

[54] POCKET CLIP FOR WRITING INSTRUMENT

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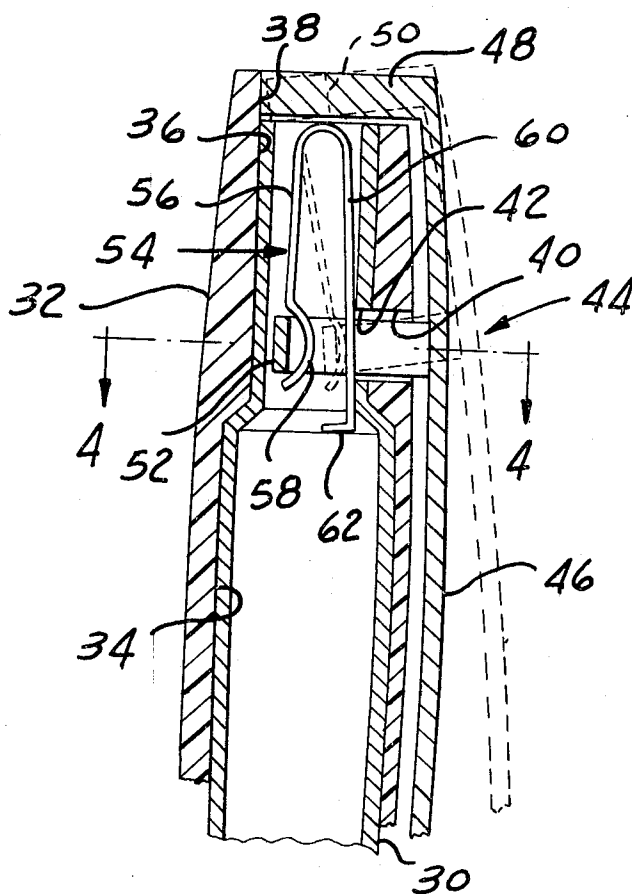
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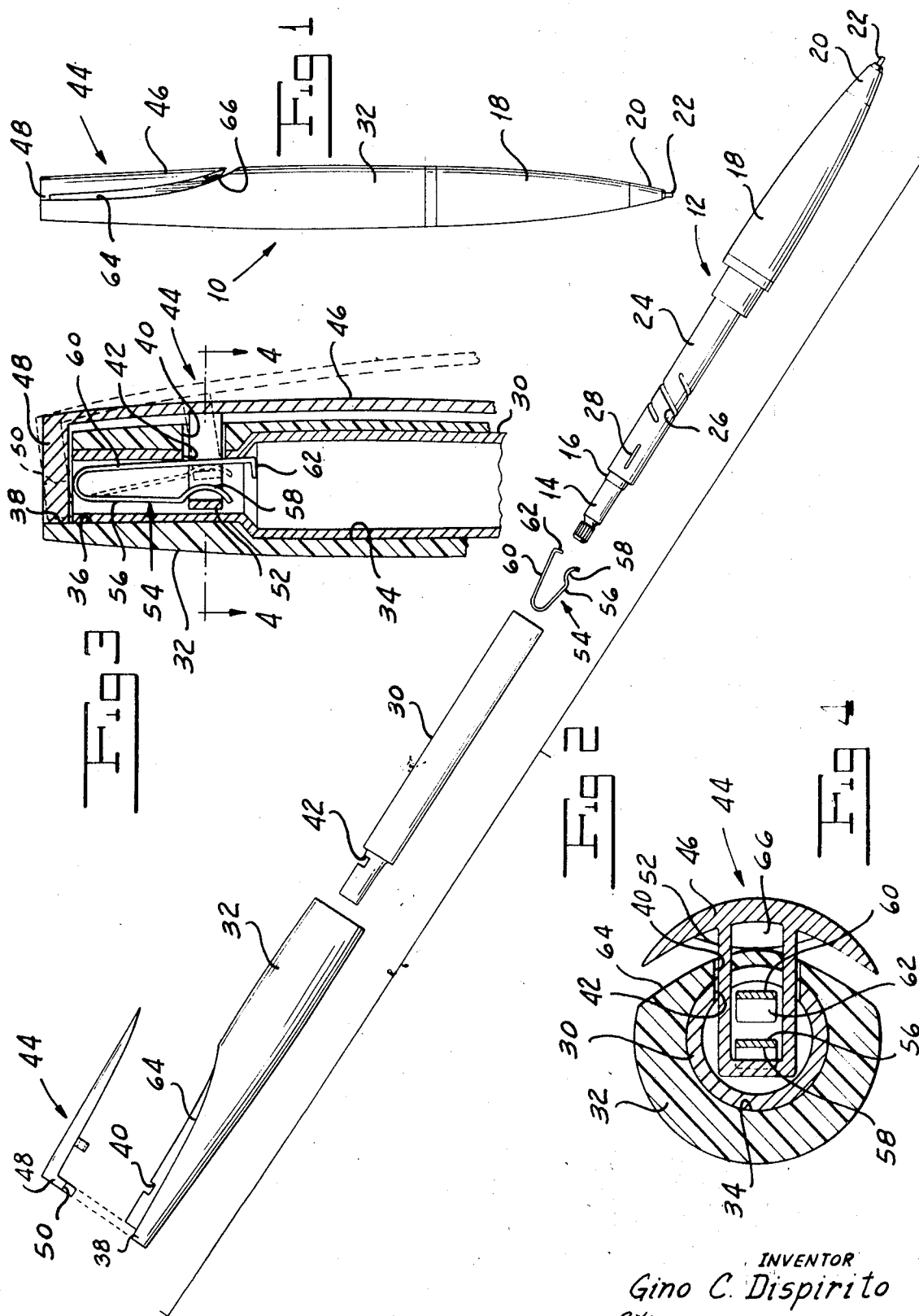
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[57] ABSTRACT

