





# UNITED STATES PATENT OFFICE.

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## MAGAZINE PENCIL.

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*To all whom it may concern:*

Be it known that I, HARRISON E. MABEE, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Magazine Pencils, of which the following is a specification.

This invention relates to a magazine pencil designed primarily for use for auditors and accountants who do a considerable amount of checking, but it is to be understood that a magazine pencil in accordance with this invention can be employed by anyone or for any purposes for which it is found applicable, and the invention has for its object to provide, in a manner as hereinafter set forth, a pencil of such class, having manually operated designated means to conveniently enable one to selectively and independently position for use marking elements or leads of different colors, as well as further including means to project the selected marking element or lead the desired distance from the marking end of the pencil for marking purposes.

Further objects of the invention are to provide, in a manner as hereinafter set forth, a magazine pencil, which is simple in its construction and arrangement, strong, durable, compact, thoroughly efficient and convenient in its use, readily assembled and re-filled, and comparatively inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts, as hereinafter more specifically described and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:—

Figure 1 is an elevation of a magazine pencil, in accordance with this invention.

Figure 2 is a sectional elevation, broken away, of a magazine pencil in accordance with this invention.

Figure 3 is a section on line 3—3, Figure 2.

Figure 4 is a section on line 4—4, Figure 2.

Figure 5 is an elevation of the magazine.

Figure 6 is a longitudinal sectional view illustrating the feeding mechanism for the marking element or lead.

Figure 7 is a longitudinal sectional view of the intermediate and inner sections of the body portion of the pencil and further illustrating the parts and the marking element or lead in assembled position.

Figure 8 is a section on line 8—8, Figure 6.

A magazine pencil in accordance with this invention, comprises a body portion consisting of an outer section 1, an intermediate section 2 and an inner section 3. The sections 1 and 2 are cylindrical in contour and the section 3 tapered. Each of said sections is set up of any suitable material, such as hard rubber, wood, metal or compressed fiber.

The section 1 is provided with a bore medially thereof, and which includes an outer portion 4, an intermediate portion 5 and an inner portion 6. The portions 4 and 6 are of the same diameter, and the portion 5 is of smaller diameter than either of the portions 4 or 6, whereby a lateral shoulder 7 is formed at the point of joinder of the portion 4 with the portion 5, and a lateral shoulder 8 is formed at the point of joinder of the portion 6 with the portion 5. The portion 6 is of materially less length than either of the portions 4 or 5, and said portion 4, at its upper end is of greater diameter than the remaining part thereof, as at 9, thereby providing a shoulder 10.

Positioned against the shoulder 8 is a disk 11, which is secured in position by the hold-fast devices 12 and is formed with a centrally disposed rectangular opening 13. Positioned against the shoulder 10 is a collar 14, secured in position by the hold-fast devices 15. The collar 14 is formed with a circular opening 16.

Mounted upon the upper end of the section 1 is a rotatable disk 17, having a knurled periphery 18. The disk 17 gradually increases in diameter from its inner towards its outer face and with the diameter of the disk 17 at its inner face the same as the diameter of the section 1. Formed integral with the inner face of the disk 17 is a tube 18 having its inner face spirally grooved from end to end, as at 19. The tube 18 is of a length to extend from the inner face of the disk 17 to the disk 8, and the tube 18,

intermediate its ends, is formed with a laterally extending annular flange 20, which is mounted against the shoulder 7, when the tube 18 is in normal position within the section 1. The diameter of the flange 20 is such as to snugly engage the wall of the part 4 of the bore in the section 1, but the engagement is such as not to prevent the rotation of the tube 18 with the disk 17. The flange 20 also constitutes a stop for arresting the outward movement of the tube 18 with respect to the section 1, when the tube is partially withdrawn for a purpose to be hereinafter referred to. As the tube 18 is pulled outwardly the flange 20 engages the collar 14 and arrests such outward movement.

The inner end of the section 1 is reduced, as at 21, and peripherally threaded, as at 22, and said reduced end is employed for detachably connecting the section 1 with the section 2.

