United States Patent

Bross

[15] **3,637,316**

[45] **Jan. 25, 1972**

[54] WRITING TOOL

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[22] Filed: **May 21, 1970**

[21] Appl. No.: **41,666**

Related U.S. Application Data

[63] Continuation of Ser. No. 758,829, Sept. 10, 1968, abandoned.

[30] **Foreign Application Priority Data**

Sept. 12, 1967 Germany ..... P 15 61 807.2

[52] **U.S. Cl.** **401/104**, 401/107, 401/198

[51] **Int. Cl.** **B43k 5/16**

[58] **Field of Search** 401/198, 199, 104–116

[56] **References Cited**

UNITED STATES PATENTS

2,809,609	10/1957	Clary et al.	401/105
2,930,356	3/1960	Liguori	401/113
2,957,452	10/1960	Brannon	401/108
3,288,114	11/1966	Ritter	401/104
3,334,615	8/1967	Bross	401/110
3,427,114	2/1969	Dzink	401/199

FOREIGN PATENTS OR APPLICATIONS

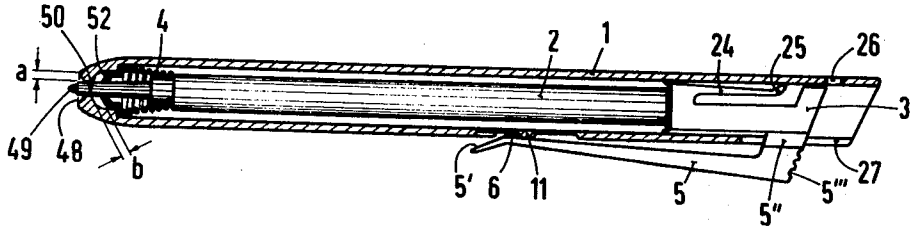
1,379,338	10/1964	France	401/104

Primary Examiner—Lawrence Charles
Attorney—Spencer & Kaye

[57] **ABSTRACT**

A writing instrument having a mechanism for advancing and retracting the writing member, e.g. a cartridge disposed in the housing of the writing instrument, and a clip provided laterally on the housing to secure the writing instrument to a pocket. The mechanism is so constructed that the retraction of the writing member can be effected optionally by actuating a pushbutton provided on the rear end of the housing or by lifting the clip in relation to the longitudinal axis of the housing.

