J. SOSS.

LEAD AND CRAYON PENCIL.

APPLICATION FILED MAR. 20, 1909.

955,293.

Patented Apr. 19, 1910.

Fig. 1

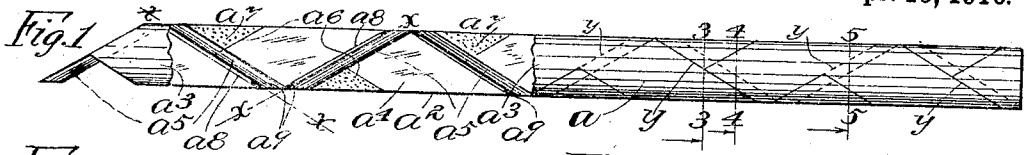


Fig. 2

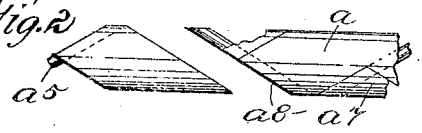


Fig. 3

Fig. 4

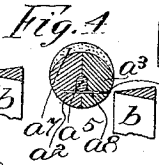


Fig. 5

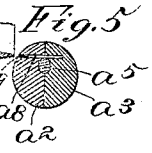


Fig. 6a

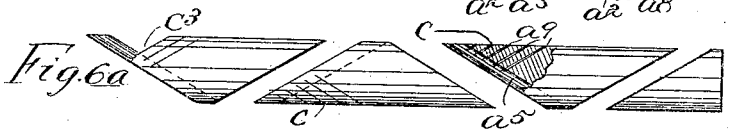


Fig. 6

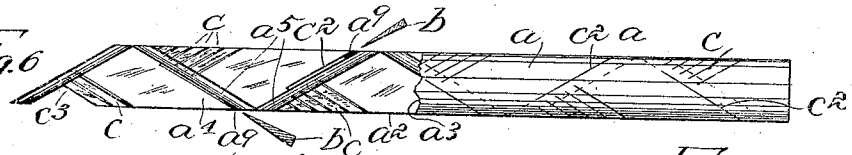


Fig. 7

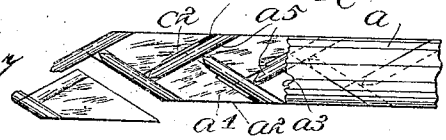


Fig. 7a

Fig. 8

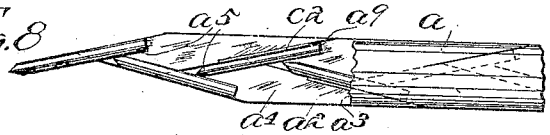


Fig. 8a

Fig. 9

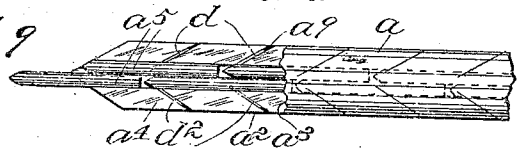


Fig. 9a

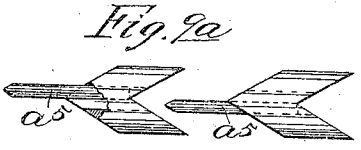


Fig. 10

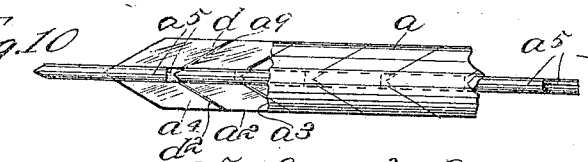


Fig. 13a

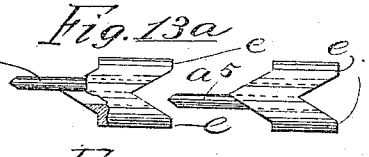


Fig. 11

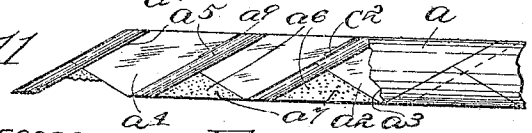
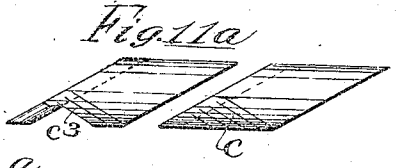


