

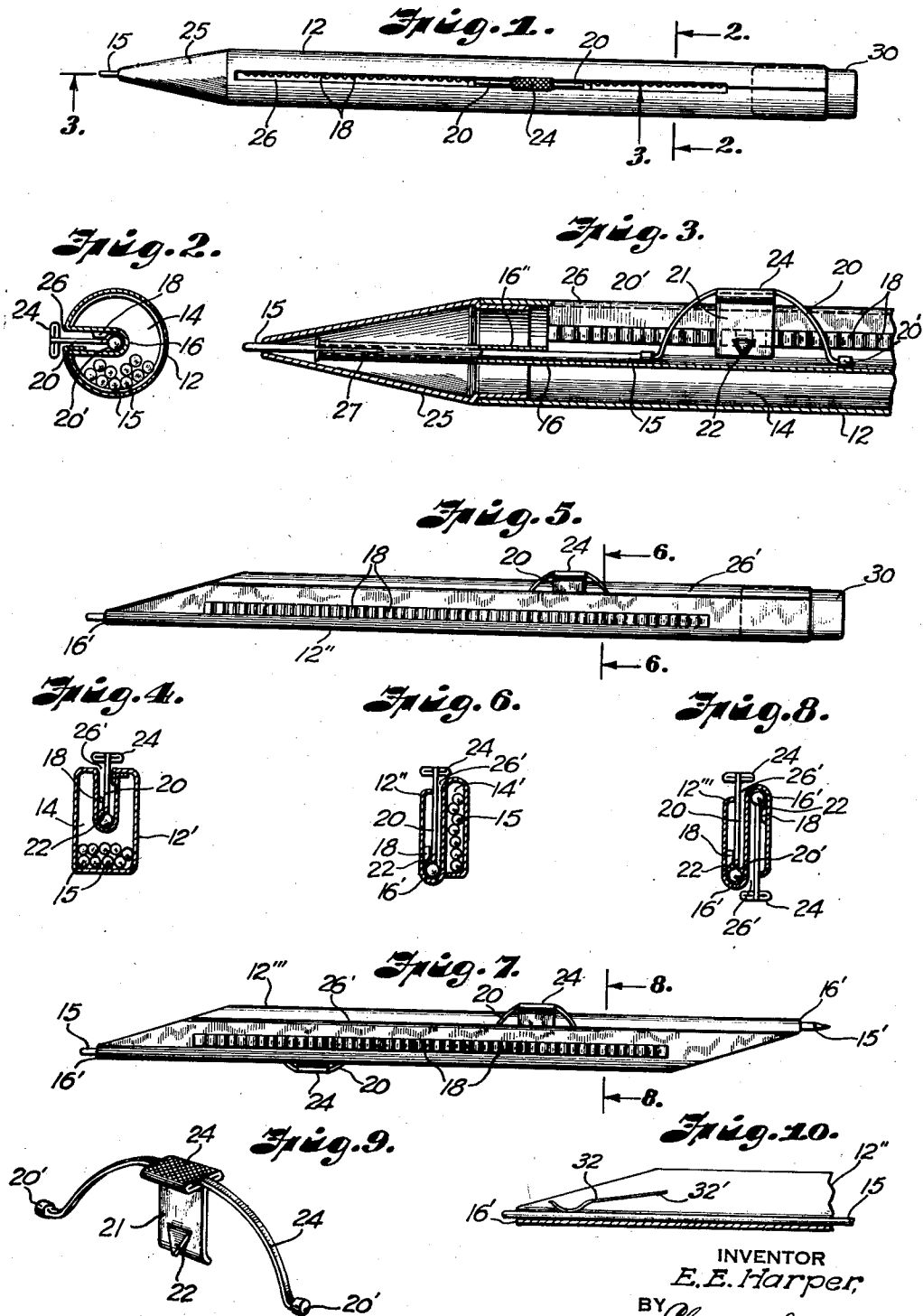
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MECHANICAL INSTRUMENT HOLDER DEVICE

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MECHANICAL INSTRUMENT HOLDER  
DEVICE

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7 Claims. (Cl. 120—19)

The present invention relates to holders for pencil leads, marking devices or tools and the like, and more primarily to that class of holders in which the marking device, tool or other instrument is projected as required into marking or other operative position.

A primary object of the invention is to provide a simplified construction adapted to be made up of a minimum of parts, and which may be produced in quantities at a minimum of expense. The essential construction therefore comprises a body member or holder for containing the marking element or other instrument (or supply of such elements), and a projector device or feeding element of an improved type adapted to feed said marking element or instrument and also effectively retain the same against any back-feeding movement.

It is also sought to provide a construction which may be made up in various suitable forms to satisfy different requirements of use, including combinations of marking elements or of other instruments of different characteristics or functions, for various purposes.

