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AMENDED SPECIFICATION.

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(The Amendments are shown in *erased and italic type.*)

PATENT SPECIFICATION



Application Date: Jan. 30, 1925. No. 2736 / 25.

236,475*

Complete Accepted : July 9, 1925.

COMPLETE SPECIFICATION (AMENDED).

Improvements in Pencil Cases.

I, WENZEL FRANZ BRYNDA, of 51, Kagranerplatz, Vienna, Austria, a citizen of the Czechoslovak Republic, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to a magazine pencil adapted to contain a number of leads of different grades or colours capable of being brought selectively into the writing position, and the object of the invention is to provide an improved device of this kind.

According to the invention a magazine pencil is provided wherein a group number of lead holders carrying leads of different grades or colours are mounted in a casing provided with an axial opening at the end and so as to be capable of longitudinal but not rotational movement with respect thereto and are positively connected to a common actuating member in such a manner that by moving said member longitudinally in one direction, partially rotating it relatively to the casing and then moving it longitudinally in the opposite direction, one lead is positively withdrawn from the writing position and another lead is selected and advanced into the writing position. The common actuating member may consist of one of two telescopic members which constitute the pencil casing so that by extending the casing, partially rotating one member relative to the other and

closing the casing, one lead is withdrawn from the writing position and another is selected and advanced to the writing position. The lead is supported in the writing position by means of a cone or cap which may be provided with a releasable gripping device, but the connection between the actuating member and the leads is such that the latter are positively withdrawn from and advanced into the writing position by the longitudinal movement of the actuating member and are not moved by gravity or springs as in known magazine pencils in which one of a number of leads can be engaged selectively and held in the writing position by a releasable gripping device.

A number of different forms of construction according to the invention are illustrated in the accompanying drawings in which:—

Figure 1 is a longitudinal section of one constructional form of the pencil case, the parts being in the position ready for use.

Figure 2 is a similar section with the inner sleeve pushed outwards in the outer one.

Figures 3 to 5 are transverse sections on the lines a, b; c, d and e, f, respectively of Figure 2.

Figures 6 to 10 are similar views of another constructional form of the pencil case.

Figures 8 to 10 being sections on lines g, h, i, k and l, m, Figure 7.

Figures 11 and 12 are longitudinal

sections of another constructional form of the improved pencil case and Figures 13 and 14 are sections on the lines *n*, *o*, and *p*, *q*, Figure 12.

5 Figure 15 is a longitudinal section of a modification of the constructional form shown in Figures 11 to 14. Figure 16 is a cross sectional view of the base of a pencil constructed according to a further
10 modification of the invention.

The pencil case shown in Figures 1 to 5 consists of an outer sleeve 1 and an inner sleeve 2. The inner sleeve 2 is provided at its rear end with a plug 3 and
15 at its front end with a conical tip 4 which may be integral with the sleeve 2. Resilient lead holders 5 made of wire or the like extend through the plug and are
20 guided therein and besides they are provided with crank shaped projections 6 at about the middle of their length. The top ends of the lead carriers carry or form clamping sheaths 7 for the leads 8.

The outer sleeve 1 and the inner sleeve
25 2 are rotatable and movable longitudinally the one relatively to the other and the outer sleeve is provided with an inwardly projecting abutment 9. The arrangement is such that if the inner
30 sleeve has been pushed outwards the rear end of any of the lead carriers 5 may be brought into engagement with the abutment 9 by properly turning the inner sleeve within the outer one. To facilitate
35 the selection or adjustment of the lead carrier to be brought into engagement with the abutment 9 the inner end of the inner sleeve 2 is provided with as many longitudinal slots 10 as there are
40 leads and lead carriers as shown in Figures 1, 2 and 4. These slots 10 are open at their inner ends and preferably radially opposite the lead carriers 5. Into one of these slots normally engages
45 a projection 11 on the inside of the outer sleeve 1 as shown in Figure 1, but when the inner sleeve is pushed outwards to the full extent the projection 11 leaves the said slot as shown in Figure 2 and
50 then the two sleeves may be rotated relatively to each other for adjusting the abutment 9 to operate the lead desired, whereby the projection 11 comes opposite the inner open end of one of the slots 10.
55 The inner sleeve may then be pushed again into the outer sleeve, the relative rotation of the two sleeves is prevented by the projection 11 engaging into the slot 10 selected. 12 is a central guide
60 tube within and attached to the rear end of the outer sleeve at 13, and 14 is a pusher guided in the tube 12 and attached by a transverse pin 15 to the pushing ring 16 sliding on the outside
65 of the outer sleeve 1. 17 and 18 are

longitudinal slots in the outer sleeve 1 and the guide 12 respectively for permitting the pushing ring 16 to move
longitudinally on the outer sleeve. A
70 spring 19 threaded on the guide tube 12 and bearing on the one hand on the plug 3 and on the other hand on the transverse pin 15 tends to hold the pusher in its inoperative position and at the same time
75 to force the inner sleeve 2 out of the outer sleeve 1.

