said battery; and a demultiplexing switch in electrical communication with said battery, said demultiplexing switch rotating to selectably place a single one of said plurality of light sources in electrical communication with said battery such that light from said single one light source of said plurality of light sources is projected only out of said translucent portion adjacent to said marking end."

[31](#)

<b>Aspect</b>	<b>Relevance</b>	<b>Patent number</b>	<b>Class</b>
Pen with light	2	<a href="#">US6719473</a>	B43K29/00

**Applicant**

LIN T LIU D

**Title** [retrieved from database]

Light emitting pen, has LEDs in ends of battery seat with its short leg contacted to electrode and long leg adhered to seat wall where anyone of legs and metal bending piece is made to contact with metal piece in upper pen tube

**Comments**

See claim 1 acc. B1 publ.: "A light emitting pen emitting light bi-directionally comprising: an upper pen tube having an inner wall, an upper end of the inner wall having a guide; a lower pen tube mounted to a lower end of the upper pen tube; a battery seat in the upper pen tube; an upper end of the battery seat being installed with a guiding forward unit; a press button in the upper pen tube; a lower end of the press button having a guiding out unit; the battery seat being engaged with the press button and being in the guide; a filler in the lower pen tube; and an expandable spring in the lower pen tube; characterized in that: a battery set is installed in the battery seat; a positive electrode and a negative electrode are in contact with metal bending pieces at an upper and a lower end of the battery seat; and the two metal bending pieces protrude out of the battery seat and then are bent as an L shape; each of an upper and a lower ends of the battery seat is embedded with an upper light emitting unit and a lower light emitting unit, respectively; a short leg of each light emitting unit is in contact with one electrode of the

battery set, and a long leg of each light emitting unit protrudes out of the battery seat and then is bent as a L shape so as to adhere to a wall of the battery seat; the long leg is aligned with, but not in contact with the two metal bending pieces; an inner wall of the upper pen tube has an axial groove; thereby, a metal piece can be guided into the upper pen tube and then is fixed therein; when the battery seat rotates step by step so that when one of the short legs, long legs and the metal bending pieces is in contact with the metal piece of the upper pen tube, one of the upper pen tube or lower pen tube will light up; and a pen head at a lower end of the filler protrudes out or merges into the lower pen tube."

[32](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US6623136</a>	B43K29/10

**Applicant**

KUO C

**Title** [retrieved from database]

Pen for use with e.g. personal digital assistant (PDA), language translator, has light emitter mounted on upper pen holder section, and having conductor pin in contact with another conductor pin pressing against positive electrode of cell

**Comments**

See claim 1 acc. B1 publ.: "A pen with a scanner pen head and a twist switch, comprised of a writing pen, an upper penholder section, a twist switch and a light emission device; wherein, the writing pen containing a retractable refill for writing purpose and a polygonal hole being provided in its upper end; the upper penholder section accommodating the twist switch and the light emission device; the twist switch comprised of a chamber provided in the upper end of the upper penholder section to accommodate a plurality of cells, a trough being provided in the side wall of the chamber to contain an L-shape conductor extending to the upper end of the upper penholder section and where below the chamber; a proper spacing being provided between the bottom of the conductor and the bottom of the cells; a plunger inserted into the upper penholder section having on its side wall to protrude a channel containing three gradations extending at a certain slot; a polygonal pillar being adapted to the lower end of the plunger to control the L-shape conductor to rise or to descend to contact or disengage from the cells; and the light emission device having two conductor pins provided at its lower end; characterized by that the upper penholder section being inserted into the upper end of the writing pen; the polygonal pillar at the lower end of the plunger in the upper penholder being inserted into the polygonal hole in the upper end of where the upper penholder section being inserted into the writing pen; the plunger being driven by twisting the writing pen; the light emission device being mounted in the upper end of the upper penholder section for one pin at the bottom of the light emission device to contact the conductor with another pin pressing against the positive electrode of the cell."

[33](#)

Aspect	Relevance	Patent number	Class
Pen with	2	<a href="#">US6682202</a>	B43K29/10; F21V23/04

light

**Applicant**

CHEERINE DEV HONG KONG LTD WONG W K

**Title** [retrieved from database]

Novelty device, e.g. pen for miscellaneous purposes, has flashing circuit to provide lighting signals to lighting components, and spring switch to activate flashing circuit and spring switch

**Comments**

See claim 1 acc. B2 publ.: "A novelty device comprising:a power source; lighting elements; a flashing circuit to selectively provide lighting signals to the lighting elements; and a spring switch to activate the flashing circuit in response to motion of the novelty device, the spring switch including a spring having a fixed end and a free end, a metal cap positioned proximate the free end of the spring for electrical engagement by the free end of the spring; a spring casing having a first end and a second end and defining a void containing the spring, a plastic stand positioned to support the fixed end of the spring within the void, the plastic stand closing the first end of the spring casing, and the metal cap closing the second end of the spring casing."

