C. A. GAISER.

PENCIL.

APPLICATION FILED APR. 14, 1910.

991,967.

Patented May 9, 1911.

Fig. 2.

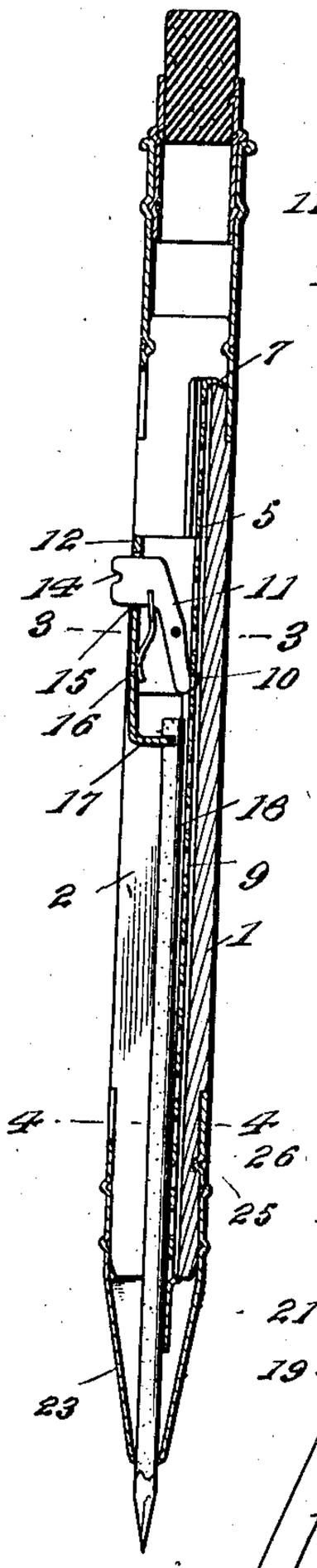


Fig. 3.

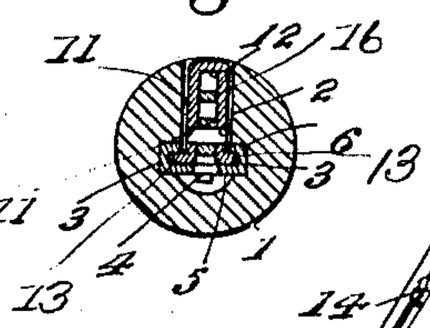


Fig. 1.

Fig. 4.

Fig. 12.

Fig. 5.

Fig. 10.

Fig. 11.

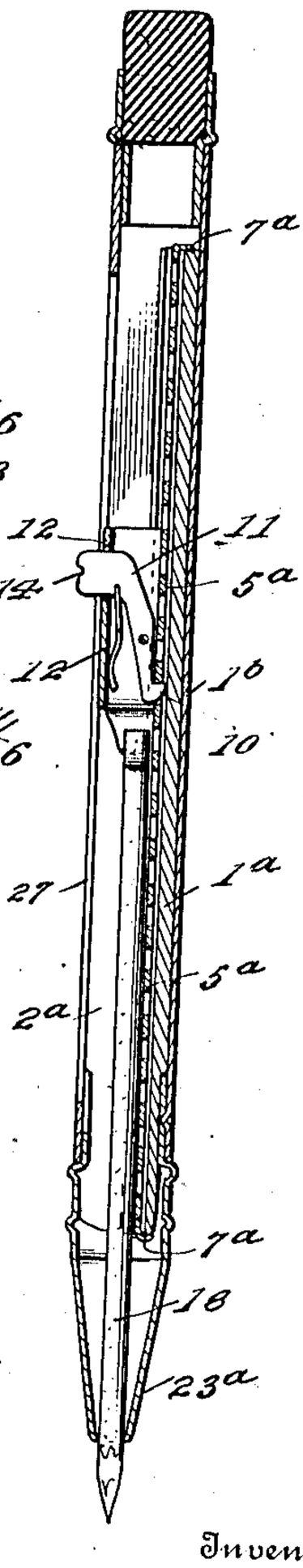


Fig. 7.

Fig. 8.

