

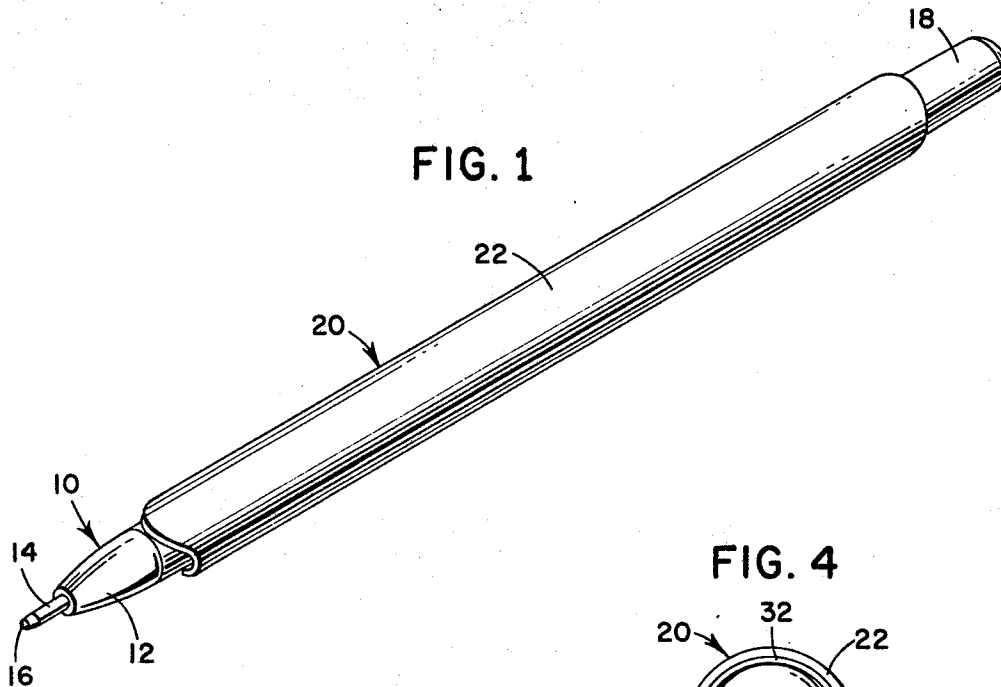
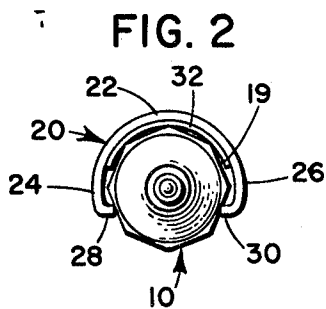
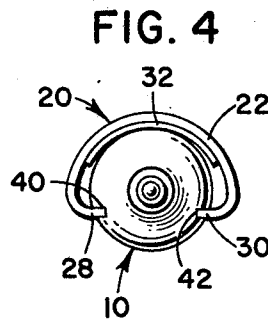
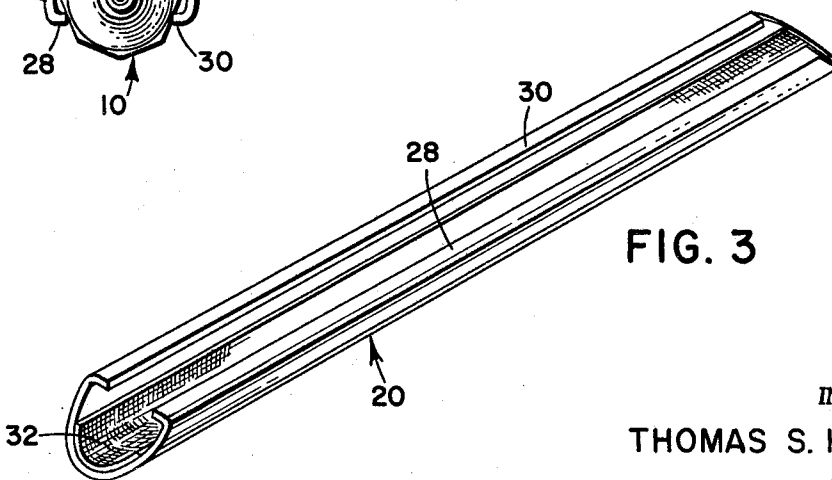
March 17, 1970

