

No. 647,326.

R. R. RAKESTRAW.  
PENCIL.

Patented Apr. 10, 1900.

(Application filed Dec. 11, 1899.)

(No Model.)

Fig. 1.

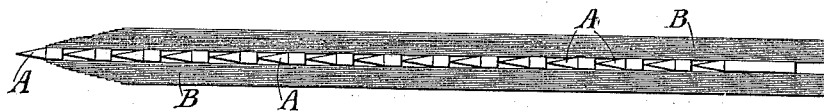


Fig. 4.

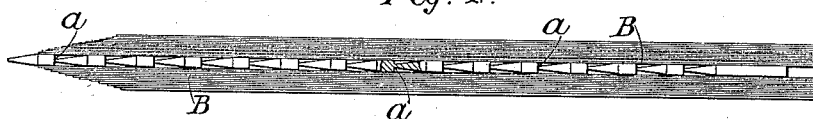


Fig. 2.

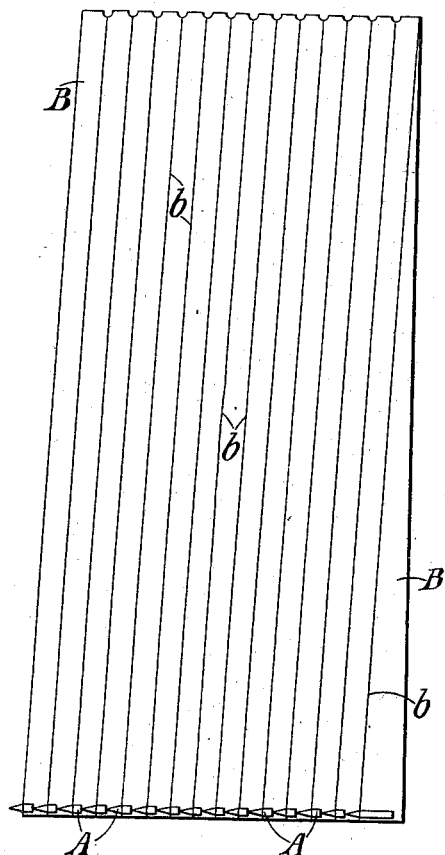
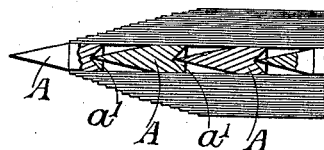


Fig. 3.



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# UNITED STATES PATENT OFFICE.

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## PENCIL.

SPECIFICATION forming part of Letters Patent No. 647,326, dated April 10, 1900.

Application filed December 11, 1899. Serial No. 739,937. (No model.)

*To all whom it may concern:*

Be it known that I, ROBERT RALSTON RAKESTRAW, engineer, a subject of the Queen of Great Britain, residing at London, England, have invented certain new and useful Improvements in Pencils, of which the following is a specification, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal central section of a pencil having a lead or crayon comprising a number of independent pieces each of which is sharpened at one end. Fig. 2 shows, on a smaller scale, the pieces of lead or crayon assembled in line and ready to be rolled in the covering-sheet. Fig. 3 illustrates a modification in which each piece of lead or crayon is formed with a recess in its large end for a purpose hereinafter specified, and Fig. 4 is a longitudinal section of a modification of my improved pencil in which the lead or crayon is reduced in diameter or thickness at intervals.

In the specification of Letters Patent No. 461,911, of 1891, a pencil is described in which the marking lead or crayon is inclosed in a roll formed from a sheet of flexible material bearing weakened lines arranged diagonally to the axis of the roll, along which lines the roll may be separated section by section for the purpose of renewing the point. Heretofore pencils of this kind or class have been made with a single lead or crayon extending throughout the whole length of the pencil and of substantially uniform diameter or thickness from end to end.

According to the present invention I use in lieu of a single lead or crayon a number of sharpened pieces of lead or crayon placed in line and so arranged in relation to the lines of weakness or to the sections of the covering-roll that the large end of each piece is secured or held in one section of the covering-roll by any suitable adhesive material and the point extends into the next adjacent section. In a pencil so constructed as each section of covering is removed a new sharpened point appears.

I sometimes form a conical or other recess in the large end of each piece of lead or crayon for a purpose that will hereinafter appear.

According to a modification of my invention instead of using separate sharpened pieces of lead or crayon I employ a single lead

or crayon extending throughout the whole length of the pencil, as heretofore, but having its diameter diminished at intervals to form conical segments, which are, however, not entirely separated. When a section of the covering-roll is removed, the lead or crayon is broken at its weakest part and a new sharpened point is exposed.

