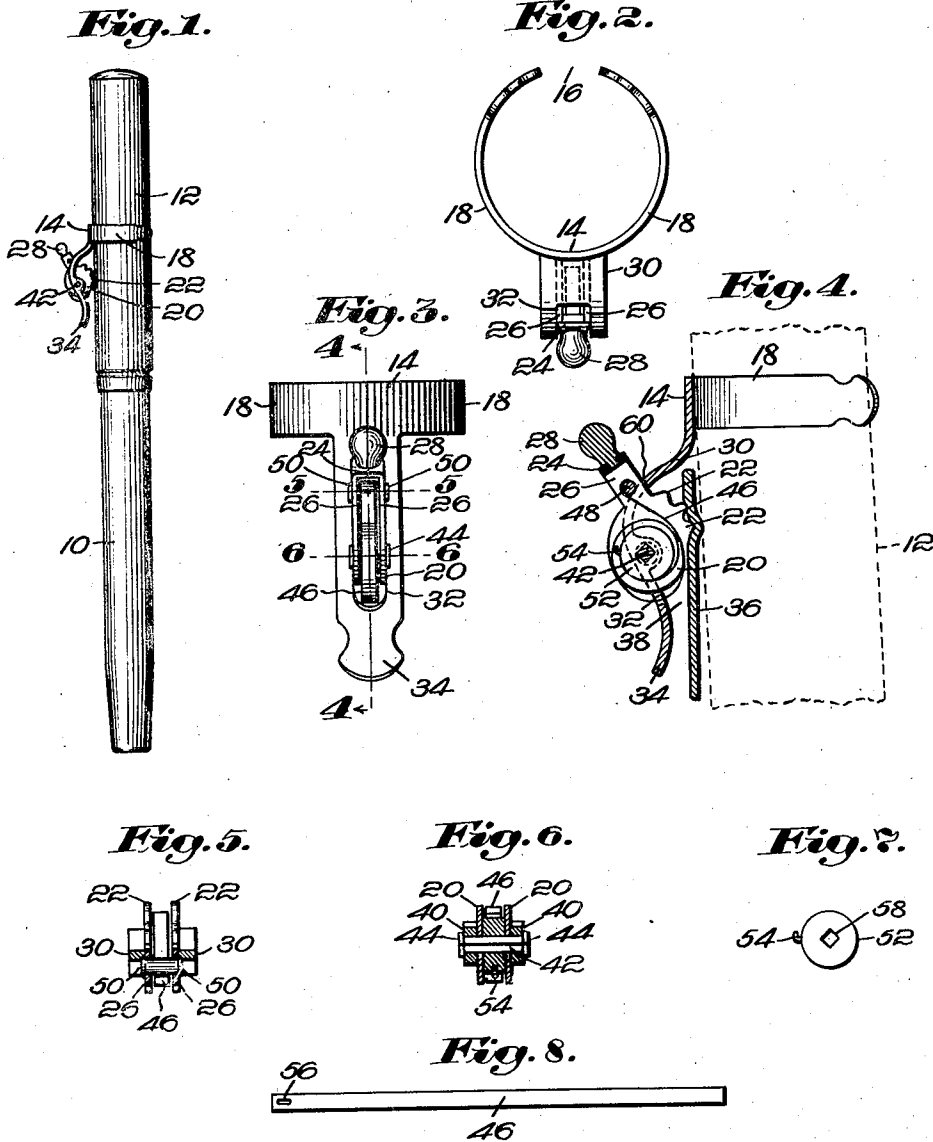


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CLIP FOR PENS, PENCILS, AND SIMILAR INSTRUMENTS.
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UNITED STATES PATENT OFFICE.

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CLIP FOR PENS, PENCILS, AND SIMILAR INSTRUMENTS.

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To all whom it may concern:

Be it known that I, SYLVESTER M. NATHAN, a citizen of the United States, and a resident of Fitchburg, in the county of Worcester and State of Massachusetts, have invented an Improvement in Clips for Pens, Pencils, and Similar Instruments, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to clips for pocket implements such as pens, pencils, thermometer cases and similar implements and aims to provide a retaining device of this class having provision to secure the same to the implement and to grip the pocket in such a manner that normally any tendency of the implement to escape results in an increased power of the grip, while still providing for instant release of the device at will. My invention will be best understood by reference to the following description when taken in connection with the accompanying drawings of one specific embodiment thereof, while its scope will be more particularly pointed out in the appended claims.