12 Claims, 16 Drawing Figures



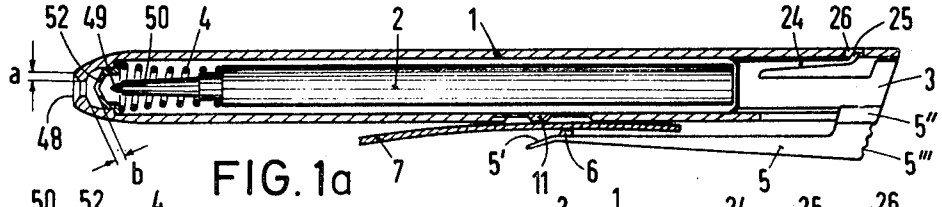


FIG. 1a

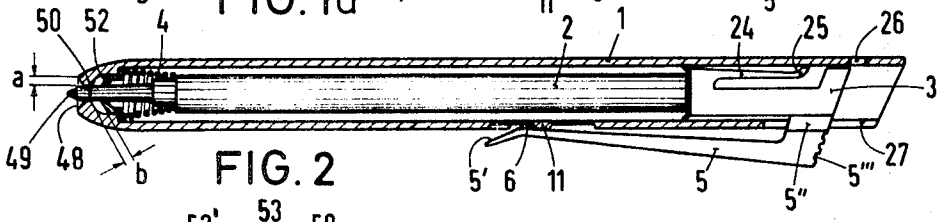


FIG. 2

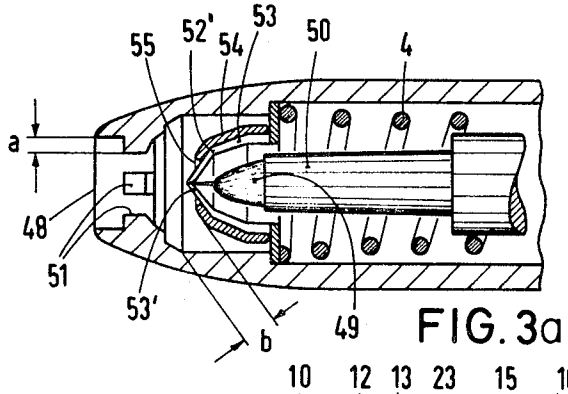


FIG. 3a

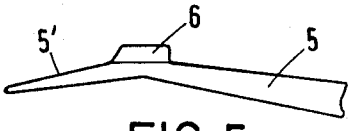


FIG. 5

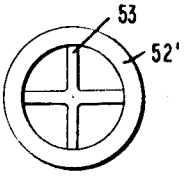


FIG. 3b

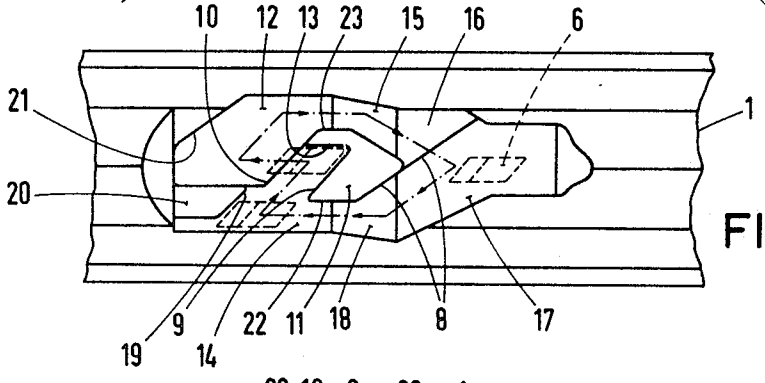


FIG. 4

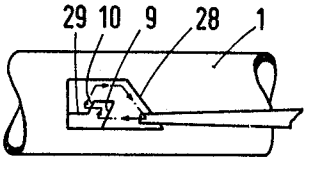
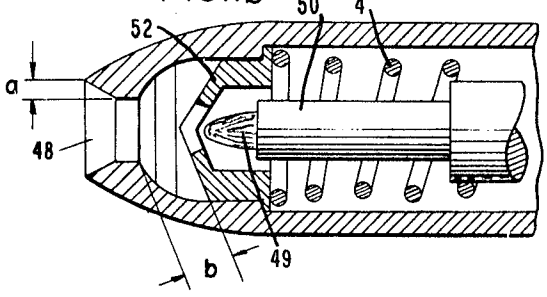


FIG. 6

FIG. 1b



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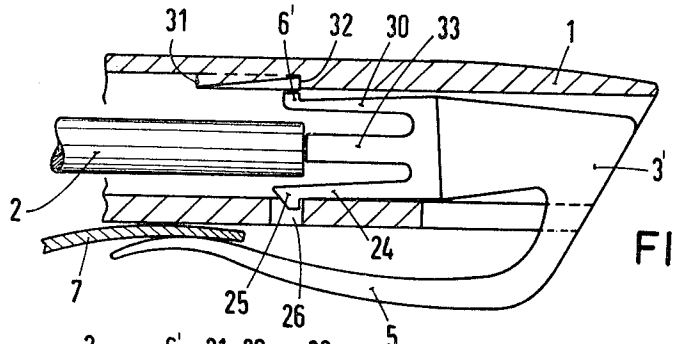