In its form as illustrated herein, the device is especially adapted for construction from suitable sheet material to constitute a holder as well as a supply chamber for extra leads, tools or other instruments, and a feeding device or projector movably related thereto, together with provision for securing said projector or feeding device in a substantially positive manner at each position of its adjustment.

With the foregoing general objects in view, the invention will now be described by reference to the accompanying drawing illustrating practical embodiments of the proposed improvements, after which those features and combinations believed to be novel and patentable will be particularly set forth and claimed.

In the drawing—

Figure 1 is a plan view showing a device constructed in accordance with the present invention;

Figures 2 and 3 are sectional views, representing sections taken on the lines 2—2 and 3—3, respectively, of Figure 1;

Figure 4 is a sectional view, similar to that shown in Figure 2, but illustrating a modification;

Figure 5 is a plan view illustrating another modified form of the device;

Figure 6 is a sectional view, representing a section taken on the line 6—6 of Figure 5;

Figure 7 is a plan view illustrating still another modified form of the device;

Figure 8 is a sectional view, representing a section taken on the line 8—8 of Figure 7;

Figure 9 is a perspective view, on an enlarged scale, showing the instrument-feeding or projector device; and

Figure 10 is a sectional detail view illustrating a modified gripping structure, adapted to be embodied in the improved construction.

Referring now to the drawing in detail, the essential elements of the invention as herein illustrated comprise a body member or element adapted to be constructed from suitable sheet material to provide a groove or channel for the lead, marking device or other instrument, and a projector element for progressively feeding such device or instrument—together with means along said groove or channel for positive engagement by said projector element to effectively withstand any counterthrust incurred in the use of the device.

As shown in Figures 1 to 3, the holder is adapted to be constructed from suitable sheet material to provide a hollow body 12 affording a chamber or compartment 14 for extra leads or instruments 15, and also a groove or channel 16 for the lead or other element which is in use—one end of which groove or channel may be shaped into tubular form as indicated at 16' in Figure 3.

From one side of this channel 16 the material is suitably extruded to form a series of projections or corrugations 18 which are designed to serve as shoulders or abutments for engagement by the projector or feeding device, which is constructed of suitable material to provide an arched spring 20, the opposite ends of which are slightly enlarged as indicated at 20' to approximately fit the channel 16. The intermediate portion of the projector is formed with a plate portion 21 provided with a prong or tooth 22 designed for engagement between the projections or corrugations 18. Preferably the tooth 22 and lower edge of said plate portion 21 are deflected in opposite directions (see Figure 9) so as to center the element 21 and also serve to retain it in proper position relative to said channel 16. In this connection it is also pointed out that the tooth or shoulder formation 18 overlies or partly bridges the channel or space provided for the lead or other element 14, thereby confining the latter to endwise movement only within said space or channel.

The projector or feeding device is also formed

with a finger-engaging portion 24 projecting outside the longitudinal slot 26 of the holder body, whereby the spring 20 may be pressed to force the tooth 22 out of engagement with the projections 18, as required in order to shift the projector and feed the lead 15 (or other element) along said groove or channel 16 into position for use.

As shown in Figure 3, the element 15 may be projected through a tip member 25 having an outlet which may be swedged to snugly fit the lead or other element 15. However, the end portion of the groove or channel 16' may be split as indicated at 27, so as to effect a light clutching action sufficient to prevent said element from slipping out of the device when tipped or held with the channel 16' in more or less upright or vertical position.

The body portion 12 of the holder may of course be constructed in any preferred form or design, i. e., cylindrical as shown in Figures 1 to 3, or of more or less flat or rectangular shape or design as represented at 12' in Figure 4 (see also Figures 5 and 6).

In Figures 5 and 6 is illustrated an edge-point design, i. e., having the groove or channel 16' aligned with one edge or side of the body portion 12'' of the holder—in which case the sheet material from which said body portion is constructed may be folded or formed in a substantially S-shape to provide said groove or channel as shown, and also a storage compartment 14' at the opposite side of the body portion, as clearly represented in Figure 6.

In either of the designs referred to, the open end of the body or its storage chamber may be provided with a closure element, such as a rubber or eraser device 30.

The modification illustrated in Figures 7 and 8 shows a body portion 12''' made in a double edge-point design, being in the main similar to Figures 5 and 6, but adapted for accommodating a pair of projectors or feeding devices—as in using different colors of leads, or a marking device in combination with some other type of instrument such as a scribe 15'. The essential elements of the construction remain otherwise the same as already described in connection with Figures 7 and 8.

In all these folded types of construction shown in Figures 5 to 8, it is pointed out that one or both edges of the holder may be so spaced as to leave a slot 26' (corresponding to the longitudinal slot 26 of Figure 1) for accommodating the movement of the shank portion of the projector or feeding device.