[34](#)

---

<b>Aspect</b>	<b>Relevance</b>	<b>Patent number</b>	<b>Class</b>
Pen with light	2	<a href="#">US6682212</a>	B43K29/10

**Applicant**

GAO S GAU S SPARK GOLD CO

**Title** [retrieved from database]

Combined ball point pen and torch within a single separable barrel

**Comments**

See claim 1 acc. B2 publ.: "A light-emitting pen having a front pen tube and a rear pen tube, the front pen tube having a spring and a filler, and the rear pen tube having the light-emitting element and a resisting element; an upper end of the filler having a light-emitting element; and the resisting element being installed above the light-emitting element; characterized in that:the light-emitting element has a light collecting tube and a battery tube; a front end of the light collecting tube is installed with a light collecting piece or light dispersing piece; a metal button, a plurality of serial connecting batteries, a spring, a metal conductive seat and a light-emitting body are sequentially installed in the battery tube; a lateral wall of the battery tube has a metal conductive wire, a lower end of the conductive wire is in contact with a conductive seat, and an upper end of the conductive wire protrudes out to be above the battery tube; the resisting element has a push tube; a lower end of the push tube has a metal cap; the metal cap is in contact with a tenon on the metal button; wherein when a user presses a button on a top end of the resisting element, the metal cap will be in contact with the tenon of the metal button and an upper end of the conductive wire so that the light-emitting body emits light; on the contrary, when the metal cap is not in contact with an upper end of the conductive wire; the light-emitting body does not emit light; a lower end of the metal cap has a long block and a lower end of the hollow push tube has a groove; after the metal cap is embedded into the hollow push tube, the long

block will be embedded into the groove.”

---

---

**35**

<b>Aspect</b>	<b>Relevance</b>	<b>Patent number</b>	<b>Class</b>
Pen with light	2	<a href="#">US6623135</a>	B43K29/10; G06G1/02

**Applicant**

MOSS J L

**Title** [retrieved from database]

Writing instrument for medical applications, comprises writing core located within housing, force applying unit associated with head and multi-color indicator receiving signals from switches

**Comments**

See claim 1 acc. B2 publ.: “An illuminating writing instrument comprising:(a) a housing having a lower end and an upper end; (b) a writing core located within the housing, wherein the writing core has a first end which extends beyond the lower housing end and a second end; (c) a head having a first head end which operatively interfaces the writing core second end, and a second head end; (d) a force applying member which is operatively associated with the head; and (e) an electrical circuit which comprises in electrical connection: (i) a power source, (ii) a first switch electrically operatively associated with the power source, (iii) a second switch which is operatively associated with the second head end, wherein the second switch generates a signal responsive to force being applied to the writing core first end, and (iv) a dual color light emitting diode operatively associated with the first and second switches wherein the diode receives signals from the first and second switches and provides a distinct color corresponding to each signal.”

---

---

**36**

<b>Aspect</b>	<b>Relevance</b>	<b>Patent number</b>	<b>Class</b>
Pen with light	2	<a href="#">US6428179</a>	B43K29/10

**Applicant**

SAFFRON D M SAFFRON J

**Title** [retrieved from database]

Illuminated writing instrument e.g. ball pen, with integral battery and LED that flashes for a predetermined length of time

**Comments**

See claim 1 acc. B1 publ.: “An illuminable writing instrument, comprising:an elongated body having a front end and a rear end, said elongated body adapted to house an elongated writing unit having a writing tip, said front end of said elongated body having an opening adapted to receive said writing tip of said writing unit; an illuminating unit attached to said rear end of said elongated body; and an actuator in operational relationship with said illuminating unit, said actuator causing said illuminating unit to flash on and off for a predetermined period of time before it automatically shuts off; wherein said illuminating unit is

illuminated when said actuator is activated.”

---

---

**37**

<b>Aspect</b>	<b>Relevance</b>	<b>Patent number</b>	<b>Class</b>
Pen with light	2	<a href="#">US6164856</a>	B43K29/10

**Applicant**

EXCEL SCIENTECH CO LTD

**Title** [retrieved from database]

Pen with self contained illumination that lights up both the pen tip and simultaneously provides back light to a display portion of the body.

**Comments**

See claim 1 acc. A1 publ.: “A writing implement having a built-in illumination system comprising: a tubular housing having a central axis, a pen-top end and a pen-tip end, said tubular housing having a translucent portion which acts as a light conductor, said housing having a region adjacent to said pen-tip end which emits light being conducted therein; a marking element located generally along said central axis within said tubular housing and extending to said pen-tip end, said marking element used to create a mark on a writing surface; a lamp located within said tubular housing, said lamp being positioned so that its light output is generally directed along said central axis towards said pen-lip end; and a lens positioned within said tubular housing, said lens being sized and shaped so as to divert a major portion of said light output of said lamp from said central axis towards said translucent portion of said tubular housing, thereby illuminating a portion of said writing surface adjacent to said marking element.”