FIG. 7

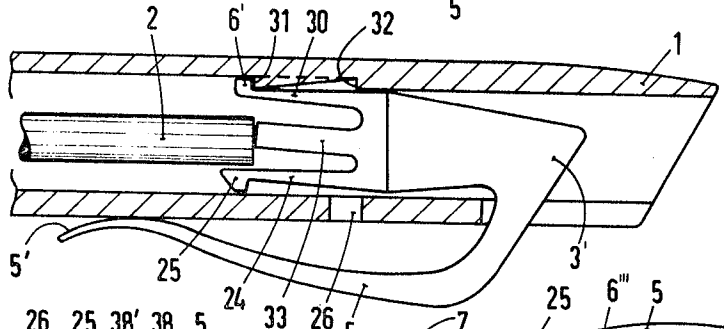


FIG. 8

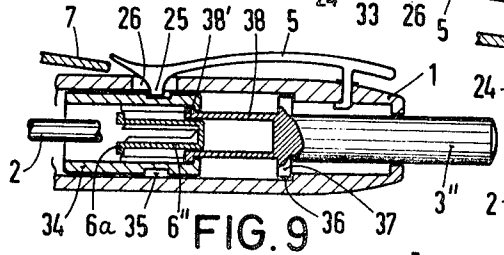


FIG. 9

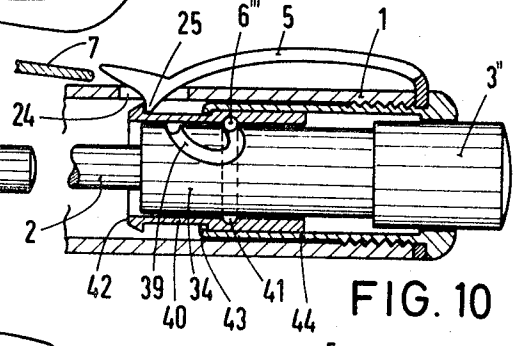


FIG. 10

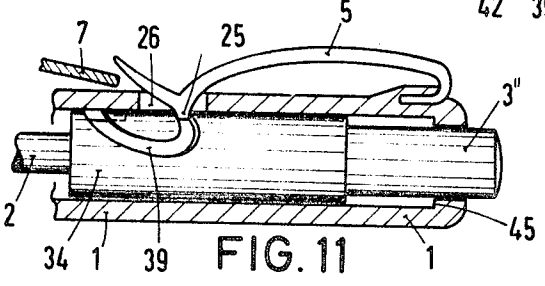


FIG. 11

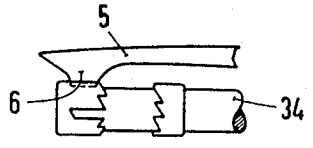


FIG. 12

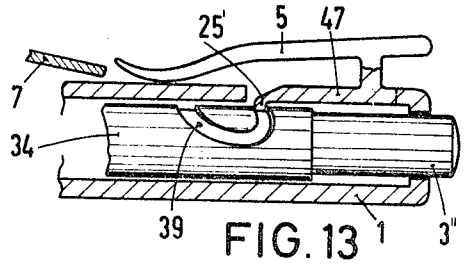


FIG. 13

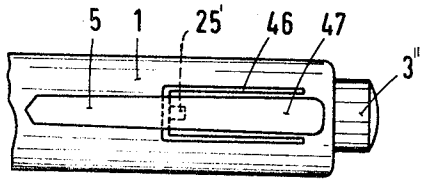


FIG. 14

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WRITING TOOL

CROSS-REFERENCE TO RELATED APPLICATION

This application is a continuation of application Ser. No. 758,829, filed Sept. 10th, 1968 by Helmut Bross, and now abandoned.

BACKGROUND OF THE INVENTION

The present invention relates to writing instruments such as ballpoint or felt pens.

Writing instruments are known which comprise an operating member axially displaceably mounted on the rear end of the housing of the instrument and adapted to be operated by finger pressure, and a writing member, for example, a cartridge disposed in the housing, displaceable under or against the action of a spring. The spring tends to move the writing member from a forwardly shifted position in which the writing point of the writing member projects out of the forward end of the housing, and a retracted position in which the writing point is concealed by the housing, the said member being securable in these positions. In many cases, a shifting mechanism is provided which comprises a locking element which is adapted to be pushed, under the pressure of the actuating member or of the spring, against guide surfaces formed on a shifting member, on which guide surfaces the locking element is moved transversely in relation to the longitudinal axis of the housing and is thus brought into the region of stops provided on the shifting member and is caused to bear against the stops, the bearing of the locking member against one of the stops fixing the writing medium holder in one of the two positions.

More especially in writing instruments in which the writing point is fed with ink, e.g., in the felt pens which have recently become increasingly widely employed, and in which the writing member is formed of a bundle of fibers, it is found desirable to provide means to ensure that the writing instrument is not put into the pocket with the writing point projecting from the housing, which would result in very undesirable soiling of the clothing. A known safety measure of this type, in cases where there is provided on the outside of the housing of the writing instrument a securing clip which can be bent over so as to increase the distance between it and the housing wall and so as to set up a substantially resilient return force, consists in so designing the arrangement that, as a result of the positive bending-over of the clip when it is pushed on to the wall of a pocket, the cartridge is automatically released from its forwardly pushed position and thereby brought into its retracted position under the action of the compression spring. In the known writing instruments of this kind, the disadvantage exists that the cartridge can only be brought out of the forwardly pushed position into the retracted position by bending-over of the clip. Therefore, the clip must also be actuated when the user of the writing instrument wishes to bring the cartridge into its retracted position before pushing the clip on to the wall of a pocket. The movement of the cartridge from the retracted position into the forwardly pushed position in the known writing instruments takes place by depression of an operating member provided on the rear end of the housing. It is troublesome for the user to manipulate the shifting mechanism differently depending upon the position in which the cartridge is situated, and this substantially impairs the usefulness of such a writing instrument.

SUMMARY OF THE INVENTION

According to the present invention there is provided a writing instrument comprising a housing, an operating member axially displaceably mounted in the rear of the housing, for displacement by finger pressure, a spring mounted within said housing, a writing member within said housing and having a writing point adjacent the forward end of said housing and axially movable rearwardly under the action of said spring to a retracted position, in which the writing point is within the housing, and axially movable by said operating member to a forward position in which the point projects from the forward end of the housing, locking means releasably locking the writing member in the forward position, stops to arrest the writing member in the forward and retracted positions, a securing clip externally of the housing, and means associated with the operating member and with the securing clip to release the locking means either by depressing the operating member or by lifting the clip away from the housing.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1*a* is an elevational view, mostly in section, of one embodiment of writing instrument according to the invention, in the form of a felt pen, with the cartridge in the retracted position;

FIG. 1*b* is an enlarged longitudinal section through the writing end of the felt pen of FIG. 1;

FIG. 2 illustrates the writing instrument shown in FIG. 1, with the cartridge in the forwardly shifted position;

FIG. 3*a* is an enlarged longitudinal section through the writing end of a felt pen according to the invention, wherein the means for preventing soiling of the inside wall of the housing, lying in the region of the forward aperture of the housing, is modified as compared with the embodiment illustrated in FIGS. 1 and 2;

FIG. 3*b* is a front view of cap according to the present invention;