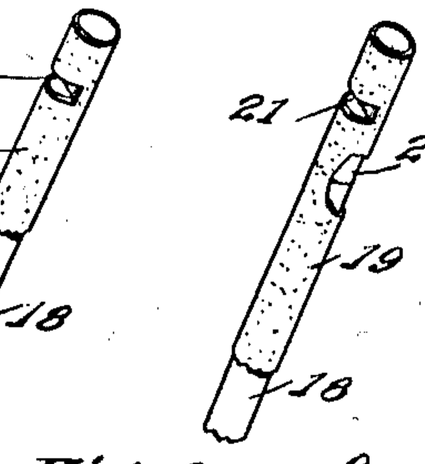


Fig. 9.

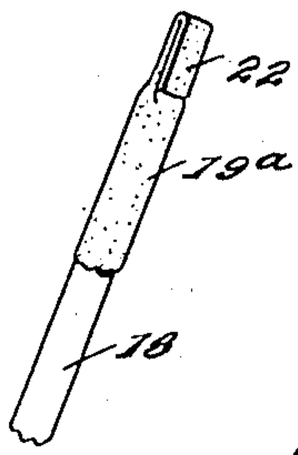
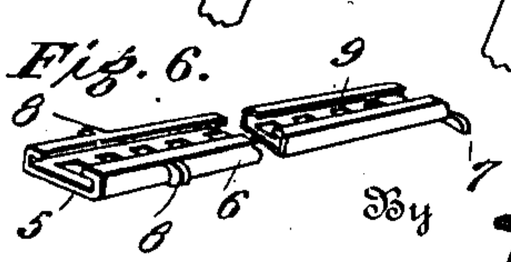


Fig. 6.



Witnesses

W. P. Wooden

Juana M. Fallin.

Inventor

C. A. Gaiser

By Adams Bacon. Attorneys

UNITED STATES PATENT OFFICE.

CHARLES A. GAISER, OF TOLEDO, OHIO.

PENCIL.

991,967. Specification of Letters Patent. Patented May 9, 1911.

Application filed April 14, 1910. Serial No. 555,384.

To all whom it may concern:

Be it known that I, CHARLES A. GAISER, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Pencils, of which the following is a specification.

This invention comprehends certain new and useful improvements in pencil cases of the automatic clutch type, and the invention has for its object a simple, durable and efficient construction of device of this character in which the movable lead will be securely held and protected and by the use of which the end of the lead may be projected as desired, as the lead becomes worn in use.

With this and other objects in view, as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a perspective view of one form of my invention; Fig. 2 is a longitudinal sectional view thereof; Fig. 3 is a transverse section on the line 3—3 of Fig. 2; Fig. 4 is a similar view on the line 4—4 of Fig. 2; Fig. 5 illustrates in perspective a lead, a lead carrier and a portion of the combined carrier guide and rack; Fig. 6 is a perspective view of another form of the carrier guide and rack; Figs. 7, 8 and 9 are perspective views of different forms of leads that may be employed; Fig. 10 is a perspective view of that form of carrier which is used with the lead illustrated in Fig. 9; Fig. 11 is a longitudinal sectional view of a modified form of the device; and, Fig. 12 is a transverse sectional view showing another modified form.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

In that embodiment of my invention illustrated in Fig. 1, the numeral 1 designates the barrel of my improved lead holder, the same being formed of any desired substance or material, such as wood, hard rubber, celluloid or the like, or any combination of these substances. The barrel 1 is provided with a longitudinal recess 2 which in the present instance extends throughout the length thereof and which is preferably of a depth extending slightly past the center of the barrel, and which is preferably of a width substantially equal to the diameter of the lead which the barrel is intended to contain. At the bottom of the recess 2, the side walls thereof are longitudinally grooved, as indicated at 3, and the bottom wall of the recess is also preferably longitudinally grooved along its median line, as indicated at 4. 5 designates a combined carrier guide and rack which may be constructed of sheet metal or otherwise, and which is of an extent slightly greater than the longitudinal recess 2 in which it is designed to fit. The guide 5 is formed at its side edges with slightly undercut longitudinally extending flanges 6 which fit securely in the side grooves 3. The guide 5 may be held in place as against longitudinal displacement, in any desired way. For instance, in that form of the invention now being described, the guide is formed at its rear end with a lug 7 engaging the end wall of the bottom of the recess 2, and near its opposite end with nibs or protuberances 8 designed to abut against the front end of the barrel 1. As indicated above, the guide 5 serves as a rack, and to this end it is provided with a series of openings 9 which may extend entirely therethrough, the openings communicating with the bottom groove 4 of the recess 2, whereby the tooth 10 of the latch 11 may secure a firm hold in the rack which is formed on the bottom of the guide 5 by the openings 9, the tooth extending through the openings into the bottom groove 4 in the locked position of the latch. The latch 11 forms part of a lead carrier, said carrier also including a body portion 12. In that embodiment of the invention now being described, the body portion 12 is formed of sheet metal bent along a middle longitudinal line so as to assume substantially a U-shape in cross section with substantially parallel members, the edges of which are slightly turned out, as indicated at 13, so as to slip along and be retained for a sliding movement by the flanges 6 of the carrier guide 5. The latch 11 is pivotally mounted intermediate of its ends within the body portion 12 and is formed at one end with a finger knob or piece 14 which projects outwardly through an open-

