May 1, 1923. 1,453,667

J. J. GILLIS

PENHOLDER

Filed March 11, 1922

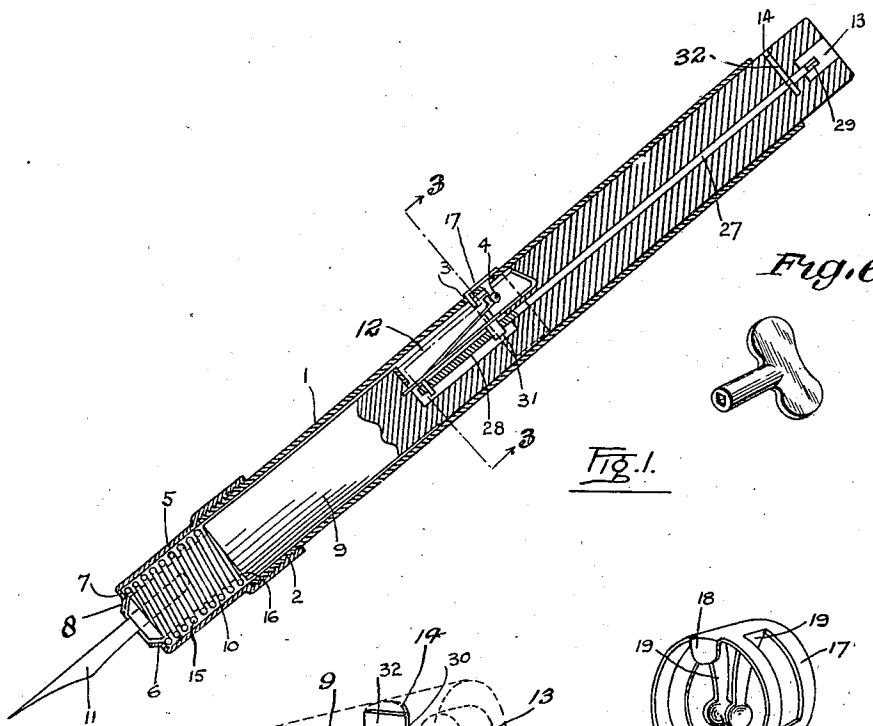


Fig. 1.

Fig. 6.

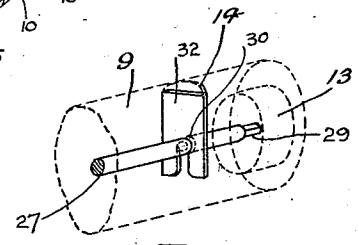


Fig. 5.

Fig. 4.

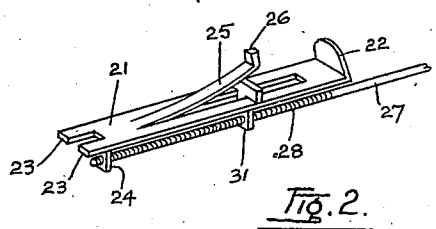


Fig. 2.

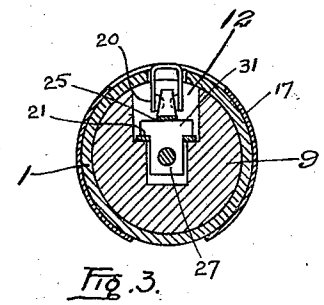


Fig. 3.

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UNITED STATES PATENT OFFICE.

JAMES JOHN GILLIS, OF VANCOUVER, BRITISH COLUMBIA, CANADA.

PENHOLDER.

Application filed March 11, 1922. Serial No. 542,975.

To all whom it may concern:

Be it known that I, JAMES JOHN GILLIS, of 415 Cordova Street, in the city of Vancouver, in the Province of British Columbia, Canada, carpenter, have invented certain new and useful Improvements in Penholders, of which the following is the specification.

My invention relates to a new and useful improvement in pens for the use of children learning to write and is devised in such a manner that undue pressure of the pen on the paper will result in the penpoint sliding into the holder, that the attention of the writer be drawn to the fact that he or she was using too much pressure.

