REPLACEABLE CRAYON PENCIL MECHANISM

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This invention relates to pencils, and particularly to a crayon pencil which is adapted to be reloaded or refilled with new crayons.

Crayon pencils which are used for eyebrow makeup are known, and some of these prior pencils are adapted to be reloaded with replaceable crayons. In these prior pencils, however, the crayon usually has one end mounted in a socket which may be threaded onto a threaded rod to advance the crayon through a crayon holder and retract it within the holder. During the advancement of the crayon, it may be sharpened as disclosed in U.S. Patents No. 2,565,715, of August 28, 1951, No. 2,979,029, of April 11, 1961, and pending application, Serial No. 805,584, filed April 10, 1959. It has been found, however, that with replaceable crayons of this type, considerable breakage of the crayon is encountered during the removal of the used crayon and the replacing of a new crayon in the pencil. This is particularly true during hot weather when the crayons become soft.

The present invention prevents any breakage of crayons during the refilling of the pencils by providing a rigid surrounding shell which prevents contact of the crayon with the hand of the person during the refilling operation. In this manner, no breakage occurs and the crayon is protected at all times.

The principal object of the invention, therefore, is to facilitate the replacing or refilling of crayons in crayon pencils.

Another object of the invention is to provide an improved crayon pencil in which the crayons may be replaced with safety.

A further object of the invention is to provide an improved replaceable crayon unit which permits the replacement of crayons without any contact between the crayon and the hand of the person making the replacement.

Understanding of this invention may be had from the following detailed description when read in connection with the accompanying drawings, in which:

FIG. 1 is a cross-sectional view of a crayon pencil embodying the invention and showing a new crayon unit therein;
FIG. 2 is a cross-sectional view of the crayon pencil shown in FIG. 1 with a depleted crayon therein;
FIG. 3 is a perspective view of the replaceable crayon unit;
FIG. 4 is a cross-sectional view taken along the line 4—4 of FIG. 1; and
FIG. 5 is a cross-sectional view taken along the line 5—5 of FIG. 1.

Referring, now, to the drawings in which the same reference numerals refer to the same elements, the crayon pencil shown in the figures has an open-ended shell or casing 5, which may be of plastic or metal, with an internal bore 6. This bore is hexagonal, as shown in FIG. 4, and has therein a compression spring 8, one end of which abuts the closed end of the bore, and the other end of which abuts a hexagonal head 10 of a threaded rod or screw 11. The shape of the bore and head may be of any suitable configuration to prevent relative rotation between the crayon and the casing 5. The earth of the casing 5 within the bore 6 but will rotate with the casing 5 when the casing is rotated.

Positioned partially within and partially without the open end of the casing 5 is a cylindrical locking sleeve member 12, which is locked in position by a tapered annular ring 13 positioned within an annular recess 14 of the casing 5. Thus, the cylindrical sleeve 12, when forced into the open end of the shell 5, will spread the open end slightly to permit the tapered ring 13 to enter the shell, which will then lock it in position because the shoulders of the recess and the tapered ring are at right angles to the axis of the pencil. The inner end 15 of the cylindrical sleeve 12 is interiorly tapered.

The replaceable unit 16 shown in perspective in FIG. 3 comprises an outer casing 18 having an increased diameter shoulder section 19, a body portion 20, and four flexible fingers 22, the inner surfaces of the ends of which, as shown at 23, are threaded. Thus, when the ends of the fingers 22 are urged against the interiorly tapered end 15 of the sleeve 12, the threads of the fingers will mesh with the threads of the rod 11, and a locked position.

The unit 16 is maintained within the sleeve 12 by an annular ring 26, and thus the inner threads of the fingers 22 are maintained in contact with the threads of the rod 11. The shape of the cross-section of the annular ring, permits the unit 16 to be easily inserted and removed from the sleeve 12.

Within the shell 18 is shown a crayon 27 mounted in a socket 28 having a double keyed or bayonet type end member 30. As shown in FIG. 3, the tip 31 of the rod 11 is tapered and contains a pin or a pair of protruberances 32 extending therefrom. Thus, when a new unit 16 with its crayon 27 thereof is to be replaced in the pencil, the old unit may be easily removed by a slight axial pull and a new unit substituted by a slight axial pressure. Should the pin 32 be in one or the other of the notches of the shell 30, it is only necessary to rotate it a slight amount to accomplish the release of the unit.

The new replaceable elements are inserted and slightly rotated to insure that the pin 32 is positioned in the proper side of the bayonet slots.

In this manner, the entire unit shown at 16, except for the tip of the rod 11, is a replaceable unit which includes the crayon and which does not require any contact between the person's hands and the crayon for accomplishing the refilling of the pencil. Not only does this provide a cleaner operation, since it avoids soiling hands, but it also prevents breakage of the crayon during the refilling operation. The spring 8 assures the threading of the rod 11 to the fingers 22. It is to be noted that the internal diameter of the tapered end 15 is less than the external diameter of the head 10 which prevents the head from being pulled from the casing.

We claim:

1. A crayon pencil reloadable with crayon units comprising a hollow substantially cylindrical casing open at one end and closed at the other end, a threaded rod in said casing and adapted to be rotated therewith, a hollow cylindrical sleeve adapted to be axially locked in the open end of said casing, a crayon holding unit adapted to be axially locked in said cylindrical sleeve but rotatable therein, said unit including a crayon and a hollow substantially cylindrical shell enclosing said crayon and having a plurality of resilient fingers at one end thereof, the inner surfaces of the ends of said fingers being threaded for meshing with the threads of said rod when said shell is positioned in said sleeve, and means for interconnecting said crayon and to said rod.

2. A crayon pencil in accordance with claim 1 in which said last-mentioned means is a socket holding said crayon at one end thereof and having double bayonet slots at the other end thereof, the tip of said rod having means therefor for entering said slots.

3. A crayon pencil in accordance with claim 1 in which
said hollow cylindrical sleeve is provided with an internally tapered surface at the inner end thereof for holding the threads of said fingers in mesh with the threads of said rod when said shell of said unit is in locked position in said sleeve.

References Cited in the file of this patent

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