The detail illustrated in Figure 10 provides a spring element (such as a spring wire or the like) for bearing against the lead or other element 15 adjacent to the outlet from the groove or channel 16'—in lieu of the structure illustrated in Figure 3. In assembly, this spring element is designed to have its base portion 32' clamped between the walls of the body portion of the holder for anchoring said spring securely in fixed position while at the same time leaving its unattached portion free for bearing against the lead or other element 15.

With these features of improved construction it will therefore be seen that I have provided practical and efficient means for carrying out the desired objects of my invention. The design illustrated in Figures 1 to 4 provides a practical mechanical device adapted for the feeding of a lead or other element while the same

is efficiently held in operative position by the projector device due to the latter being securely locked by the engagement of the teeth or shoulders 18 and 22 for effectively preventing any back-feeding of the element 15. Moreover, in the illustrated construction, the projections 18 serve the further function of retaining said element 15 within the channel and confining it to endwise movement therein.

The storage compartment 14 (or 14') moreover provides space for extra leads or other working elements such as a scribe 15' (Figure 7), which is thus adapted to constitute one of the useful working elements of the improved combination.

The body portion of the device may be conveniently constructed to provide not only advertising space on its exterior, but also other advantageous functional features such as gauging or measuring functions and the like; or also to serve as a holding means for various sorts of tools or instruments, including scribes, files, saws, knives, screwdrivers, certain types of drills, and so forth. It is moreover within the scope of the invention to provide clip means for attaching the device to some other part as is common with pencils, tools, and the like.

Furthermore, while I have illustrated the improved construction as particularly adapted to be made up from sheet material, it may be pointed out that the body portion of the device may be formed of other suitable material, such as plastic, etc., with the essential improved features incorporated therein, or in a suitable liner construction adapted to be assembled in appropriate relation to a body of such other desired material comprising the main body portion of the holder.

It will of course be understood that the projector or feeding device is movable at will in either direction along the instrument channel, on disengagement of the abutments 18 and 22, thereby permitting back-feeding of the element 15 to any extent desired, as for entirely retracting said element within the channel 16.

It will therefore be apparent that I have devised a relatively simple design and yet highly efficient and advantageous construction for fulfilling all the desired objects of my invention, and I desire to point out that while I have shown practical embodiments of the improved and novel features of the construction I nevertheless hereby expressly reserve the right to make all changes or modifications therein which may properly fall within the spirit and scope of the invention as defined by the following claims.

What I claim is:

1. A device of the character described, comprising a body portion providing an instrument channel having an end outlet aperture and also abutments along the channel, and an outwardly actuated propelling device having its end portions seated in said channel and provided with an intermediate shoulder for cooperative and positive abutting engagement with said channel abutments to prevent retracting movement of said propelling device.

2. A device of the character described comprising a body portion of sheet material formed to provide an instrument channel with an end outlet aperture and also a series of shoulders projecting from one side wall of said channel and partly across the same for confining the instrument to longitudinal movement, and a compressible propelling device operable along said channel

and having end portions fitting slidably in the channel and an intermediate abutment for positive abutting engagement with said shoulders and thereby preventing retracting movement of said propelling device along the channel.

3. A device of the character described comprising a body portion providing an instrument channel having an end outlet aperture and also abutments along the channel, and an outwardly spring-actuated propelling device movable along said channel and provided with means adapted for movement into and out of the channel into positive abutting engagement with said channel abutments to prevent retracting movement of the propelling device and thereby also retaining the latter in operative assembled relation to said channel.

4. A device of the character described comprising a body portion providing an instrument channel having an end outlet aperture and also a series of abutments along the channel, and a propelling device comprising a bowed spring having its ends seated in said channel and provided with a tooth movable into and out of the channel for engaging and disengaging the inner portions of said abutments, thereby maintaining said propelling device in operative relation to the channel and also securing said device against retracting movement along the channel.

5. A device of the character described comprising a body portion providing an instrument channel along one edge of the body and an end outlet

aperture and also a series of abutments along the channel, and a propelling device having terminal guiding elements movable along said channel and provided intermediate said guiding elements with means adapted for positive retaining engagement with said abutments, said means being movable into the channel for disengaging the same from said abutments.

6. A device of the character described comprising a body portion providing an instrument channel along one side of the body and an end outlet aperture and also a series of abutments along the channel, and a propelling device of spring-bowed form having its ends guidingly engaged with said channel and provided with means adapted for positive retaining engagement with said abutments, said means being spring-actuated outwardly into abutting relation therewith for securing the propelling device against any retracting movement along said channel.

7. A device of the character described, comprising a body portion providing an instrument channel having an end outlet aperture and also shoulders or abutments along said channel in position to confine movement of the instrument therein to endwise movement in the channel, and an instrument feeding or propelling device provided with means for abutting engagement with said channel abutments or shoulders for preventing retracting movement of said device.

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