United States Patent

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[54] **MARKER-COUNTER DEVICE**
4 Claims, 4 Drawing Figs.

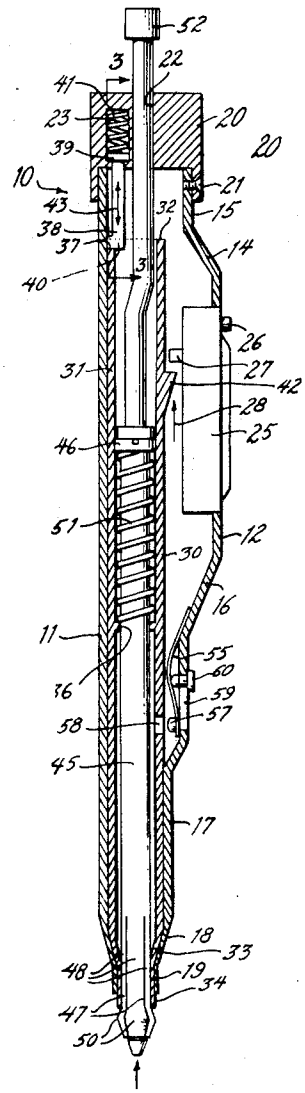
[52] **U.S. Cl.** **235/64**
[51] **Int. Cl.** **B43k 29/08**
[50] **Field of Search** 235/64

[56] **References Cited**
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ABSTRACT: An elongate outer casing having a window and a counter mounted in the casing for presenting numerical indicia through the window, the casing being provided interiorly with a shiftable mechanism for actuating the counter and including marking means extending exteriorly for marking and depressible to shift the mechanism and actuate the counter.



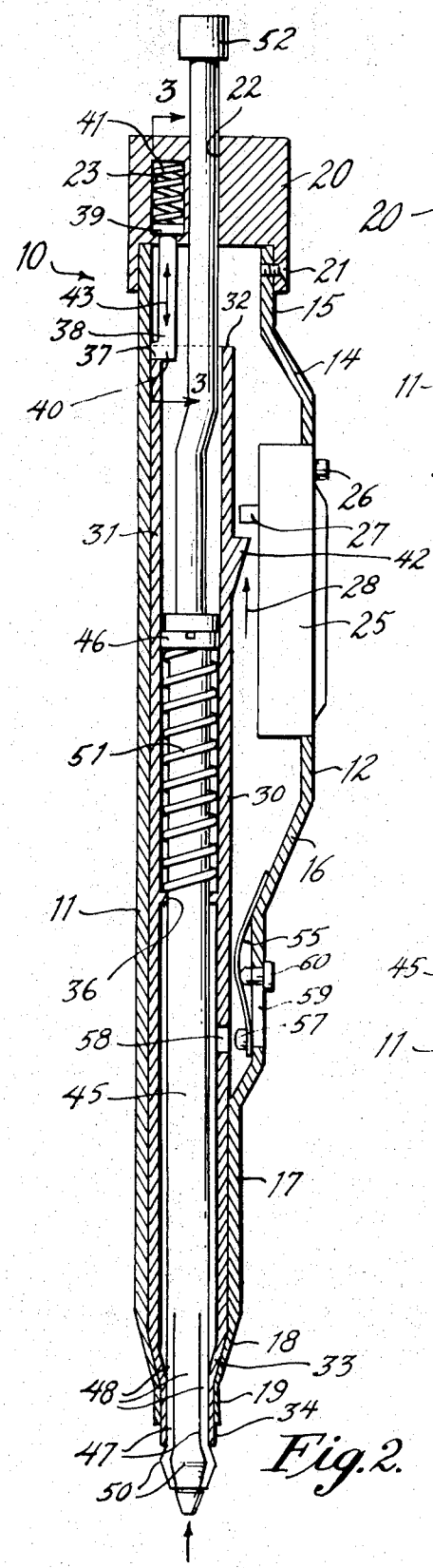


Fig. 2.

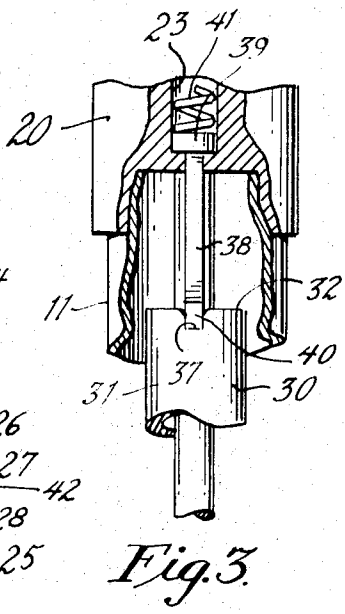


Fig. 3.