Adjustment is provided which will allow the release to be set to give way at any desired point pressure, such tension being under the control of the teacher.

The pen is simple in construction and possesses but few parts, all of which are so designed as to give good wear and to meet the conditions which will be imposed by the individual use accorded to it by different children without getting out or order.

By my method of adjusting the release, the pen can be arranged to provide for the varying improvement made by the child and as such improvement takes place and the pressure exerted on the pen point becomes less, so the tension can be reduced, until ultimately, the child attains the degree of perfection in writing which is sought by the teacher.

The essential parts of my invention are, a cylindrical pen body, enclosing a pen holder slidably mounted therein, a spring constantly pressing the pen holder against its release mechanism, a release mechanism, which is adjustable by the rotation of a threaded rod, all of which will be more particularly described in the following specification in which:

Fig. 1 is a section taken longitudinally through the pen.

Fig. 2 is a section showing the release mechanism.

Fig. 3 is a cross section of the release on the line 3—3 in Fig. 1.

Fig. 4 is a perspective of the release clip detached from the pen.

Fig. 5 is a perspective view of the end of the adjusting screw.

Fig. 6 is a perspective view of a key for actuating the release mechanism.

In the drawings like characters of reference indicate corresponding parts in each figure.

All the drawings are shown to a greater scale than full size.

1 represents the barrel of my pen holder which is a tube cylindrical in form having open ends, the nib end has a thread 2, on its outer surface, approximately the mid-length of the tube is a transverse slot 3 and a further slot 4 which is rectangular in form, both of which are cut through the side wall of the tube substantially as shown.

5 is a spring cover tube having a partial closure 6 at the nib end such partial closure consisting of a washer like outer rim 7 and an inner rim 8 dished to an angle of approximately 45 degrees from the plane of the rim, the bore of tube 5 being made two separate diameters, the diameter of the nib end being equal to the bore of barrel 1 and the rear end diameter being substantially the diameter of the outside of barrel 1, the rear end bore being threaded to engage thread 2 of barrel 1.

9 is the body of my pen holder which is slidably positioned within the barrel 1 and is slightly less diameter than the barrel to permit of perfectly free endwise movement, the nib end of holder 9 is reduced in diameter as at 10 and is turned at its extremity in the shape of a truncated cone to a corresponding angle with inner rim 8 of spring cover tube 5.

The end of holder body 9 is provided with a suitable fitment for the retention of nib 11.

Adjacent the mid-length of holder 9 is a cut away section 12 which is grooved out as shown for purposes hereinafter to appear, 13 is a cavity in the outer end and 14 is a rectangular slot cut transversely of the holder 9 and extending to a depth greater than half the diameter, the holder is bored along the centre of its length from the cavity 13 through to the cut away section 12.

15 represents a spring in compression between rim 7 and shoulder 16 to carry the holder 9 upwards through the tube 1 on a predetermined pen point pressure being attained.

17 is a clip which substantially surrounds the pen barrel 1, having a tongue 18 projecting from its rim and turned downwardly through the slot 3 to form a stop to restrict the travel of the holder 9 along the barrel 1.

Clip 17 has a pair of spring legs 19 each of which terminate in a semi-spherical member 20 having their convexities opposing each other yet being set apart as shown in Figs. 3 and 4, the legs 19 extend downwards through aperture 4.

21 represents in general my spring tension plate Fig. 2, in which 22 is the upper end bent back upon itself beyond an angle of 90 degrees to act as a dovetail to engage the undercut end of space 12, the opposite end of plate is split into three tongues the outer two represented by numeral 23 engage the corresponding extremity of space 12 to retain the plate in fixed position in the holder 9, the centre tongue 24 projects downwards and is drilled for the accommodation of adjusting screw rod 27.

25 is a spring tongue preferably pressed out of plate 21 and formed integrally with same to project above a longitudinally arranged rectangular slot which spring carries a wedge shaped block 26 the sides of which taper towards the top and is disposed when in writing position in close contact with the convex surfaces of the semi-spherical members 20.

