G. N. SMITH, JR.

PRICK ATTACHMENT FOR PENCILS.

APPLICATION FILED NOV. 22, 1916.

1,220,792. Patented Mar. 27, 1917.

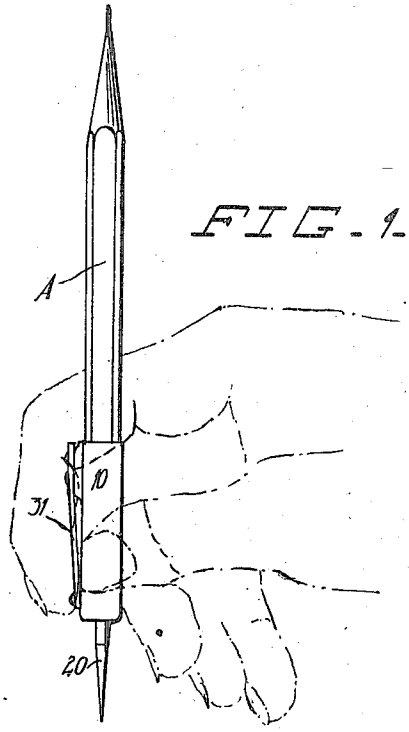


FIG. 1.

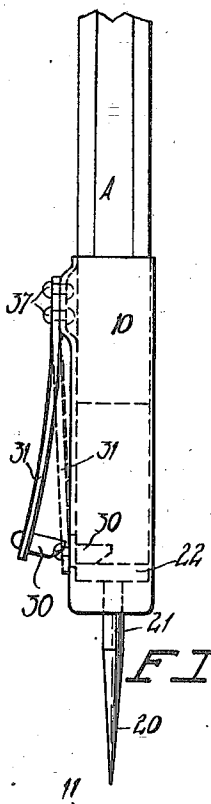


FIG. 2.

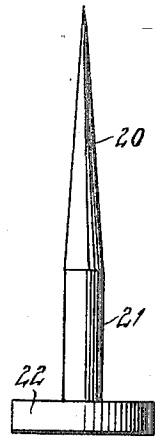


FIG. 3.

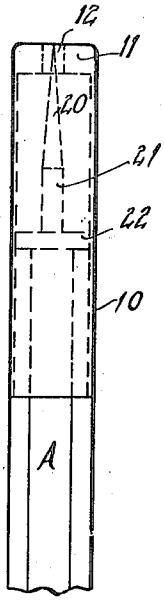


FIG. 4.

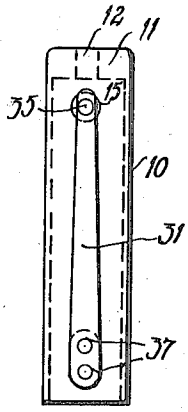


FIG. 5.

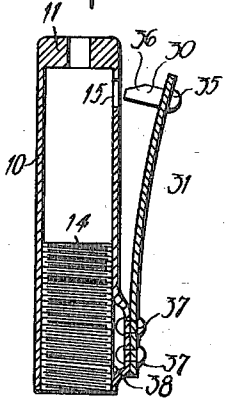


FIG. 6.

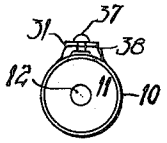


FIG. 7.

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PRICK ATTACHMENT FOR PENCILS.

1,220,792. Specification of Letters Patent. Patented Mar. 27, 1917.

Application filed November 22, 1916. Serial No. 132,735.

To all whom it may concern:

Be it known that I, GEORGE N. SMITH, JR., a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Prick Attachments for Pencils, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

This invention relates to a simple attachment for drawing pencils, enabling a draftsman, by inverting his pencil, to prick a dot in the paper. The use of a sharp pointed implement to prick the paper to locate centers for circles, the intersection of lines, the contour of a templet, etc., is very customary with many draftsmen, but to lay down the pencil and pick up a separate pricking instrument necessarily causes considerable waste time in the aggregate. By mounting a pricking attachment on the head end of the pencil the device is always at hand ready for use by simply inverting the pencil.

As the pricking point is very sharp, I provide a protecting casing, within which it normally stands, so that there is no danger either of the draftsman injuring himself or of his dulling the point. When the pencil is inverted the prick point drops by gravity into active position. To hold the point in this position for use I provide a normally idle locking dog, at the side of the attachment, which may be readily pressed by the user's finger into place to lock the point in its projecting position.

My attachment is hereinafter more fully explained, in connection with the accompanying drawing, and its essential characteristics are summarized in the claims.

In the drawing, Figure 1 is a side elevation of a pencil equipped with my pricking attachment. This view shows the device in the position for use, the operator's finger, locking the extended point, being illustrated by broken lines. Fig. 2 is an enlarged side elevation of the attachment and a portion of the pencil, this view showing the locking dog in inactive position in full lines, and in active position in broken lines. Fig. 3 is a side elevation of the prick point on an enlarged scale; Fig. 4 is a side elevation of the attachment in idle position on the head end of a pencil; Fig. 5 is a side elevation of the attachment, looking from the side where the locking dog is located, the point being omitted; Fig. 6 is an axial section through the casing and locking dog; Fig. 7 is an end view of the attachment.

As shown in the drawing, 10 indicates the casing of the attachment, which is a tubular member open at one end and having at the other end a head 11, through which there is a central aperture 12. The interior of the casing may be of any desired shape, but I prefer to make it cylindrical and provide it with internal threads, indicated at 14 in Fig. 6. The casing can thus conveniently screw onto the usual hexagonal drawing pencils (the edges being rounded off if necessary) as well as onto round pencils.