ing 15 formed in the body portion of the carrier, as shown. A leaf spring 16 is secured to the handle end of the latch and bears against the front end thereof so as to exert a tension thereon and hold the tooth 10 in engagement with the rack of the guide 5. Preferably, the tooth 10 and the teeth of the rack are so arranged that the latch may be slipped forwardly in a direction to project the lead from the barrel 1. In the present instance, this is accomplished by beveling the tooth 10, as clearly illustrated in the drawing. The body portion 12 of the carrier is formed at its forward end with a preferably integral hook 17 designed to engage the lead, whereby as the carrier is moved longitudinally in the barrel, the lead may be projected from the front end of the latter or retracted into the same.

In connection with the improved lead holder which forms the subject matter of the present invention, I have shown an improved construction of lead which is the subject matter of another invention disclosed in a divisional application filed on or about the 13th day of September, 1910, Serial No. 581,181. In this divisional application, means are provided to prevent the breaking of the lead and for also rendering the lead capable of being entirely used up and no portion thereof wasted. As one means of securing this result, the lead which is designated 18, is wrapped with any suitable substance, such as a fibrous paper 19 of predetermined texture and thickness. Preferably, the tubular case of sheathing thus formed, is continued a predetermined distance beyond the stub end of the lead and the extension of the tubular sheathing of paper or the like preferably contains a plug 20 of wood or any other substance designed to be directly engaged by the hook 17 of the carrier. In order that it may be so engaged, a recess 21 is formed in the covered lead, said recess being cut through the casing and into the plug and the hook 17 being entered therein, as clearly illustrated in the drawing. It will thus be manifest that the lead will be effectually protected against breakage by falling or careless handling, the paper or the like being cemented to the lead and the covering because of its tubular shape, adding sufficient stiffness and strength to protect the lead against the ordinary causes of breakage.

As a modification of the lead protecting means and the lead carrier or mover, reference is to be had to Figs. 9 and 10, from the former of which it will be noted that the sheathing, designated 19^a, is extended past the stub end of the lead and crimped or compressed so as to form a projection 22. From Fig. 10 it will be noted that the body portion 12 of the carrier is not provided with a hook, such as 17, but in lieu thereof is formed with clamping fingers 17^a designed to receive and hold between them the projection 22, so as to secure the cover lead to the carrier.

In connection with the barrel 1 I employ a lead protector 23 which is provided with a tapered forward end 24 terminating in an opening of a size sufficient to pass the lead. The lead protector 23 may be secured to the barrel 1 in any desired way. For instance, the point protector may be formed with a slight inward depression 25 designed to engage with a depression 26 in the barrel, so that when the protector is slipped over the forward end of the barrel and is in proper position, it may be given a sidewise turn so that the groove on the barrel may be caused to receive the depression of the protector, thereby securing the latter in place.

It is to be understood that my invention is not limited to the precise construction and arrangement of parts of the barrel and slide mentioned hereinbefore. For instance, as illustrated in Fig. 11, the barrel may comprise a body portion 1^a of wood, hard rubber, or any other substance or material, carried by a tube 1^b of hard rubber or any other substance or material. In this form of the device, the tube is formed with a longitudinal slot 27 coinciding with the longitudinal slot 2^a formed in the body portion 1. Both ends of the carrier guide, here designated 5^a, may be turned down over the ends of the body portion 1^a, as indicated at 7^a, whereby to hold the guide against longitudinal displacement. In this modification, the point protector, designated 23^a, is held by frictional engagement between the tube 1^b and the body portion 1^a of the barrel, and the rear end of the tube 1^b projects beyond the extremity of the body portion 1^a so as to provide a holder for an eraser, or for a combined eraser and lead sharpener, such as that covered by my companion application for Letters Patent of the United States, Serial No. 555,385, filed April 14, 1910.