Fig. 11a

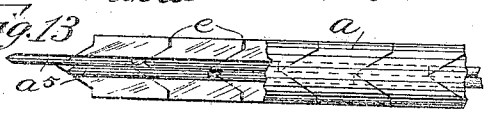


WITNESSES:

L. E. Mulreany

A. Applemen

Fig. 13



INVENTOR

Joseph Soss

Fig. 12

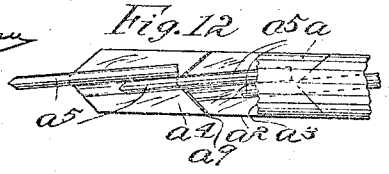


Fig. 12a

ANDREW B. GRAHAM CO., PHOTO-LITHOGRAPHERS, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOSEPH SOSS, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO HARRY R. CANFIELD, OF NEW YORK, N. Y.

LEAD AND CRAYON PENCIL.

955,293. Specification of Letters Patent. Patented Apr. 19, 1910.

Application filed March 20, 1909. Serial No. 484,667.

To all whom it may concern:

Be it known that I, JOSEPH SOSS, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented new and useful Improvements in Lead and Crayon Pencils, of which the following is a specification.

This invention relates to lead and crayon pencils, and particularly that class of pencils which are provided with a number of pointed crayons or leads which may be brought into use successively as new or sharpened points are needed, by removing a part of the pencil at the operative end.

The object of this invention is to provide a pencil of the class specified which will contain a total length of lead or crayon greater than the length of the pencil, and thereby increase the length of available or useful lead or crayon and prolong the useful life of the pencil; and with this and other objects in view my invention comprises a pencil composed of detachably connected parts, each part being provided with a sharpened lead or pencil and connected to the next adjacent part in such a manner that a plane of easy cleavage exists between it and the said adjacent part; so that when one lead or crayon point has been dulled or used up it may be removed together with the part containing it and another point exposed for use, by inserting a knife-blade in said plane of cleavage and breaking the connection along said plane.

The invention is fully disclosed in the following specification of which the accompanying drawing forms a part in which the different parts of my invention are represented by suitable reference characters in each of the views, and in which:

Figure 1 is a side view of one form of my invention, with part of the construction broken away and part in section; Fig. 2, a view similar to Fig. 1 but showing the operation of my invention, as shown in Fig. 1; Figs. 3, 4, and 5, sectional views on the lines 3—3, 4—4, and 5—5, respectively, of Fig. 1; Figs. 6, 7, 8, 9, 10, 11, and 12, views similar to Fig. 1 but showing other forms of my invention; Figs. 6^a, 7^a, 8^a, 9^a, 11^a and 12^a, views showing modifications of the forms shown in Figs. 6, 7, 8, 9, 11, and 12, respectively; and, Figs. 13 and 13^a, views showing a modification of the form shown in Fig. 9^a.

In the form of construction shown in Figs. 1 to 5, inclusive, I show at a a portion of the pencil complete; and the body of the pencil thus shown is cylindrical in form and is made up, in general, of two hemicylindrical halves, a^2 and a^3, composed of wood or other suitable material with their plane faces placed together, one of said faces, that of the part a^2, being plainly shown at a^4 in Fig. 1; and in this respect the pencil is similar to pencils of ordinary construction. The leads or crayons a^5 may be of the usual cylindrical or any other suitable cross-section and are embedded in the plane faces a^4 of the hemicylindrical halves a^2 and a^3, and in the form shown in Figs. 1 to 5, inclusive, these leads or crayons lie on a zig-zag line throughout the length of the pencil, as plainly shown in Fig. 1; and in forming the two hemicylindrical parts a^2 and a^3 of the pencil according to this form of construction, I remove a part of the wood or other material of which said parts are made, and leave thereby, at the edges of each hemicylindrical part, equally spaced notches a^6, alternating on the opposite sides of said parts, and said notches are of triangular section in planes parallel to the plane faces of the hemicylindrical parts, and one end of each lead or crayon projects into, and lies along one side, of one of these notches. In the process of making up the pencil according to this form of construction these notches are filled with a plaster of chalky, or clayey substance, or plaster-of-paris, or other preferred and suitable plaster, and these notches thus located and filled with plaster are plainly shown in section at a^7 in Fig. 1. In this form of construction I provide also saw-slots or incisions a^8 which range transversely of the pencil in planes parallel to the direction of the leads or crayons, and each of said saw-slots or incisions a^8 corresponds respectively to a lead or crayon and is made in a plane perpendicular to the plane of the plane faces of the hemicylindrical parts and coincident with the side surface of the lead or crayon nearest the operative end, or, in Fig. 1, the left-hand end of the pencil, the lines x—x in Fig. 1 indicating the location of these cutting planes; and these slots extend entirely