FIG. 4 is an enlarged plan view of the outside of a housing part of a writing instrument according to the invention, wherein the guide surfaces and stops cooperating with the locking member are formed on the outside of the housing;

FIG. 5 is a side view of the lower end of a securing clip on which there is provided a locking element which cooperates with guide surfaces and stops provided on the outside of the housing;

FIG. 6 is an illustration corresponding to FIG. 4, but drawn to a smaller scale, of an embodiment in which the guide surfaces and stops formed on the outside of the housing are differently arranged from those of FIG. 4;

FIG. 7 is a longitudinal section through the rear end of a writing instrument according to the invention, wherein the securing clip is connected to a pushbutton adapted to be swiveled when it is lifted in the housing, the cartridge here being situated in the retracted position;

FIG. 8 illustrates the embodiment illustrated in FIG. 7 with an arrangement of the parts associated with the shifting mechanism which corresponds to the forwardly pushed position of the cartridge;

FIGS. 9 and 10 are longitudinal sections through the rear end of two embodiments of the invention, wherein the stops and guide surfaces for the locking member are provided on a part situated within the housing and axially displaceable therein;

FIG. 11 is a longitudinal section through the rear end of an embodiment in which the stops and guide surfaces for the locking member are again formed on a part displaceable within the housing, the locking member being provided on a securing clip;

FIG. 12 is a view of a shifting mechanism corresponding to FIG. 11, wherein the stops and guide surfaces for the locking member are of different construction;

FIG. 13 is a longitudinal section through the rear end of a further embodiment, wherein the abutments and guide surfaces for the locking member are again provided on a part axially displaceable in the housing, the locking member being formed in this case on a tongue formed by an incision in the housing wall; and

FIG. 14 is a plan view of FIG. 13 as seen in the direction of the arrow A.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Parts having corresponding functions are denoted by the same reference numerals in the various figures. The terms

"lower" and "upper" are used to denote those portions nearer to, and further away from the writing end of the instrument respectively.

In the figures, the housing 1 of the writing instrument, which is constructed either in one piece or in a number of parts, has axially slidable therein a writing member or cartridge 2. A pushbutton 3 mounted on the rear end of the housing is also axially displaceable in the latter, to move the cartridge 2 forward against the action of a compression spring 4 disposed in the forward part of the housing and bearing at one end against the cartridge 2 and at its other end against a projection on the inside of the housing. Near to its rear end the housing is provided with a securing clip 5. In each of the embodiments the cartridge 2 may be releasably locked in the forward position by a locking member.

In the embodiments illustrated in FIGS. 1*a*, 1*b*, 2, 4, 5 and 6 the locking member is constructed as an extension 6 projecting from that side of the clip 5 which is closer to the housing 1. The clip 5 consists of a bent-over portion, at its upper end extending away from the housing 1, a central portion substantially parallel to the housing and a portion 5′ at its lower end which slopes away from the housing to facilitate the introduction of the material 7 of a pocket wall between the locking member 6 and the housing 1.

The stops and guide surfaces for the locking member may be positioned and formed on the outside of the housing as illustrated in FIGS. 4 and 6. In the embodiment according to FIG. 4, the housing is polygonal and a group of three guide surfaces are disposed at different distances from the longitudinal axis of the housing and inclined in the same direction. The uppermost and central guide surfaces 8 and 9 respectively are formed on a projection 11 of the housing, while the lowermost guide surface 10 is created by a step descending from a surface 14 to a surface 12 which is at a shorter distance from the longitudinal axis of the housing than the surface 14. At that end of the central guide surface 9 which is closer to the pushbutton 3, a stop for the locking member which becomes operative when the cartridge is in the forwardly pushed position, is formed by a stop surface 13 extending parallel to the longitudinal axis of the housing and also formed on the projection 11.

In the embodiment according to FIGS. 1*a*, 1*b* and 2, a special stop for the locking member 6 when the cartridge is in the retracted position is not required, because the latter is held in the retracted position by the same stop which becomes operative on lifting of the securing clip and which will hereinafter be described. The stop surface 13 performs a further function, in that, when the locking member 6 passes from the uppermost guide surface 8 to the central guide surface 9, it prevents the locking member from being deflected as far as the surface 15 of the transfer region from the lowermost guide surface 10 to the uppermost surface 8, and skipping the position in which the pushed-forward cartridge is arrested. As will readily be seen, such a deflection would result in errors in the shifting movement. The surface 15 of the transfer region rises up to the level of a surface 16, which descends in one step to a surface 17 which is consequently at a shorter distance from the housing axis than the surface 16. It will be understood that this step forms a boundary of the uppermost guide surface 8. The surface 17 is also closer to the longitudinal axis of the housing than the surface 14, the two levels being joined by a sloping surface 18 which rises from the surface 17. Also provided for the locking member is a stop surface 19 on a strip-form projection 20 formed on the housing, and a further stop surface 21 formed by a step situated at the lower end of the surface 12 and rising therefrom, these stop surfaces sloping in the same direction as the guide surfaces 8 to 10.