The guide tube 12 is provided at its front end with a flange or projection 20 bearing against the front side of the projection 6 of the lead carrier 5. 21 is a
80 hollow cone separate from the cone or tip 4 and screwed on the inner sleeve 2, such cone 21 enclosing the slotted front end 4¹ of the tip 4 so that by loosening, or by firmly screwing down the cone 21,
85 the slotted end 4¹ is permitted to expand or is compressed respectively. The lead brought into operative position, as shown in Figure 1, may thus be firmly clamped, so that the spring 19 although under
90 tension is prevented from moving the sleeve 2 by the engagement of the cranked projection 6 and the flange 20.

The operation of the pencil case above described is as follows:—

95 When in the position of the parts shown in Figure 1 the cone 21 is loosened, the sleeve 1 may be moved rearwardly on the sleeve 2 into the position shown in
100 Figure 2 since the lead and the lead carrier are released by loosening the cone 21. This movement is assisted by the spring 19. At the end of this movement the projection 11 comes out of engagement with the slot 10 in which it was
105 guided, and then the sleeves 1 and 2 may be rotated relatively to each other round their longitudinal axis in order to bring the lead carrier 5 associated to the fresh lead desired in front of the abutment 9.
110 This adjustment may be facilitated by suitable marks, for instance coloured ones, on the inner sleeve moving past a mark fixed on the outer sleeve. When so properly adjusted relatively to each
115 other, the inner sleeve may be pushed back longitudinally into the outer one and in this movement the lead carrier 5, lead 8, and lead sheath 7, are forced towards the centre by means of the
120 conical tip 4 so that the lead 8 and its sheath 7 enter the slotted front end 4 of the tip. Finally the cone 21 is firmly screwed down so as to securely clamp the lead in its proper central position and at
125 the same time the sleeves 1, 2 are locked in their relative position by the engagement of the cranked projection 6 and the flange 20, and owing to the fact that the outer sleeve 1 strikes against the rear
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end of the cone 21 as shown in Figure 1. The pusher 14 may be used for feeding forward the lead for the time being in the writing position, the cone 21 being loosened to free the lead. The pusher is afterwards returned into its normal position by the spring 19.

An important advantage of the present pencil case is that the lead carrier has no outwardly projecting parts and furthermore that at any time only one lead can be pushed out into operative position, so that two leads can never interfere with each other.

Figures 6 to 10 show another constructional form of the improved pencil case provided with rigid lead carriers and without a pusher. Figure 6 shows the inner sleeve pushed into the outer one and Figure 7 shows the inner sleeve in its forward position. In this constructional form the inner sleeve 2 is again guided in the outer one 1, projection 11 on the outer sleeve engaging into one of the longitudinal slots 10 of the inner sleeve 2. The lead carriers 5 are in this case rigid, or constructed as a rigid sheath constituting a clamp 22 at its front end into which enters the rear end of the lead 8, so that almost the entire length of the latter is uncovered. These lead carriers are guided each by a projection or pin 23 at their rear ends in longitudinal slots 24 of a sleeve 25 provided within and permanently secured, preferably soldered, to the inner sleeve 2. Owing to this arrangement the lead carriers 5 are capable of slightly rocking radially and thus they may be brought into an approximately central position in the pencil case. The sleeve 25 projects at its front and rear end beyond the sleeve 2 and carries at its front end a screw thread on which the conical tip 26 having a central hole is screwed. At the rear end the sleeve 25 carries a ring 27 closing the rear ends of the longitudinal slots 24 and prevents the pins or projections 23 from coming out of the slots.

Furthermore the outer sleeve 1 is provided with a pushing wire 91 corresponding in every respect to the abutment 9 of the Figures 1 and 2. This pushing wire is held in such eccentric position relatively to the axis of the pencil case by a plate 33 that it is capable of acting on the rear end of the lead carrier which is just in operative position. At the inside of the outer casing 1 a ring 28 is provided which serves as a stop for the projecting pin 23 of the lead carrier 5 which is just in its forward position and withdraws this lead carrier when the inner sleeve 2 is pushed out of the outer sleeve as shown in Figure 7. The inner

sleeve 2 is provided at its front end with a screw thread on which a nut 29 is screwed which serves as a stop for the outer casing 1 and therefore also for limiting the forward movement of the outer sleeve 1 on the inner one 2. This nut may also be constructed so as to form a clamp for the outer sleeve 1 for which purpose this outer sleeve 1 may be provided with a short longitudinal slot 30 at its front end, thus enabling it to be contracted and caused to grip the sleeve 2.