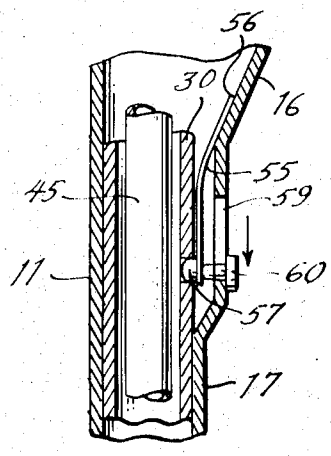


Fig. 4.

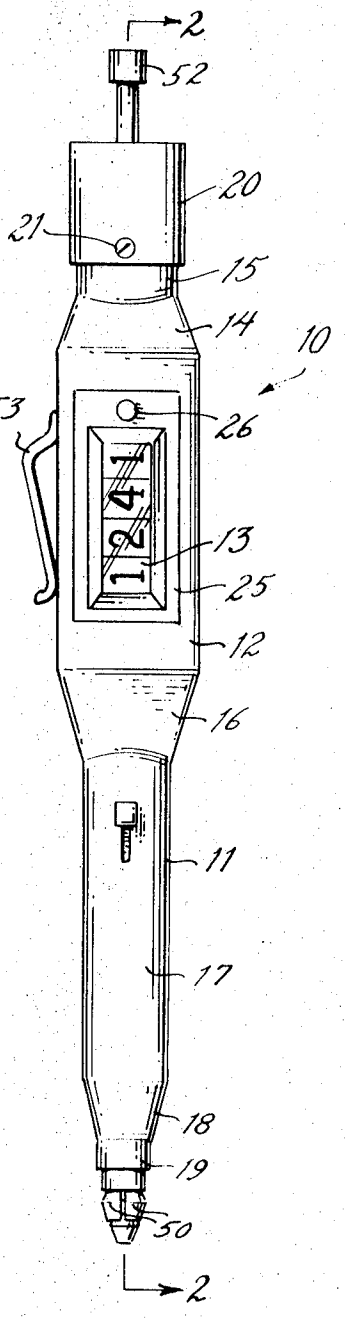


Fig. 1.

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MARKER-COUNTER DEVICE

BACKGROUND OF THE INVENTION

While the broad concept of marking and counting the marks is not new, there has not been provided in the past a satisfactory device in the nature of a lead pencil or other similar hand-held writing implement, which conveniently marks items to be counted and simultaneously effects counting of the items. While there have, in the past, been proposed complex mechanisms for achieving a marking and counting function, in a wide variety of situations these complex mechanisms were found to bulky, awkward, expensive and inconvenient to use. Hence, persons engaged in estimating, inventory taking, and other operations involving marking and counting, ordinarily utilized a pencil or other marking device and a separate counter or counting device.

SUMMARY OF THE INVENTION

Accordingly, it is an important object of the present invention to provide a combination marker-counter device, in the nature of a mechanical pencil or similar implement, which is adapted for marking and counting a number of symbols, items or otherwise, which is extremely simple in construction, durable and reliable throughout a long useful life, and which can be economically manufactured for sale at a reasonable price.

It is still another object of the present invention to provide a marker-counter device having the advantageous characteristics mentioned in the preceding paragraph, which is extremely compact, so as to be light in weight and small in size, for easy manipulation and convenient storage, say in a user's pocket, or otherwise on the user's person.

It is still another object of the present invention to provide a marker-counter device of the type described which includes a unique means to selectively prevent operation of the counting mechanism as desired, so that the instant device may be used solely as a marker.

While the marker-counter device of the present invention is illustrated and described herein as including a lead holder, in the manner of a lead pencil, it is appreciated that other suitable marking medium may be employed, for example a ball-point pen cartridge, crayon, or other.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described, and of which the scope will be indicated by the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a front elevational view showing a marker-counter device constructed in accordance with the teachings of the present invention.

FIG. 2 is a longitudinal sectional view taken generally along the line 2—2 of FIG. 1, enlarged for clarity.

FIG. 3 is a partial longitudinal sectional view taken generally along the line 3—3 of FIG. 2.

