March 10, 1959 P. GAUTHIER 2,876,739

PAPER SHEATHED PENCILS

Filed Feb. 6, 1956

FIG. 1.

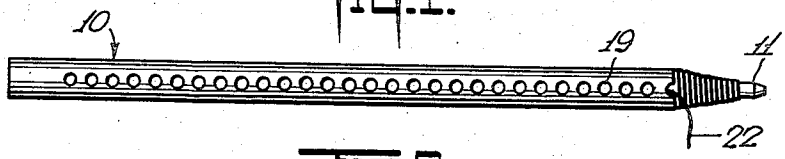


FIG. 2.

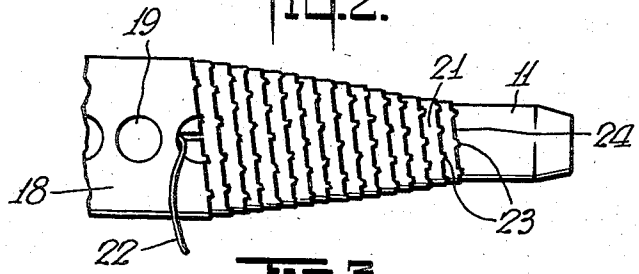


FIG. 3.

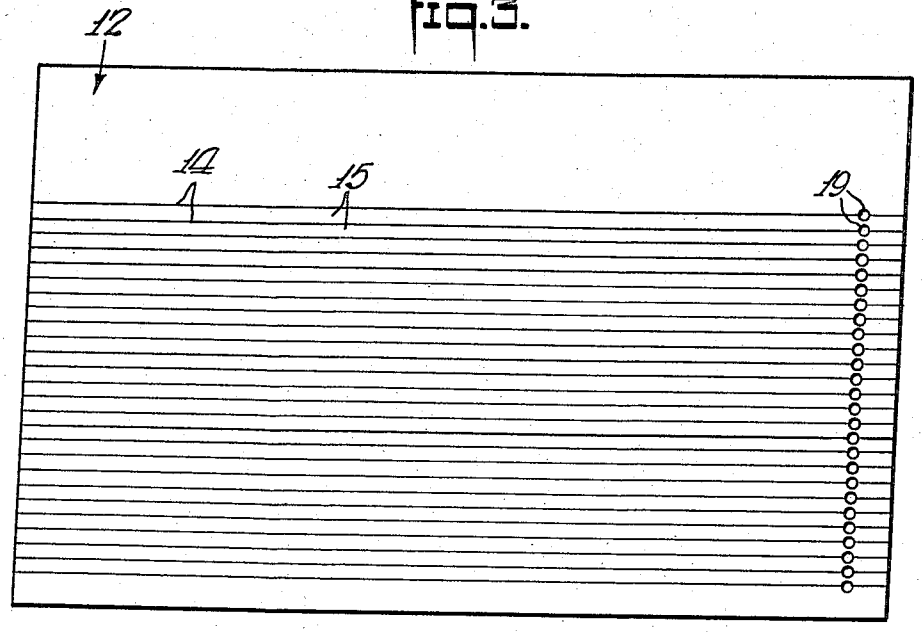


FIG. 4.

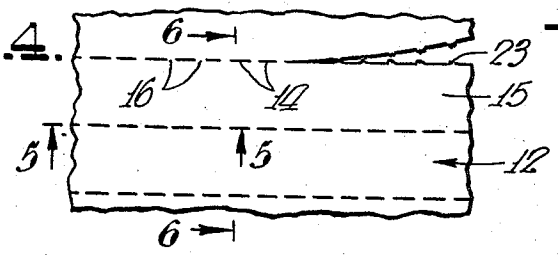


FIG. 5.

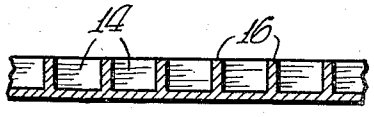
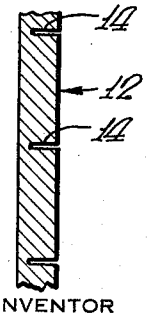


FIG. 6.



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PAPER SHEATHED PENCILS

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Application February 6, 1956, Serial No. 563,525

4 Claims. (Cl. 120—36)

This invention relates to improvements in paper sheathed pencils.

Such pencil comprises a rod or stick of marking material such as graphite or so-called lead, crayon or the like, and in addition such pencils may comprise rods of abradable rather than marking material, such as erasers, and cosmetics such as eyebrow pencils, styptic sticks and the like, the substance of all such rods or sticks, whether or not of marking material, being generically defined by the term "abradable material." In each case, the rod or stick of the present invention is sheathed in a sheet of paper weakened along spaced parallel lines so disposed in the sheet as to cause the strips defined thereby to be spirally arranged when the sheet is rolled around the rod or stick of marking, or more generically of abradable material. When it is desired to sharpen the pencil, i. e., expose a portion of the marking or abradable material, the outermost strip of the paper is unwound and removed.