The prick point is designated 20. It is shown as consisting of a tapered or conical portion coming to a sharp point, a cylindrical shank 21, forming an extension of the large end of the cone, and a disk-like head 22. The head is of such size as to substantially fill, but slide freely within, the bore of the casing. The shank 21 is of a diameter slightly smaller than that of the aperture 12, so that in use the tapered point and the shank 21 may pass out of this aperture. When the pencil is used for drawing the head 22 rests on the upper end of the pencil A and the sharp end of the point 20 is within the aperture 12, and protected thereby, as clearly shown in Fig. 4. When this pencil is inverted the point drops by gravity, so that the head 22 rests on the inner face of the end wall 11, as shown in Fig. 2.

To lock the point in its extended position, I provide a dog consisting of a block or bolt 30 secured to a leaf spring 31 which lies alongside of the casing and at its other end is anchored thereto. An opening 15 is made in the casing opposite the point of the bolt 30. Ordinarily this dog stands in the position shown in full lines in Fig. 2 and also in Fig. 6, but when the prick point has been projected by the inversion of the pencil the free end of the spring is pressed inwardly,

as shown in Fig. 1, thus bringing the bolt 30 above the head 22 of the prick point, as shown in dotted lines in Fig. 2. This effectively locks the prick point in active position.

I find it convenient to secure the bolt 30 to the leaf spring by making an opening through the spring and passing an extension of the bolt through the opening and upsetting or riveting this extension on the outer side of the spring, as shown at 35. The bolt is preferably beveled at its engaging corner 36, to allow it to readily ride over the head 22. The anchored end of the spring is preferably secured to the casing by rivets. I have shown two of these rivets 37 passing through the spring and the casing. In order that the inner riveting heads shall not be in the way of the pencil I distort the casing outwardly at this point, as shown at 38, to provide a recess to be occupied by the rivet heads, and also a flat seat for the spring.

It will be seen that my attachment is simple and cheap in construction and may readily fit any ordinary pencil. When the pencil is used in drawing the attachment is out of the way and there is no point projecting, but a mere inversion of the pencil, done by the fingers of the operator's right hand, causes the point to project, after which it is locked by pressing in the spring, preferably by the first or second finger.

Having thus described my invention, what I claim is:

1. In an attachment of the character described, the combination of a casing adapted to fit the head end of a pencil, a movably mounted prick point within the casing and adapted to be projected beyond the end thereof, a locking dog carried by the casing for holding the prick point in active position, and means tending to hold the locking dog in inactive position.

2. In an attachment of the character described, the combination of a casing adapted to fit the head end of a pencil, a movably mounted prick point carried thereby and adapted to be projected beyond the end thereof, and a locking device for holding the prick point in active position, consisting of a leaf spring secured to the casing and adapted to be pressed inwardly at its free end and carrying means at such end to engage the prick point.

3. In an attachment of the character described, the combination of a casing adapted to fit around the head portion of a pencil, having a head with an aperture through it, a movable prick point within the casing adapted to extend through the aperture and having a head adapted to abut the inner face of the head of the casing, and a locking device carried by the casing and adapted to engage the head of the prick point.

4. In a device of the character described, the combination of a casing having a head with an aperture through it, a prick point within the casing adapted to extend through the aperture and having a head movably confined by the head of the casing, a leaf spring anchored at one end to the casing, and means carried by the free end of the leaf spring and adapted to be pressed inwardly to engage and lock the head on the prick point.

5. The combination of a tubular casing having a head with an opening through it, a prick point having a head within the casing and a shank adapted to extend out through the opening, a leaf spring anchored at one end to the casing and at the other end carrying a bolt for engaging the head of the prick point, there being an opening through the casing through which the bolt operates.

6. The combination of a tubular casing having a head at one end with a central opening through it, a prick point having a central shank adapted to extend through said opening and having a head lying within the casing, a locking bolt adapted to be extended through an opening in the casing to lie against the inner side of the head, and means operable from the exterior carrying said bolt.

7. The combination of a tubular casing having a head at one end with a central opening through it, a prick point having a central shank adapted to extend through said opening and having a head lying within the casing, a locking bolt adapted to be extended through an opening in the casing to lie against the inner side of the head, and a leaf spring lying along the casing on its outer side, the free end of the spring having the bolt secured to it, the other end of the spring being anchored to the casing.

8. The combination of a casing having a head with an aperture, a prick point having a head within the casing and a shank adapted to extend through the aperture, a leaf spring on the outer side of the casing anchored at one end to the casing, a bolt riveted to the leaf spring at its inner end, there being an opening through the casing opposite the end of the bolt and the bolt being positioned so that when pressed inwardly through the opening it may engage the head of the prick point.

9. The combination of a casing having a head with an aperture in it, a prick point having a shank adapted to extend out of the aperture and having a head within the casing, the wall of the casing adjacent to its other end being offset outwardly, a locking device for the prick point located on the

outer side of the casing and secured to said offset portion.

10. The combination of a casing having a head with an opening in it, a prick point having a shank adapted to extend out of the opening and having a head within the casing, the wall of the casing adjacent to its other end being offset outwardly, a leaf spring engaging the outer face of said offset portion and anchored thereto by a rivet, the inner head of which is within the recess of the offset, and a locking bolt for the prick point carried by the free end of said spring.

In testimony whereof, I hereunto affix my signature.

GEORGE N. SMITH, JR.