When the pushbutton 3 is actuated, the path described by the locking member 6, shown in phantom in FIG. 4, is illustrated by a dash-dotted arrowed line. When the pushbutton 3 is depressed from the retracted position, the locking member is first pushed against the guide edge 8 and is thus first deflected transversely in relation to the longitudinal axis of the housing. As soon as the locking member has left the operative range of the guide surface 8, it slides along a longitudinal guide surface 22 formed on the projection 11. As soon as the locking member has left the guide surface 22, it abuts the stop 19 and springs back about the axis of the holder, and enters the operative region of the central guide surface 9, on which it slides until it encounters the surface 13. The pushbutton 3 and, thus, also the cartridge 2, is thereby arrested in its forwardly pushed position (see FIG. 2). The deflection of the locking member after it has slid off the guide surface 22 in the direction of the central guide surface 9 takes place under the action of the resilient return force which has been produced in the clip 5 by the preceding lateral deflection in the course of the pressure of the locking member 6 against the guide surface 8. As soon as the locking member 6 has entered the operative region of the guide surface 9, it is pressed against the guide surface 9 by the pressure exerted on the cartridge by the spring 4 and transmitted through the pushbutton 3 and the securing clip 5, so that the locking member can slide along this surface until it encounters the surface 13.

When the pushbutton 3 is pushed downwards from its forwardly pushed position (FIG. 2) the locking member 6 falls on to the surface 12 and, on release of the pushbutton, abuts the guide surface 10 owing to the pressure of the spring 4, and slides along the said guide surface 10 under the further pressure of the spring 4. As soon as the locking member 6 has left the guide surface 10, it slides along the longitudinal guide surface 23 on the projection 11 and finally returns into its initial position, which corresponds to the retracted position of the pushbutton and thus also of the cartridge. The bearing of the working surfaces of the locking member 6, which is of rhomboidal form as seen in plan view, on the guide surfaces 8 to 10 is also ensured by a resilient return force which acts on the clip 5 to push the clip and thus also the locking member 6 in the direction of the housing wall. The clip 5 consequently forms a rocking arm which can be radially and transversely deflected in relation to the longitudinal axis of the housing against a resilient return force, the deflectability being promoted by virtue of the fact that the web which connects the securing clip to the pushbutton has a region 5″ of reduced thickness. With regard to the stop surfaces 19, 21, it is also to be noted that they limit the forward displacement of the locking member and thus also of the pushbutton from the retracted rest position or from the advanced rest position. In the embodiment illustrated in FIGS. 1 and 2, there is formed on the pushbutton 3 a further rocking arm 24 which lies within the housing 1 and can be bent over towards the longitudinal axis of the housing against the action of a resilient return force. Situated on the free end of the rocking arm is a pawl 25 which, when the cartridge is in the forwardly pushed position, is pressed against the inside wall of the housing 1 owing to the aforesaid resilient return force (FIG. 2). When the clip 5 is lifted, for example, due to the fact that the writing instrument is pushed on to the wall 7 of a pocket (see FIG. 1), the arresting member 6 becomes disengaged from the stop by which it is fast in its forwardly pushed position. The cartridge and the pushbutton 3 are then shifted backwards until the pawl 25 engages, in the course of this displacement, in a recess 26 formed in the longitudinal path of movement of the pawl on the housing. The cartridge, and thus also the pushbutton, is arrested in its retracted position.

In the embodiment illustrated in FIGS. 1*a*, 1*b* and 2, the pushbutton 3 is countersunk in the housing 1, so that it can be actuated by axial pressure exerted on a roughened surface 5‴ on the upper end of the clip 5. The web 5″, by which the clip is connected to the pushbutton, is guided along in a slot 27, whereby the pushbutton is secured against rotation.

It will be seen from the foregoing description that the transfer of the cartridge from the position according to FIG. 2 into the position according to FIG. 1 may be effected optionally by exerting an axial pressure on the pushbutton or by lifting the clip 5 from the housing 1.

The formation of the guide and stop surfaces for the locking member on the outside of the housing affords the advantage that the housing, which is preferably injection-molded from plastics, can readily be formed. The pushbutton 3, the clip 5 and the rocking arm 24 may also be formed as an integrally formed plastics part. Instead of the guide and bearing surfaces being formed as illustrated in FIG. 4, these surfaces may be formed as illustrated in FIG. 6 in which the housing is circular in section. In contradistinction to the arrangement according to FIG. 4, the guide surfaces 28, 9 and 10 situated one above the other in the arrangement according to FIG. 6 are not all inclined in the same direction. The slope of the uppermost guide surface 28 is in this case opposite to the slope of the other two guide surfaces 9, 10, which are inclined in the same direction. In other respects, there is no basic difference between the arrangements illustrated in FIGS. 4 and 6. The manner of operation of the arrangement illustrated in FIG. 6 will be readily apparent from the dash-dotted path of movement of the locking member. In this case a stop surface 29 is provided, which, on the transfer of the locking member from the central guide surface to the lowermost guide surface, prevents the locking member from being deflected towards the region of transfer from the uppermost guide surface to the central guide surface.