Such paper pencils have been on the market for many years. Much research work has been devoted to the development of such pencils in which the strips of paper can be removed readily, i. e., by pulling off quickly and easily and without involving laborious unwinding from the pencil. Where parallel rows of continuous score lines separate contiguous paper strips of such pencils, as the pencils must have the necessary strength to resist breaking and bending transversely of their length, the score lines must be relatively shallow and in addition to the strip being difficult to remove, it frequently fails to shear clean in effecting sharpening or pointing of the pencil. Use of paper sheaths in which contiguous strips are separated by closely spaced slots or slits frequently result in pencils which are weak transversely and which readily break or bend to an extent rendering the pencil undesirable or objectionable in use and also gives rise to added problems in winding of the paper on the rod or stick of marking or abrasive material due to the increased tendency of the paper to split during the winding. Efforts to counteract this splitting tendency by having the areas separating continguous slots or slits in the same row, of considerable length say 0.05 inch or longer, results in pencils which cannot be sharpened readily, but in which a strip must for that purpose be unwound slowly, laboriously and carefully.

It is accordingly among the objects of this invention to provide a paper pencil which is comparatively strong, i. e., will not break or bend unduly transversely when subjected to normal stresses in use, which may readily be wound without likelihood of splitting during such winding and from which the strips can readily and quickly be removed to sharpen the pencil; for example, they can be pulled off quickly and cleanly and need not be laboriously unwound, and which provides a conical end when sharpened which affords a better grip than paper pencils heretofore known and which permits of a more comfortable and firmer handling of the pencil by the user.

According to the invention, the sheathing paper has

the contiguous strips, each desirably about 3/16 of an inch wide separated by rows of spaced score line segments, each from 1/32 of an inch to 3/32, preferably about 1/16 of an inch in length and each score line segment in a row is separated from the next score line segment in the same row by a distance within the range of .008 to .015 inch.

This range of dimensions of the score line segments and their spacing in each row are critical, because it is only by having the length of the score lines and their spacing conform to the above noted requirements that a pencil results which is relatively strong in that it resists breaking and bending transversely and which permits the depth of the score line segments to be relatively great, i. e., the thickness of the sheet remaining between the back thereof and the bottom of the score line segment may be between .0005 and .00075 inch, so that the pencil can be readily sharpened or pointed by pulling off a strip. There inherently results by the present invention a novel and improved conical end when a strip is pulled off for sharpening, inasmuch as small projecting portions or ears are automatically formed in spaced relation on the exposed edge of the strip on such conical end and they extend from an overlapping convolution over the immediately underlying convolution, thus providing a conical end which affords a better grip and hence permits a firmer and more convenient holding than the ridged conical end produced in the sharpening of prior known paper pencils.

In the specification and claims, the expression "score line" means a narrow depression in the sheet, extending from the outer face thereof inwardly for part only of the thickness of the sheet.

In the accompanying drawings, in which is shown one or more of various possible embodiments of the several features of the invention,

Fig. 1 is a side elevational view of a pencil embodying the invention (in the interest of clarity of illustration the details of the structure of the conical end of the pencil have not been shown in this figure),

Fig. 2 is a greatly enlarged fragmentary side elevational view of the conical end of the pencil,

Fig. 3 is a plan diagrammatic view of the sheathing paper employed in making the pencil of this invention (the scale being too small to permit showing the spacing between the successive score lines in each row for which reason these successive score lines are represented by full lines),

Fig. 4 is a fragmentary plan view on a greatly enlarged scale showing the spacing between the successive score lines of each row defining the side edges of contiguous strips and in the case of a portion of a pair of contiguous strips showing the shape or configuration of the ears when one strip is removed to sharpen the pencil,

Fig. 5 is a sectional view on a greatly enlarged scale, taken along line 5—5 of Fig. 4, and

Fig. 6 is a view similar to Fig. 5, taken along line 6—6 of Fig. 4.

Referring now to the drawings 10 indicates a pencil composed of a rod or stick of marking or abrasive material 11 sheathed in a sheet of paper 12 which, as shown in Fig. 3, is in the shape of a parallelogram, the angles of which depart but slightly from right angles.

