No. 860,196. PATENTED JULY 16, 1907.

J. EICHMÜLLER.

DRAWING PEN.

APPLICATION FILED JULY 28, 1906.

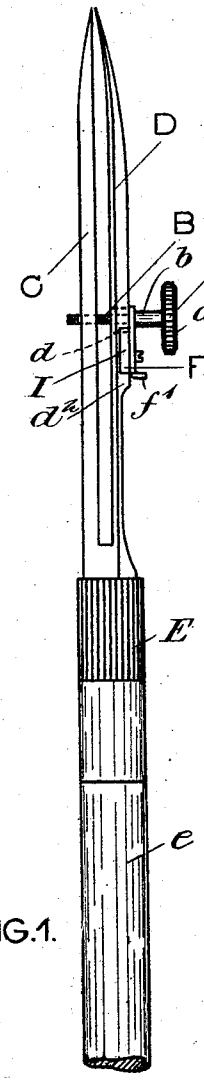


FIG.1.

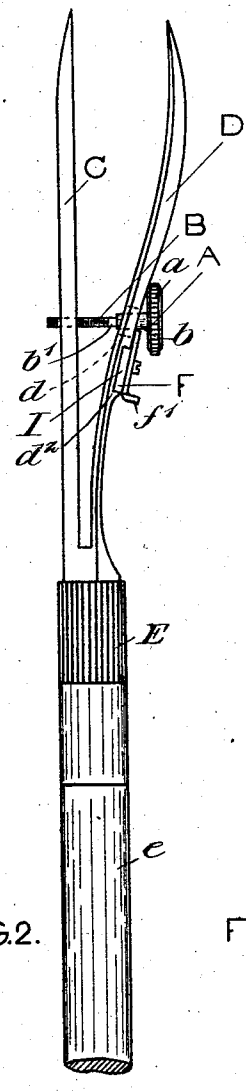


FIG.2.

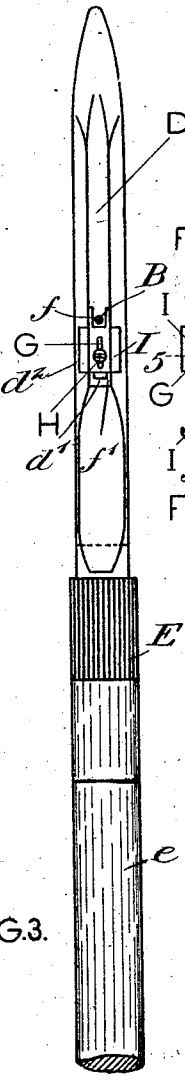


FIG.3.

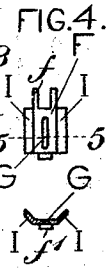


FIG.4.

FIG.5.

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DRAWING-PEN.

No. 860,196. Specification of Letters Patent. Patented July 16, 1907.

Application filed July 28, 1906. Serial No. 328,248.

To all whom it may concern:

Be it known that I, JOHANN EICHMÜLLER, of Nuremburg, in the Kingdom of Bavaria, Germany, have invented a new and useful Improvement in Drawing-Pens, of which the following is a specification.

This invention relates to drawing pens of the type known as ruling and compass pens and of that class wherein the blades or pen members are arranged to normally spread apart from each other and are held in operating proximity by adjusting screws. The class of pens to which this invention applies is further characterized by devices for releasing the blades of the pen from their adjusted or closed position, when it is desired to clean the same, and permitting the return of said blades to their originally adjusted positions without readjustment. In this class of pens it is usual to provide an adjusting screw which has threaded connection with one of the blades and loose or frictional engagement with the other blade to close the same in their working position together with a device coöperating with one blade and having frictional engagement with the screw in a manner to permit one of the blades to be released without changing the adjustment of the screw and permitting the return of the blades to their original, adjusted position.

In this class of pens heretofore used no provision has been made for locking the adjusting screw when the pen blades are spread and therefore the adjusting screws are frequently moved by accident so that when the blades are returned to a working position the original adjustment is lost.

It is the object of the present invention to provide a pen of this class wherein the adjusting screw is locked when the blades are spread so that when the same are returned to their working position the original adjustment is insured.

The invention will be more fully described in connection with the accompanying drawing and will be more particularly ascertained and pointed out in and by the appended claims.

In the drawing Figure 1 is a side elevation of a ruling pen, showing the device of my invention applied thereto and illustrating the pen blades in a closed or working position. Fig. 2 is a similar view showing the pen blades spread. Fig. 3 is a top view of the pen with the head of the adjusting screw removed. Fig. 4 is a plan view and Fig. 5 is a section on line 5—5 of Fig. 4, showing an improved attachment included in my invention.