A cap and pocket clip assembly for a writing instrument in which the clip body has an offset located over the end of the cap and a bracket which extends through the cap wall and into the bore of the cap to receive a retaining spring thus to mount the clip for limited pivotal movement of the clip body away from the cap against the action of the spring.

1 Claims, 4 Drawing Figures





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POCKET CLIP FOR WRITING INSTRUMENT

BACKGROUND OF THE INVENTION

Various forms of pocket clips are known in the prior art. Some of them are secured to the cap of a pen or to the tube of a pen or pencil by embedding connecting elements in the material of the member or by riveting the clip to the member to which it is to be attached. Other more expensive clips may removably be attached to the writing instrument. All of the clips of the prior art of which I am aware are formed of resilient material so that they can be slipped over the portion of a garment at the edge of a pocket.

While the clips of the prior art for the most part perform satisfactorily, they embody a number of disadvantages. If either the clip or the cap breaks, the entire assembly must be discarded. Moreover, since the action of the clip depends upon the inherent resilience of clip material, metal fatigue becomes a problem. For the same reason, the range of choices of clip materials which can be used is limited as is the manner of manufacturing the clip. The amplitude of the movement of the clip is limited by the elastic limit of the clip material. After a relatively short period of time in use of the clip, the clamping force is less than the desired force.

I have invented a pocket clip for a writing instrument which overcomes the defects of clips of the prior art pointed out hereinabove. My clip is readily disassembled from the cap or the like which carries the clip, so that in the event either member becomes damaged or breaks it may be replaced in the assembly. My clip does not depend for its action on the resilience of the material of which it is made. My clip may be made from a wide range of materials and by many different methods of manufacture. The pressure exerted by my clip remains substantially constant over a long period of time in use. My clip permits of a greater amplitude of motion thus to accommodate greater thicknesses of the material to which it is clipped.

