

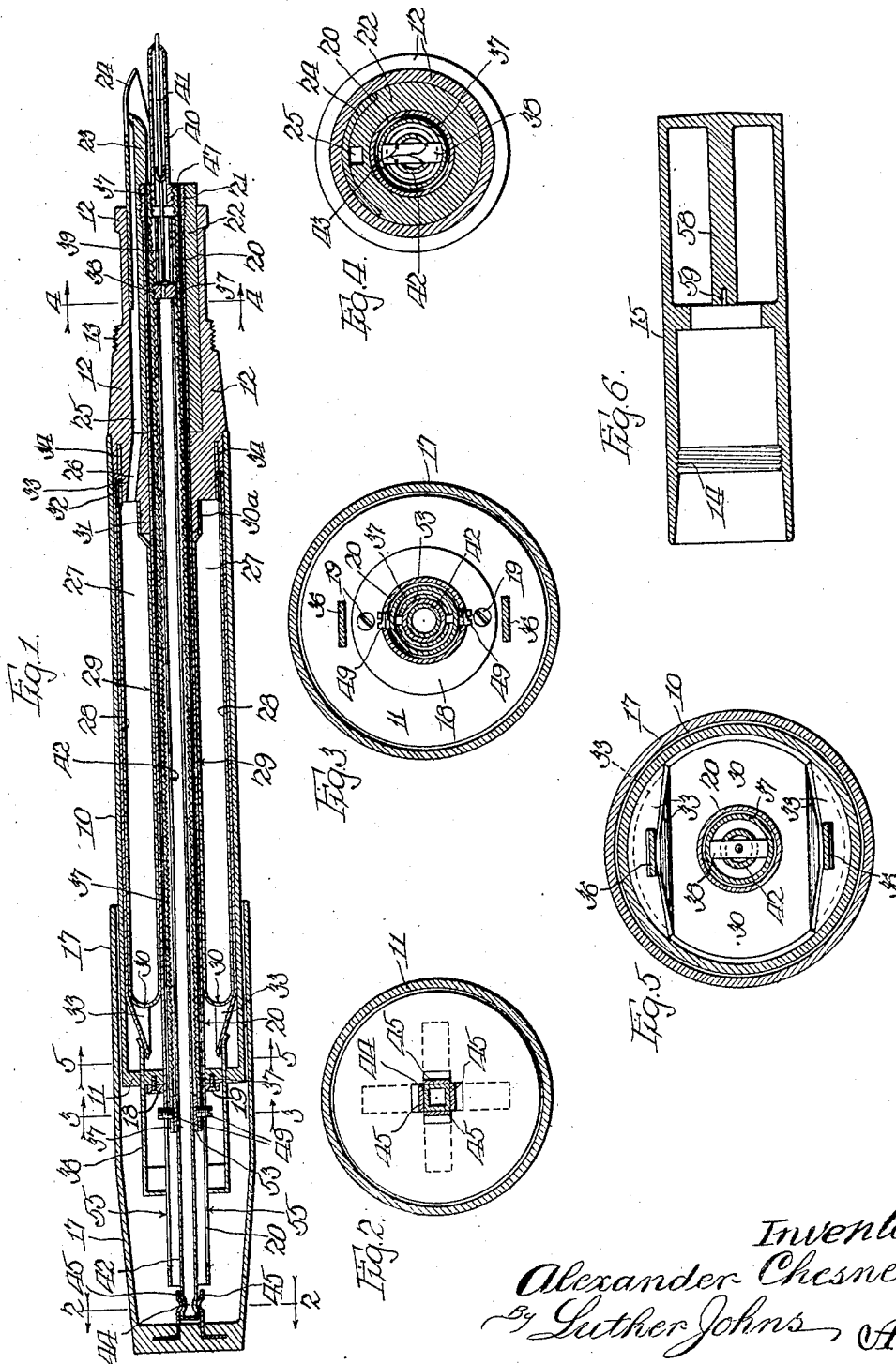
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WRITING DEVICE

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# UNITED STATES PATENT OFFICE.

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WRITING DEVICE.

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*To all whom it may concern:*

Be it known that I, ALEXANDER CHESNE, a citizen of the United States, residing at Chicago, Cook County, Illinois, have invented certain new and useful Improvements in Writing Devices, of which the following is a specification.

Details of the present improvements relate to pencil construction and other details relate to the construction of fountain pens. As a combined utility the improvements relate to a pen-and-pencil organization.

The chief object of the improvement is to provide a combined unit for writing with pencil or pen, and thus avoid the necessity of two instruments or devices. It is an object to provide a form of construction whereby the chief advantages of such an organization may be had according to easily operable and conveniently used means.

In the accompanying drawings, which form a part of this specification, Figure 1 is a medial longitudinal section through the device; Figs. 2, 3, 4 and 5 are enlarged transverse sections on the lines 2-2, 3-3, 4-4 and 5-5 respectively of Fig. 1; and Fig. 6 is a medial longitudinal section through a front cap adapted for use with the instrument for enclosing exposed pen and pencil elements.