T. S. KULKA

3,501,244

CLEANING ATTACHMENT FOR BALL POINT PEN

Filed Aug. 14, 1968



INVENTOR
THOMAS S. KULKA

BY *Oberlin, Maky, Donnelly & Penner*
ATTORNEYS

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3,501,244

CLEANING ATTACHMENT FOR BALL POINT PEN
Thomas S. Kulka, 200 Film Bldg., 2108 Payne Ave.,
Cleveland, Ohio 44114

Filed Aug. 14, 1968, Ser. No. 752,527

Int. Cl. B43k 7/00, 29/00

U.S. Cl. 401—195

6 Claims

ABSTRACT OF THE DISCLOSURE

An attachment for a ball point pen adapted to be removably retained on the exterior of said pen, said attachment being provided with means adapted to be firmly engaged by and to frictionally resist movement of the point of said pen when said attachment is removed from said pen thereby to reactivate the pen to writing condition.

Background of the invention

The present invention relates as indicated to a cleaning attachment for ball point pen and relates more particularly to a device carried by the pen for reactivating the pen when it has become temporarily inoperative.

Practically everyone able to write has encountered the frustrating experience of either picking up a ball point pen and finding that the same does not write or of having a ball point pen suddenly become inoperative in use. In fact, with the proliferation of use of ball point pens as a consequence of the continual decrease in cost thereof, it is not uncommon to have numerous ball point pens in the home or in the office in this temporarily inoperative state.

A ball point pen can become temporarily inoperative for several reasons. A particle of foreign material may become lodged between the ball and the socket mounting thereof, thereby preventing rotation of the ball and delivery of ink to the writing surface. Secondly, the ink remaining in the area between the ball and socket after the pen has been used has a tendency to dry and harden, and if the pen has been inactive for some time, such hardening can impair or entirely prevent rotation of the ball in the socket. Either of the above conditions will thus render the pen inoperative before the ink supply has been depleted, which condition, if not alleviated, is not only frustrating as above indicated but extremely wasteful.

Although the user, upon encountering such inoperative condition, frequently tries promptly to activate the pen by moving or reciprocating the pen while the point thereof is in firm engagement with a piece of paper, cardboard or the like, these efforts are only seldom successful, with the result being that the pen more often than not is simply discarded with no effort being made to activate the same.

Several forms of ball point pen cleaners or reconditioners are disclosed and claimed in my pending application, Ser. No. 725,608, filed May 1, 1968, and entitled "Ball Point Pen Cleaner." Although such forms very satisfactorily accomplish the intended purpose, they are commonly characterized by being completely separate from the pen and thus susceptible to being lost or mislaid.

Summary of the invention

With the above in mind, a primary object of the present invention is to provide an attachment removably carried by a ball point pen for cleaning or conditioning the same in the event it becomes a temporarily inoperative pen.

A further object of the present invention is to provide an attachment that is preferably slidably mounted on the exterior of said pen, either at the time of manufacture thereof, or subsequently, so as to be removed from the pen and used to reactivate the point thereof. The attach-

ment can be subsequently remounted on the pen for possible future use.

A still further object of the present invention is to provide such an attachment which is both economical to manufacture and easy to use, and which does not significantly detract from the primary writing function of the pen.

These and other objects of the present invention will become apparent as the following description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, comprises the features hereinafter fully described and particularly pointed out in the claims, the following description and the annexed drawings setting forth in detail certain illustrative embodiments of the invention, these being indicative, however, of but a few of the various ways in which the principle of the invention may be employed.