In order to bring any desired lead into operative position, the outer sleeve is pushed rearwards on the inner one as shown in Figure 7, then the projections 11 the position of which is indicated on the outside and which in this position is out of engagement with its longitudinal slot, is so adjusted by rotating the one sleeve relatively to the other that it is in front of the desired longitudinal slot 10 which may be indicated by any desired mark visible from the outside. Then the outer sleeve is pushed forward on the inner one until the desired length of the lead 8 selected projects from the tip. This is due to the fact that the lead holder 5 selected is pushed forwards by the pushing wire 91, when the outer sleeve slides forwards on the inner one and is rocked towards the centre by the conical tip 26. Then the two sleeves 1 and 2 are locked in position by screwing fast the nut 29 unless the parts be locked by friction.

For replacing a lead by another one, the outer sleeve is pushed back on the inner one, and if necessary, after loosening the nut 29: thus the lead which was in operative position is automatically drawn back by the ring 28 as shown in Figure 7. Then the fresh lead desired is brought into operative position as above described.

Unserviceable leads are removed from the sheaths 28 of the lead carriers 5 by unscrewing the tip 26 and pushing forwards the corresponding lead carrier, and the remainder of the lead still contained in the sheath is removed by a pin or the like whereupon a fresh lead may be inserted. A store of leads may be kept in the compartment 31 in the rear part of the sleeve 1 which is closed by a cap 32.

In the constructional form of the improved pencil case shown in Figures 11 to 14 the construction and arrangement of the outer sleeve 1, the inner sleeve 2 and the lead carriers 5 is substantially the same as in the constructional form shown in Figures 6 to 10 except that for the pushing wire 91 shown in the latter figures a projection 9 is

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secured to the outer sleeve 1 and is used for advancing the lead and lead carrier selected, the same as shown in Figures 1 to 5. To the rear end of the inner sleeve 5 a hollow central rearwardly projecting extension 36 is secured, and in the rear end of the outer sleeve 1 a screw spindle 34 is rotatably mounted by its head 33, but is locked against longitudinal movement. 10 35 is a nut capable of screwing forwards and rearwards on the spindle 34 and provided with inwardly projecting teeth 37 adapted to engage into holes or recesses 38 in the rear resilient end of the extension 36. 15 By pushing forwards the inner sleeve 2 with relation to the outer sleeve 1 as shown in Figure 2 and rotating the two sleeves relatively to each other any desired lead may be brought 20 into operative position and may then be pushed forwardly by means of the abutment 9 co-operating with the corresponding lead carrier 5, by pushing back the inner sleeve into the outer one, whereby the front end of the lead is pushed out 25 of the tip as described with reference to Figures 1 to 5, or 6 to 10. By thus pushing the inner sleeve into the outer one the holes or recesses 38 of the extension 36 are brought into engagement 30 with the teeth 37 of the nut 35 as shown in Figure 11. By then turning the screw spindle 34 by means of the head 33 the nut 35 and the extension 36 which are then locked together with the inner sleeve against rotation relatively to the outer sleeve by the projection 11 on the outer sleeve engaging into a longitudinal slot 10 of the inner sleeve are moved 40 forwards or backwards by means of the screw spindle 34 whereby the length of the lead projecting from the tip may be adjusted at will. In the constructional forms shown in Figures 1 to 5, or 6 to 10, the same adjustment may be effected by 45 longitudinally pushing the inner sleeve relatively to the outer one by hand.

The screw spindle 34 might also be secured to the inner sleeve 2 as shown 50 in Figure 15 and the extension 36 with the holes or recesses 38 might be screwed on the said spindle while the teeth 37 are secured to the inner front end of the head 33 rotatably mounted, but locked against 55 longitudinal movement in the rear end of the outer sleeve 1. The operation of this arrangement is obviously the same as that of the arrangement shown in Figures 11 to 14.

60 Figure 16 shows a construction according to the invention in which the pencil casing consists of a tube 39 which is provided at one end with a screwed point section, (not shown) similar to that provided 65 in the constructions hereinbefore

described. The lead carriers 40 which are similar to the lead carriers 5 shown in Figures 6 and 7 are mounted within a tube 41 fixed in the tube 39 and provided at its rearward end with a reduced 70 portion 42 formed with slots 43 which are engaged by studs 44 formed on the rearward ends of the lead carriers. A cylindrical member 45 mounted within 75 the tube 39 engages over the reduced end 42 of the tube 41 and is provided at its forward end with an intumed flange 46 adapted to engage the studs 44. The rearward end of the member 45 is provided with a nut 46 threaded on a screw 80 47 fixed to a cap 48 which is rotatable and slidable on the tube 39, the forward end of the screw 47 being provided with an abutment member 49 adapted to engage a 85 disc 50 which closes the rearward end of the reduced portion 43 of the tube 41 and serves to prevent the studs 44 from leaving the slots 43. A conical lug or projection 51 is formed on the inner surface of the member 45 near the flange 46 90 and is adapted to be brought into engagement with any one of the studs 44. The lug 51 is adapted to project slightly into one of the slots 43 and can be moved from one slot to the other by rotating the 95 member 45 after shifting it axially to bring the lug 51 into register with an annular depression 43a formed in the part 42 at the lower ends of the slots.