through one of the hemicylindrical halves of the pencil and part way through the other half as plainly shown in Figs. 3, 4, and 5; and as shown in these figures and indicated by the lines y in Fig. 1, the saw-slots or incisions are made into the pencil from alternate sides corresponding to the alternating leads or crayons. In the process of making a pencil according to this form of construction, the two halves a^2 and a^3 are first made; grooves are then made in the faces a^4 of the halves a^2 and a^3 to receive the leads or crayons a^5; the notches a^6 are then made in the two halves a^2 and a^3 according to the locations above described therefor; the saw-slots a^8 are then cut as hereinbefore described; the leads or crayons a^5 are then placed in the grooves made to receive them, and one end portion of each projects into one of the notches a^6 and the other end portion thereof is secured in the corresponding groove by a suitable adhesive; the two hemicylindrical halves a^2 and a^3 are then secured together face to face by a suitable adhesive or in any other or preferred manner, and the notches are then filled with plaster or suitable material, and the cylinder thus formed is dipped into or painted with a paint or varnish or other preferred liquid coating; and in the process of applying this coating a part thereof flows into the openings of the saw-slots a^8 filling and sealing the same as plainly shown at a^9 in Figs. 3, 4, and 5; and this seal acts when dry as a bond between the parts separated by the saw-slots thereby giving the necessary strength and stiffness to the pencil. In operating the pencil thus made, to expose for use a new lead or crayon, a knife-blade b is applied along the seal, and the blade is then inserted in the saw-slot, and acting as a wedge splits the pencil open along the plane of the saw-slot until the two adjacent parts are entirely separate as shown in Fig. 2; the plaster filler is then chipped or broken out as shown in that figure, exposing a new lead or crayon for use; and the shape of the operative end of the body of the pencil is seen to be wedge-shaped; and this operation of splitting the pencil open along the planes of cleavage thus formed by the saw-slots and removing the plaster filler may be continued throughout the length of the pencil and any number of leads or crayons may be used and placed at any desired angle in forming the zig-zag line.

In the form of my invention shown in Fig. 6 I employ, instead of the notches a^6 and the plaster filler a^7, a series of parallel supplemental saw-slots c cut into the material of the hemicylindrical halves on alternate sides of the pencil, one series of said supplemental slots corresponding with each lead or crayon; and these series of saw-slots c occupy locations identical with the locations of the notches a^6 in the form shown in Fig. 1; and these supplemental saw-slots c are made of any suitable number and to any suitable depth. And I also provide main saw-slots c^2 to form cleavage planes corresponding with the cleavage planes formed by the saw-slots a^8 in Figs. 1 to 5; and in the form of construction shown in Fig. 6 these main saw-slots are cut partly through both of the hemicylindrical halves a^2 and a^3 of the pencil, and not entirely through either of these two halves as in Fig. 1, and these main saw-slots c^2 are also made into the pencil from alternate sides, all of which is plainly shown in Fig. 6. In the operation of this form of my invention, to expose a new lead or crayon for use the pencil is split along the plane of cleavage made by the main saw-slot c^2 and similarly to the operation of the form shown in Fig. 1; and the knife-blade is then inserted into the supplemental slots C and the tongues of the material between said slots are broken away, one at a time, in a way that will be understood and which is shown at c^3 in Fig. 6; and in the process of coating the pencil both the main slots c^2 and the supplemental slots c will be closed and sealed by the coating material.

