



# UNITED STATES PATENT OFFICE.

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## MECHANICAL DATE INDICATOR.

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The invention refers to date indicators consisting of two co-axially arranged parts adapted to be set in different angular positions relatively each other, and showing in each position all the dates of a month and the corresponding week days. In date indicators of this kind one part of the indicator bears the names of the days of the week distributed in a natural order of sequence on seven fields arranged round the circumference of said part, while the other part bears the ordinals 1 to 31 inclusive of the month likewise distributed on seven fields round the circumference so that the two parts may be set in seven positions relatively to each other in each of which the fields of the one part register with the fields of the other part.

In order to properly adjust such a date indicator for a certain month, for instance, the current month, it is necessary to know the date combination (the name of a day and the ordinal) for one day, for example, the first day of the month. However, as it is often desirable to use the date indicator also for establishing the date of a preceding or a subsequent month, displacements of the indicator may take place in the course of the current month. To be able to restore the normal adjustment for the current month, in date indicators of this type as hitherto constructed, it will be necessary to keep the corresponding date combination in memory, or to have some date indication at hand. Due to this fact the practical use of such date indicators has been greatly limited.

The invention has for its purpose to remove this disadvantage. To this end, the date indicator is provided with an adjustable marking member adapted to be set in seven definite indicative positions with respect to one of the main parts of the date indicator and to be locked in such positions, said marking member serving to mark out, as desired, any one of the seven adjustments of the date indicator, for instance, the adjustment for the current month, in order to facilitate the restoring of this adjustment after a displacement of the indicator.

The invention will be described more fully with reference to the accompanying drawing.

Fig. 1 shows a longitudinal section of a pencil fitted with a date indicator in accordance with the invention.

Fig. 2 is an elevation, partly in section. Fig. 3 is a plan view of the marking member.

Fig. 4 shows a cross section on the line 4—4 in Fig. 1 on an enlarged scale.

Fig. 5 is an elevation showing a modified form of the marking member.

Fig. 6 is a sectional view of the marking member shown in Fig. 5.

The drawing shows the invention as applied to a pencil of the so called "Eversharp" type. A pencil of this kind substantially consists of a tubular shaft 1 holding a length of lead 2 in its pointed operating tip, and of a rotary member adapted to feed the lead into the writing position, said rotary member comprising a rotatable cap 3 and certain parts connected thereto and contained within the shaft of the pencil. The last mentioned parts comprise a driver 4 directed toward the operating tip of the pencil, a flat nut 6 rigidly connected to the driver and engaging an inside screw thread 5 of the tubular shaft, and two longitudinal hollow rods 7 holding the nut slidably between them, said rods being rigidly secured, at the top, to a screw threaded head 8, whereas at the bottom they are interconnected by means of an annular part 9. The date indicator 10, 11 is inserted between the shaft 1 and the cap 3 and connected with said parts in such a manner that the lead may be displaced in the ordinary way by turning the cap 3 without the adjustment of the indicator being altered. When the cap 3 is rotated, the rods 7 will turn the nut 6 with them, said nut, owing to its threaded engagement with the shaft, being thus displaced in the longitudinal direction of the pencil, either downwards or upwards, so that the lead 2 may be fed by the driver 4 into the writing position, or is permitted, after the said driver has been withdrawn, to be pushed back again into the shaft. The cap 3 is adapted to be withdrawn or pulled out, together with the rods 7, in an axial direction, so far as to cause the annular part 9 to abut against the nut 6. The lower part 11 of the date indicator consists of a cylindrical sleeve the mantle surface of which is divided into seven fields 12 extending parallel to the axis of the cylinder and bearing the ordinals 1 to 31 inclusive of the month distributed on the fields 12 in known manner so that each field will contain an arithmet-