In the embodiment of FIGS. 7 and 8, the clip is connected to a pushbutton 3' which is adapted to swivel in the housing 1 when the clip is lifted from the latter. The swiveling takes place about an axis which is at a right angle to the longitudinal axis of the housing. Two rocking arms 24, 30 are formed on the lower end of the pushbutton 3'. The rocking arm 24 is comparable in its function to the rocking arm 24 in the embodiment according to FIGS. 1 and 2; it consequently also comprises a locking pawl 25 which is adapted to engage in an aperture 26 in the housing wall 1. As with the clip 5 of FIGS. 1 and 2, there is formed on the free end of the other rocking arm 30 a locking member 6' which cooperates with guide surfaces and stops which in this case are formed on the inside of the housing. The stops situated one above the other in relation to the longitudinal axis of the housing are denoted by 31 and 32. The stops 31 here serves to arrest the locking member when the cartridge is in the forwardly pushed position (FIG. 8), while the locking member 6' is adapted to engage against the stop 32 when the cartridge is in the retracted position. In the position illustrated in FIG. 7, the cartridge is situated in the retracted position, but the stop 32 is here not operative, since the return of the cartridge from the forwardly pushed position has been effected, not by depression of the pushbutton 3', but by lifting of the clip 5. In this instance, the stop formed by the wall of the aperture 26 provided in the housing for the locking pawl 25 takes effect, which stop can become operative independently of the stop 32 of the actual shifting mechanism. When the securing clip 5 is lifted from the housing 1, the locking member 6' is disengaged from the guide surfaces and stops of the shifting mechanism due to the fact that the pushbutton 3' is swiveled within the housing 1 as a result of the lifting action, which is clearly apparent on comparison of FIG. 8 with FIG. 7. Also provided on the pushbutton 3' is an extension 33 which projects from the lower end thereof and which acts as a push member for the cartridge. It is advantageous for a reliable operation of the embodiment illustrated in FIG. 7 and 8 for the clip 5 to be substantially rigidly constructed, so that radial deflection of the clip in relation to the longitudinal axis of the housing immediately results in swiveling of the pushbutton.

The embodiments illustrated in FIGS. 9 and 10 have in common the feature that the stops and guide surfaces for the locking member are provided on known forms of component 34 axially movable within the housing, under the action of the spring 4, from a forward position in which the cartridge is situated in its forwardly pushed position, into a rear position in which the cartridge is situated in its retracted position. FIGS. 9 and 10 illustrate the forwardly pushed position. The clip 5, which is separate from the pushbutton 3'', is so held in the region of its upper end on the housing 1 as to be capable of springing in a radial direction, comprises a locking pawl 25 which extends through an aperture 26 in the housing wall and by means of which the component part 34 can be arrested in its forward position.

In the embodiment illustrated in FIG. 9, the outside surface of the component 34 is for this purpose formed with an annular slot 35 in which the locking pawl 25 can engage. Only when the clip is lifted from the slot 35 by introduction of material 7 between the clip and the housing wall can the component 34 shift into the retracted position, the shifting movement stopping as soon as the upper end of the component 34 encounters the flange 36 on the pushbutton 3'', which in turn bears against an inwardly projecting shoulder 37 of the housing 1. The action of this stop is again independent of the stop formed on the inside of the component 34 for the retracted position of the locking member 6''. On the inside surface of the component 34 are formed the guide surfaces for the locking member and the stop for its forward position. The stops are situated at the ends of slots which extend to alternate distances towards the rear, the guide surfaces being formed on the forward end of the webs remaining between the slots. Rotational movement of the locking member is brought about by virtue of the fact that, on depression of the pushbutton, sloped flanks on outwardly radially extending projections 38' of a driving member 38 are pushed against sloped flanks of the radially extending projections 6*a* of the locking member 6''. The projections 38', 6*a* thus slide one upon the other, whereby the projections 6*a* are brought into the effective range of the guide surfaces which slope in relation to the longitudinal axis of the housing, from which they slide either into the short slots or into the long slots, depending upon whether the pushbutton has been actuated with the cartridge in the retracted position or in the forwardly pushed position. The projections 38' of the driving member 38 are longitudinally displaceable in the said slots.

In FIG. 10 the guide surfaces and stops are formed on a heart-shaped cam 39 on the outside of the component 34. In this case, the locking member consists of a ball 6''' which engages in one case in the heart-shaped cam 39 and in the other case in a circular slot 41 formed in the inner surface of a part 40 which is also axially displaceable in the housing 1. Since this mechanism is known per se, its operation need not be described in detail. When the cartridge is pushed forwards, the locking pawl 25 of the securing clip 5 cooperates with a flange 42 on the part 40, which is pressed under the action of the spring 4 against the locking pawl 25, as is apparent from FIG. 10. When the locking pawl is withdrawn from the flange 42, the parts 34 and 40 are shifted to the rear until the flange 42 on the part 40 encounters the inwardly turned-over edge 43 of a sleeve 44 screwed into the housing 1.