Brief description of the drawings

In said annexed drawings:

FIG. 1 is a perspective view of a conventional ball point pen having mounted thereon an attachment constructed in accordance with the present invention;

FIG. 2 is an end view of the pen and attachment of FIG. 1;

FIG. 3 is a fragmentary perspective view of the interior of the attachment, which in the form shown has mounted thereon a strip of frictionally resistant material; and

FIG. 4 is an end view similar to FIG. 2 showing an alternative form of mounting the attachment on the pen exterior.

Detailed description

Referring now in detail to the drawing, wherein like parts are indicated by like reference numerals, and initially to the form of the invention shown in FIGS. 1-3, a ball point pen is generally indicated at 10 and is of conventional construction, including a smooth front grip portion 12, a cartridge 14 having a ball 16 mounted therein, and an elongated body portion 18 housing the cartridge. In the form shown, the body is formed exteriorly with a series of flat faces commonly designated at 19, eight in number, although it should be understood, and it will become apparent, that the attachment comprising the invention could be employed equally satisfactorily with pens having varying exterior designs.

The cleaning attachment of the present invention is generally indicated at 20, with the attachment being shown by itself in FIG. 3. The attachment is generally semi-cylindrical in shape, extending, however, somewhat more than 180°, for a reason which will presently become apparent. The attachment comprises a curved top wall 22 and depending side walls 24 and 26, with the side walls being formed at their ends with inwardly directed flanges 28 and 30, respectively. The flanges, as viewed in FIG. 2, are disposed below a horizontal plane through the center of the pen 10, thereby preventing removal of the attachment from the pen in a direction normal to the pen axis, once the attachment has been applied.

A strip 32 of frictional resistant material, FIG. 3, is applied to the inside of the attachment 10 for the purpose of providing a surface over which the ball point 16 of the pen can be moved to reactivate the same. The strip 32 can be made of any suitable material, for example a textured fabric presenting a rough, frictionally-resistant surface, and can be applied to the inside of the attachment by adhesive or the like.

The attachment body 20 can similarly be made of any suitable material, for example, steel or aluminum or even plastic. The material should be capable of being formed to the desired shape and should be of a thickness so as

not to add substantially to the weight of the pen when the attachment is applied thereto. The material and form of the attachment should desirably be sufficiently resilient to enhance retention of the attachment on the pen and to provide inherently adaptation of the attachment to slightly varying pen diameters. Although in the form shown the attachment when applied to the pen terminates rearwardly of the pen point, it will be understood that the attachment could be lengthened to cover or shield the point of the pen, if desired.

The application of the attachment 20 to the pen 10 and the manner in which the same is used is as follows. The attachment 20 is held with one hand and the pen 10 inserted axially therein. The attachment is interchangeable, end for end, and it is immaterial which end thereof is disposed forwardly. Normally, the pen is inserted point first to facilitate alignment of the pen with the attachment. The pen is then moved forwardly until the desired longitudinal position is reached, for example, equally spaced between the front and rear ends of the pen. In this regard, it will be understood that the length of the attachment can vary widely and still accomplish its intended purpose.

As the pen 10 is inserted, the flanges 28 and 30 of the attachment resiliently engage the exterior of the pen below a horizontal plane through the axis thereof, as viewed in FIG. 2, and prevent removal of the attachment from the pen in a transverse direction. The resilient engagement of the flanges 28 and 30 also provides frictional retention of the attachment on the exterior of the pen. It should be noted that the shape of the attachment is such that when applied it does not significantly interfere with the writing function of the pen.

When the attachment is desired to be used due to temporary inoperativeness of the ball point, the attachment is removed, for example, by withdrawing the same in the direction from which it was applied, and turning the attachment to expose the inside thereof and the strip 32 attached thereto. The ball point is then firmly applied to the fabric surface and moved back and forth briskly thereover. If the inoperativeness of the pen is due to dried ink particles or the like, as contrasted with an exhausted ink supply, the frictional resistance presented by the fabric surface rotates the ball point in its socket thereby dislodging the dried ink particles and reestablishing flow of ink from the ink supply to the ball point. It should be noted that there is a heat buildup resulting from the friction created, with such heat buildup serving favorably to influence the flow of ink to the ball point.