SUMMARY OF THE INVENTION

One object of my invention is to provide a pocket clip for a writing instrument which overcomes the defects of pocket clips of the prior art.

Another object of my invention is to provide a clip which may readily be assembled on and disassembled from a writing instrument with which it is used.

A further object of my invention is to provide a clip for a writing instrument or the like which does not depend for its action on the resilience of the material from which it is made.

Yet another object of my invention is to provide a clip for a writing instrument or the like which affords a wide choice of materials and method of manufacture.

Still another object of my invention is to provide a pocket clip for a writing instrument or the like which has a greater amplitude of clip throw to accommodate a range of thicknesses of materials.

A still further object of my invention is to provide a pocket clip for a writing instrument or the like the pressure of which remains substantially constant over a relatively long period of time in use.

Other and further objects of my invention will appear from the following description.

In general my invention contemplates the provision of a writing instrument and pocket clip assembly in which a portion of the writing instrument, such as the cap, has a bore and a wall opening leading into the bore and in which the clip comprises a body having an offset located over the end of the cap and a bracket which extends through the cap wall opening and into the bore to receive a retaining spring thus to mount the clip for limited pivotal movement of the clip body away from the cap against the action of the spring.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings which form part of the instant specification and which are to be read in conjunction

therewith and in which like reference numerals are used to indicate like parts in the various views:

FIG. 1 is an elevation of a writing instrument provided with my pocket clip.

FIG. 2 is a partially exploded view of the writing instrument illustrated in FIG. 1.

FIG. 3 is a fragmentary sectional view of the clip and cap assembly of the writing instrument illustrated in FIG. 1.

FIG. 4 is a sectional view of the assembly illustrated in FIG. 3 taken along the line 4—4 of FIG. 3 and drawn on an enlarged scale.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, a writing instrument indicated generally by the reference character 10 provided with my pocket clip may, for example, include an operating mechanism indicated generally by the reference character 12 of the type shown and described in my copending application Ser. No. 885,421 filed Dec. 16, 1969 for a writing instrument. As is described more fully in the copending application, the mechanism 12 includes an ink cartridge 14 which is screwed on to the top of a hollow carrier 16 which is connected at its lower end to a sleeve (not shown) for relative axial but nonrotary movement. The sleeve is frictionally received in the barrel 18 of the writing instrument, the lower end of which threadably receives a nose cone 20 through which the tip 22 of the cartridge 14 extends in one relative position of the parts. A driver tube 24 having a spiral groove 26 therein which cooperates with a similar spiral groove in carrier 16 is connected to the sleeve in barrel 18 for relative rotary but nonaxial movement. As is more fully pointed out hereinabove, on rotation of the driver tube 24 with respect to the barrel 18 the cartridge tip 22 moves between a housed position in cone 20 and the extended position illustrated in the drawings. Since the operating mechanism 12 does not per se form part of my invention described herein, that mechanism will not be described in further detail.

I provide the tube 24 with any suitable means, such as axially extending ribs 28 adapted frictionally to receive a liner 30 assembled in the cap 32 with a force fit, for example. I form cap 32 from any suitable plastic or the like and provide the cap with a core 34 having a reduced diameter portion 36 leading to an open end 38. A wall opening 40 in the cap 32 leads into the reduced cross section portion 36 of bore 34.

As has been pointed out hereinabove, cap 32 receives the sleeve or liner 30 with a force fit. I so shape the sleeve as to fit closely within the cap 32 and I provide the sleeve with a wall opening 42 which registers with the wall opening 40 in the cap 32.

My pocket clip indicated generally by the reference character 44 includes a body 46 one end of which carries an offset 48 provided with generally diametrically oppositely extending shoulders 50. It is to be noted that I shape the open end 38 of the cap 32 so as to be complementary to the offset 50 of clip 44 when the latter is assembled with the cap in a manner to be described.

I form body 46 with an inwardly extending generally U-shaped bracket 52 at a distance from offset 48 which corresponds to the distance between end 38 and opening 40.