FIG. 4 is a partial longitudinal sectional view similar to FIG. 2, but illustrating a locked condition of the marker-locking means.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now more particularly to the drawings, and specifically to FIGS. 1 and 2 thereof, a marker-counter of the present invention is there generally designated 10, and assumes the overall external configuration of a writing implement, such as a lead pencil, or the like. More specifically, the marker-counter 10 includes an elongate hollow outer casing or housing 11, which may be of generally tubular, open-ended configuration having a laterally enlarged or protuberant medial portion 12 provided with a transparent window or opening 13, say having a magnifying glass closure. The outer casing 11 reduces, as at 14 in the upward direction from the laterally enlarged medial portion 12 to an upper end portion 15. Similarly, the laterally enlarged medial portion 12 reduces downwardly, as at 16 to lower portion 17 which, in turn, tapers or reduces downwardly, at at 18 to a lower terminal or end portion 19. The upper terminal or end portion 15 and lower terminal or end portion 19 may both be open, the former being closed by a closure cap 20 engaged over the upper end and removably fixed thereto by any suitable fastener means, such as a threaded fastener 21 extending diametrically through the wall of closure cap 20 and received region of terminal portion 15. The upper end closure or cap 20 is formed with a through bore or opening 22, see FIG. 2, for a purpose appearing presently, and is further formed with a blind, downwardly or inwardly opening hole 23, which communicates with the interior of the outer casing.

Located in the laterally enlarged medial portion 12 of outer casing 11 is a counter device 25, which may be of conventional construction. Further; the counter device 25 may be provided with changeable numerical indicia, see FIG. 1, visually presented through the window 13, and affording a record or count of items being counted. To reset the counter 25, say to 0, there may be provided a reset member or button 26, presented exteriorly of the outer casing 11 for manual operation by the user. Interiorly of the outer casing 11 the counter device 25 is provided with an operating member 27 movable to effect counting operation of the counter. In the illustrated embodiment, the operating member 27 is shiftable longitudinally of the outer casing 11, say in the direction of arrow 28, to effect each digital displacement or recorded count.

An inner casing 30 is located longitudinally of and within the outer casing 11. The inner casing 30 is of an open-ended tubular configuration, including a main portion 31 terminating in an open upper end 32 adjacent to and spaced below the cap 20. Extending downwardly from the main portion 31 is a reducing or tapering portion 33 adapted to conformably seat against the interior of the tapering portion 18 of outer casing 11. From the tapering portion 33 of inner casing 30, there extends a lower terminal or end portion 34 slidable within the lower terminal or end portion 19 of the outer casing. Medially within the interior of the main portion 31 of inner casing 30, there is provided an internal shoulder 36, and at one location in the upper end edge 32 of the inner casing 30 there is provided a notch 37, best seen in FIG. 3.

A resiliently biased elongate member or plunger 38 may have an enlarged upper end of head 39 slidably received in the bore 23 of closure cap 20, its other end depending to a terminal portion 40 engaged in notch 37. Suitable resilient means, such as a compression spring 41 may be interposed in bore 23 resiliently urging the plunger 38 downwardly. Further, the plunger 38 serves to restrain inner casing 30 against rotation within the outer casing 11.

In alignment with the counter operating member 27, longitudinally within the outer casing 11, there is provided externally on the inner casing 30 a lateral projection or extension 42 which is movable with the inner casing into actuating engagement with the counter operating member. That is, the inner casing 30 is shiftable longitudinally within the outer casing, in the direction of arrow 43 against the resilient restoring force of spring 41. Upon upward shifting movement of the inner casing 30 relative to the outer casing 11, the inner casing extension 42 engages with and shifts the counter-operating member 27 to actuate the counter.

Disposed longitudinally of and within the inner casing 30 is an elongate marking means holder 45. The marking means holder 45 may be of a tubular construction having an upper end enlargement or head 46 slidable within the inner casing, and its lower portion split, as by longitudinal cuts 47 into a plurality of longitudinally extending fingers or tines 48. The tines 48 are resiliently expansile upon their extension out-

wardly with respect to the inner casing 30, and their retraction is limited by radially protuberant formations or bends 50. This construction of marker holder is conventional for holding lead in a variety of lead pencils, so that further description is unnecessary. While the marker holder 45 may be termed a lead holder hereinafter, it is appreciated that any suitable type of marker holder or marker per se may be employed and is intended to be comprehended herein.

A coil compression spring 51, or other suitable resilient means, may be employed to resiliently urge the lead holder 45 upward toward its retracted position relative to the inner casing 30, as seen in FIGS. 1 and 2. The spring 51 may be interposed between the collar or shoulder 36 and end enlargement or head 46 to effect the desired resilient urgence.