ical series with the difference 7 and beginning with one of the numerals 1 to 7 inclusive. The upper end of the sleeve 11 is closed by a bottom 13 and is provided with a cylindrical extension 14 the outer diameter of which is smaller than that of the sleeve and the upper edge of which is cut to form seven pointed ratchet teeth 15. The upper part of the date indicator consists of an outer sleeve 10 the mantle surface of which is divided into seven longitudinal fields 16 containing the names of the days of the week following one another in the natural order. Soldered or otherwise secured to the sleeve 10 is an inner sleeve 17, to the upper edge of which the cap 3 is screwed on by means of threads 18. The lower edge of the inner sleeve 17 is cut in the form of seven pointed ratchet teeth 19 fitting exactly in the spaces between the ratchet teeth 15 on the extension 14. The inner sleeve 17 is provided with an inner collar 20 forming an abutment for the inner end of a helical spring 21, the outer end of which bears against the head 22 of a bolt 23 threaded into the bottom 13.

By the influence of the spring 21 the parts 10 and 11 of the date indicator are pressed against one another so as to cause the teeth 19 to engage firmly the teeth 15. The tension of the spring is great enough to keep the teeth 15, 19 firmly in engagement even when the cap 3 is operated for the displacement of the lead and to prevent any unintentional alteration of the adjustment of the date indicator.

In every adjusted position of the parts 10 and 11 the fields 12 of the one part will register with the fields 16 of the other part so as to show all the dates of the month and the corresponding week days. When the date indicator is to be adjusted into a new position the cap 3 and the parts 10 and 17 attached thereto are pulled out axially to bring the ratchet teeth 15 and 19 out of engagement with one another, the cap 3 and the attached parts being then turned to the new angular position wanted. When released said parts will be retracted by the spring 21 whereby the two parts 10, 11 of the indicator are locked in the new position while being automatically adjusted exactly into line with one another by the mutual engagement of the teeth. The axial outward movement of the part 10 is limited by the sleeve 17 abutting against the head 22.

In accordance with the present invention the part 10 of the date indicator is provided with a marking member in the form of a ring 24 thrust onto the sleeve 17 and retained between the cap 3 and the outer sleeve 10. Said ring is provided on its inner side with seven uniformly distributed grooves 25.

A stud 26 normally engages one of said grooves thereby locking the ring 24 in ad-

justed position on the sleeve 17. The ring 24 is further provided with a clearly distinguishable mark in the form of a point 27 which is formed, for example, by a recess filled with enamel. In order to alter the position of the ring 24, relatively to the part 10, the cap 3 must be unscrewed so far as to allow the ring to be brought out of engagement with the stud 26 whereupon the ring is turned into the new position of adjustment wanted, and is then again moved downwards into engagement with the stud 26 the cap 3 being then again tightened up. The mark 27 is placed on the ring 24 in such a manner as to be situated right over one of the fields 16 in each angular position of the ring relatively to the part 10.

The marking device described is preferably used as follows:

In effecting adjustment for a new month, the marking member 24 is adjusted and locked in relation to the part 10 in a position in which the mark 27 is situated right over that one of the fields 16 which bears the name of the first day of the month. The part 10 is then adjusted relatively to the part 11 in such a manner that the indicating mark 27 registers with that one of the fields 12 which contains the number 1. In order to facilitate this last adjustment, a mark 28, which is similar to the mark 27, is provided on the said field beside the date numeral 1. In the course of the month, the parts 10 and 11 may be shifted relatively to each other as desired, without the adjustment of the marking member 24 relatively to the part 10 being altered. The adjustment corresponding to the current month may therefore always be quickly and conveniently restored by turning the part 10 till the indicating marks 27 and 28 register with one another.

The embodiment of the marking device shown in Figs. 5 and 6 differs from that above described only in so far as the mark 27 on the ring 24 has been replaced by a tongue 29 extending over the part 10 and reaching with its tip somewhat over the part 11. The tongue 29 is provided with an observation opening 30 uncovering so much of the surface portions of the parts 10 and 11 that the name of the day corresponding to the adjustment of the marking member and the lowest date number of the opposed field 12 are visible through the observation opening. The use of this device is entirely analogous to that described in connection with the Figs. 1 to 4. Preferably, the tongue is made in the form of a resilient arm in such a manner that it may be used at the same time for keeping the pencil in the pocket.