The operation of this form of construction is as follows:— 100

Assuming that the parts are in the position shown in Figure 16 in which one of the lead holders 40 is in the writing position, if it is desired to change the lead, 105 the cap 48 is pulled rearwardly so as to cause the member 45 to slide rearwardly with it and withdraw the lead holder 40 from the writing position by the engagement of the flange 46 with the stud 44. 110 The member 45 which now projects beyond the rearward end of the tube 39 is given a partial rotation so as to bring the lug 51 into engagement with the slot 43 corresponding to the lead holder which it is desired to advance. The cap 48 is then returned to the normal position carrying the member 45 with it, and the desired lead holder 40 is advanced to the writing position by the engagement of 120 the lug 51 with the stud 44. By rotating the cap 48 to move the screw 47 into or out of the nut 46 the position of the member 45 can be adjusted longitudinally so as to adjust the lead in the point 125 section to allow for wear, the lead being held in the adjusted position against the writing pressure by the friction between the cap 48 and the outer surface of the tube 39. 130

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A magazine pencil adapted to contain a number of leads of different grades or colours capable of being brought selectively into the writing position, wherein a number of lead carriers are mounted in a casing provided with an axial end opening so as to be capable of longitudinal but not rotational movement with respect thereto and are positively connected to a common actuating member in such a manner that by moving said member longitudinally in one direction, partially rotating it relatively to the pencil casing and then moving it longitudinally in the opposite direction, one lead is positively withdrawn from the writing position and another lead is selected and advanced into the writing position.

~~2. A magazine pencil according to Claim 1 wherein said actuating member is constituted by one of a pair of telescopic members of the pencil casing.~~

2. 3. A magazine pencil comprising a casing carrying a number of lead holders adapted to be brought selectively into the writing position through an axial end opening in the casing and a member slidably and rotatably mounted in or on the pencil casing and having a lost motion connection with said lead carriers, whereby any one of the latter is positively withdrawn from the writing position when said member is moved longitudinally in one direction, said member being provided with an abutment or projection which can be brought into engagement with any one of the lead carriers by rotating said member relatively to the pencil casing so as to advance the selected lead carrier to the writing position upon longitudinal movement of said member.

3. 4. A magazine pencil according to Claim 2 3 wherein said actuating member is slidably and rotatably mounted within the casing and has an abutment or projection adapted to engage in any one of a number of slots which form guides for the lead holders and to be moved from one slot to another by being rotated after being withdrawn partially from the casing, such member having threaded engagement with a thimble slidable and rotatable on the end of the pencil casing substantially as and for the purpose set forth.

4. 5. A magazine pencil according to Claim 1 2 wherein the actuating member is constituted by one of a pair of telescopic members of the pencil casing said

telescopic members consist of a number of sleeves one of which is provided with a number of longitudinal slots equal to the number of lead carriers, whilst the other is provided with a projection so arranged that when the one sleeve is pushed out of the other the said projection is out of engagement with any of the said slots and the two sleeves may be rotated relatively to each other for bringing the projection in front of the open end of any of the slots, the projection entering this slot on pushing back one of the sleeves into the other.

5. 6. A pencil case as claimed in Claim 4 5 characterized in that the abutment serving to push the lead selected into operative position also constitutes the projection capable of entering into the longitudinal slots of one of the sleeves and of locking this sleeve against rotation relatively to the other sleeve.

6. 7. A pencil case as claimed in Claim 1 2 wherein the actuating member is constituted by one of a pair of telescopic members of the pencil casing, characterized in that a ring, flange or the like rigidly connected to the outer telescopic member is capable of engaging with projections on the lead carriers for pushing back all the lead carriers and leads into inoperative position when the inner sleeve is pushed outwards relatively to the outer sleeve.

7. 8. A pencil case as claimed in any of the Claims 1, 4 5 or 5 6 characterized in that the lead carriers are adapted to rock in their guides round axes tangential to the sleeve for permitting the leads to come into a central position when pushed into operative position.

~~9. A pencil case as claimed in Claim 1 characterized in that the rigid lead carriers are guided in longitudinal slots of a sleeve connected to the inner sleeve.~~

8. 10. A pencil case as claimed in any of the Claims 1, 4 5, 5 6 or 6 7 characterized in that the rear ends of the leads are clamped in the front ends of the lead carriers so that the length of the lead projecting from the tip may be adjusted by longitudinally moving the two sleeves relatively to each other.

9. 11. A pencil case as claimed in Claim 8 10, characterized in that the inner sleeve is provided with an adjustable nut for limiting the relative longitudinal movement of the two sleeves.

10. 12. A pencil case as claimed in Claim 9 11 characterized in that the adjustable nut also serves as a clamp for the outer sleeve.