In assembling the clip 44 on the cap 32 I place the offset 48 on the open end 38 with the shoulders 50 engaging complementary shoulders on end 38. Bracket 52 then extends through the registering openings 40 and 42 into the reduced cross-sectional portion of the bore of the assembly of sleeve 30 and cap 32.

My assembly includes a generally U-shaped spring indicated generally by the reference character 54 having a first leg 56 formed with a recess 58 and a second leg 60 formed with an inwardly directed tab 62.

With the clip 44 placed on the cap 32 in the position described, spring 54 is inserted into the cap and the closed end of the spring is pushed through the portion of bracket 52 until

the recess 58 rides over the base of bracket 52. In that position of the parts, the recessed part of the leg 56 bears against the base of bracket 52 and leg 60 bears against the inner surface of the liner 30.

The upper portion of the outer surface of cap 32 is formed with a contoured recess 64 which leads upwardly from a point intermediate the ends of cap 32 to the end 38. The body 46 of my clip 44 in the position described above lies in recess 64. Body 46, moreover, is so shaped as to conform to the outline of the recess. A boss 66 on the clip body engages the base of the recess normally to position the clip so as to permit it to be slipped over the edge of a pocket in a manner to be described.

In use of a writing instrument 10 provided with my clip 44 in response to a force tending to move the body 46 away from the cap 32 the clip rocks or pivots on the shoulders 50 against the action of the spring 54. I have illustrated the extent of movement possible in broken lines in FIG. 3. It will be appreciated that the range of movement is relatively great so that the clip accommodates relatively thick garment material. I form the clip 44 from any suitable material such for example as metal or plastic or the like. The clip itself is relatively rigid. It may be formed by any suitable method known to the art. It may be stamped or cast or injection molded or the like.

In the event that one desires either to replace the clip with a new clip or to apply the clip to another cap, the cap 32 first is removed from the rest of the assembly. Next, a special tool is inserted into the cap so as to engage the offset 62 to permit the spring to be withdrawn from the cap. When that has been done, the clip 44 is free and may be removed from the cap. To assemble the clip on another cap or to place a new clip on the same cap, the clip is positioned on the cap with bracket 52 extending through the aligned openings 40 and 42 and with the shoulders 50 engaging the complementary part of the top of the cap. Then the retainer spring is inserted in the cap until its recess 58 receives the base of bracket 52.

It will be seen that I have accomplished the objects of my in-

vention. I have provided a cap and clip assembly for a writing instrument which overcomes the defects of the pocket clips of the prior art. My clip may readily be assembled on and disassembled from the element of the writing instrument which receives the cap. My clip does not depend for its action on the inherent resilience of the material of which it is made. It may therefore be made from a wide range of materials by any of various processes of the prior art. My clip has a relatively wide range of movement thus to accommodate a relatively thick garment-forming material, for example.

It will be understood that certain features and subcombinations are of utility and may be employed without reference to other features and subcombinations. This is contemplated by and is within the scope of my claims. It is further obvious that various changes may be made in details within the scope of my claims without departing from the spirit of my invention. It is, therefore, to be understood that my invention is not to be limited to the specific details shown and described.

Having thus described my invention, what I claim is:

1. A cap and pocket clip assembly for a writing instrument including in combination, an instrument having a bore and a sidewall opening leading into said bore, a clip comprising a body and an offset at one end of said body and a U-shaped bracket providing a base and legs on said body intermediate the ends thereof, said clip carried by said instrument with said offset over the end of the instrument and with said bracket extending through said wall opening into said bore and a U-shaped spring in said bore in engagement with said bracket with one spring leg engaging said base and with the other spring leg engaging the bore wall of said instrument, said spring leg engaging said base having a recess for receiving said base, said instrument having a contoured recess extending from said end of the instrument along the outside surface thereof, said clip body normally located in said recess under the action of said spring.

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