The embodiment illustrated in FIG. 11 differs from that according to FIG. 10 substantially in that the locking member 25' engaging the heart-shaped cam 39 is formed on the securing clip 5. The stop which acts independently of the stops for the locking member 6 which are formed on the heart-shaped cam 39 is formed by the inwardly projecting shoulder 45 of the housing 1, against which shoulder the part 34 formed with the cam bears in the course of its displacement when the locking member 6 is lifted out of the heart-shaped cam 39. In the embodiments illustrated in FIGS. 10 and 11, the part 34 is integrally connected to the pushbutton 3''.

Instead of the heart-shaped cam in the embodiment according to FIG. 11, there may be provided on the outside of the component 34 guide surfaces and stops for the locking member 6, which are formed as shown in FIG. 12. Such a construction is known in principle, so that it need not be further discussed. In the constructions of FIGS. 9 to 12, the locking member is normally held in engagement with the guide surfaces and stops by means of the clip pressed against the housing under the action of a resilient return force. This engagement is broken only when a material is introduced between the clip and the housing.

The embodiment illustrated in FIGS. 13 and 14 is distinguished from those illustrated in FIGS. 9 to 12 by the fact that the locking member is formed on a tongue which is formed by an incision 46 in the housing wall and which is radially movable in relation to the longitudinal axis of the housing against the action of a resilient return force, and to which the clip 5 is so connected that, when it is lifted, the locking member 25' becomes disengaged from the stop which arrests the cartridge in its forwardly pushed position, and which in this case is again formed on the heart-shaped cam 39 on the outside of the axially displaceable component 34.

FIGS. 1*a* to 3*b* also illustrate the safety measures with which the invention is additionally concerned, for preventing the housing wall which lies in the region of the forward housing aperture 48 from being soiled with writing medium. For this purpose, it is proposed in accordance with the invention, in a writing instrument comprising a writing member constructed as a bundle of fibers 49 and enclosed in a narrow tube 50, to provide in the forward end of the housing, at a distance from the housing aperture 43, a guide for the enclosure tube, which holds the latter at the housing aperture, when the cartridge is in the forwardly pushed position, at such a distance from the housing wall that no writing liquid can be drawn into the gap "*a*" between the tube 50 and the housing 1 by capillary action. In the illustrated embodiment, the guide is formed by extensions 51 projecting from the inside of the housing slightly behind the aperture 48.

It is furthermore proposed to provide behind the guide 51, in spaced relationship thereto, a cup-shaped cap 52 (see FIG. 1*b*) which masks the writing member 49 from the housing aperture in the retracted position and which is adapted to be expanded against the action of the resilient return force when the writing member is pressed against the base of the cup, and which is adapted to close automatically under the action of the return force when the writing member is retracted from the expanded opening. The angle which the wall portions of the cap 52 which directly bound the expansible opening of the base of the cup enclose with the longitudinal axis of the housing should be of such size that, even after the expansion of the cap, they are at such a distance "*b*" from the housing wall that the writing liquid which wets the edges of the expansible aperture cannot be drawn by capillary action into the space between the wall portions of the cup and the housing wall extending between the latter and the forward housing aperture. The base of the cup which forms the cap 52 has, as is apparent from FIGS. 1*a* to 3*b*, the form of a cone whose aperture or open angle is greater than 90°. In the embodiment illustrated in FIGS. 1*a* and 2, the cap 52 may be formed of a cup-shaped part consisting of rubber, the edge of the aperture of which is outwardly turned over and gripped between the spring 4 and a housing shoulder. The expansible aperture is in this case formed by one or more incisions in the base of the cap.

If the cap consists of an injection-molded plastic part having relatively low elasticity, as in the embodiment according to FIG. 3*a*, and equal slots 53 (see FIG. 3*b*) are formed in the production of the cap 52' it is found necessary to take particular steps to cause those edges of the flaps of the cap which bound the slots to bear one against the other when the cartridge is in the retracted position. This can be done by means of a sleeve 54 consisting of highly elastic material, for example rubber, which is stretched over the cap so that it is expanded, the sleeve being formed with an aperture 55 in its base. Owing to the return force produced in the sleeve 54 by the expansion, the flaps of the cap 52 are applied one against the other as soon as the cartridge is retracted into its rear position.

In order to avoid damage to the writing member constructed as a bundle of fibers, it is found desirable to round off the inside edge 53' of the expansible cap.

