

E. NORRIS.
PENCIL CASE AND KINDRED INSTRUMENT.
APPLICATION FILED FEB. 2, 1912.

1,063,134.

Patented May 27, 1913.

Fig. 1.

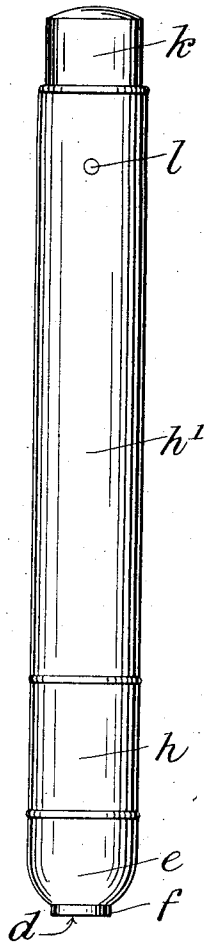


Fig. 2.

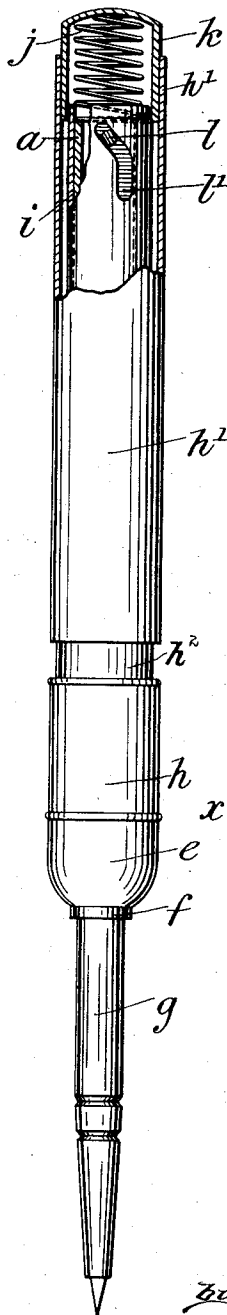


Fig. 5.

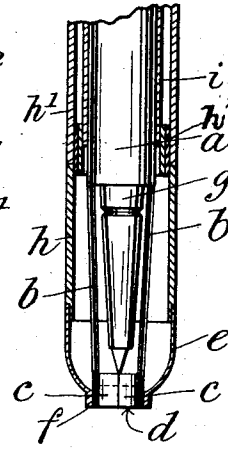


Fig. 6.

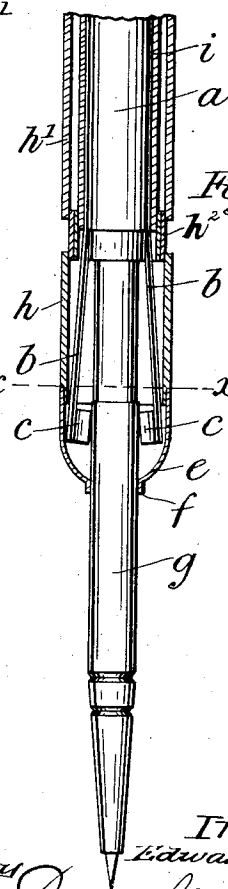


Fig. 3.

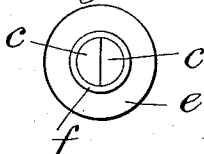
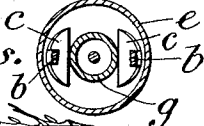


Fig. 4.



Witnesses.

[Signatures of witnesses]

Inventor.

[Signature of E. Norris]
Edward Norris

UNITED STATES PATENT OFFICE.

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PENCIL-CASE AND KINDRED INSTRUMENT.

1,063,134.

Specification of Letters Patent.

Patented May 27, 1913.

Application filed February 2, 1912. Serial No. 674,884.