The intermediate section 2 is formed with an eccentrically disposed lengthwise extending magazine chamber 23, which is of a length substantially equal to the length of section 2, and said chamber 23, at its outer end terminates in a circular recess 24, of greater diameter than the diameter of the chamber 23, and which opens at the periphery of the section 2, at the outer end thereof. The section 2, at its outer end is of reduced diameter, as at 25, and within said portion of reduced diameter is formed the recess 24.

The portion 25 of reduced diameter of the section 2 provides a shoulder 26, against which is seated an annular band 27, surrounding the portion 25 of reduced diameter, as well as projecting outwardly therefrom, and that portion of the band 26 which projects from the section 2, is interiorly threaded, as at 28, for engaging with the reduced threaded inner end 21 of the section 1, whereby the sections 1 and 2 are detachably connected together. The band 27 is secured in position by a hold-fast device 29, and is cut away, as at 30, to form an opening and which registers with the mouth of the recess 24.

Arranged within the chamber 23 is a cylindrical magazine 31 formed with a plurality of lengthwise extending openings, as shown four in number, and which are indicated at 32, 33, 34, and 35, for the reception of marking elements or leads of different colors. The marking element or lead mounted in the opening 32 is indicated at 36, that mounted in the opening 33 indicated at 37, that mounted in the opening 34 is indicated at 38, and the marking element or lead mounted in the opening 35 is indicated at 39.

The magazine 31 is pivotally supported within the chamber 23 and for such purpose the magazine 31, axially thereof, is formed with a bore 40, through which extends a

pivot rod 41. The lower end of the rod 41 is threaded, as at 42, for the purpose of securing the rod 41 in a socket 43, formed in the section 3. The outer end of the bore 40 is counter-sunk, as at 44, and seated therein is the cylindrical head 45 of the pivot rod 41, and by this arrangement the magazine 31 is secured within the section 2 and further connected with the section 3, but the connection is such as not to interfere with the shifting of the magazine 31 to selectively position the marking elements or leads when occasion so requires.

The outer end of the magazine 31 is provided with a laterally extending annular flange 46, which is arranged within the recess 24 and which projects through the band 27. The periphery of the flange 46 is knurled, as at 47, and further provided with a series of equally spaced projections 48, 49, 50 and 51 and which are differently colored, so as to correspond to the colors of the marking elements or leads. The projection 48 associates with the marking element or lead 38 within the opening 34. The projection 49 associates with the marking element 39 within the opening 35. The projection 50 associates with the marking element or lead 36 within the opening 32, and the projection 51 associates with the marking element or lead 37 within the opening 33. The projection 48 corresponds in color to the color of the marking element or lead 38. The projection 49 corresponds in color to the color of the marking element or lead 39. The projection 50 corresponds in color to the color of the marking element or lead 36, and the projection 51 corresponds in color to the color of the marking element or lead 37.

The openings 32 to 35 are so spaced with respect to each other that when a projection is arranged in the position shown in Figure 1, the marking element or lead with which the projection associates will be arranged axially of the section 1 and in the path of the feeding mechanism so as to be engaged by the latter and forced through the sections 2 and 3 to be used for marking purposes. In this connection, it will be stated that if the projection 51 is at the position shown in Figure 1, the marking element or lead 37 will be arranged axially of the section 2. If the projection 50 is at the position shown in Figure 1, the marking element or lead 36 will be arranged axially of the section 2. If the projection 49 is at the position shown in Figure 1, the marking element or lead 39 will be positioned axially of the section 2, and if the projection 48 is at the position shown in Figure 1, the marking element or lead 34 will be arranged axially of the section 2.

The inner end of the section 2 is formed with an interiorly threaded annular flange

52 for detachable engagement with the reduced peripherally threaded outer end of the section 3.

The section 2 is provided with a series of lengthwise extending openings 54 for the reception of extra marking elements or leads 55.

The inner section 3 is of tapered contour and is formed with a centrally disposed bore consisting of a cylindrical portion 56 and a tapered portion 57. The cylindrical portion is of materially greater diameter than the tapered portion 57, thereby providing a shoulder 58. Arranged within the bore of the section 3, is a spring controlled frictional clutch consisting of a cylindrical portion 59 and a tapered split portion 60. The cylindrical portion 59 at its outer end is formed with a lateral flange 61, and surrounding said cylindrical portion 59 and interposed between the flange 61 and collar 58, is a coiled spring 62, against the action of which is shifted the frictional clutch during the feed of the marking element or lead, indicated at 37, in Figures 2 and 7.

