The present invention relates to pens in which as in ordinary pens used in handwriting, and as in pens used in recording instruments making an ink line record, the pen includes a surface which in normal operation is wetted by an ink film and the general objects of the present invention are to provide a pen of such character, and a method of preparing a pen for initial operation that the above mentioned pen surface will be promptly and properly wet with the ink when the pen is initially put into operation.

As is well known, when an ordinary pen used in handwriting is initially put into operation, difficulty is ordinarily experienced in starting the flow of ink over the surface of the pen immediately adjacent the writing point, at least unless the pen is first put into the mouth or one effectively wets the said pen surface in some other manner. Similar difficulties are commonly experienced in starting ordinary recording instrument pens into operation.

I have found that the above mentioned difficulty in starting pens into operation is apparently due to a thin ink repellent coating, apparently of a grease nature, which forms on the pens when handled, and apparently also as a result of a relatively short exposure to ordinary atmospheric conditions. In constructing and preparing recording instrument pens for operation, I have found that the above mentioned difficulty in starting them into operation may be avoided by making the pen surface adjacent the record engaging point chemically clean as by wetting it with some chemical liquid which will remove the ink repellent coating. Such a chemical cleaning of the point, however, is not permanent, and pens so treated in an instrument factory when put into operation later by a user are found no freer from the difficulty than pens which were not so chemically cleaned in the factory.

I have discovered, however, that pens may be prepared in such manner as to avoid the above mentioned difficulty in their initial operation by coating the otherwise clean surface of the pen which is to be wetted by the ink film, with some suitable material which readily dissolves in the ink used with the pen. In the preferred practical mode of using the present invention I first make the surface of the pen, or at least the portion of the surface over which the ink is to flow in a thin film or capillary stream chemically clean, and then wet said surface with a liquid such as a thin fish glue solution which dries to form a thin adherent coating on said surface which is quite permanent so long as it remains dry but which is dissolved almost instantaneously when wet with ink.

As long as such coating remains on the pen surface it keeps the latter in its chemically clean condition and protects it against oxidation or corrosion and prevents the formation thereof of an ink repellent film. I have found that in lieu of fish glue, other materials such as other glues and sodium silicate may be used, and I believe that a suitable coating may be formed of practically any material which can be readily applied to the surface to form a thin adherent coating not corroding or attacking the pen material, but protecting the latter from oxidation and corrosion, and which will dissolve quickly on contact with the water or other liquid vehicle constituent of the ink.

The one figure of the accompanying drawing is a perspective view of a recording instrument pen. The recording instrument pen shown by way of example in the accompanying drawing is of the so-called fountain pen type, and comprises a bucket or ink receptacle which in normal use contains an ink supply from which ink flows by capillary action upward along a groove 2 in the side wall of the bucket 1 and thence along a generally horizontal groove 3 in the pen point portion 4 of the pen to the record engaging point 5 of the latter. In preparing such a pen for initial use in accordance with the present invention, the surface of the pen including and immediately adjacent the walls of the grooves 2 and 3, are subjected to an initial treatment if necessary, as is usually the case, to insure the chemical cleanness of said surface, and the latter is then coated with a thin solution of fish glue or other suitable
coating material which dries and hardens to form a thin coating on said surface which will dissolve rapidly when wet with ink. The liquid coating material may be applied by means of a fine lacquer brush or in any other suitable manner. The fish glue or other coating so applied to the pen protects the surface to which it is applied almost indefinitely so long as the pen is kept dry and is not exposed to normal corrosive or other coating destructive influences. As soon as the usual amount of ink is put in the bucket portion 1 of the pen in initiating the normal use of the latter, the ink quickly moves by capillary action along the grooves 2 and 3, dissolving the coat on the pen portion engaged by the ink in its progressive movement and the pen is thus brought quickly into operation without trouble due to the previously experienced difficulty in starting such pens into operation.

While I was led to my present invention primarily by the difficulties which I had experienced in connection with instrument pens and my invention is of great practical importance in connection with such pens as those skilled in the art will readily understand, the use of the invention is not restricted to such pens.

Having now described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. The method of preparing a pen for use which consists in covering the pen surface which in normal use is covered by a wet ink film with a dry adherent coating dissolving rapidly on contact with such ink.

2. The method of preparing a pen for use which consists in covering the pen surface which in normal use is covered by a wet ink film with liquid which dries to form on said surface a thin adherent coating dissolving rapidly on contact with such ink.

3. The method of preparing a pen for use which consists in treating the pen to make the surface thereof which in normal use is covered by a film of wet ink to make said surface chemically clean and then coating said surface with a material readily soluble in such ink.

4. The method of preparing a pen for use which consists in treating the pen to make the surface of the latter which in normal use is covered by a wet film of ink chemically clean and then covering said surface with a thin liquid which dries to form on said surface a dry adherent coating of material which dissolves rapidly on contact with such ink.

5. A pen having a surface coating readily soluble in ink.

6. A pen having its surface which in normal use is coated by a wet film of ink initially covered by a dry adherent coating material to which the pen material is chemically im-


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