

PATENT SPECIFICATION

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COMPLETE SPECIFICATION

Improvements in or relating to Reservoir Writing Instruments of the Ball-Point Type

We, HENRY C. STEPHENS LIMITED, of Gillespie Road, Highbury, London, N.5, a British Company, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to reservoir writing instruments of the ball-point type. In instruments of this type it is customary for the writing point to be attached to a tubular ink reservoir in such manner as to constitute a single unit which is capable of being removed and replaced by a fresh unit when the ink supply has been exhausted. The invention is concerned with such a unit and will be hereinafter referred to as an ink unit.

Writing instruments of the ball-point type having a ball-point at each end are known, and, in particular, there is known an ink pencil which consists of a straight narrow tube divided into two sections by an insert and containing differently coloured viscous inks in its two sections, the tube having a ball-point press-fitted into each of its ends and a breather plug press-fitted into a radial hole in each of its sections near the insert, with these known writing instruments, the two columns of ink are of equal, or substantially equal length.

According to the invention there is provided in, or for use with a writing instrument of the ball-point type, an ink unit wherein an ink reservoir tube has a writing point at each end thereof, and contains two separate columns of ink, each of which is arranged to supply ink to a respective writing point, there being an air vent formed in the wall of the reservoir tube at a location intermediate the two columns of ink, the first column of ink extending for a major portion of the tube, and the second column of ink being considerably shorter than the first, the second column of ink being intended for use when the first

column of ink is exhausted.

Thus, with a writing instrument of the present invention, when the longer of the two ink columns becomes exhausted, the writing instrument does not become useless, since the writer can use the shorter ink column to tide him over until such time as a new refill unit can be obtained.

For a better understanding of the invention and to show how the same may be carried into effect, reference will now be made to the accompanying drawing which is a section through an ink unit for a writing instrument of the ball-point type.

Referring now to the drawing, the ink unit comprises a reservoir 1 in the form of a capillary tube 2 composed of a transparent or translucent synthetic plastic material. The tube 2 is supplied with a column of ink 3 extending from one end of the tube 2 for a distance equal to approximately three quarters of the length of the tube and with a small quantity of ink to form a column of ink 4 at the other end of the tube 2, the column of ink 4 being considerably shorter than the column of ink 3. An air vent 5 is formed in the wall of the tube 2 at a position intermediate the two ink columns 3 and 4 so that an air space exists between them. Writing points 6 and 7 are fitted one to each end of the tube 2. With the ink unit just described, the unit will normally be inserted into the barrel of a writing instrument so that the writing point 6 which is fed with ink from the column 3 will first be employed for writing purposes. When it is found that the supply of ink in the column 3 is exhausted, the unit can be removed from the barrel and reversed so that the writing point 7 at the opposite end of the reservoir can be brought into use temporarily until such time as a new refill unit can be obtained.

What we claim is:—

1. In, or for use with a writing instrument

[Price 3s. 6d.]

of the ball-point type, an ink unit wherein an ink reservoir tube has a writing point at each end thereof, and contains two separate columns of ink, each of which is arranged to supply ink to a respective writing point, there being an air vent formed in the wall of the reservoir tube at a location intermediate the two columns of ink, the first column of ink extending for a major portion of the tube, and the second column of ink being considerably shorter than the first, the second column of ink

being intended for use when the first column of ink is exhausted.

2. In, or for use with a writing instrument of the ball-point type, an ink unit substantially as hereinbefore described with reference to the accompanying drawing. 15

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PROVISIONAL SPECIFICATION

Improvements in or relating to Reservoir Writing Instruments of the Ball-Point Type

We, HENRY C. STEPHENS LIMITED, a British Company, of Gillespie Road, High-bury, London, N.5, do hereby declare this invention to be described in the following statement:—

This invention relates to reservoir writing instruments of the ball-point type. In instruments of this type it is customary for the writing point to be attached to a tubular ink reservoir in such manner as to constitute a single unit which is capable of being removed and replaced by a fresh unit when the ink supply has been exhausted. The invention is concerned with such a unit and will be hereinafter referred to as an ink unit.

According to the present invention an ink unit for a writing instrument of the ball-point type comprises an ink reservoir constituted by a capillary tube having a writing point at each end thereof and containing two separate columns of ink adapted to supply ink to the individual writing points, the reservoir having an air vent in the wall thereof disposed at a position intermediate of the two columns of ink.

For a better understanding of the invention one embodiment thereof will now be described in detail. In this embodiment the ink unit comprises a reservoir in the form of a capillary tube composed of a suitable transparent or translucent plastic material to which ink is supplied from one end for a distance equal to approximately three quarters of the length of the tube to form one ink column. A small

quantity of ink to form a column of approximately one quarter of an inch in length is supplied to the reservoir from the opposite end, an air vent being formed in the wall of the tube at a position intermediate of the two ink columns so that an air space exists therebetween. A writing point of any convenient form is fitted to each opposite end of the tube. With the arrangement just described the unit will normally be inserted into the barrel of the writing instrument so that the writing point which is fed with ink from the column having the largest capacity will first be employed for writing purposes. When it is found that the supply of ink is exhausted the unit can be removed from the barrel and reversed so that the writing point at the opposite end of the reservoir can be brought into use temporarily until such time as a new refill unit can be obtained. 55
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If desired, the reservoir may contain two columns of differently coloured inks which may be of equal or different capacities and which may be selectively brought into use upon reversal of the writing point. Alternatively, such a unit may be accommodated within the barrel of the instrument so that a writing point projects from each end of the barrel. 75
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