Referring to Figs. 1 and 2, A A are pieces of lead or crayon sharpened at one end and assembled in line with the points laid in the same direction. B is the covering material. (Shown flat in Fig. 2 and rolled up to form the finished pencil in Fig. 1.) This covering material is formed with parallel lines of weakness *b b*, as heretofore, and is rolled around the pieces A in the same way as it has heretofore been rolled around a single lead or crayon. Prior to rolling the sheet B around the pieces A the latter are so arranged that the large end of each piece is inclosed by and secured in one section of the covering-roll between two lines of weakness and the point of said piece extends into the next adjacent section, as indicated in Fig. 2. It will be seen that with a pencil so constructed as each section of the covering is removed the piece of pencil contained in said section comes away and a new point is exposed. The pieces are held in the sections of covering-roll by any suitable adhesive material.

In Fig. 3 the construction is the same except that each piece of lead or crayon A is formed with a conical or other recess *a'* in its large end, which without reducing the length of the point allows of making the cylindrical part of each piece longer than can be done with the construction shown in Fig. 1, and thereby insures a firmer hold on the pieces, or if the length of the cylindrical part is maintained the same allows of forming a longer and finer point on each piece which is sometimes desirable, or the space thus rendered available may be taken up partly by increasing the length of the point and partly by increasing the length of the cylindrical portion, or as a fourth alternative the lengths of the cylindrical parts and of the points may remain unchanged, and in that case an increased number of pieces may be assembled in the same length of pencil. The recess *a'* may have any desired shape or angle.

In Fig. 4 I have shown a modification in which the lead or crayon is continuous from end to end of the pencil, but has its diameter or thickness reduced at intervals, as indicated at *a a*. In this modification each part of the lead or crayon, consisting of a coned portion and the large end into which the coned portion merges, corresponds to one of the separate pieces A in Fig. 1, and the said parts are arranged in relation to the lines of weakness of the covering-roll in the same way as the separate pieces A of Fig. 1, so that as each section of the covering-roll is removed and with it the small unused piece of lead or crayon contained in said section (which piece is broken off at the weakest part) a new sharpened point is exposed.

In the above-described forms of pencil a sharpened point is exposed whenever a section of the covering-roll is removed, so that for all uses where a sharpened point is desirable this construction of pencil is very advantageous and avoids the necessity for the user to have to sharpen the pencil.

My invention is applicable to all types of pencil where the lead or crayon is exposed by unrolling, tearing, or breaking off a portion of the cover.

I claim—

1. The combination, of a covering-roll formed from a sheet of flexible material bearing parallel lines of weakness uniformly spaced, a lead or crayon coned at intervals equal to the spacing between the said lines of weakness, and adhesive material securing the large parts of said lead or crayon to the covering-roll between two lines of weakness and so that each coned portion extends into the next adjacent section of the covering-roll, substantially as described so that when one section of covering-roll is unwound and removed a portion of the lead or crayon comes away with it and leaves a sharpened point.

2. The combination of a covering-roll formed from a sheet of flexible material bear-

ing parallel lines of weakness uniformly spaced, a number of sharpened pieces of lead or crayon assembled in line with their points in the same direction said pieces being not longer than the distance between two lines of weakness of the covering-roll, and arranged with the large end of each piece between two lines of weakness and the point extending into the next adjacent section of the covering-roll, and adhesive material securing the piece in the covering-roll, substantially as described.

3. The combination, with a covering-roll formed from a sheet of flexible material bearing lines of weakness, of a number of sharpened pieces of lead or crayon assembled in line with their points in the same direction and inclosed by said covering-roll which is wound around said pieces in such a manner that the large end of each piece is situated in one section of the covering-roll between two lines of weakness, and the point extends into the next adjacent section, and adhesive material for fixing the large ends of the pieces to the covering-roll, so that when one section of the covering roll is unwound and removed the lead or crayon of said section comes away with it, and a new point is exposed, substantially as described, and for the purpose specified.

4. The combination, with a covering-roll formed from a sheet of flexible material, of a number of sharpened pieces of lead or crayon assembled in line with their points in the same direction and inclosed by said roll, each said piece having a recess formed in its large end into which recess the point of the next adjacent piece extends, substantially as, and for the purpose, specified.

In witness whereof I have hereunto set my hand in presence of two witnesses.

ROBERT RALSTON RAKESTRAW.

Witnesses:

GEORGE HARRISON,

HERBERT A. BEESTON.