---

---

**38**

<b>Aspect</b>	<b>Relevance</b>	<b>Patent number</b>	<b>Class</b>
Pen with light	2	<a href="#">US6099185</a>	B43K29/10

**Applicant**

EXCELLENCE OPTOELECTRONICS INC

**Title** [retrieved from database]

Light pen with multicolor light sources, comprises multicolor light emitting diode and conductive stand installed at both ends of housing

**Comments**

See claim 1 acc. A1 publ.: “A light pen with multicolor light source comprising: a pen holder having an outer tube with a front end and a tail end; wherein a central hollow space is set up to contain a pen core, said pen holder is made of transparent or semi-transparent material; a pen body attached to a tail end of said pen holder comprising a multicolor LED, a housing and a conductive stand wherein said housing contains a plurality of batteries to provide the required power supply for said multicolor LED; said pen body is separable from said tail end of said pen holder to be used independently, and said pen body is to generate at least two different color of light sources whereby the is diffused through light to the outer tube and to

guide the light toward a pen nib in the front end of said pen holder by the guidance of said pen holder."

---

---

**39**

<b>Aspect</b>	<b>Relevance</b>	<b>Patent number</b>	<b>Class</b>
Pen with light	2	<a href="#">US6000809</a>	B43K29/10

**Applicant**

BELO M

**Title** [retrieved from database]

Adjustable self-illuminating writing implement structure for students, truck drivers, cab drivers

**Comments**

See claim 1 acc. A1 publ.: "An adjustable, self-illuminating, writing instrument comprising: a main shaft having a first end and a second end; writing means affixed to said main shaft at said first end; a flexible shaft affixed to said main shaft at said second end, wherein said flexible shaft is an elongated flexible shaft connected vertically to the main shaft, and further where said flexible shaft is extendible, allowing it to be positioned in either the retracted or elongated positions, an illumination means for illuminating a writing surface at a point where said writing means contacts a writing surface; an illumination means housing for housing said illumination means, said illumination means housing supported on said flexible shaft opposite said flexible shafts connecting to said main shaft; and electrical communication means for connecting at least one battery to said illumination means."

---

---

**40**

<b>Aspect</b>	<b>Relevance</b>	<b>Patent number</b>	<b>Class</b>
Pen with light	2	<a href="#">US5735592</a>	B43K29/10

**Applicant**

SHU C

**Title** [retrieved from database]

Pen self-illuminating when being used - has ink reservoir which moves upwardly to propel elastic strip of conducting strip upwardly to contact with electrodes of mercury battery which switches the lamp on

**Comments**

See claim 1 acc. A1 publ.: "A pen self-illuminating when being used comprising: a barrel; an ink reservoir having a pair of opposed ears extending from a middle portion thereof and a first spring mounted on the ears; a clip disposed on the barrel, said clip having a collar on a top thereof and defining a first hole in the collar for the ink reservoir to extend therethrough; and a switch member disposed on the collar of the clip, said switch member including a cover, a mercury battery, a conducting strip, a spacer and a lamp, said cover having an electropad and a terminal thereon, said electropad being connected with one electrode of the mercury

battery, said lamp being connected between the electropad and the terminal, said spacer being disposed between the mercury battery and the conducting strip, said conducting strip defining a central opening therein, an elastic strip extending from a portion of periphery thereof defining the central opening to be retained by a top end of the ink reservoir and a contact strip extending upwardly from a periphery thereof to be connected with the terminal on the cover."

---

---

[41](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US5673996</a>	B43K29/10

**Applicant**

DUCKER D W

**Title** [retrieved from database]

Pen with LED indicator - comprises switch which selectively completes or breaks electrical circuit between battery and lamp

**Comments**

See claim 1 acc. A1 publ.: "A retractable writing instrument with a light assembly comprising: (a) an elongated barrel having upper and lower ends with an aperture in said lower end; (b) writing means disposed within the lower portion of said barrel having an upper end and a writing tip at its lower end; (c) moving means for moving said writing means between a first position wherein said writing tip is retracted within said barrel and a second position wherein said writing tip extends outwardly of said aperture in its lower end; (d) a battery having positive and negative terminals and disposed within the upper portion of said barrel; (e) a lamp within said upper portion of said barrel for providing illumination of at least a segment of said upper portion, said lamp having a first contact electrically connected to one terminal of said battery and a second contact; (f) a switch supported in said barrel for selectively effecting the connection of an electrical circuit between the other terminal of said battery and said second contact of said lamp, said switch being operably connected to said moving means and having (i) a switch-off position when said writing means is in said first position and in which said circuit is open to turn off said lamp, and (ii) a switch-on position when said writing means is in said second position and in which said circuit is closed to turn on said lamp."

