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H. PLATT

2,107,424

MARKING DEVICE

Filed July 18, 1936

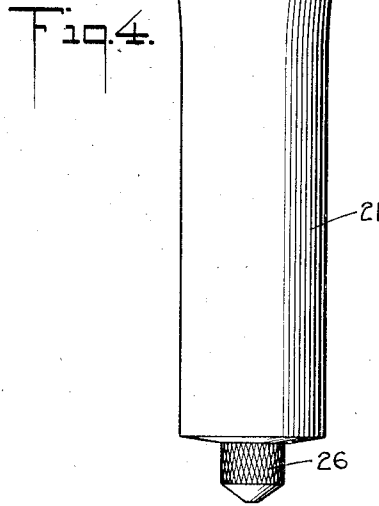
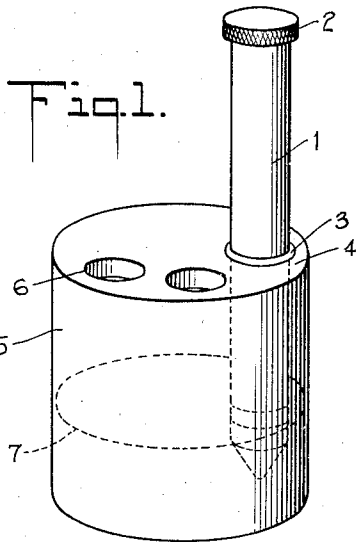


Fig. 2.

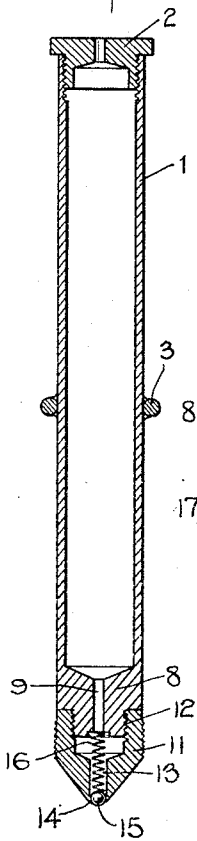


Fig. 3.

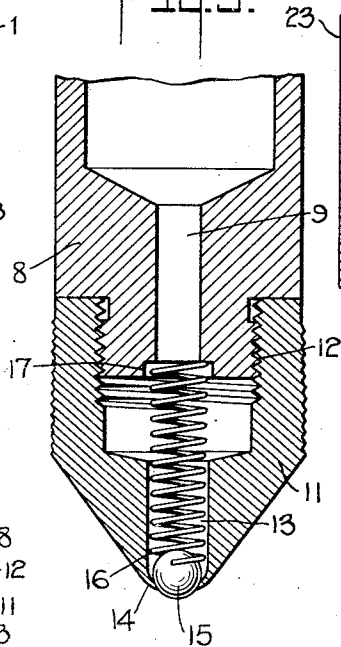
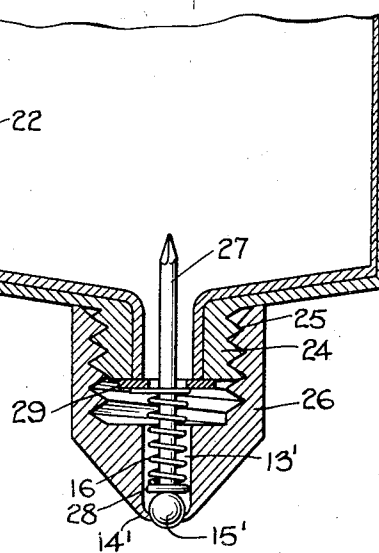


Fig. 5.



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UNITED STATES PATENT OFFICE

2,107,424

MARKING DEVICE

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1 Claim. (Cl. 120—43)

This invention relates to a device for use in marking fabrics and like sheet material with a lacquer-like ink.

An object of the invention is the production of a device that enables one to place piece or serial numbers on fabrics, using a lacquer-like ink, which ink is not removable by scouring, etc. Another object of the invention is the production of a marking device which employs a fast drying lacquer-like ink, which device is so constructed that the writing attachment or point is always clean. Other objects of the invention will appear from the following detailed description and drawing.

15 A marking device constructed in accordance with my invention is applicable to the marking of fabric and sheet materials with an ink comprising a solution of a derivative of cellulose in a volatile solvent and may or may not contain pigments, plasticizers, non-volatile solvents, etc. For instance, the ink may be of a lacquer-like consistency and contain cellulose acetate dissolved in acetone and having a colored pigment dispersed therein. Any of the derivatives of cellulose may be employed in forming the ink, such as the organic acid esters of cellulose, nitro cellulose and cellulose ethers. Examples of organic acid esters of cellulose are, cellulose acetate, cellulose formate, cellulose propionate, cellulose butyrate; while examples of cellulose ethers are ethyl cellulose, methyl cellulose and benzyl cellulose.