To all whom it may concern:

Be it known that I, EDWARD NORRIS, a subject of the King of Great Britain and Ireland, residing at London, England, have invented new and useful Improvements in Pencil-Cases and Kindred Instruments, of which the following is a specification.

The present invention has reference to pencil-cases and other instruments of analogous nature, such, for example, as pen-holders, pen-knives, and surgical instruments, of the so-called "drop action" type, wherein, as is generally understood, the depression of a spring-controlled butt-end, or the like, serves to release a locking device from engagement with the holder that carries the lead, pen, blade or other implement, which latter is then free to drop by gravity through the open mouth of the case into operative position and is subsequently locked when the pressure upon the butt-end is relieved; when the instrument is inverted, and the butt-end again depressed, the carrier is unlocked and free to drop into the interior of the case, being locked therein when the butt-end is again released.

This invention embraces, primarily, the provision of improved means whereby, as hereinafter described at length, the mouth of the instrument is automatically and effectually closed when the working parts are in normal or out of use condition, so as to prevent the entry of dust, dirt or other foreign matter into the case, thus obviating injury to said parts and insuring the proper operation of the instrument at all times.

An embodiment of the invention is illustrated in the accompanying drawings, whereof:

Figure 1 is a side elevation of a pencil case equipped with the improved closing device or obturator, and shown in normal or out of use condition; Fig. 2 is a similar view, but partly in section, showing the lead carrier in projected position; Fig. 3 is a bottom plan view of Fig. 1; Fig. 4 is a transverse section taken on the line $x-x$ of Fig. 6, and showing the position of the component members of the obturator when the carrier is projected; and Figs. 5 and 6 are longitudinal sectional views of the mouth end of the case, showing the obturator mem-

bers and their supports in closed and open position, respectively.

The main parts of the case of the instrument may be of any standard type and, in the construction illustrated, include inner, central, and outer tubular members or tubes, a , i , and h^1 , arranged concentrically, as shown, the central tube i being in contact with the inner tube a , but spaced from the outer tube h^1 . In addition to the tube h^1 , which may be considered as the fixed member of the external case, the latter includes a movable lower member h , which is securely fixed to a suitable sleeve h^2 that extends into its upper end and, also, loosely, into the annular space between the lower ends of the tubes h^1 and i , the connection of the parts h and h^1 being effected in any desired manner, as, for instance, by means of the pin l and the slot l^1 . At its lower end the tube h carries a conoidal cap e which may either be rigidly secured thereto or form an integral part thereof, said cap being provided with a central orifice d which constitutes the mouth of the case, this orifice being surrounded by a flange or rim f . The internal wall of cap e is also of conoidal shape, as shown.

Adjacent their upper end portions, the tubes h^1 and a are rigidly connected by the cross-pin l that passes through the angular slot l^1 in the tube i , to which latter is securely attached, in any desired manner, the lower edge of a suitable push-piece forming the butt-end b , having disposed within it the controlling spring j . This butt-end fits within and is encircled by the projecting upper end portion of tube h^1 , and its lower end is slidably introduced into the space between tube h^1 and the tube i , the controlling spring j bearing at its upper end against the top of the butt-end and at its lower end upon the upper edge of tube a . The arrangement is such, therefore, that when the butt-end is depressed, it will force tube i , to which it is attached, downward. At its lower end, tube i is rigidly attached in any suitable manner to the above-mentioned sleeve h^2 , and, in consequence, when said tube i moves downward, it will force sleeve h^2 in the same direction and, also, tube h and cap e , the former of which is, in turn, attached to said

sleeve, as above stated. During this movement, sleeve h^2 moves partly beyond the lower end of the tube h^1 into the position depicted in Fig. 6, while tube i is given a partial rotation, due to the engagement of the cross pin l in the angular slot l^2 , the turning or rotary movement thus imparted to tube i serving to release or unlock the locking device which may be of the usual or any preferred type, and which is not depicted in the drawings, since it forms no part of the present invention.