The illustrated structure comprises first a tubular body member or barrel 10 having an end wall 11 and having rigidly secured thereto at its front end a head member 12 which is shown as being threaded at 13 to engage the threaded portion 14 of the front cap 15. A cap 17 fits with a sliding and rotative fit upon the cylindrical body 10. The parts 10 to 17 inclusive may well be formed of hard rubber according to ordinary fountain pen practice.

A metallic tube 20 is threaded at 21 in a cylindrical member 22 rigidly secured within the head member 12, the member 22 forming with the member 12 what I shall call the head and having an integral projection 23 constituting a feeder for the pen 24, which pen 24 is held in a recess in the member 22, as well shown in Fig. 4. A channel 25 is cut in the member 22 and a hole or boring 26 extends from the channel 25 to the ink chamber 27. This chamber 27 is formed by a compressible soft rubber sack which has an outer annular wall 28, an inner annular wall 29, and an end wall 30, the chamber 27 thus being annular in

shape, and closed at one end. The inner wall 29 encompasses the tube 20 and is secured at 30<sup>a</sup>, as by cement, upon a cylindrical extension 31, part of the head piece 12, the outer wall 28 being similarly secured at 32 upon a cylindrical extension 33 of the member 12.

A pair of springy sack-compressing members 33, of thin and stiff sheet metal and formed trough-shaped where they overlies the ink sack are rigidly secured at 34 to the head 12, the rear ends being tapered or slanted inward as well shown in Fig. 1 and adapted to be engaged by the ends of a U-shaped metallic member 36 slidably mounted for longitudinal movement in the end wall 11 of the body member 10 and also on the tube 20. When this member 36 is forced inward the sack-compressing members 33 are forced toward each other, thus compressing the sack, exhausting air therefrom, and providing for an intake of ink into the sack when the pen part is inserted in an ink supply and the hand-operable member 36 is retracted.

The tube 20 carries a collar 18 held by screws 19 to the end wall 11. Within the tube 20 is a tube 37 interiorly screw threaded throughout most of its length and adapted to be engaged by the screw-threaded cross-head or traveling member 38 to which is secured a push rod or plunger 39 which passes into the hollow pencil tip 40 and is adapted to push against the piece of lead 41 therein to force sufficient lead beyond the pencil tip for writing purposes. Within the tube 37 is a tube 42 which is longitudinally slotted at 43 (Fig. 4) to accommodate the cross head 38.

The end of the tube 42 has a squared seat at 44 reduced in cross section, and four springs 45, Fig. 2, secured to the cap 17 engage this squared seat to convey rotative motion from the cap 17 to the tube 42. The springs 45 hold the cap 17 readily releasably upon the tube 42, and the cap 17 may be pulled off of the end of the barrel 10 whereby access may be had to the sack-filling member 36. When the cap 17 is in its operative position as shown by Fig. 1 and the cap is turned in one direction or the other the tube 42 will be turned, and since this tube is slotted to accommodate the cross head 38 so as to move longitudinally therein the rotative motion will be communicated to the cross head which is thus made to travel upon

the threads of the tube 37, with the result that the plunger 39 is advanced or retracted.

The view of Fig. 1 shows the device as adjusted for using the pencil. Should it be desired to use the pen 24 the pencil tip 40 is retracted by simply pulling upon the cap 17, the holding effect of the springs 45 in the reduced or neck-like seat at 44 of the tube 42 providing that this inner tube 42 will move longitudinally when the cap 17 is so moved. The pencil tip 40 is screw-threaded at 47 into the tube 37. To communicate pulling strains from the inner tube 42 to the tube 37 these two tubes are caused to move simultaneously by a pair of diametrically-opposed threaded pins 49 which are threaded through the wall of the tube 37 and into an annular recess in a collar 53 (Fig. 3) secured upon the inner tube 42. The inner tube 42 may thus rotate relative to the tube 37, and pulling and pushing strains upon the inner tube 42 will be communicated to the tube 37 and the pencil tip 40 will thereby be moved backward or forward as the case may be. To permit longitudinal movement of the tubes 42 and 37 the outer tube 20 is slotted at 55.

When it is desired to move the pencil tip 40 back into the body of the device to free the pen 24 for use the cap 17 is drawn back longitudinally. When the pins 49 come to the end of the slot 55 a further pull upon the cap 17 will release it at the spring connection at 44 and 45 and thereupon the U-shaped member 36 may be forced inward by the fingers of the operator, partially collapsing the ink sack, and on inserting the pen point into a supply of ink and retracting the member 36 the spring members 33 will move away from each other, allowing the sack to expand to its normal condition, drawing in the ink, and thereupon the cap 17 may be replaced.