In the drawings:

Figure 1 is an elevation of a fountain pen or similar instrument equipped with a clip exemplifying my invention;

Fig. 2 is a plan of the clip alone on an enlarged scale;

Fig. 3 is a side elevation of the clip on the same scale as Fig. 2 viewed from the left hand side of Fig. 1;

Fig. 4 is a sectional view on line 4—4 of Fig. 3 showing also a portion of the fabric of the pocket in section;

Fig. 5 is a sectional view on line 5—5 of Fig. 3;

Fig. 6 is a sectional view on line 6—6 of Fig. 3;

Fig. 7 is a detail elevation of the drum to which one terminal of the spring is secured; and

Fig. 8 is a plan of the spring as it appears before being coiled.

Referring to the drawings, and to the embodiment of my invention which I have selected for exemplification, I have shown a fountain pen 10 having a usual cap 12, the latter presenting a convenient place of attachment for a clip suitably attached thereto, as by being provided with a band

14, which is disposed about the cap and which in the present example is interrupted as at 16, and presents a pair of resilient arms 18 which embrace the cap.

Suitably supported by the band is a swinging gripper, herein exemplified by a pair of cams 20 provided with a serrated or roughened gripping surface, in the present example consisting of a series of teeth 22. In the present embodiment, the cams are conveniently formed of a single piece of sheet metal bent to form a base 24, and a pair of parallel arms 26, the latter being prolonged to form the cams 20. If desired, there may be added a knob 28 suitably formed on or secured to the base 24.

The cam lever thus described may be pivotally supported on the band 14, as by providing the latter with an arm 30 conveniently formed integrally therewith from a single piece of sheet metal and provided with a slot 32 in which the cam lever is received. The free end of the arm may be inclined in an outward direction, as at 34 to facilitate the introduction of the fabric 36 of the pocket into a space 38 between the arm and the implement. Herein the arm 30 is provided with integral ears 40 to receive a pin 42 presenting a pivot for the cam lever. This pin may be headed over at its ends as at 44 to keep it in place.

A suitable spring is provided to urge the gripper toward and lengthwise of the axis of the band, that is to say, toward the adjacent side of the implement. In the swinging movement of the gripper arm the engaging face thereof moves in a generally diagonal direction inwardly toward the implement and into contact with the pocket and also downwardly, viewing Figs. 1 and 4. In the present example I have provided a spirally coiled spring 46, one end of which is anchored on the pin 42 and the other on a pin 48, the latter in the present example extending through the arms 26 and being headed over as at 50 to secure the same therein. In the present embodiment, the inner end of the spring is coiled about and secured to a drum 52 provided with a projection conveniently in the form of a hook 54, to which the inner terminal of the spring is appropriately secured as by providing the same with a slot 56 (see Fig. 8) which receives the hook. The drum may be held against turning movement as by providing the same with a non-circular opening 58,

herein square, and by making the pin 44 similarly shaped in cross section to fit the opening. It should be understood, however, that the openings provided in the cams 20 are circular, so that they may turn on the pin. The outer terminal portion of the spring rests against the pin 48 and therefore constantly tends to turn the cam lever clockwise as viewed in Fig. 4, so that its teeth 22 are resiliently urged inwardly toward and longitudinally of the implement. Turning movement of the cam lever under the influence of the spring is limited by a suitable stop, herein a shoulder 60, which in the present example is the upper end of the slot 32. Preferably the gripping surface of the cam is formed eccentrically with relation to its pivotal axis or in other words, it is like a wedge wrapped about a circular wheel, that is to say, the points of the teeth are disposed at increasing distances from the center. It follows that when the fabric of the pocket is introduced between the implement and the gripper the latter will recede in opposition to the spring and the fabric will pass between the gripper and the implement. On the other hand, any tendency of the implement to escape is automatically resisted because of the eccentric formation of the gripper which causes an increased gripping action to accompany any outward or upward tendency of the implement. When it is desired to remove the implement, however, the gripper may be released instantly by an outward pressure of the finger against the finger release or knob 28, thereby swinging the gripper in an outward direction in opposition to the spring. It is therefore apparent that accidental release of the implement is practically impossible.