As above stated, the depression of the butt-end k serves to move tube i downward, and this tube is utilized as a carrier for the obturator that is employed to plug and unplug the mouth d . In the construction illustrated, said obturator comprises two corresponding members c, c , in the form of blocks or heads of semi-cylindrical or other suitable shape. These heads are secured directly to the lower ends of a pair of spring arms b that are connected in any desired manner at their upper ends to the lower end of tube a , and are so constructed as to normally hold the heads away from each other. Accordingly, when the butt-end k is depressed and tube h and cap e are moved downwardly, the tension of the spring arms b will cause the heads c, c to move away from each other and into contact with the inner wall of said cap, as represented in Fig. 6, but when the pressure upon said butt-end is relieved and the parts i, h^2 and h return to normal position, the contact of said heads with the conoidal inner surface of the cap e will force them inwardly and cause them to enter and close the mouth d at the termination of such return movement.

The holder g , which, in the present instance, is shown as a carrier for the lead, but which, in other constructions may carry the pen, blade, lancet, or other implement, is associated with the afore-mentioned locking device and is alternately released and engaged by the same. Like the locking device, it may be of any desired type, and forms no part of this invention. So far as the operation of that element is concerned, it may be stated that it is released when the butt-end k is first depressed, drops by gravity outward through the mouth d on the latter being uncovered consequent upon the depression of the butt-end, and is locked in projected position when the pressure upon said butt-end is released. When the instrument is inverted and pressure is again applied upon the butt-end, the mouth d is again opened, whereupon the holder returns by gravity to its normal position and is subsequently locked in such position upon the removal of pressure from the butt-end, at which time the mouth d is again closed by the heads c, c . By reason of the employment of these heads, the case is kept closed,

except when the implement holder is in projected position, thus preventing the entry of dust, dirt, or other matter into the interior of the case and insuring, therefore, the proper action of the working parts of the instrument.

Having fully described my invention, I claim:

1. An instrument of the character specified, comprising, in combination, a tubular case provided at one end with a depressible element and at the other end with a mouth; an obturator normally seated in said mouth and embodying companion parts and spring carriers therefor, said carriers normally forcing said parts away from each other; and means controlled by said depressible element for seating and unseating said parts.

2. An instrument of the character specified, comprising a tubular case embodying a fixed member and a movable member having a conoidal portion formed with a mouth; an obturator embodying a pair of companion parts normally seated in said mouth, and spring arms rigidly secured to said fixed member and carrying said parts, said arms normally forcing the said parts away from each other; and means carried by said case and connected with said movable member for operating the latter, to seat and unseat said parts.

3. An instrument of the character specified, comprising a tubular case embodying a fixed member and a movable member having a conoidal portion formed with a mouth; an obturator embodying a pair of companion parts normally seated in said mouth, and spring arms rigidly secured to said fixed member and carrying said parts, said arms normally forcing the said parts away from each other; and a depressible element carried by said case and connected with said movable member for operating the latter, to seat and unseat said parts.

4. An instrument of the character specified, comprising a tubular case embodying a fixed member and a movable member having a conoidal portion formed with a mouth; an obturator embodying a pair of companion parts normally seated in said mouth, and spring arms rigidly secured to said fixed member and carrying said parts, said arms normally forcing the said parts away from each other; a movable tube disposed within said case and connected to said movable member; and a depressible element mounted in said case and connected to said tube, for moving the latter and said movable member, to seat and unseat said parts.

5. An instrument of the character specified, comprising, in combination, a tubular case embodying fixed and movable members, the latter of which is provided with a mouth; a depressible element carried by the fixed member; an obturator disposed within

the movable member and embodying companion parts normally seated in said mouth, and supports rigidly secured to said fixed member and to which said parts are connected; and means controlled by said depressible element and connected with said movable member for operating the latter, to seat and unseat said parts.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses. 10

EDWARD NORRIS.

Witnesses:

ERNEST DE CASS,
I. J. WORTH.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