---

---

[42](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US5803583</a>	B43K29/10

**Applicant**

HSIEH C

**Title** [retrieved from database]

Pen with light emitting unit - has IC board with light source for directing light through focussing ring provided adjacent to upper end of upper tubular member

**Comments**

See claim 1 acc. A1 publ.: "A pen with light-emitting means comprises: a head member formed of transparent material, said head member having a conic hollow lower portion and an upper retaining portion having a recess formed therein, said head member including a conductive ring disposed in said recess; a light bulb disposed in an opening formed in said head and having a positive electrode wire and a negative electrode wire, said negative electrode wire contacting said conductive ring; a lower tube member formed of metal and having a first end coupled to said upper retaining portion of said head member, said lower tube member contacting said positive electrode wire of said light bulb for making an electrical connection therewith; an adjusting assembly disposed within said lower tube member, said adjusting assembly including (a) a longitudinally extended sleeve member, (b) a hollow insulator longitudinally displaceably disposed within said sleeve member, (c) an ink tube holder threadedly engaged with an upper end of said hollow insulator and extending therethrough, said ink tube holder having a hemispherically shaped conductive body formed on an upper end thereof and an opening formed in an opposing lower end, (d) a first spring coupled to a lower end of said ink tube holder, and (e) a first battery having one terminal thereof contacting said conductive body; a non-conductive ink tube having one end disposed in said opening of said ink tube holder and an opposing end extending therefrom; an insulative ring having a first end coupled to a second end of said lower tube member; an upper tube member formed of metal and having a lower end coupled to a second end of said insulative ring; a set of second batteries disposed in said upper tube adjacent said insulative ring; a second spring disposed in said upper tube and having a first end contacting said second batteries; and, an IC board disposed in said upper tube and having a lower base portion contacting a second end of said second spring, said IC board including a focusing ring disposed adjacent an upper end of said upper tube member and a light source mounted on said IC board for directing light through said focusing ring."

[43](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US5730539</a>	B43K29/10

#### Applicant

PRESS-A-LITE CORP

#### Title [retrieved from database]

Combined writing implement and flashlight e.g. usable by servicemen, policemen and inspectors - has electric switch for controlling supply of power from battery to lamp which emits light through retainer member and sleeve member to tip of writing device and onto paper

#### Comments

See claim 1 acc. A1 publ.: "A combination writing implement and flashlight comprising: an electrically conductive housing member including a chamber adapted to removably receive a battery having a first terminal and a second terminal, said housing member having a first end and a second end, said first end having an opening such that the battery is removable and replaceable in said chamber through said opening in said first end; an electrical switch attached to said second end of said housing member, said electrical switch providing selective electrical communication between said housing member and the battery; a sleeve member having a first end and a second end and a chamber formed therein, said second end of said sleeve member being removably coupled to said housing member, said first end of said sleeve member including a tip and a bore extending through said tip; a writing device located



within said chamber of said sleeve member and extending through said bore in said tip of said sleeve member, said writing device including a first end and a second end, said first end of said writing device projecting outwardly from said tip of said sleeve member, said writing device being selectively removable from said sleeve member through said second end of said sleeve member when said sleeve member is removed from said housing member; a retainer member removably located within said chamber of said sleeve member at said second end of said sleeve member, said retainer member having a first end, a second end and a bore extending through said retainer member from said first end to said second end, said second end of said writing device located within a conical seat in said bore of said retainer member at said first end of said retainer member; and an illuminating lamp having a first terminal in electrical engagement with the battery, a second terminal in electrical engagement with said housing member, and a bulb located at least partially within said bore of said retainer member at said second end of said retainer member; whereby said electrical switch is adapted to selectively close an electrical circuit between the battery and said lamp to thereby illuminate said lamp and project light from said tip of said sleeve member."

[44](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US5570967</a>	B43K29/10

#### Applicant

CHEN C CHEN C Y

#### Title [retrieved from database]

Writing instrument incorporating light - with light element engaged in cap, barrel secured in tube and housing slidable at tube top

#### Comments

See claim 1 acc. A1 publ.: "A writing instrument comprising: a tube including an upper portion and including a lower portion, a cap secured to said lower portion of said tube, a light element engaged in said cap and including a first electrode and a second electrode, a writing element slidably engaged in said tube, a pipe slidably engaged in said tube and including a lower portion engaged with said writing element and including an upper portion, a barrel secured in said tube, a housing slidably engaged in said upper portion of said tube and electrically connecting to said tube, a first cable for electrically connecting to said tube to said first electrode of said light element, an insulating sleeve engaged in said housing, at least one battery engaged in said insulating sleeve and including a case electrode and a center electrode, a knob threadedly engaged on top of said insulating sleeve, means for electrically connecting said knob to said case electrode of said battery, means for electrically connecting said center electrode to said pipe and said writing element, a second cable for electrically connecting said writing element to said second electrode of said light element, and a circuit board engaged in said cap and including an outer peripheral portion and including an orifice having an inner peripheral surface, said first cable electrically connecting said first electrode of said light element to said outer peripheral portion of said circuit board, said second cable electrically connecting said second electrode of said light element to said inner peripheral surface, and said writing element being engaged through said orifice of said circuit board for electrically and slidably contacting with said second cable, and said light element being energized when said knob is rotated relative to said insulating sleeve to engage with said housing."