In order to extend or displace the lead holder 45 longitudinally outwardly, as in refilling or replacement of lead, an elongate push member or rod 52 extends slidably through the bore 22 of closure cap 20 between the interior and exterior of the outer casing 11. More specifically, the push member 52 has its inner end extending downwardly through the open upper end 32 of inner casing 30 into engagement with the upper end enlargement 46 of lead holder 45, while the upper or outer end of push member 52 may be provided with a finger actuating member or button. Thus, the push member 52 is manually depressible for sliding movement relative to the closure cap and outer casing 11 to displace the lead holder 45 longitudinally outwardly relative to the outer casing 11 and inner casing 30, against the restoring force of spring 51.

In the counting operation, it is only necessary to hold the outer casing 11 firmly, and depress downwardly with the lead holder 45 or held lead 49 engaging a surface to be marked. This effects upward-shifting movement of the inner casing 30 and its received components relative to the outer casing, the extension 42 engaging the counter-operating member 27 to operate the counter. The coil compression spring 41 is compressed by this counting operation, and upon release of pressure, the spring 41 restores the inner casing 30 to its illustrated condition of FIGS. 1 and 2, preparatory to repetition of the procedure for the next count.

In practice the instant marker-counter device may be sufficiently compact and light in weight for convenient portability, say in a user's pocket, and for this purpose a clip 53 may be provided on one side of the outer casing 11, see FIG. 1, to releasably retain the device in a pocket.

When it is desired to utilize the instant device as a marker, and not employ the counting function, the inner casing 30 may be quickly and easily locked in its extended position of FIGS. 1 and 2, for use as a conventional pencil, pen or the like. Toward this end, a leaf spring 55 may have one end fixed, as at 56 interiorly of the outer casing 11, the other end being provided with a lateral projection or detent 57. The leaf spring 55 extends longitudinally within the outer casing 11, and the inner casing 30 is formed with a radially outwardly facing recess or hole 58 located in alignment with the detent 57 when the inner casing is retracted. The outer casing 11 is formed with a slot 59 extending longitudinally along the lower region of leaf spring 55, and a locking member or slide 60 is slidable in the slot 59 as between the upper position of FIGS. 1 and 2 and the lower position of FIG. 4. In the upper position of slide 60, the leaf spring 55 is undeflected, and the detent member 57 is retracted outwardly away from the receiver hole 58 of inner casing 30. However, upon downward shifting movement of locking slide 60 in slot 59, the slide displaces the lower end of leaf spring 55 and its carried detent member 57 radially inwardly to interengage the detent in the opening 58, the condition shown in FIG. 4. In this condition the inner casing 30 is effectively locked against longitudinal shifting movement, so that the device 10 may be employed as a conventional marker.

From the foregoing, it is seen that the present invention provides a marker-counter device which is extremely simple in construction for economy in manufacture and reliability throughout a long useful life, and otherwise effectively accomplishes its intended objects.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention.

What is claimed is:

1. A combination marker-counter device comprising an elongate outer casing having a window, a counter mounted in said outer casing along one side and spaced between the ends thereof and having numerical indicia presented exteriorly through said window, an operating member on said counter projecting interiorly of said outer casing toward the opposite side thereof and shiftable longitudinally thereof to operate the counter and change the numerical indicia, an inner casing located longitudinally within said outer casing extending along and in opposite directions beyond said counter and longitudinally shiftable relative to said outer casing between extended and retracted positions, a transverse extension on said inner casing and movable therewith longitudinally of said casings for actuating engagement with said operating member on shifting of said inner casing to its retracted position, resilient means urging said inner casing toward its extended position, a lead holder internally of said inner casing for movement therewith and projecting exteriorly of said inner and outer casings for presenting a lead to a surface to be engaged, said lead holder being mounted in said inner casing for movement therewith and longitudinally extensile and retractile movement relative thereto, and additional resilient means urging said lead holder toward a limiting position of retractile movement, forcible engagement of a lead with a surface serving to effect relative shifting between said inner and outer casings for said actuating engagement with said counter-operating member.

2. A marker-counter device according to claim 1, in combination with locking means carried by said outer casing and selectively interengageable with said inner casing to prevent said relative shifting movement, for use of said device solely as a marker.

3. A marker-counter device according to claim 1, in combination with lead-gripping means on said lead holder and movable to grip and release a piece of lead on said retractile and extensile movement, respectively, and a push member extending from interiorly of said inner casing in operative connection with said lead holder to exteriorly of said outer casing, for manual actuation of said lead holder between its extensile and retractile positions of movement.

4. A marker-counter according to claim 3, in combination with a locking detent carried by said outer casing and selectively shiftable relative thereto into and out of locking interengagement with said inner casing, to selectively prevent and permit said relative shifting movement between said casings.

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