27 is a rod with a thread 28 cut upon its inner end and which is squared at its outer end 29 for rotation by means of a key, 30 is a groove encircling the rod adjacent its outer end.

31 represents a T block slidable endwise along plate 21 its vertical leg extending downwards and being drilled and tapped for engagement by the thread 28 of rod 27, which on rotation causes the block to raise or lower spring tongue 21 as desired.

32 represents a slotted plate which is inserted transversely into slot 14 of holder 9 engaging the groove 30 on rod 27 to prevent endwise movement of said rod.

Having described the various parts of my invention I will briefly explain its operation and use.

The rod 27 is rotated by a key to raise or lower the wedge block 26 into proper engagement with convex surfaces 20.

On greater pressure being applied through the pen barrel 1 to the paper than that which the pen is adjusted for, the tapered shoulder of holder member 9 exerts a slight sliding tendency against inner rim 8 of spring cover 5, which in conjunction with the pointwise pressure of the hand is sufficient to cause wedge block 26 to spread the legs 19 of clip 17 apart to allow its passage through the gap, the holder member 9 is then carried upwardly along the barrel 1 by the coil spring 15 the upward travel of holder 9 being stopped by tongue 18. The pen can be readily taken apart by simply springing clip 17 off the barrel 1 and withdrawing holder 9.

It will thus be seen that I have devised a pen which is capable of the finest adjustment and which is not liable to damage through the abuse to which it may be subjected by children.

That it will enable a child to use a pen without exerting undue pressure upon the pen or paper and by which the difficulties in teaching handwriting will be largely overcome.

What I claim as my invention is:

1. A pen holder for the purpose described having a barrel, a pen holding member slidably mounted therein, means of resiliently retaining the pen thereof in normal writing position and means of automatically releasing and retiring the pen into the barrel when a predetermined pressure is exerted pointwardly of the barrel and means of adjusting the releasing mechanism.

2. A pen holder for the purpose described having a barrel with a spring cover extension thereto, a pen holding member slidably mounted within the barrel, a coil spring engaging the cover extension and the pen holding member, means of resiliently retaining the pen thereof, in normal writing position and means of automatically releasing and retiring the pen into the barrel when a predetermined pressure is exerted pointwardly of the barrel and means of adjusting the releasing mechanism.

3. A pen holder for the purpose described having a barrel with a spring cover extension, a compression spring therein, a clip member removably sprung upon the barrel having a tongue projecting through the side wall of the barrel to limit the sliding movement of the pen holding member, said clip member having a pair of spring legs projecting towards the transverse centre of the barrel, which legs terminate in semi-spherical knobs for releasing engagement with an adjustable wedge block mounted upon a spring, a block slidably movable under said spring, having screw rod means of positioning same for the tensioning of said spring, and key means of retaining the screw rod in endwise position and means for rotating same.

4. A pen holder for the purpose described having a barrel with a spring cover extension, a pen holding member slidably mounted within the barrel, a spring engaging the spring cover member and the pen holding member, means of limiting the travel of the pen holding member within the barrel, means for retaining the pen in normal position and automatic means of releasing and retiring the pen endwise within the barrel, when a predetermined pressure is exerted pointwardly of the barrel, screw means of adjusting the release for any desired pressure, a slotted plate mounted transversely of the screw rod engaging a groove encircling said screw rod, and key means of rotating the screw.

5. A pen holder for the purpose described having a barrel with a spring cover extension, a pen holding member slidably mounted within the barrel, a spring engaging the spring cover member and the pen holding member, means of limiting the travel of the pen holding member within the barrel, means for retaining the pen in normal position and automatic means of releasing and retiring the pen endwise within the barrel when a predetermined pressure is exerted pointwardly of the barrel, screw means of adjusting the release for any desired pressure, means of retaining the screw rod in fixed endwise position within the pen holding member and means of rotating said screw rod.

Dated at Vancouver, B. C. February 4th A. D. 1922.

JAMES JOHN GILLIS.

Witnesses:
JOHN J. JOHNSTON,
FREDERICK S. WEAVER.