Sept. 26, 1950 S. N. ROSENTHAL 2,523,879

RESERVOIR INK PAD

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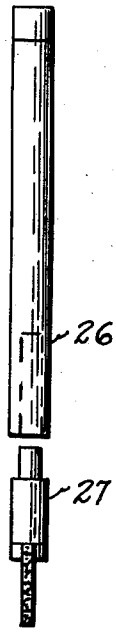


Fig. 2

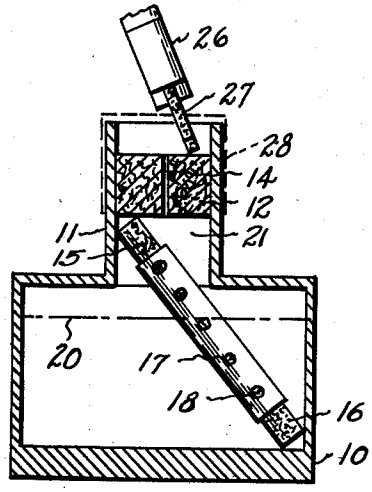


Fig. 1

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RESERVOIR INK PAD

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1 Claim. (Cl. 91—54.5)

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This application relates to marking apparatus and particularly to marking apparatus useful infrequently or useful with a variety of colors of ink.

Marking pens are now known. One such, shown in my Patent No. 2,416,596 of February 25, 1947, has a barrel in whose end is removably mounted a holder having a felt nib. The barrel contains a felt pack or filler saturated with ink which passes through the felt pack and to the nib for marking purposes.

If such a pen be used infrequently, the ink supply within the barrel dries out and is thus lost for use. Consequently, infrequent users find it impractical as well as expensive to use such marking pens. Each time they wish to use such a pen, they find it dried out and it becomes necessary to fill the pen and saturate the felt pack each time of use yet very little of the ink placed in the pen is ultimately used for marking purposes, and most of it disappears by evaporation.

A principal object of the present invention is to provide a marking apparatus for infrequent users of marking pens useful without excessive expense or annoyance.

Users of marking pens who wish to mark with various colors find it necessary at present to have as many marking pens as colors they wish to use. Since each marking pen is a precision made device and includes a rather complex arrangement of parts necessary for satisfactory performance, each pen is relatively expensive and a supply of such pens for the variety of colors desired is out of the range of some ordinary purchasers. This condition is aggravated particularly where the frequency of use of any one of several colors is not great. It is also aggravated by wasting of ink, due to color changeover or evaporation of ink from a pen. Such users have encountered so many practical annoyances and difficulties as mentioned above that they do not make as much use of marking apparatus as they might.

It is an ancillary object of the present invention, therefore, to provide marking apparatus especially useful for those who wish to mark with numerous colors without requiring any large investment on the part of such users in the form of numerous pens. Such marking apparatus encourages the use of numerous colors for marking and also encourages infrequent users to use marking pens.

An embodiment of the invention is disclosed in the appended drawing. In this drawing,

Fig. 1 shows a marking apparatus in cross-sectional view.

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Fig. 2 shows a pen forming part of the apparatus.

Fig. 1 shows an ink container or bottle 10 of rather large cross-section area, having a reduced neck 11 in which is located a felt pad 12 having therein a fine bore 14. Within the bottle is a felt stem or rod having ends 15 and 16, and surrounded for most of its length with a rigid sleeve or tube 17, perforated at 18 as shown, such tube being of any suitable material such as hardened plastic. Also within the bottle is a supply of ink whose level is shown at 20.

The lower end 16 is within the supply of ink within the bottle. The upper end 15 projects above the ink level 20 onto an air space 21 and engages the pad 12. The pad in turn is tightly fitted into the neck 11 of the bottle to act as a stopper, and cooperates with the stem not only to hold the stem in place in the bottle, but also to maintain contact between the pad and the stem. The stem in turn, rigidified by the sleeve 17, acts to prevent the pad 12 from being driven down into the bottle when the ink bottle is used as will now be described.

Fig. 2 shows an inexpensive form of marking pen of the non-fillable type. It includes a holder 26 and a felt nib 27 removably secured in any suitable manner in the holder, as by being frictionally fitted into the holder. It will be understood that this pen is not intended to be filled with ink and, consequently, may be made as inexpensive as possible, since it is merely a holder for a nib. When it is to be used for marking purposes, the nib is pressed firmly against the upper surface of the pad 12 as shown in Fig. 1 so that the already and permanently saturated pad 12 will feed the nib 27 with ink. A considerable amount of ink will be picked up by the nib, enough for most markings of infrequent users, but not so much as to be wasteful of ink. The facility with which the nib may be loaded with ink from the pad 12 encourages the use of the pen of Fig. 2 even by infrequent users, and even if repeated loadings or "dippings" are needed, no annoyance is felt since loading or "dipping" is so easy.

The problem of air flow in the system here shown is solved very satisfactorily. The upper end 15 or the stem is within an air space and the lower surface of the pad is exposed except at the minimum contact point where the upper end 15 of the stem engages the pad. The fine bore 14 provides for air flow between the air space 21 and the upper or exposed surface of the pad 12 which is engaged by the nib 27.

The pad 12 acts as a stopper for the bottle 10 and thus prevents spilling. The fine bore 14 does not permit free flow of ink through the pad 12 even though the bottle be tipped.

It will be observed that the reduced neck 11 defines a cross-sectional area for the pad 12 and an exposed surface for that pad which is very small. In actual practice the pad 12 is one-half inch diameter. Consequently, there is very little exposed area for ink to be lost by evaporation, it being understood that ink loss is proportional to the amount of exposed area.

Any suitable cap, as cap 28, may be employed to cover neck 11 of the bottle when the marking apparatus hereof is not in use. The cap may be removed from the bottle to expose the pad 12 which at all times is saturated with ink because of the presence of the stem whose lower end is within the ink.

Since the holder 26 and nib 27 are inexpensive, it is practical to assemble a large number of ink bottles 10 and a large number of holders 26 with nibs 27 in a set and thus provide an opportunity for a variety of colors to be readily available for easy and practical use even by infrequent users. The investment is not substantially greater than would be required for the required number of ink colors and the bottles in which such ink is commonly shipped. There would not be required any large number of expensive pens.

If desired, instead of there being as many holders 26 as there are nibs 27 and as there are bottles 10, in a multiple color set, it is practical to employ but one holder 26 with a number of readily replaceable nibs 27. A nib for each color may be inserted into the holder when it is desired to change colors.

It is important to note that the sleeve 17 serves to rigidify the stem and prevent its collapse and thus impair its function to transfer ink from the bottle 10 to the pad 12. It is also important to note that the contact between the stem and the pad is reduced to a minimum because of the angularity of the stem within the bottle.

Now having described the marking apparatus herein disclosed, reference is had to the claim which follows:

An ink pad comprising an ink supply means comprising an ink container having an open end, a felt pad in and closing said open end, and a felt stem separate from and of lesser diameter than said pad and engaging at its opposite ends the pad and the bottom of the container and the sides of the container and thus held firmly in place therein, said felt stem being reinforced for rigidity by reinforcing means therefor to serve as a strut to prevent the pad from being pushed down into the container when pressure is applied to the pad, the pad having a fine bore therethrough whose lower end is clear of said stem.

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