11. 13. A pencil case as claimed in any of the Claims 1, 4 5, 5 6 or 6 7 characterized in that the rear cap of the

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outer sleeve is rotatably mounted in such sleeve, the rotary movement of the said cap being utilized for adjusting the inner sleeve relatively to the outer one for the purpose of adjusting the length of the lead projecting from the tip.

12. 14. A pencil case as claimed in Claim 11 is characterized in that between the rear cap of the outer sleeve and the inner sleeve a screw bulb and a nut screwed thereon are interposed, one of these members being adapted to be rotated by the said rear cap, but being locked against longitudinal movement relatively thereto while the other of the

said members is secured to the inner sleeve.

13. 15. A magazine pencil constructed and adapted to operate as a whole substantially as described with reference to Figures 1 to 5, 6 to 10, 11 to 15 or 16 of the accompanying drawings.

Dated this 30th day of January, 1925.

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E.C. 4.

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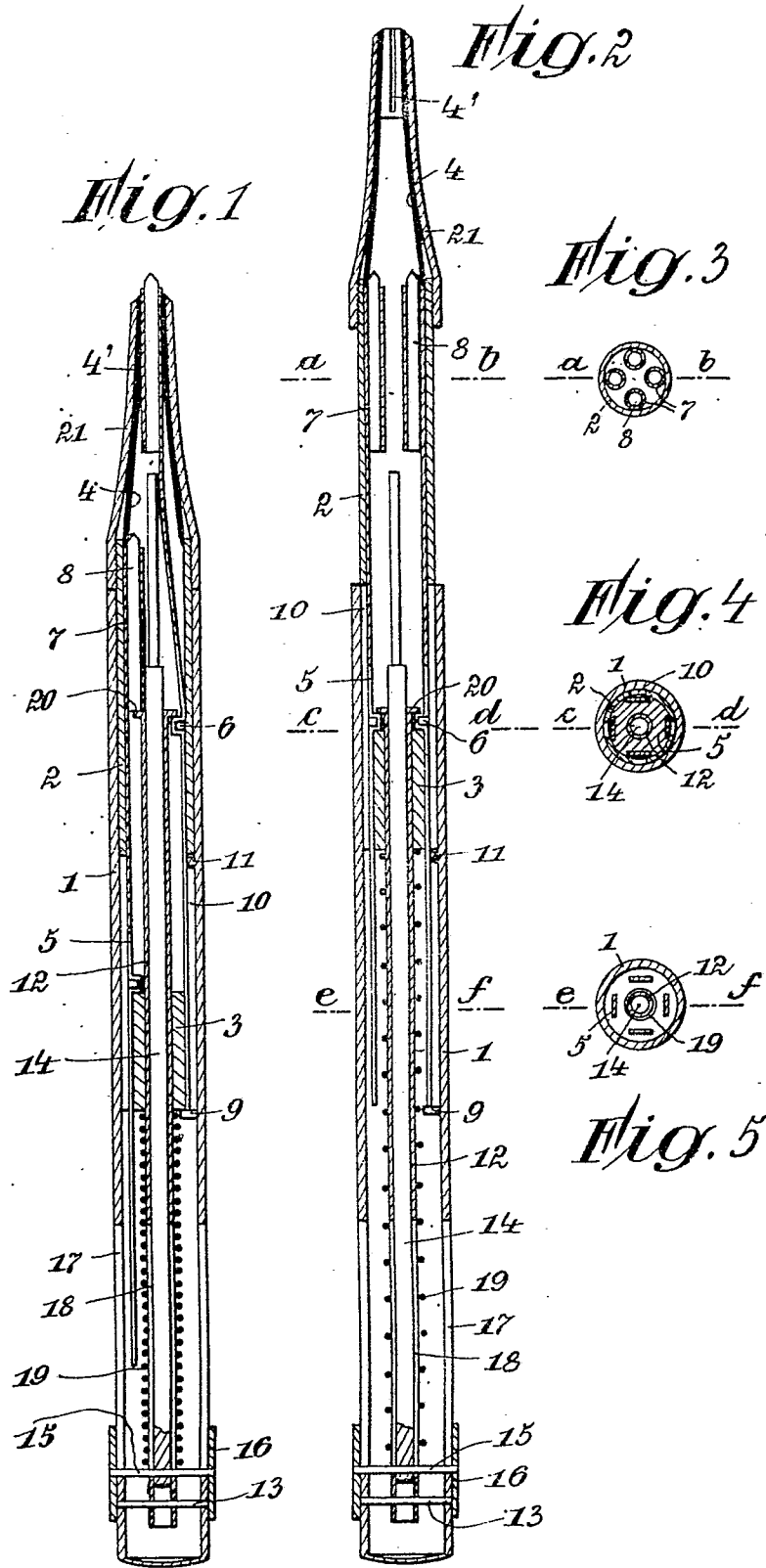