The cap of Fig. 6 may be applied when the pencil tip 40 is retracted, the construction being such that the central extension 58 of the cap having a recess 59 for the lead will act as a seal to prevent leakage of ink from coming objectionably upon the end of the pencil tip and lead.

I contemplate as being included in this invention such changes and modifications of what is herein specifically illustrated and described as fall within the scope of the appended claims.

I claim:

1. In a combined pencil and pen, the combination of a barrel, a double-walled ink sack therein providing an annular ink chamber closed at one end and open at its other end, pen-and-pencil head mechanism at the front end of said barrel, means in said mechanism for holding a pen, said head mechanism being provided with an ink channel from said chamber to the pen, a tube for

pencil mechanism extending through the central space provided by said sack, means for collapsing said sack for charging the same with ink, said tube extending into said head mechanism, and pencil mechanism mounted in said tube for longitudinal movement therein, said pencil mechanism including means for advancing lead therein.

2. In a combined pencil and pen, the combination of a barrel, a head secured to the front end thereof and adapted to accommodate a pen and also pencil mechanism, a collapsible ink sack carried by said barrel, said head mechanism having a duct leading to a seat for a pen, a pen carried in said seat, and pencil mechanism extending through said barrel and terminating in a hollow pencil tip, said pencil mechanism including a screw-threaded part, said pencil tip being mounted for retraction, said pencil mechanism including a plunger having a part in engagement with said screw-threaded part, and means for rotating the plunger part which is in engagement with said screw-threaded part to advance said plunger.

3. In a combined pencil and pen the combination of a barrel, a head therefor, a pen mounted therein, a collapsible ink sack within the barrel, said head having a duct leading from the ink sack to the pen, means for collapsing said ink sack including a spring member lying along the side of the sack and having a slanting end portion, a push member slidably mounted in the end of the barrel and adapted to engage said slanting end portion, a tubular member extending through said barrel and into said head portion, a second tubular member within said first-mentioned tubular member, said secondly-mentioned tubular member being interiorly screw threaded, a slotted tubular member within said secondly mentioned tubular member, a threaded cross head in the slot of said slotted tubular member, the threads of which cross head engage the threads of the secondly mentioned tubular member, a plunger carried by said cross head, a hollow pencil tip coaxial with said plunger and adapted to hold a piece of lead for propulsion by said plunger, and means at the upper end of said barrel for rotating said slotted tubular member to advance the lead, said pencil tip being secured to said secondly-mentioned tubular member, the secondly-mentioned tubular member being mounted for sliding movement relative to the first-mentioned tubular member whereby the pencil tip may be retracted.

4. In a combined pencil and pen the combination of a barrel, a pencil-and-pen head rigidly secured at the front end thereof, means for holding a pen in said head, said head having a duct leading from the pen to the interior of a collapsible tube, a collapsible tube carried by said barrel, means for

collapsing said tube for filling the same, said means including a pair of spring members lying at side portions of said collapsible sack, said spring members having their ends formed slantingly inward, a tubular member extending centrally through said ink sack, a sliding member mounted on said tubular member, said sliding member having portions thereof engaging said inwardly-slanting surfaces whereby movement of said sliding member will compress the sack for charging purposes, and pencil mechanism carried by said tubular member, said pencil mechanism including a hollow tip and including a plunger, with means for moving the plunger forward to advance lead in the pencil tip, pencil mechanism including said tip being slidably mounted for retraction within the body of said head.

5. In a combined pencil and pen the combination of a barrel, a head at the front end thereof, a pen secured therein, a collapsible tube within said barrel, said head having a duct leading from the collapsible tube to the pen, a tube extending through the collapsible tube, pencil mechanism including a plurality of tubular members within said tube, a cap rotatably and slidably mounted at the rear end of said barrel, one of the tubular members of the pencil mechanism being releasably secured to the said cap and also whereby rotative movement of the cap communicates rotative movement to the tubular

member secured thereto, said pencil mechanism including a plunger having a threaded part with means for advancing said plunger when said cap is rotated, and including also a pencil tip mounted for advancement and retraction when said cap is advanced or retracted.

6. In a combined pen and pencil the combination of a barrel, a pen-and-pencil head at the front end thereof, a pen carried by said head, a collapsible tube in said barrel, said head having a duct leading from the collapsible tube to said pen, pencil mechanism extending through said barrel and head and having a pencil tip adjacent to said pen, said pencil tip being mounted for longitudinal movement into said head to clear the pen for use, means at the upper end of said barrel for retracting the pencil tip, means at the upper end of said barrel for collapsing the collapsible tube for charging purposes, and a cap for the upper end of said barrel.

7. In a pen and pencil device having a pen and also a pencil tip at one and the same end thereof, the combination therewith of a cap member adapted to enclose both the pen and the pencil tip when the device is not in use and having a part adapted to engage the pencil tip and hold it against outward movement and also to seal it against leakage of ink from the pen.

ALEXANDER CHESNE.