Like characters of reference designate similar parts throughout the different figures of the drawing.

As shown, the invention is applied to that form of pen having two coöperating pen blades secured to a pen stock, one of the blades being rigidly secured thereto and the other blade being reduced adjacent the stock in a manner to cause it to normally spread apart from the rigid blade. It will be understood, however, that the invention may be applied to pens wherein the spreading action of one blade is effected by means other than that herein shown or to that class of pens where both blades spread.

The pen illustrated consists of a pen stock E, provided with a handle *e*, a rigid pen blade C and a separate and movable pen blade D. The movable pen blade D is adapted to be brought into a closed or working position with the pen blade C by means of an adjusting screw A. Said screw A is provided with a shank B having threaded engagement with an aperture in the blade C. The shank B is enlarged at *b* to provide a shoulder *b'*, the enlarged portion of said shank having a smooth periphery throughout its length and the shank B proper having a smooth periphery at and to a point slightly beyond the shoulder *b'*. The movable blade D is slotted at *b* and the width of the slot is preferably greater than the diameter of the enlarged portion *b* of the shank to permit the blade D to spread or swing outwardly or away from the blade C without engaging the shank of the adjusting screw. The adjusting screw A is provided with an enlarged preferably knurled head *a* adapted for engagement with the spreading pen blade D.

The length of the adjusting screw is so proportioned with respect to the spread of the pen blades that the blade D will always engage the head *a* when in an open or spreading position. It will be understood that the movement of the pen blades C and D, from a closed position wherein the ends of the blades are in contact to the greatest open adjustment at which it is practical to operate the pen, is very limited and the spreading action of the blade D is such that when it is released its outward or spreading movement would normally be greater than the movement permitted when the adjusting screw is in place, thereby always insuring engagement of the spreading blade D with the head *a* when the pen blades are in an open or cleaning position.

The pen blade D is polygonal in cross-section preferably at or adjacent the slot *d*, there being provided a bearing surface *d'* slanting at d^2, the slanting portions terminating at the marginal edges of the pen blade. Upon the bearing surface *d'* there is mounted a sliding catch F provided with a central body portion and with inclined marginal flanges I of less length than said body engaging the slanting portions d^2. The said slide is slotted at G and is movably secured to the pen D by a headed screw H which extends through the slot G and has threaded engagement with the blade D. The engagement of the flanges I with the inclined portions d^2 together with the screw H serves to maintain the slide in an alined working position without the necessity of providing undercut or dovetailed fitting parts. It will be obvious, however, that the catch may be

movably secured to the pen blade in any manner to enable it to perform the function hereinafter set forth.

At its forward end the slide F has an extension of its central body portion bifurcated at *f* in a manner to engage the shoulder *b'* of the adjusting screw, the slot G permitting movement of the slide F into and out of engaging proximity with said screw. The slide F is preferably provided with a thumb piece *f'* of reduced width as compared with the width of the central body portion to facilitate operation of the slide by the operator.

In use the slide F is in the position shown in Fig. 1 engaging the shoulder *b'* of the adjusting screw, the latter being adapted to be turned to spread or close the pen blades to any desired extent. When it is desired to clean the pen the operator retracts the slide F from engagement with the shoulder *b'* and the pen blade D springs outwardly until its movement is arrested by the head *a* of the adjusting screw. The engagement of the pen blade D with the adjusting screw serves to prevent accidental turning of the latter and maintains the original adjustment thereof. After the pen is cleaned the pen blade D is brought to a closed position, the slide F is thrust into an engaging position with the shoulder *b'* and the pen is ready for use. It will be seen therefore that the screw A is frictionally held and is as effectively prevented from being turned when the pen blades are open as it is when the same are closed, which is a great advantage in this class of pens.

I claim:

In combination with a ruling pen having a blade formed with sloping sides and a headed screw formed with a shoulder, a slide formed of material of substantially the same thickness throughout and comprising a central body portion of rectangular form provided with a central slot between its ends, a screw extending through said slot and engaging in said blade, said central body portion having a forward bifurcated extension of the same width as said central body portion, the rear end of said central body portion being of reduced width and turned outwardly to form a finger hold, and inclined marginal flanges of rectangular form on opposite sides of said central body portion, said flanges being of the same length as said central body portion and of less width than said central body portion.

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

JOHANN EICHMÜLLER.

Witnesses:
OSCAR BOCK,
HEINRICH FIETH.