Fig. 6

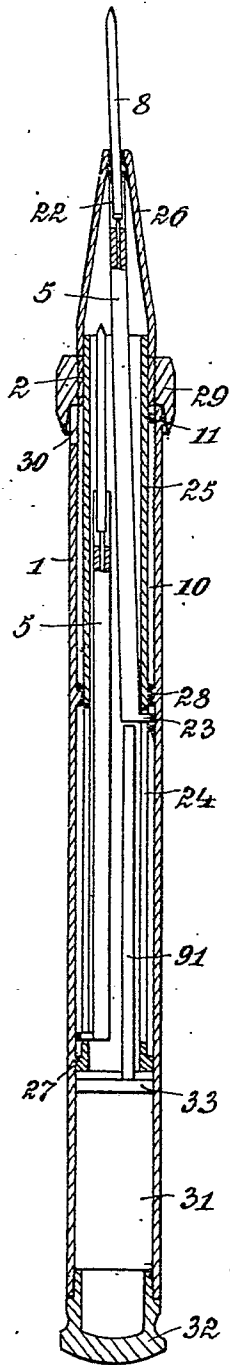


Fig. 7

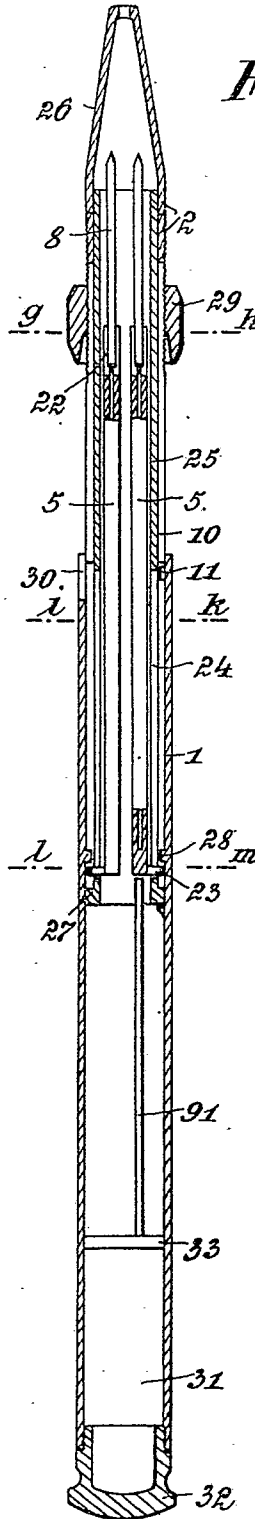


Fig. 8

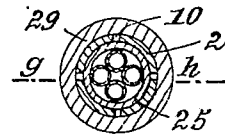


Fig. 9

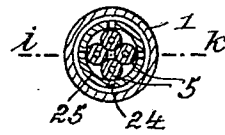


Fig. 10

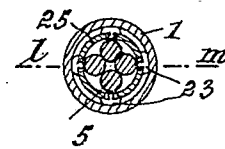


Fig. 1

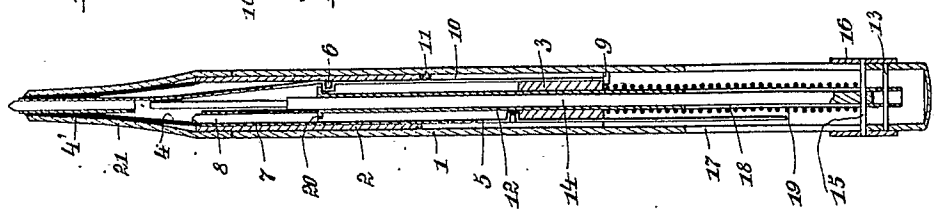


Fig. 2

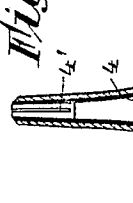


Fig. 3

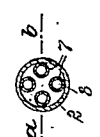


Fig. 4

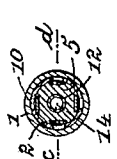