I claim:

1. A writing instrument comprising, in combination:
   a. a hollow housing elongated along an axis of the elongation and having a forward and a rear end, each end defining an opening;
   b. an elongated writing member having two opposite ends and a writing point at one of the ends, and arranged within said housing along the axis of elongation thereof, with said writing point adjacent the forward end of said housing;
   c. a spring means arranged within said housing for biasing said writing member toward the rear end of said housing;
   d. an operating means arranged in contact with said writing member at the other of the ends of said writing member for displacing said writing member along the axis of said housing between a retracted position having said writing point entirely within said housing and an advance position wherein said writing point extends out of said housing against the bias of said spring means by applying a force parallel to the axis of said housing to said operating member in the direction of the forward end of said housing;
   e. a securing clip having a free end and arranged outside of and adjacent to said housing near the rear end thereof;
   f. means including a locking element formed on said securing clip adjacent the forward end thereof for retaining said writing member in the advanced position and operable to release said writing member and permit it to move to its retracted position both when a force parallel to the axis of said housing is applied to said operating member in the direction of the forward end of said housing and, separately, when the free end of said securing clip is biased away from said housing in a direction that is substantially perpendicular to the axis of said housing; and
   g. means separate from said retaining means and coacting with said operating means for retaining said writing member in the retracted position after said securing clip is biased away from said housing.

2. The writing instrument as defined in claim 1, further including a connecting portion connecting said operating means to said securing clip adjacent the rear end of said securing clip, an axially extending slot in said housing receiving said connecting member and effective to prevent rotation of the operating means, and guide surfaces and stops for said locking element formed on the outside of the housing and cooperating with said locking element to form said advanced position retaining means.

3. A writing instrument as defined in claim 2, further including a resiliently outwardly urged pawl formed on said operating means, and a recess in said housing, said pawl engaging said recess in the retracted position of the writing member to form said separate retaining means.

4. A writing instrument as defined in claim 3, wherein a portion of said securing clip extends forwardly of said locking element and slopes outwardly from the housing to facilitate the introduction of the material of a pocket between said securing clip and said housing.

5. A writing instrument as defined in claim 2, wherein there is formed on the exterior of said housing:
   a. a rearmost, a central, and a foremost inclined guide surface, axially spaced from one another, against which said locking element bears, and all inclined in the same sense with respect to the axis of elongation of said housing;
   b. a stop surface at the rear end of said central guide surface which is effective to engage said locking element when the writing member is in its advanced position;
   c. a transfer guide surface between each of said three axially spaced guide surfaces; and
   d. a further stop surface arranged to be effective on movement of the locking element from said rearmost guide surface to said central guide surface to prevent said locking element from being deflected as far as the respective one of said transfer guide surfaces connecting said foremost guide surface to said rearmost guide surface, so as to skip the stop surface formed on the end of the central guide surface.

6. A writing instrument as defined in claim 2 wherein there is formed on the outside of said housing:

a. a rearmost, a central and a foremost inclined guide surface, which are axially spaced from one another and against which said locking element bears, the inclination of the rearmost guide surface to the axis of elongation of said housing being opposite to that of the central and foremost guide surface;

b. a stop surface at the rear end of said central guide surface arranged to be effective to engage said locking element when said writing member is in its advanced position;

c. a transfer guide surface between each of said three axially spaced guide surfaces; and

d. a further stop surface arranged to be effective on movement of said locking element from said central guide surface to said foremost guide surface to prevent said locking element from being deflected in the direction of said transfer surface from said rearmost guide surface to said central guide surface.

7. A writing instrument as defined in claim 1, further comprising a member which is displaceable rearwardly under the action of said spring means, said member having stops and guide surfaces formed thereon, and the locking element associated with said securing clip being a locking pawl, said locking pawl engaging said member to prevent movement thereof to the retracted position.

8. A writing instrument as defined in claim 7, wherein said locking pawl comprises an extension of said securing clip, and wherein said housing has a wall and defines an aperture in said wall, through which said extension passes to engage said member.

9. A writing instrument as defined in claim 7, wherein said locking pawl has a tongue in the form of an incision in said housing, said tongue being raised from said member when said securing clip is biased away from said housing.

10. A writing instrument as defined in claim 7, further including an annular extension on that portion of said operating means which extends into said housing to form a limiting stop for said member when said member is shifted rearwardly.

11. A writing instrument as defined in claim 1 wherein said securing clip is connected to said operating means and said operating means is adapted to swivel about an axis perpendicular to the axis of said housing when said securing clip is lifted, and further comprising two outwardly urged, radially resilient pawls on said operating means, and stops and guide surfaces on the interior of said housing, said stops and guide surfaces cooperating with one of said pawls to form said retaining means for the advanced position, and a recess in said housing cooperating with said two pawls upon the biasing away of said securing clip, said one of said pawls being so arranged that on the biasing of said securing clip it disengages from one of said stops which arrest said writing member in its advanced position.

12. A writing instrument as defined in claim 1 wherein said writing member comprises a bundle of fibers enclosed in a tube having an outer diameter, and said housing has an inner diameter substantially larger than said outer diameter and defined by a wall and is provided with a guide means for said tube at the forward end of said housing, which guide means is axially spaced from the opening defined in the forward end and is effective for guiding said tube in said opening when said writing member is in its advanced position, and is located at such a distance from said housing wall for assuring that no writing ink can contact said housing under the influence of capillary action in the gap between said tube and said housing.

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