In the form of construction shown in Fig. 7, the leads or crayons do not extend entirely across the face of the hemicylindrical parts as in Figs. 1 to 6, and one end portion of each crayon lies adjacent to the next successive crayon at a point between the ends thereof as plainly shown; and I provide main saw-slots c^2 to serve as cleavage planes as in the form shown in Fig. 6, and the rear end parts only of the leads or crayons are secured in the grooves by the adhesive employed for this purpose, and which, as in the other forms shown facilitates the separation of the used section of the pencil from the unused lead or crayon to be exposed for use; and the operation of this form will be apparent in view of the operation described in connection with the forms Figs. 1 and 6.

The form shown in Fig. 8 is identical with that shown in Fig. 7 except that in this form the leads or crayons are placed at more acute angles with the longitudinal axis of the pencil and may be completely embedded in the material of the pencil, the rear end portion of each crayon extending only approximately to the outside of the pencil to effect this result as plainly shown in Fig. 8.

In the form of construction shown in Figs. 9 and 10 the leads or crayons are inclined still more acutely toward the longitudinal axis of the pencil and lie parallel to it, and I provide two saw-slots d and d^2 for cleavage purposes corresponding to each lead or crayon, and in the operation of this form the knife-blade may be inserted into each successively to remove the section containing the used up or dulled lead or crayon and

to expose a new one for use; and the leads or crayons are secured in the grooves by the rear end portion thereof only; the forms shown in Figs. 9 and 10 differ from each other only in the location of the leads of crayons therein with respect to the faces of the hemicylindrical halves, the leads or crayons in Fig. 9 all lying partly in both hemicylindrical halves, and in Fig. 10 the odd numbered leads lying in one hemicylindrical half, and the even numbered leads lying in the other half.

The form shown in Fig. 11 is identical with that shown in Fig. 1 except that the leads lie parallel in their oblique relation to the longitudinal axis of the pencil and that saw-slots for cleavage purposes are made similar to those in Figs. 6, 7, and 8.

The form shown in Fig. 12 is similar to that shown in Figs. 8 and 9, the leads or crayons in this form, however, occupying a position differing slightly from that of the leads or crayons in those figures; the location of the cleavage planes is the same as that in Fig. 9.

In the forms of my improved pencil hereinbefore described in connection with Figs. 1 to 12, inclusive, the pencil is shown as formed in general of two hemicylindrical halves extending throughout the length of the pencil and containing the leads or crayons in grooves lying between said halves and having cleavage planes produced by saw-cuts made into these integral halves of the pencil.

In Figs. 6^a, 7^a, 8^a, 9^a, 11^a, and 12^a, I show modifications corresponding respectively to these forms which consists in general of separate similar integral units, each unit consisting of a body member of wood or other preferred and suitable material and being provided with a lead or crayon, one end portion of which is secured in the body member by a suitable adhesive in a suitable hole or recess or groove; and in the construction of the pencil a number of these units are secured together by an adhesive or in any preferred manner to form a cylindrical pencil; the separate units thus built up into a pencil may be separated again successively, one from the other, along the planes of cleavage made by the adjacent surfaces by which these units are connected, one to the other, in building up the pencil. The modifications shown in 6^a, 7^a, 8^a, 9^a, and 12^a, correspond respectively to the forms shown in Figs. 6, 7, 8, 9 and 12, and the modification shown in Fig. 11^a corresponds to the form in Fig. 11, except that in the modification shown in Fig. 11^a I have shown the series of supplemental saw-slots c instead of the filler a^7 as shown in Fig. 11. Since a pencil built up of units according to any of these modifications will be identical in form and practically identical in operation to the corresponding integral form hereinbefore described; and since these units, thus formed are approximately and practically identical with the parts removed from the corresponding integral forms in the operation of the pencil made according to these forms, a further description of the modifications or units and the operation thereof in a pencil formed therefrom is considered unnecessary.

In Fig. 13^a I have shown a modification slightly different from the one shown in Fig. 9^a, the direction of the plane of cleavage being discontinuous and being provided with a shoulder e, and in Fig. 13, I have shown this modification or unit built up into a pencil, the operation thereof being similar to, if not identical with that of other forms and modifications hereinbefore described.