Fig. 5

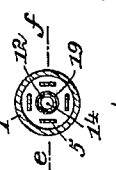


Fig. 6



Fig. 6

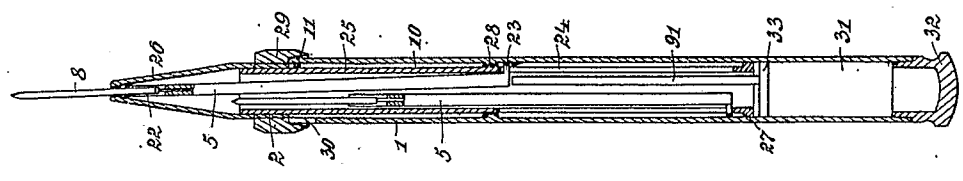


Fig. 7

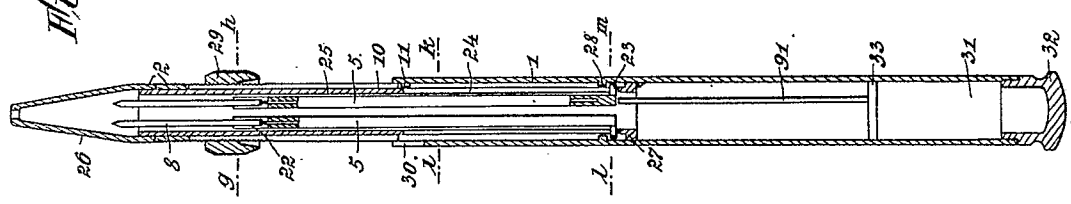


Fig. 8



Fig. 9

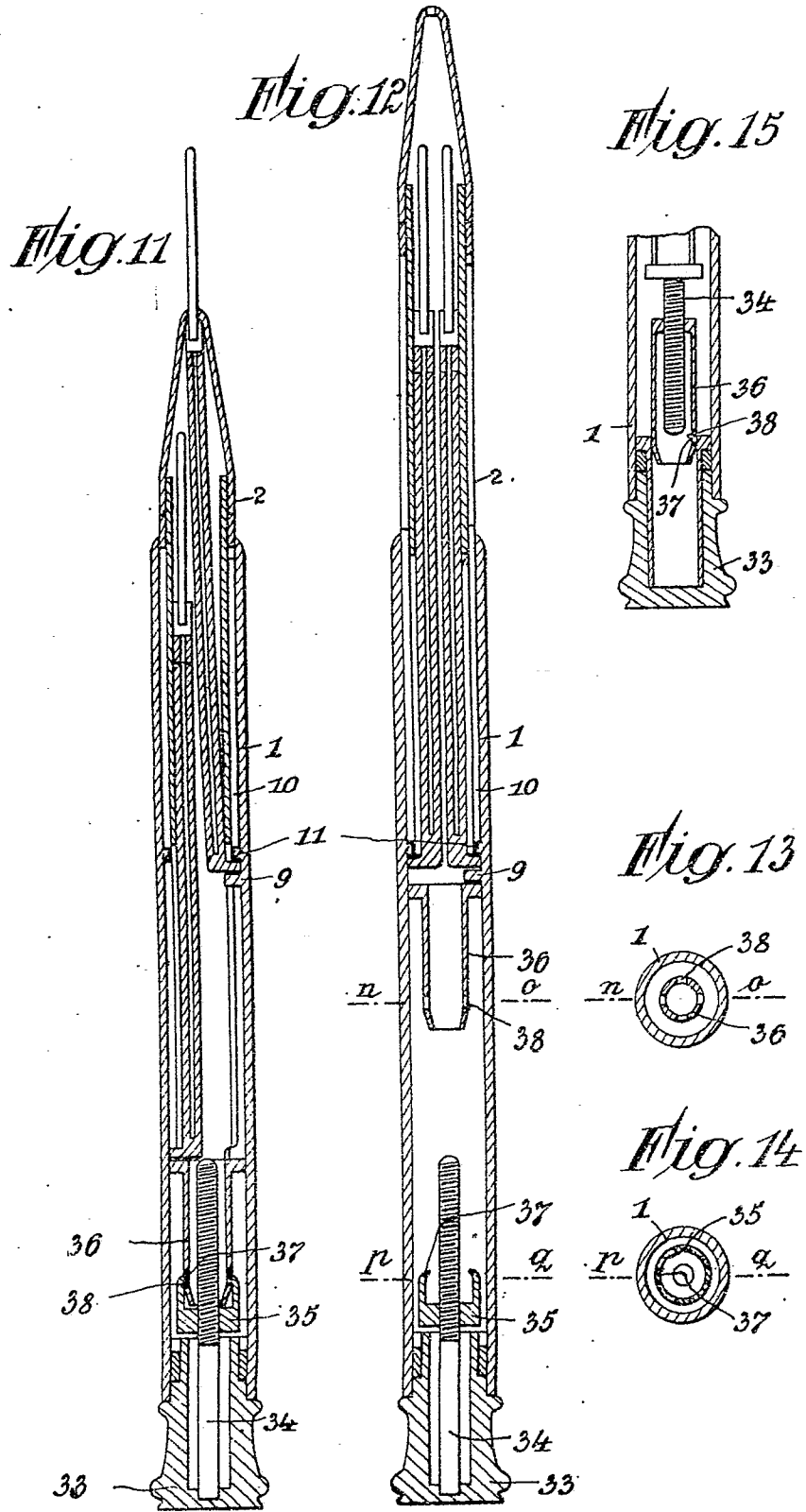


Fig. 10

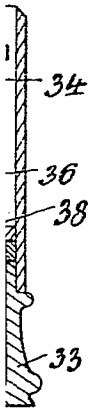


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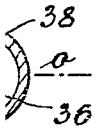
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γ.15