Instead of providing the marking member 24 on the part 10, as described, the same might also be connected, in a like manner, with the part 11. In the latter case, the indicating mark 28 on the part 11 may be dis-

pensed with, and instead thereof a mark is provided on the part 10, preferably on the field bearing the name "Sunday". The month adjustment for a new month may in this case be effected by bringing the mark 27 or 29 respectively of the marking member in line with that field 12 which contains the date numbers of all Sundays of the month in question, whereupon the parts 10 and 11 are mutually adjusted so that the mark 27 or 29 respectively will register with the counter mark of part 10, that is to say, with that field 16 which bears the name "Sunday".

The ring 24 may also be inserted between the two parts 10 and 11 while being adjustable on either part 10 or 11 respectively. In this case the ring should be comparatively narrow in order not to cause the two parts to be widely separated.

The locking device of the marking member may, evidently, be modified in various ways. As a further example, the arrangement deserves mentioning wherein the extension 14 is formed at its lower portion, as a flat heptagonal prism, while the inner surface of the ring 24 has a corresponding prismatic shape, so that the ring may be thrust tightly onto the prismatic portion of the extension 14.

If the threads 18 on the outer end of the sleeve 17 are made equal as to form, pitch and diameter to the threads on the head 8 the advantage is gained that the date indicator as a whole may be attached to a pencil of the type described without alteration of the construction of the pencil, it being only necessary to remove the cap 3 and to screw the date indicator onto the head 8 and the cap onto the sleeve 17.

I claim:

1. A mechanical date indicator consisting of two indicating members adjustable into seven angular positions relatively to each other, one of said members bearing the names of the days of the week distributed on seven circumferentially arranged fields, while the other member bears the ordinals of the days of the month distributed on seven circumferentially arranged fields adapted to register, in each position of adjustment, with the fields of the member first mentioned, a marking member adjustable into seven angular positions relatively to one of said indicating members and adapted to mark out any one of the seven positions of adjustment of the date indicator, and means for retaining the marking member in any one of the seven positions.

2. A mechanical date indicator as claimed in claim 1, having a sleeve rigid with the indicating member bearing the names of the days and having the marking member mounted upon said sleeve.

3. A mechanical date indicator as claimed in claim 1, in which the marking member is

mounted at the outer end of one of the indicating members.

4. A mechanical date indicator as claimed in claim 1, in which the marking member is provided with an indicator adapted to register, in each position of adjustment, with a mark on the other indicating member.

5. A mechanical date indicator consisting of two indicating members adjustable into seven angular positions relatively to each other, one of said members bearing the names of the days of the week distributed on seven circumferentially arranged fields, while the other member bears the ordinals of the days of the month distributed on seven circumferentially arranged fields adapted to register, in each position of adjustment, with the fields of the member first mentioned, a marking member adjustable into seven angular positions relatively to one of said indicating members and provided with a pointer registering, in each position of adjustment, with a field on the other indicating member, and means for retaining the marking member in any one of the seven adjusted positions.

6. A mechanical date indicator as claimed in claim 5 in which the marking member is arranged at the outer end of one of the indicating members the pointer extending over said indicating member so as to register, in each position of adjustment, with a field on the other indicating member.

7. A mechanical date indicator as claimed in claim 5 in which the pointer is provided with an observation opening to show the underlying field of the date indicator.

8. A mechanical date indicator as claimed in claim 5, in which the pointer consists of a resilient arm adapted to serve as a means for retaining the date indicator in a pocket.

9. A pencil provided with a date indicator consisting of two indicating members adjustable into seven angular positions relatively to each other, one of said members bearing the names of the days of the week distributed on seven circumferentially arranged fields, while the other member bears the ordinals of the days of the month distributed on seven circumferentially arranged fields adapted to register in each position of adjustment, with the fields of the member first mentioned, a marking member adjustable into seven angular positions relatively to one of said indicating members and provided with a pointer adapted to mark out any one of the seven positions of adjustment of the date indicator and consisting of a resilient arm forming at the same time a means for retaining the pencil in a pocket, and means for retaining the marking member in any one of the seven adjusted positions.

In testimony whereof I affix signature.

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