When the pen is restored to working order, the attachment can be slid back over the pen exterior as above described until further need for the same arises. In this manner, the useful life of the pen is commensurate with the life of the cartridge ink supply, and premature failure of the pen thereby to a large extent obviated.

There is shown in FIG. 4 an alternative arrangement for applying the attachment 20 to the pen 10. In this form, the exterior of the pen is formed with longitudinally extending grooves 40 and 42 adapted to receive the flanges 28 and 30, respectively. In application of this form of the invention to the pen exterior, the flanges 28 and 30 are aligned with the grooves 40 and 42 and the attachment moved forwardly relative to the pen. The resiliency of the flanges tends to frictionally retain the flanges in the grooves when the attachment has been applied to the pen.

It will be apparent to those skilled in the art that minor changes can be made from the above-disclosed forms without, however, departing from the scope of the invention. For example, the attachment could be substantially a full cylinder or could be of less circumferential extent than the form shown, as long as means are pro-

vided for temporary retention of the attachment on the pen. In addition, means other than a textured fabric strip could be provided to accomplish restoration of the ball point. Thus, the surface of the plastic or metal attachment itself could be roughened or scored to provide the resistance to movement of the ball point necessary to rotate the same to reestablish the feeding of the ink from the ink supply to the point. As a further alternative, suitably reinforced fabric of the type described could be employed to form the attachment itself.

I claim:

1. A ball point pen having a body portion enclosing a cartridge having an exposed ball point for writing and an attachment therefor, said attachment being transversely resilient and shaped to extend at least partially around said pen, said attachment having flanges forming the opposed longitudinal edges thereof and directed radially inwardly generally toward the axis of said pen to resiliently engage the exterior of said pen at points below a horizontal plane through said axis of the pen for resiliently retaining the attachment on the pen and preventing removal of said attachment in a direction normal to said axis, said attachment being provided with means adapted to be engaged by and to frictionally resist movement of the point of such ball point pen when said point is pressed firmly thereagainst, such frictional resistance serving to cause movement of said ball point thereby tending to reestablish the supply of ink to said point and thus restore the pen to writing condition.

2. The pen and attachment of claim 1 wherein the exterior of said pen is formed with longitudinally extending grooves adapted to receive said flanges and thereby retain said attachment on said pen.

3. The pen and attachment of claim 1 wherein said attachment is metallic and said means adapted to frictionally resist movement of said point comprises a fabric strip on the interior of said attachment and adapted to be exposed for use when said attachment is removed from said pen.

4. The pen and attachment of claim 1 wherein said attachment is metallic and said means adapted to frictionally resist movement of said point comprises a roughened interior surface of said attachment adapted to be exposed for use when said attachment is removed from said pen.

5. The pen and attachment of claim 1 wherein said attachment is plastic and formed with a roughened surface on the interior thereof for frictionally resisting movement of said point of said pen when said attachment is removed for use.

6. The pen and attachment of claim 1 wherein said attachment is of reinforced fabric material.

References Cited

UNITED STATES PATENTS

426,324	4/1890	Ramsey	15—443
588,902	8/1897	Einfeldt et al.	15—443
737,085	8/1903	Davies	15—443
1,218,741	3/1917	Boughton	51—181
1,793,450	2/1931	Englander	15—436
2,963,337	12/1960	Spalek	401—209
3,402,984	9/1968	Zazzara	15—443 XR

FOREIGN PATENTS

100,123	1/1898	Germany.
3,459	3/1890	Great Britain.
23,207	11/1901	Great Britain.
386,822	1/1933	Great Britain.

DANIEL BLUM, Primary Examiner

U.S. Cl. X.R.

15—243; 401—209