γ.13



γ.14

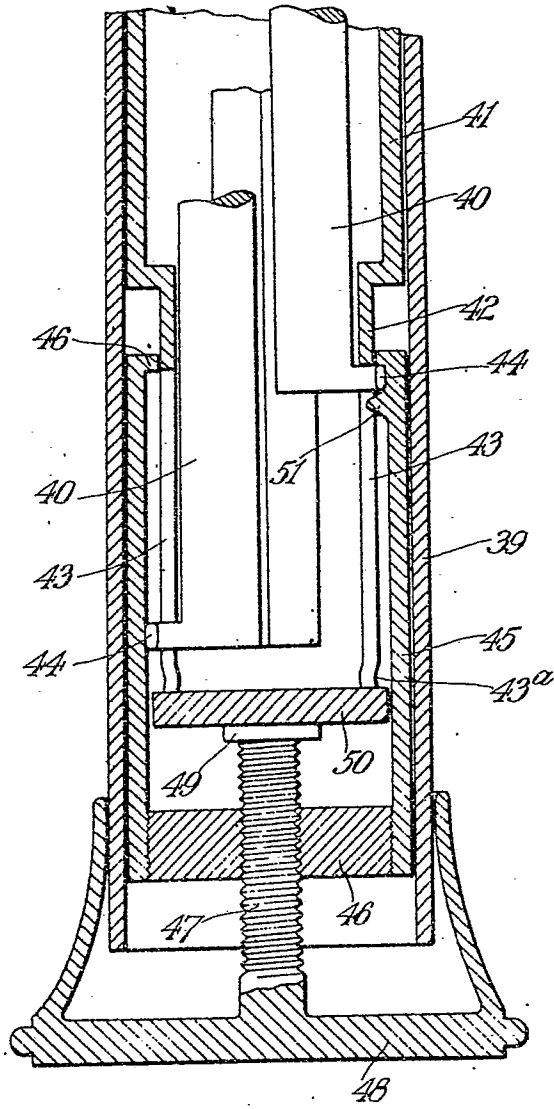
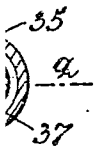


Fig.16.

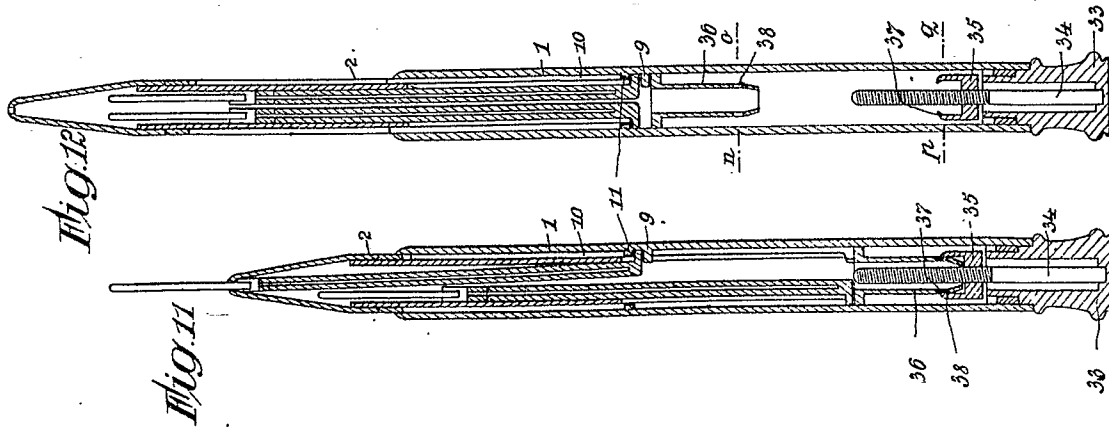


Fig. 15

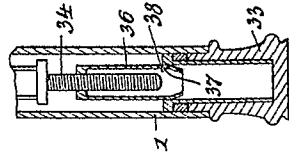


Fig. 13

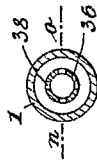


Fig. 14

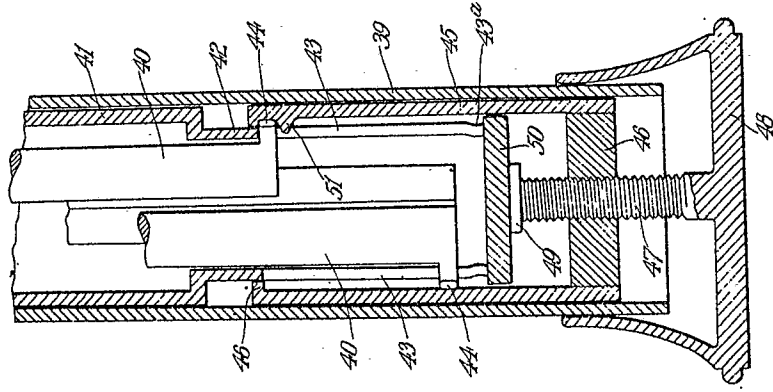


Fig. 16

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