---

---

[45](#)

<b>Aspect</b>	<b>Relevance</b>	<b>Patent number</b>	<b>Class</b>
Pen with light	2	<a href="#">US5523928</a>	B43K29/10

**Applicant**

KIM D H

**Title** [retrieved from database]

Pen with illuminator allowing users to write even in dark conditions - comprises writing element housed in barrel, light emitting diode unit having carrier made of light transmissible material and LED chip embedded in carrier, LED being mounted in front end opening

**Comments**

See claim 1 acc. A1 publ.: "Pen with illuminator, comprising a writing element having a reservoir tube and a nib; a barrel for accommodating said writing element and having a front end opening; a light emitting diode unit having a carrier made of light transmittable material and a light emitting diode chip embedded in said carrier, said light emitting diode unit being mounted in said front end opening to expose at least a part of said carrier to the exterior and having a central penetrating hole for allowing said nib of said writing element to pass therethrough; a dry battery for providing said light emitting diode chip with electrical energy; a switching means for switching the electrical connection between said light emitting diode chip and said dry battery; end means for reflecting light from said light emitting diode chip toward a predetermined direction, wherein said reflecting means comprises a reflecting plate embedded in said carrier of said light emitting diode unit."

---

---

[46](#)

<b>Aspect</b>	<b>Relevance</b>	<b>Patent number</b>	<b>Class</b>
Pen with light	2	<a href="#">US5483429</a>	B43K29/10

**Applicant**

CHU A G

**Title** [retrieved from database]

Pen-hand torch combination device - has battery which is electrically connected to lamp socket when pen clip is depressed to contact metal cylinder, to cause lamp bulb to be turned on

**Comments**

See claim 1 acc. A1 publ.: "A pen/hand torch combination device comprising: a pen holder having a tapered front end detachably covered with a pen cap, and a rear end made with an inner thread; a refill inserted into said pen holder and having a writing tip extended out of the tapered front end of said pen holder; a refill holder having a first outer thread at one end threaded into the inner thread on said pen holder, a second outer thread at an opposite side, and an inside chamber for holding a spare lamp bulb; a first spring mounted inside said refill holder and stopped against said refill to hold said refill in said pen holder; a first O-ring

mounted around the second outer thread of said refill holder; a second spring mounted within said refill holder; a metal cylinder having an inner thread at one end threaded onto the second outer thread of said refill holder; an insulator having a bottom end fitted into another end of said cylinder remote from said refill holder, and a top end; a pen clip mounted around the top end of said insulator and having a contact spaced from said metal cylinder; a holder having a bottom end sleeved onto the top end of said insulator to hold said pen clip in position, and a top end made with an outer thread; a battery mounted inside said insulator within said cylinder and supported on said second spring; a lamp socket mounted inside said holder and stopped against said battery opposite to said second spring to hold a lamp bulb; a top socket threaded onto the outer thread of said holder; a reflector mounted within said top socket and sealed by an O-ring and covered by a glass; and wherein said pen clip is depressed to force said contact into contact with said metal cylinder, the lamp bulb of said lamp socket is turned on to give off light through said reflector; and when said pen clip is released from depression to disconnect said contact from said metal cylinder, the lamp bulb of said lamp socket is turned off."

47

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US5405208</a>	B43K29/10

#### Applicant

HSIEH C L

#### Title [retrieved from database]

Ball-point or fountain type pen with illuminating function - has pen core passing through lower sleeve and pen head and including metal casing which contacts with negative lead wire of bulb or LED which is turned on by rotated conductive board of switch