Having thus described one embodiment of my invention but without limiting myself thereto, what I claim and desire by Letters Patent to secure is:

1. The combination with a pocket implement, of a device to secure said implement to the pocket, said device including a support, said support and implement together presenting a space to receive the fabric of the pocket, and means carried by said support normally to permit the fabric freely to enter said space, said means presenting a wedge which, when engaged by the fabric in the direction of removal, is moved by said fabric relatively to said support and automatically and increasingly resists withdrawal of said fabric, said means having provision to permit the same to be released manually thereby to allow the fabric to be withdrawn freely.
2. The combination with a pocket implement, of a device to secure said implement to the pocket, said device including a support secured to said implement and having a part presenting with said implement a

space to receive the fabric of the pocket, and means carried by said part presenting a swinging wedge normally to permit the fabric freely to enter said space while still automatically and increasingly resisting withdrawal of said fabric, said means having provision to permit the same to be released manually thereby to allow the fabric to be withdrawn freely.

3. In a retainer for pens, pencils, thermometer cases and similar pocket implements, the combination of means to secure the retainer to the implement, and a toothed, eccentric gripper carried by and resiliently urged toward the axis of said means to grip the pocket and having a finger release by means of which said gripper may be released from said pocket.

4. In a retainer for pens, pencils, thermometer cases and similar pocket implements, the combination of means to secure the retainer to the implement, a swinging arm carried by said means having a pocket engaging part movable in its swinging action both inwardly toward the implement and downwardly whereby to grip the pocket and having a yielding bias toward an inward position in which it grips the pocket.

5. A clip of the class described comprising, in combination, a band having an arm extending transversely thereof and provided with a longitudinal slot, a lever received in said slot and fulcrumed on said arm and provided with a serrated, eccentric cam, and a spring tending to turn said lever about its fulcrum.

6. A clip of the class described comprising, in combination, a band having an arm extending transversely thereof and provided with a longitudinal slot, a lever received in said slot and fulcrumed on said arm, said lever being provided with a pair of arms having serrated, eccentric cams thereon and presenting an opening between them, and a spring received in said opening and tending to turn said lever about its fulcrum.

7. A clip of the class described comprising, in combination, a band having an arm extending transversely thereof and provided with a longitudinal slot, a pivot extending across said slot and supported by said arm, a lever received in said slot and fulcrumed on said pivot and provided with a serrated, eccentric cam, and a spring coiled about said pivot and having one end fixed and the other connected to said lever to turn the latter about said pivot.

8. A clip of the class described comprising, in combination, a band having an arm extending transversely thereof and provided across said slot and supported by said arm, a lever received in said slot and fulcrumed on said pivot, said lever being provided with a pair of arms having serrated, eccentric

arms thereon and presenting an opening between them, a spring received in said opening and having one end anchored on said pivot and the other connected to said lever to turn the latter about said pivot.

9. The combination with an elongated pocket implement of a support secured thereto, and a toothed, wedge-like gripper carried by said support and resiliently urged toward the longitudinal axis of said implement to grip the pocket and having a finger release by means of which said gripper may be released from said pocket.

10. The combination with an elongated pocket implement of a support secured thereto adjacent one side thereof and provided with a slot extending longitudinally thereof, a lever received in said slot and fulcrumed on said support and provided with a serrated eccentric cam, and a spring tending to turn said lever about its fulcrum.

11. The combination with a pocket implement of a support secured thereto and provided with a slot, a lever received in said slot and fulcrumed on said support, said lever being provided with a pair of arms having serrated eccentric cams thereon and presenting an opening between them, and a

spring received in said opening and tending to turn said lever about its fulcrum.

12. The combination with a pocket implement of a support secured thereto and provided with a longitudinal slot, a pivot extending across said slot and supported by said support, a lever received in said slot and fulcrumed on said pivot and provided with a serrated eccentric cam, and a spring coiled about said pivot and having one end fixed and the other end connected to said lever to turn the latter about said pivot.

13. The combination with a pocket implement of a support secured thereto and provided with a slot, a pivot extending across said slot and supported by said support, a lever received in said slot and fulcrumed on said pivot, said lever being provided with a pair of arms having serrated eccentric cams thereon, and presenting an opening between them, a spring received in said opening and having one end anchored on said pivot and the other connected to said lever to turn the latter about said pivot.

In testimony whereof, I have signed my name to this specification.

SYLVESTER M. NATHAN.