



PUBLISHED

MAY 11, 1943.

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CHANGE-PROPELLING PENCIL

Filed April 15, 1941

Serial No.

388,680

2 Sheets-Sheet 2

Fig. 1

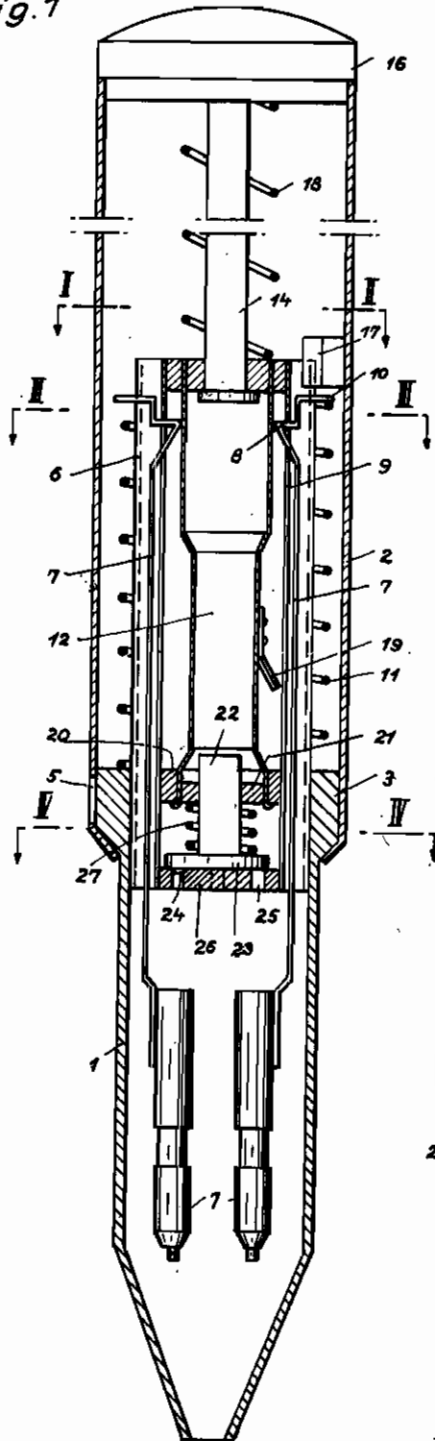


Fig. 2

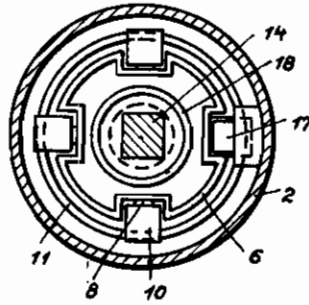


Fig. 3

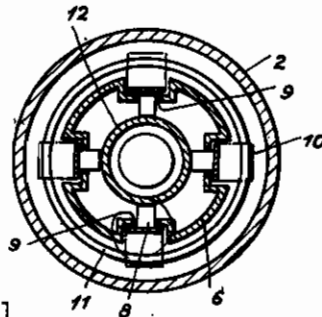
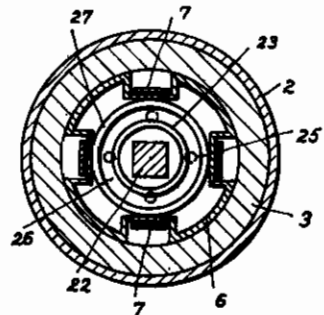


Fig. 4



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## CHANGE-PROPELLING-PENCIL

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Appleton filed April 15, 1941

The invention refers to a change propelling pencil with which the refills are brought into writing position by a pushing movement in the longitudinal direction of the pencil, the feeding member being adjustable by turning to the single refill carriers guided in a refill carrying sleeve known to the art.

With pushing-change-pencils known to the art every refill carrier possesses an operating member protruding through a slit of the case sleeve. The disadvantages of such pencils lie in the fact that the members protruding from the surface of the case are liable to damage the garments, particularly the pockets, and interfere with the position of the pencil in the hand when pushing, that for every refill carrier a guiding slit must be provided for with stops securing the end position, that dust, moistness and the like are apt to enter through these slits, and that for the feed of the different refill carriers a particular member has to be operated in every case. It is true, with other known pushing-change-pencils the operating members protruding outward are avoided. They possess a feeding member adjustable by turning to the single refill carriers. But these pencils too are deficient. With these pencils the refill carrier lying in writing position has to be returned to its original position by hand by displacing it lengthways, when the refill is to be changed, before one is able to change over and place a new refill carrier into writing position. The longitudinal displacement of the refill carriers and turning the feeding member for transferring it to another refill carrier are in no connection with one another. Thus everyone of the movements mentioned requires a special operation.

These deficiencies are eliminated by the invention by everyone of the refill carriers brought into writing position by the feeding member being held in this position by a turnable stop and being subject to the action of a spring which guides it back automatically to the position of rest when the stop is turned, said stop being arranged at a carrying part which is connected with the carrier receiving the feeding member and which is thus adapted to be turned along with the carrier. All the refill carriers are subjected to the action of one single spring surrounding the sleeve of the refill carriers and bringing back automatically the refill carrier which is at the time in writing position and which is released on turning the stop, to the position of rest.

A further feature of the invention consists in the carrier of the feeding member being propped

against the carrying part of the stop by a spring and thus likewise returning automatically to its original position.