The tapered portion of the clutch is arranged in the tapered part of the bore of the section 3, and the cylindrical portion 59 within the cylindrical part 56 of the bore.

When the marking element or lead is fed through the medium of a feeding mechanism, to be presently referred to, the frictional clutch will be carried down part-way, tightening on the marking element or lead. This action is had, in view of the fact that the tapered portion 60 of the clutch is split and which will hold the marking element or lead rigid while writing. The bore at the inner end of the section 3, is of a size as to provide a tight fit for the marking element or lead, but to permit of the same to pass through.

The feeding mechanism comprises the tube 18 and a push element, and the latter consists of a square rod 63 of substantial length having its inner end formed with an enlarged cylindrical butt 64, and its outer end formed with an enlarged cylindrical peripherally threaded head 65, which engages with the spiral 19 of the tube 18. The rod 63 extends through the opening 13 in the disk 8 and the latter provides a stop for the butt 64, to arrest the outward movement of the rod 63 and tube 18. The butt 64 is of a diameter slightly less than the diameter of an opening in the magazine 31, and engages the marking element or lead for the purpose of feeding it through the section 3. The rod 64 cannot turn in the disk 8, so that when the disk 17 is rotated, carrying the tube 18 therewith, the push element will be shifted, and in this connection if the disk 17 is rotated in a clockwise direction, the push element will be shifted inwardly, causing thereby the feed of the

marking element or lead, and if the disk 17 is rotated in an anti-clockwise direction the push element will be shifted outwardly.

When the push element is moved inwardly, carrying the marking element or lead therewith, the friction clutch will be moved towards the inner end of the inner section 3, and this action on the part of the clutch will compress the spring 62. Now if the push element is moved in an opposite direction, that is outwardly, the spring 62 will be released, and its action upon the clutch will move the latter outwardly whereby the marking element or lead will be released, and if the pencil is tapped, the marking element will move back into the magazine.

When the push element is extended into the magazine, the latter will be prevented from shifting on its pivot. If it be desired to shift the magazine so as to position a different colored lead, the push element is withdrawn from the magazine and the latter is then shifted to position the desired colored lead axially of the section 2, and the push element is then positioned to extend into that opening in the magazine containing marking elements or lead which is to be fed. The marking elements or leads are of less length than the length of the magazine, so that the butt 64 can be positioned with the upper end of the magazine when desired. When the magazine is to be refilled the sections 1 and 2 are detached.

It is thought that the many advantages of a magazine pencil, set up in accordance with the foregoing description taken in connection with the accompanying drawings can be readily understood, particularly in view of the fact that the pencil includes means whereby different colored marking elements or lead can be selectively positioned for use, and although the preferred embodiment of the invention is as illustrated and described, yet it is to be understood that changes in the details of construction can be had which will fall within the light of the invention as claimed.

What I claim is:—

1. A magazine pencil comprising a body portion formed of an inner section, an outer section and an intermediate section, a manually shiftable magazine arranged with in said intermediate section and providing means for selectively positioning marking elements axially of said body portion, a pivot rod fixed to said inner section and extending through and counter-sunk in said magazine, means carried by said outer section and shiftable into said magazine for feeding the selected marking element through the pencil, and said magazine provided at one end with a laterally extending annular flange formed with projections to provide for the manual shifting of the magazine about said rod.

2. A magazine pencil comprising a body portion formed of an intermediate, an inner and an outer section, means for detachably connecting said sections together, a manually shiftable magazine rotatably mounted in said intermediate portion and providing means for selectively positioning marking elements or leads axially of said body portion, a feeding mechanism carried by said outer section and shiftable through said

intermediate section and into said inner section for feeding a marking element through the body portion, and a shiftable spring controlled frictional clutch mounted in said inner section and providing means to hold the marking element in position for use.

In testimony whereof, I affix my signature hereto.

HARRISON E. MABEE.