#### Comments

See claim 1 acc. A1 publ.: "A pen with illuminating function, comprising: a pen head having an upper connecting portion and a lower conic portion having a stepped opening, on an inner wall of the upper connecting portion being formed a receptacle for receiving a bulb or an LED, the bulb or LED having a positive and a negative lead wires respectively extending outside and inside the connecting portion; a lower pen sleeve which is metal-made, having a lower connecting portion for fitting around the connecting portion of the pen head and electrically contacting with the positive lead wire of the bulb or LED; a pen core passing through the lower pen sleeve and pen head and having a tip portion protruding outside the opening of the pen head, the pen core being metal-made and contacting with the negative lead wire of the bulb or LED; an adjusting assembly including a sleeve member having a lower portion fitted into an upper end of the lower pen sleeve, a stepped ring member having inner thread and inserted in a lower end of the sleeve member and a stepped hollow insulative member formed with lower outer thread screwed on the inner thread of the ring member and movably fitted in the sleeve member, an upper end of the insulative member being connected with a lower end of a bolt member, whereby the pen core extends through the lower pen sleeve and the insulative member into the lower end of the bolt member; an upper pen sleeve which is metal-made and has a lower end snugly fitted around an upper portion of the sleeve member of the adjusting assembly, a battery being contained in the upper pen sleeve and a lower end of the battery contacting with a top end of the bolt member of the adjusting assembly; and

a switch assembly including an adjusting button, a conductive ring member, a casing member, a metal rod member and a spring, a hole being formed on a bottom face of the adjusting button, the casing member being fitted in the upper pen sleeve and having a central through hole, an upper and a lower stepped recesses being formed at an upper and a lower end of the through hole, a lengthwise groove being formed on a lateral side of the casing member for locating the conductive ring member therein, a strip-like projection being disposed on a lateral side of the lower recess near the groove, the conductive ring member having a top ring section, a contact section outward extending from a lateral side of the ring section and a conductive end downward extending from the contact section and inward bent, the conductive ring member being disposed in the upper recess of the casing member with the contact section passing through and protruding outside the groove of the casing member, whereby after the casing member is positioned into the upper pen sleeve, the contact section of the conductive ring member contacts with the upper pen sleeve, the metal rod member having a conic end and a dented projection beside the conic end, the other end of the rod member being formed with a flange section and a conductive projecting board near a top of the flange section, the metal rod member being assembled in such a manner that a rubber washer is first fitted with the rod member and then the rod member passes through the hole of the casing member and the conductive ring member, and then the dented projection of the rod member is forced into and located in the hole of the bottom face of the adjusting button, the spring being received in the upper pen sleeve with an upper end contacting with the flange section of the metal rod member and a lower end contacting with the battery, whereby when the upper pen sleeve is rotated, the pen core is adjusted to extend outside or retract into the pen head, and when the adjusting button is rotated, the conductive projecting board of the switch assembly is rotated to contact with or disengage from the conductive end of the conductive ring member so as to turn on or off the bulb or LED."

[48](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US5413429</a>	B43K29/10

**Applicant**

SHIAU S

**Title** [retrieved from database]

Writing instrument with lighting assembly - has insulating lamp holder which retains lamp with first electrode in electrical communication with conductive barrel and second electrode

**Comments**

See claim 1 acc. A1 publ.: "A writing instrument with a light assembly, said writing instrument including: a conductive barrel having an open top end and an open bottom end; a nib assembly including a transparent hollow nib casing which has an open top end connected to said open bottom end of said conductive barrel and an open bottom end, an ink tube which has an upper end and a lower writing tip and which is disposed inside said nib casing, a coil spring sleeved around said ink tube, said coil spring having a first end that bears against said nib casing and a second end that pushes said ink tube to be extensible into said conductive barrel; a lamp assembly disposed slidingly inside said conductive barrel, said lamp assembly having a lowermost end abutting said upper end of said ink tube, said lamp assembly including an insulating lamp holder that retains a lamp with a first electrode in

electrical communication with said conductive barrel and a second electrode, said lamp assembly further including an insulating battery seat which has an upper end abutting against said lamp holder, said battery seat receiving a battery therein, said battery having a first terminal connected electrically to said second electrode of said lamp and a second terminal; a thrusting assembly including a hollow insulating cap member which has an open bottom end connected to said open top end of said conductive barrel and an open top end, a push-button provided on said open top end of said cap member, an elongated insulating switch bar which has an upper end portion extending into said cap member and which is in sliding contact with a lower end of said push-button, said insulating switch bar further having a lower end portion with a threaded axial blind bore and two split members extending axially and downwardly from said lower end portion to define cooperatively a receiving slot therebetween and which communicates with said blind bore, and means for rotating said insulating switch bar relative to said push-button upon operation of said push-button between a switch-off condition to turn off said lamp and a switch-on condition to turn on said lamp, said push-button being operable against biasing action of said coil spring to move said ink tube between a first position, wherein said writing tip is disposed in said nib casing while said lamp at said switch-off condition, and a second position, wherein said writing tip extends out of said nib casing through said open bottom end of the latter while said lamp is at said switch-on condition; a metallic clip assembly clamped between said cap member and said open top end of said barrel; wherein the improvement comprises: said thrusting assembly including: an insulating sleeve member sleeved around said split members and having an external surface; a pair of conductive tongues mounted to said insulating sleeve member in such a manner that said conductive tongues cover said external surface of said insulating sleeve member at two opposed portions, said conductive tongues having a pair of curved portions extending into said receiving slot of said split members and cooperatively forming a clamping ring between said split members; and a conductive locking bolt inserted axially between said split members and threaded to said blind bore and engaging said clamping ring to retain said insulating sleeve member on said split members, said split members extending into said conductive barrel such that a lowermost end of said conductive locking bolt is in electrical communication with said second terminal of said battery; said metallic clip assembly including a ring member sleeved around said split members of said insulating switch bar and disposed between said insulating sleeve member and said push-button, a pair of opposed rib members extending axially and downwardly from said ring member and being in contact with said external surface of said insulating sleeve member, and a clip member which is exposed exteriorly of said barrel and which is in electrical communication with an external surface of said conductive barrel; whereby, said conductive tongues of said insulating sleeve member are spaced from said axially extending rib members of said clip assembly when said insulating switch bar is at said switch-off condition, and said conductive tongues of said insulating sleeve member are in electrical contact with said axially extending rib members of said clip assembly when said insulating switch bar is at said switch-on condition."