In preference the construction is such that the feeding member formed as a lengthening piece, projection, nose or the like is arranged at the displaceable rear part of the two-piece case sleeve and that this part is connected with the front part of the case sleeve by a gudgeon which on being turned carries along the carrying part of the stop and which is displaceable within it. The carrying part rests indisplaceable, but turnable in the sleeve of the refill carrier supported by the front part of the case sleeve.

With a pushing-change-pencil formed according to the invention the manipulation is facilitated considerably. When the rear part of the case sleeve and consequently the feeding member too is turned, the refill carrier being in writing position is released and guided back automatically to the position of rest. As simultaneously the adjustment to the next refill carrier takes place, the process of changing over is not only simplified, it may also be carried through very quickly. The latter also for the reason that the carrier receiving the feeding member returns likewise to the original position automatically when the respective refill carrier is brought into writing position. If the rear part of the case sleeve serves as a carrier for the feeding member, it entails the further advantage of the pencil always showing the same length both when in use and when not in use.

In the drawing the invention is illustrated by way of example,

Figure 1 showing a longitudinal section through a pencil when not in use,

Figure 2 a section on II—II of Figure 1,

Figure 3 a section on III—III of Figure 1,

Figure 4 a section on IV—IV of Figure 1,

Figure 5 a longitudinal section on feeding a refill carrier,

Figure 6 a longitudinal section of the pencil ready for use,

Figure 7 a cross section of another form of execution.

The case sleeve of the change-propelling-pencil consists of the front part 1 and the rear part 2 which is displaceable in relation to part 1. A strengthening 3 of the front part 1 of the case sleeve serves as a guidance on displacement and receives colour-indicators 4 visible through a window 5 of part 2 of the case sleeve.

In part 1 of the case sleeve the sleeve 6 of the refill carrier is supported in the guidances of

which the refill carriers 7 are displaceable. With the example of execution drawn four refill carriers are provided.

On longitudinal displacement the refill carriers 7 are guided by means of a nose or the like 8 in longitudinal slits 9 of the sleeve of the refill carrier. At their rear end on which the feeding member acts, they are in preference bent so as to form a pass piece 10. They are subjected to the action of a spring 11 propped against the strengthening piece 3 and which may be so narrow as to hold the refill carriers in the guidances of the sleeve of the refill carriers. In this case the stop 19 described further down need not be resilient.

In the interior of the sleeve 6 of the refill carrier a tube 12 is arranged unable to be displaced and conducted into ring 13. In tube 12 a gudgeon 14 is displaceable which on being turned carries along the disc 15 pressed into the tube 12, thus also tube 12. For this purpose the gudgeon is formed square in preference. It is housed in the closing cap 16 and is connected thereby with part 2 of the case sleeve.

Part 2 of the case sleeve receives the feeding member 17 which is formed as a lengthening piece, projection, nose or the like. A spring 18 tends to hold part 2 of the case sleeve in the original position.

At the tube 12 incapable of being displaced, but capable of being turned there is arranged a stop 19 which holds the respective refill carrier in writing position. It consists in preference of a resilient arm inclined forwards over which nose 8 of the refill carrier catches and which in this manner prevents the respective refill carrier from any pushing back not desired.

In front tube 12 is guided in the sleeve 6 of the refill carrier by means of a ring 20. It receives in its interior at front a disc 21 which is engaged by a square gudgeon 22, the head 23 of which has an elevation e. g. a cam 24 which catches under action of spring 27 into notches, holes or the like 25 of a disc 26 arranged in front at the sleeve 6 of the refill carrier.

When the parts of the new change-propelling-pencil are in the position shown in Figure 1, when not in use, and when the refill carrier adjusted—the colour of its refill may be seen

through the window aperture 5—is to be brought into writing position, part 2 of the case sleeve and thus the feeding member 17 is pushed forward. In doing so, the refill carrier adjusted is guided forward according to Figure 5, until its nose 8 catches over the resilient stop 19. The refill carrier is in writing position. The part 2 of the case sleeve is guided back automatically to the original position by spring 18 (see Figure 6).

Now, when a refill of some other colour is wanted for writing, the part 2 of the case sleeve is turned until the color-indicator desired becomes visible through the window 5. At the same time the feeding member 17 is adjusted to the respective refill carrier. By the act of turning tube 12 and thus stop 19 is carried along. As soon as the latter has passed nose 8 of the refill carrier being in writing position, the latter jumps back into its position of rest under action of spring 11 without any particular manipulation being required for it. The refill carrier adjusted now can be guided into the writing position in the manner described above.

The notch arrangement 22, 23, 24, 25, 26, 27 secures an exact adjustment of the feeding member 17 and of stop 19 to the respective refill carrier and prevents any not desired turning during writing.

Instead of notch arrangement 22—27 and a stop 19 separated from it an arrangement according to Figure 7 may be used with which one single member secures the adjustment and holds the refill carrier being in writing position. In this case the stop according to Figure 7 is formed as a resilient member 28. A curvature 29 of this member arranged at the end lays itself in the manner of a notch between two guidances of sleeve 6 of the refill carrier and thus takes over the function of the notch arrangement 22—27 described above. The end part 30 of the member 28 takes over the function of stop 19 described above. This form of execution has the advantage of simplifying the manufacture and thus reducing its cost. But in this case the turning can only be effected in one direction when changing over, contrary to the example of execution according to Figures 1-6.

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