According to the invention, the sheathing sheet 12 has a plurality of parallel rows of spaced score line segments 14 which define strips 15 therebetween, each about 3/16 of an inch in width. The score line segments 14 are preferably all of the same length, each from 1/32 to 3/32 of an inch, preferably 1/16 of an inch in length and the thickness of the sheet remaining between the back thereof and the bottom of the score line segments 14 is between .0005 and .00075 inch which is considerably less than

the thickness of the sheet itself. The spaces 16 between the score line segments 14 of each row are all preferably of the same length within the range of .008 to .015 inch. The sheathing sheet 12 may be rolled around the marking material 11 with the exterior layer 18 adhesively secured to the immediately underlying layers and treated with a paint, varnish or enamel of any desired color. Preferably, but not necessarily, cutouts or depressions 19 are formed in the outer layer 18 aligned with each row of score lines 14 to facilitate sharpening and serving as a guide by which the width of the strips 15 may be gauged.

When the sheathing sheet 12 is wound about the rod or stick of marking or abrasive material 11, each strip 15 is disposed on the marking material 11 in the form of a spiral coil 21, best shown in Fig. 2. The spiral coils formed by the strips 15 of the sheet 12 are thus disposed along the length of the stick of marking material 11 in side by side contiguous relationship. To effect sharpening of the pencil, it is only necessary to remove the leading spiral coil 21 thus exposing a fresh portion of the marking or abrasive rod or stick 11. For this purpose, in the embodiment of the invention shown in the drawing, the pencil is provided with a flexible element 22, such as a thread extending the length thereof and having one end exposed near the tip of the pencil so that it may readily be gripped between the fingers and moved to cut through the outer layer 18 to facilitate unwinding or tearing of one of the spiral strips 15.

By having the rows of spaced score line segments 14 dimensioned as hereinabove described, when a coil 21 is removed, ears 23, best shown in Figs. 2 and 4, automatically form on the exposed edge 24 of the helix or spiral coil left on the pencil to form the conical sharpened end thereof. These ears are in the form of small projections formed from the spaces 16 between adjacent score lines 14 which extend from the exposed edge 24 and across the immediately underlying convolution, as best shown in Fig. 2. These ears 23, accordingly result in a conical end affording a better grip, which can be more comfortably and firmly held by the user.

The combination of the score line segments 14 and the spaces 16 between the score line segments provides a paper pencil that is relatively strong in that it resists breaking and bending transversely of its length. The score line segments 14 may be of considerable depth so that the pencil can be sharpened readily and quickly by pulling off the leading coil 21 to expose a fresh portion of the stick 11 and the resultant conical end is more easily gripped firmly without resultant inconvenience to the user.

In the claims, the term "rod of abradable material" is generic to marking material, erasers, cosmetics, such as eyebrow pencils, mascara and styptic material.

As changes could be made in the above article, and different embodiments of this invention could be made without departing from the scope of the claims, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A pencil comprising a rod of abradable material, a sheath for said rod composed of a spirally wound paper sheet forming parallel strips each approximately 3/16 of an inch wide, said strips being formed by parallel rows of spaced score line segments, each score line segment in each such row being of substantially the same length within the range of 1/32 to 3/32 of an inch and the spaces between contiguous score line segments in each row being of substantially the same length and within the range of .008 to 0.15 inch and each score line segment being of a depth spaced by between .0005 and .00075 inch from the inner face of the strip.

2. The combination recited in claim 1 in which the spaces between contiguous score lines in each row are not greater than .008 inch long and the length of each score line is about 1/16 inch long.

3. A paper sheath for winding about a rod of abradable material to form a paper pencil, said sheath having parallel rows of spaced score line segments extending thereacross and the score line segments in each row having a length within the range of 1/32 to 3/32 of an inch and being spaced apart a distance of from .008 to 0.15 inch, the thickness of the sheath remaining between the back thereof and the bottom of each score line segment being within the range of .0005 and .00075 inch.

4. The combination recited in claim 1 in which the spirally wound strip defines the conical end of said pencil and has projecting from the exposed edges thereof a series of spaced ears bridging the space between each overlying convolution and the immediate underlying convolution.

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UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 2,876,739

March 10, 1959

Philippe Gauthier

It is hereby certified that error appears in the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

In the grant, lines 2 and 3, for "assignor to Blaisdell Pencil Company, of Drummondville, Quebec, Canada, a corporation of Pennsylvania," read -- assignor to Blaisdell Pencil Company, a corporation of Pennsylvania, --; in the heading to the printed specification, lines 3, 4 and 5, for "assignor to Blaisdell Pencil Company, Drummondville, Quebec, Canada, a corporation of Pennsylvania" read -- assignor to Blaisdell Pencil Company, a corporation of Pennsylvania --.

Signed and sealed this 14th day of June 1960.

(SEAL)
Attest:

KARL H. AXLINE

Attesting Officer

ROBERT C. WATSON
Commissioner of Patents