[49](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US5388038</a>	B43K29/10
<b>Applicant</b>			
YANG S A			
<b>Title</b> [retrieved from database]			

Self-illuminated writing instrument - has convex lens provided between bulb and pen ink cartridge, for concentrating beam from battery-operated light

### Comments

See claim 1 acc. A1 publ.: "A self-illuminable writing instrument comprising: a first missile shape part comprising a first compartment as a head compartment; a second enlarged hollow portion comprising a second compartment as a battery compartment; a pen point which integrates with an ink cartridge positioned in said head compartment; a transparent plastic shell that covers the cartridge; a light bulb located behind said pen point and said ink cartridge in said head compartment and connected to an on/off switch in said head compartment; a convex lens inserted between the bulb and ink cartridge in said head compartment; said on/off switch positioned in said head compartment between the bulb and battery compartment; two batteries stored in said battery compartment and being electrically connected to said bulb and said switch."

[50](#)

---

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US5446633</a>	B43K29/10

### Applicant

HANGGI R

### Title [retrieved from database]

Battery-powered writing device with rechargeable built-in illumination - has docking station and battery charger to recharge battery within writing implement when latter is in docking station, charger being manually or automatically operated

### Comments

See claim 1 acc. A1 publ.: "A writing implement for writing on a surface having a built-in illumination system defining a space for inclusion of a battery having a first and a second terminal being of opposite electrical polarity from each other, said writing implement comprising: a top portion to house said battery in axial alignment therewithin, said top portion having a blind proximate end and an open distal end with at least a portion of the interior of said top portion being electrically coupleable to said first terminal of said battery to provide an electrically conductive path therefrom to said open end, and with closure means defined at said open end; a bottom portion of a non electrically conductive material having a proximate end and a distal end with said proximate end defining a means for mating with said closure means of said top portion to interconnect said top and bottom portions, said bottom portion defining an opening at said distal end thereof; wherein at least one of said top portion at the distal end thereof and said bottom portion at the proximate end thereof defines a first side opening port therethrough; a writing implement mechanism having a writing tip with said mechanism being housed within said bottom portion with said writing tip passing out therefrom through said opening defined at the distal end of said bottom portion; an illumination system within at least one of said top and bottom portions having a third and a fourth electrical terminal with said third electrical terminal coupleable to said second terminal of said battery to illuminate the surface upon which said writing tip comes into contact while being used; and an electrically conductive spring finger coupled to said fourth electrical terminal of said illumination system and biased to extend into said first side opening port to make electrical contact with said electrically

conductive path of said top portion to complete the electrical circuit between said third and fourth electrical contacts of said illumination system and said first and second contacts of said battery, and to break said electrical circuit when said spring finger is depressed into said first side opening port."

[51](#)

---

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US5275497</a>	B43K29/10

**Applicant**

SHIAU S

**Title** [retrieved from database]

Writing instrument with light assembly - with push button arranged to move ink tube between two positions and to turn on lamp when tube is in writing position