Such marking inks as described above have previously been applied to fabrics with a brush or coarse blunt-pointed pen. These instruments were difficult to keep soft and/or clean from the hardened ink. Previous attempts to construct a fountain pen or brush resulted in devices that soon became clogged and inoperative. The device constructed in accordance with my invention may be used intermittently over a long period of time without clogging, as no ink is exposed to a drying or evaporative atmosphere except when the ink is actually applied to the fabric or like sheet material.

In accordance with my invention, I form a fountain marking device for the use of lacquer-like inks. The construction of the marking device is such that no ink is exposed to the atmosphere except when it is actually applied to the fabric, and the writing operation wipes clean the point of the marking device. This device may be made so that it is adapted to be refilled or in a type employing a collapsible tube as the well.

As an aid in describing the invention, the same will be described with particular reference to the drawing, wherein the same or like reference numerals refer to the same or similar elements in the respective views.

Fig. 1 is a perspective view of a refillable marking device retained in a holder therefor.

Fig. 2 is a cross-sectional view taken through the center of a refillable marking device.

Fig. 3 is an enlarged cross-sectional view of the lower end of the well, showing the writing attachment of a refillable marking device.

Fig. 4 is a perspective view of a marking device, the well of which is a collapsible tube.

Fig. 5 is an enlarged cross-sectional view of a section of the well, showing the writing attachment of the marking device shown in Fig. 4.

Referring particularly to Figs. 1, 2, and 3 of the drawing, there is shown a refillable marking device having a well or body portion 1. For the purpose of filling the well, the body portion is provided with a cap 2 which is threaded into the body portion 1 so that it may be unscrewed to fill the well. The body portion 1 is provided with a circumferential flange or ring 3. This ring is adapted to rest upon the top portion 4 of the holder 5. The top portion 4 of the holder 5 is provided with a series of holes 6 into which the marking devices are adapted to be inserted. The holder 5 is in the nature of a container which may be filled to a sufficient depth, such as shown at 7, with a non-volatile solvent for the ink. The marking device in the holder with the end thereof dipping into the solvent is kept clean and free of any ink which may have collected on the writing instrument during the marking operation.

The walls at one end of the body portion 1 are thickened to form a head 8. This head is formed with a conduit 9 leading from the well to a writing attachment generally indicated by reference numeral 11. The writing attachment 11 is threaded to the head 8 by means of screw threads 12 and is provided with a conduit 13 for the passage of the ink from the well through conduit 9 to the point of said writing attachment. The conduit 13 is narrowed to form a bearing surface 14 at the point of the writing attachment. A ball 15 is inserted in the conduit 13 and is forced against the bearing surface 14 by means of a spring 16. The end of the spring opposite from the ball 15 bears against a recess 17 formed in the head 8 of the body portion 1.

Figs. 4 and 5 relate to a modification of my invention showing a marking device in which the

well is a collapsible tube 21. This collapsible tube is formed of an inner wall 22 and an outer wall 23. These walls may be of any suitable metal such as those normally employed in the formation of collapsible tubes. The outer wall 23 of the collapsible tube is formed with a head 24 having screw threads 25 on which is adapted to be threaded a writing attachment 26. The writing attachment is provided with a conduit 13' which is tapered at the outer end into a bearing surface 14'. In the conduit there is placed a ball 15', which ball is forced against the bearing surface 14' by means of a pin 27 having a head 28 resting upon the ball and forming a bearing surface therefor. The pin 27 is forced in an outwardly extending direction by means of a spring 16, which spring is compressed between the head of the pin 28 and a collar 29 that rests against the head 24 of the body portion.

In operation, the well 1 or the tube 21 is filled with a suitable lacquer-like ink, the volatile solvent of which develops a vapor pressure which causes a slight pressure to be maintained in the well. The device is then used in a manner similar to a pencil or pen in marking upon fabric or similar sheet material. A slight pressure of the marking device upon the fabric raises the ball 15 allowing the lacquer-like ink to extrude from the well around the ball and upon the removal of pressure the spring forces the ball against the bearing surface 14, stopping all flow of the ink from the well. The ball 15 forms a

seal against the evaporative atmosphere entering any of the conduits of the well, thus preventing a hardening of the ink.

It is to be understood that the foregoing detailed description and drawing is given merely by way of illustration and that many variations may be made therein without departing from the spirit of my invention.

Having described my invention, what I desire to secure by Letters Patent is:

In a device for marking fabrics and the like with a lacquer-like ink, the combination with a holder having an opening therein and adapted to contain a non-volatile solvent for said ink, of a well for receiving a charge of ink, a head on said well, a writing attachment connected to said head and having a conduit therein leading from said head to the writing point of said attachment, a bearing surface at the end of said conduit, a spring-pressed ball cooperating with said bearing surface for normally sealing said well against the atmosphere and for permitting a flow of ink when pressure is applied to the point of said device, and a projection on the outer surface of said well adapted to limit the extent to which said well may enter the opening in said holder, the construction and arrangement being such that the writing point of the device, when it is not in use, dips just below the surface of the non-volatile solvent in the holder.

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