As a further modification of the barrel, reference is to be had to Fig. 12, which illustrates the barrel designated by 1^c, formed of wood or rubber, with a relatively hard section 28 which is notched to form the rack for the lead carrier or mover. In this modification, a separate carrier guide is dispensed with, the out-turned edges of the body portion of the carrier being received in the side groove 3^a of the longitudinal recess 2^b which is formed in the barrel.

Various other modifications in the construction, arrangement and proportions of the parts may be made without departing from the scope of the invention as defined in the appended claims.

From the foregoing description in connection with the accompanying drawing, the operation of my improved lead carrier will be apparent.

In the practical use of the device, the lead

is secured to the carrier or lead mover, and the latter is mounted within the barrel and has the tooth of its latch engaged with the rack of the guide, the carrier being slidingly engaged with the guide by the interlocking engagement, for instance, of the edges 13 and side flanges 6. In order to project the lead, it is only necessary to slide the carrier forwardly in the barrel, and in order to retract the lead, it is only necessary to depress the finger piece or knob 14 so as to disengage the latch from the rack, whereupon the carrier may be directed rearwardly to the desired point in the barrel.

Having thus described the invention, what is claimed as new is:

1. A pencil of the character described, comprising a barrel formed with a longitudinally extending recess, the side walls of which are grooved, the barrel being also provided with a rack in said recess, and a lead carrier including a body portion having outstanding retaining flanges movable along the side grooves, and a latch adapted to engage the rack, said body portion being arranged for engagement with a lead.

2. A pencil of the character described, comprising a barrel, the barrel being formed with a longitudinally extending opening and a rack in said opening, and a lead carrier mounted for movement in said opening and including a body portion having outstanding retaining flanges and a latch adapted to engage the rack, said body portion being arranged for engagement with a lead.

3. A pencil of the character described, comprising a barrel formed with a longitudinal opening, a rack held in said opening and formed with longitudinal retaining flanges and a lead carrier including a body portion movable in said opening and having out-turned edges working in the flanges of the rack, and a latch mounted in the body portion of the lead carrier, said lead carrier being arranged for engagement with a lead.

4. A pencil of the character described, comprising a barrel formed with a longitudinally extending recess, the side walls of which are grooved, a rack held in said recess and formed with retaining flanges seated in said grooves, and a lead carrier including a body portion, the edges of which are retained in the flanges for a sliding movement in said recess, the body portion being arranged for engagement with a lead, and a latch carried by the body portion and adapted to engage the rack.

5. A pencil of the character described, comprising a barrel formed with a longitudinal recess and with a groove in the bottom wall of the recess, a rack held in said recess and formed with openings communicating with the groove, and a lead carrier mounted to slide on said recess and adapted to engage a lead, said lead carrier including a latch adapted to enter the openings of the rack whereby to hold the carrier in adjusted position.

6. A pencil of the character described, comprising a body portion formed with a longitudinal recess, a rack mounted in said recess and formed with longitudinally extending retaining flanges, a lead carrier including a body portion consisting of a strip doubled upon itself with its edges turned out to form flanges, said flanges engaging the first named flanges, the body portion being adapted to engage a lead and a spring latch pivotally mounted between the side members of the body portion of the carrier and arranged for engagement with the rack.

7. A pencil of the character described, comprising a barrel formed with a longitudinally extending opening, a rack held in said opening and formed with longitudinal retaining flanges, the rack being formed with openings and the bottom wall of the first named opening being formed with a longitudinal groove communicating with the openings in the rack, and a lead carrier provided with flanges held in the first named flanges, and mounted for movement therein, the lead carrier being arranged to engage the lead and embodying a spring pressed latch adapted to enter the openings in the rack.

In testimony whereof, I affix my signature in presence of two witnesses.

CHARLES A. GAISER. [L. S.]

Witnesses:
EMMA SCHMIDT,
PETER J. KRANZ.