**Comments**

See claim 1 acc. A1 publ.: " A writing instrument with a light assembly, said writing instrument including a conductive barrel having an open top end and an open bottom end, a nib assembly including a hollow nib casing which has an open top end connected to said open bottom end of said barrel and a tapered open bottom end, an ink tube which has an upper end and a lower writing tip and which is disposed inside said nib casing, and a coil spring sleeved on said ink tube to bias said ink tube inwardly of said barrel, said ink tube being movable between a first position, wherein said writing tip is disposed in said nib casing, and a second position, wherein said writing tip extends out of said nib casing through said open bottom end of the latter, and a thrusting assembly including a hollow insulating cap member which has an open bottom end connected to said open top end of said barrel and which has an open top end, a push-button provided on said open top end of said cap member and operable so as to move said ink tube between said first and second position, and a metallic clip member clamped between said cap member and said open top end of said barrel, wherein the improvement comprises: said nib casing being transparent; a transparent push-member being disposed slidably inside said nib casing and having a lower end which abuts against said upper end of said ink tube; a lamp assembly including an insulating lamp holder which is disposed slidably inside said barrel above said push-member and which has a lower end abutting against said push-member, said lamp holder retaining a lamp therein, said lamp having a first electrode in electrical contact with said barrel and a second electrode, said lamp assembly further including an insulating battery seat which is disposed slidably inside said barrel above said lamp holder and which has a lower end abutting against said lamp holder, said battery seat receiving a battery therein, said battery having a first terminal connected electrically to said second electrode of said lamp and a second terminal, said battery seat further having a first conductive spring connected to said second terminal of said battery to bias said battery toward said lamp holder; said thrusting assembly further including an insulating switch bar which has an upper end extending into said cap member and which is in contact with said lower end of said push-button, said switch bar having a lower end extending into said barrel and being in contact with said battery seat, a conductive plate positioned at said upper end of said switch bar, and a second conductive spring which is provided on said switch bar and which interconnects said conductive plate and said first conductive spring to connect electrically said conductive plate and said second terminal of said battery, said switch bar being movable between a switch-off position, wherein said ink tube is in said first position and said conductive plate

is spaced from said clip member to turn off said lamp, and a switch-on position, wherein said ink tube is in said second position and said conductive plate is in contact with said clip member to turn on said lamp."

---

---

[52](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US5131775</a>	B43K29/10

#### Applicant

CHEN C

**Title** [retrieved from database]

Retractable pen with illumination - has conductor and LED incorporating two chips fitted on front part of lower barrel

#### Comments

See claim 1 acc. A1 publ.: "A retractable pen comprising: a reservoir tube comprising an insulating part and a conducting part; a lower barrel member comprising a coupling part; a tapered end element fitted on a front end thereof, said tapered end element having an opening on a tip thereof; and a conducting and illuminating unit being arranged inside the tapered end element; an upper barrel member comprising an end plate on a rear end thereof; a cover having threading screwed on said end plate; and a supply unit being arranged inside said upper barrel member, said supply unit comprising a conducting plate; and said reservoir tube being fitted in said coupling part of said lower barrel member, said coupling part being fitted in said front end of said upper barrel member, so that by rotating said upper barrel member, said conducting plate of said supply unit contacts said conducting part of said reservoir tube, thereby closing a circuit formed thereby and illuminating said conducting and illuminating unit."

---

---

[53](#)

Aspect	Relevance	Patent number	Class
Pen with light	2	<a href="#">US4964024</a>	B43K29/10

#### Applicant

TSAY H H

**Title** [retrieved from database]

Light emitting pen for writing in dark conditions - has button slider positioned in through hole for controlling battery connection

#### Comments

See claim 1 acc. A1 publ.: "A light emitting writing apparatus, including: a pen-holder being a hollow cylinder having an opening at its one end, a longitudinal groove on its inner wall surface, and a through-hole through its side-wall; a front socket having a hollow, conical structure comprising a connecting end fastening in the opening of said pen-holder; a cylinder received in said pen-holder to slide along said groove and comprising a raised strip having two conductive leaves disconnectedly mounted thereon; a button slider being received in said pen-holder



and having a raised portion set to protrude beyond the through-hole of said pen-holder and a conductive plate on its bottom alternatively pressing on the two conductive leaves of said cylinder, said button slider being pushed to slide in the through-hole of said pen-holder so as to connect or disconnect said two conductive leaves; a dry battery received in said cylinder; a holder plate received in said pen-holder and comprising a plurality of through-holes for the positioning therein of a plurality of writing elements, and a recess hole having two wire holes penetrating therethrough; a lamp bulb set in the recess hole of said holder plate with its two conductors respectively received in the two wire holes of said recess; two connecting members respectively inserted in the two wire holes of said recess to connect to the two conductors of said lamp bulb; wherein one of said connecting members is connected with the positive end of said dry battery and the other connecting member is connected with one of said two conductive leaves while the other conductive leaf is connected with the negative end of said dry battery; and wherein the moving of said button slider in the through-hole of said pen-holder controls the connection of the negative end of said battery to its positive end through said lamp bulb so as to turn on said lamp bulb to produce light."

---

---

---

*PRV InterPat aims to carry out all requests accurately and thoroughly, but due to the extensive amount of information involved we cannot guarantee that the results are always exhaustive.*

*PRV InterPat is bound to observe professional secrecy with regard to every search request, as well as the search result. This directive is supported by chapter 31, §12 of the Swedish Secrecy Act (2009:400). Documentation is delivered exclusively to the client, and may not be cited as a hindrance to novelty in a subsequent application.*

*Please note that PRV retains all material sent in, including models.*

---



Data[xls]