By means of the forms of construction hereinbefore set forth I provide a pencil in which the total length of lead is greater than the length of the pencil itself, whereby a greater economy of lead and greater length of life of pencils of the class specified are secured; and I also provide a pencil having pointed leads which may be successively and conveniently exposed for use as the leads successively become dulled or used up.

It will be obvious that leads or crayons of any single color may be used in pencils made according to my invention, or the several leads or crayons in the same pencil may be of two or more colors, or each may be of a different color, and a pencil formed in this way would serve in part as a toy device, or educational toy device, to encourage and incite children in the practice of writing exercises, drawing exercises, and the like, since the color of each succeeding lead or crayon would be concealed until exposed for use, and the anticipation of the change of color in the next succeeding lead to be used and the novelty thereof would lead to a diligent use of the pencil in such routine exercises.

I do not wish that the scope of my invention shall be restricted to the use of the cleavage planes, hereinbefore described, since that feature of my invention which provides a greater length of lead than the length of the pencil, as particularly shown and described, may be embodied in a pencil to be sharpened in the usual manner; and it will be seen that various combinations other than those shown of the forms and modifications of my invention as shown and described may be made within the scope of the appended claims without departing from the spirit of my invention, or sacrificing its advantages.

Having fully described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. A lead or crayon pencil comprising a

body member and a plurality of leads or crayons occupying fixed positions therein, the total length of said leads or crayons being greater than the length of the pencil, and said body member having a plurality of predetermined surfaces of cleavage corresponding to said leads or crayons and adapted to be opened up on said surfaces to expose said leads or crayons for use.

2. A lead or crayon pencil comprising a body member and a plurality of leads or crayons distributed longitudinally and uniformly throughout the body member, the total length of said leads or crayons being greater than the length of said body member, and said body member being provided with a plurality of predetermined surfaces of cleavage corresponding to said leads or crayons and adapted to be opened up on said surfaces to expose said leads or crayons for use.

3. A lead or crayon pencil comprising a plurality of successive sections each of said sections being provided with a lead or crayon and being in contact with the next adjacent section along a predetermined plane of cleavage and adapted to be disconnected from said next adjacent section along said plane of cleavage and in such manner as to expose a lead or crayon for use, said planes of cleavage ranging obliquely to the longitudinal axis of the pencil.

4. A lead or crayon pencil built up from a plurality of similar sections, each of said sections being provided with a lead or crayon the total quantity of lead or crayon being uniformly distributed throughout the length of the pencil and of a total length greater than the pencil.

5. A lead or crayon pencil comprising a body member said body member being provided with a plurality of leads or crayons occupying fixed positions therein and divided into a plurality of sections by predetermined surfaces of cleavage, and adapted to successively expose said leads or crayons for use by opening up or splitting open the pencil along said surfaces of cleavage, said surfaces of cleavage being so arranged that the operative end of the body member of the pencil has after each of said operations a wedge shape, the total length of said leads or crayons being greater than the length of the pencil.

6. A lead or crayon pencil comprising a body member and a plurality of leads or crayons occupying fixed positions therein, said body member being provided with cuts or slots which determine cleavage planes along which planes said body member may be separated into detached parts, said parts being adapted to be detached successively and in such manner as to expose said leads or crayons for use, the total length of said leads or crayons being greater than the length of the pencil.

7. A lead or crayon pencil provided with a plurality of leads or crayons of different colors and occupying fixed positions therein, the total length of said leads or crayons being greater than the length of the pencil, and adapted to be operated to expose said leads or crayons successively for use, and constructed in such manner that the color of the next successive lead or crayon cannot be detected nor inspected until exposed for use.

8. A lead or crayon pencil comprising a body member and provided with a plurality of leads or crayons occupying fixed positions therein, said leads or crayons being adapted to be exposed successively for use by removing a part of the said body member, and the total length of the said leads being greater than the length of the pencil.

9. A lead or crayon pencil comprising a body member and provided with a plurality of leads or crayons distributed longitudinally and uniformly throughout said body member, said leads or crayons being adapted to be exposed successively for use by removing a part of said body member, and the total length of said lead or crayon being greater than the length of the pencil.

JOSEPH SOSS.

Witnesses:
C. E. MULREANY,
M. E. DOODY.