The invention is a fountain pen that manufactures its own ink as it is used from dye cartridge inserted in a chamber in the spoon feed below the nib, by water contained in the sack which feeds thru the ink stick as the pen is used.

The object of the invention is to provide a fountain pen that manufactures its own ink from dye cartridges.

Another object of the invention is to provide a fountain pen that manufactures its own ink from dye cartridges so that water only is required to refill the pen except at such times as the dye cartridges are used up.

Another object of the invention is to provide a fountain pen which manufactures its own ink in which the ink sack of a fountain pen is used as the water reservoir by which the ink is manufactured.

A further object of the invention is to provide a fountain pen having a liquid reservoir.

A still further object of the invention is to provide an ink stick for fountain pens that may be inserted in the feed and is adaptable to supply ink as water flows therethru.

And a still further object of the invention is to provide a fountain pen that manufactures its own ink which is of a comparatively simple and economical construction.

With these ends in view the invention embodies a fountain pen having a chamber in the feed below the nib in which ink sticks may be contained.

Other features and advantages of the invention will appear from the following description taken in connection with the drawing, wherein:

Figure 1 is a view showing a longitudinal section thru the pen.

Figure 2 is a view showing a cross section thru the feed.

Figure 3 is a view showing an end view of the feed.

Figure 4 is a view showing one of the ink sticks with part broken away.

Figure 5 is a cross section thru the pen taken on the line 5—5 in Figure 1.

In the drawing the pen is shown as it would be made wherein numeral 1 indicates the body of the pen, numeral 2 the cap, and numeral 3 the dye cartridge storage chamber as may be used in the pen. The pen 1 may be of any type or design, may be arranged in any desired manner, and any make of pen may be used. In the design shown the casing, as indicated by the numeral 1, is frictionally held to a base 4 to which a sack 5 is attached, as shown, and the lower end of the base is provided with an opening 6 into which a nib 7 and the feeder member 8 are inserted, as shown. It will be understood that a nib of any type or design may be used and also that the nib may be changed as often as may be desired. The feeder member 8 is made, as shown in Figure 2, with a cylindrical chamber 9 extending upward from the lower end to the point 10 and from the end of the chamber 9 to the upper end of the nib is a very small pin hole 11 connecting the chamber 9 to the water reservoir. In the upper part of the feed is a longitudinal opening 12 and the lower end is connected with a small bar 13, as shown.

The dye cartridge 14, which is inserted in the opening 9, is made, as shown in Figure 4, with a thin cylindrical casing having openings 15 in the upper side which, when the dye cartridge is inserted in the opening 9 will correspond with the slot 12, and at one end of the dye cartridge is a projection 16 that may readily be caught by the finger nail or other object, to withdraw the dye cartridge from the chamber 9. The opposite end of the dye cartridge is open and the interior is filled with an ink dye, as indicated by the numeral 17, and as the device is used water will flow downward from the sack 5 and wash the ink from the upper end of the dye cartridge thru the openings 15 and as the pen is used continuously the water will continue to flow downward into the dye cartridge and all of the dye will be washed out. This action constitutes the manufacture of the ink so that the pen actually manufactures its own ink as it is used. The pen 1 is provided with the usual fountain pen refill clip, as indicated by the numeral 18, so that water in the sack 5 may be replenished as desired.

The cap 2 may be of any type or design and may be screwed upon threads 19 at the lower
end of the casing 1 when the pen is in a closed position, and may also be frictionally held in the upper end of the pen when the pen is in use.

The storage chamber 3 may be provided in the body of the pen, as shown in Figure 1, and a cap 26 may be screwed on the upper end to form a closure, as shown. It will be understood that the storage chamber 3 may be formed in any other manner and may be located at any other point in the pen.

It will be understood that other changes may be made in the construction without departing from the spirit of the invention. One of which changes may be in the use of the device in a pen of a different style, another may be in the use of other means for feeding water to the dye cartridges and still another may be in the use of a cap of a different design or type.

The construction will be readily understood from the foregoing description. In use the pen may be provided as shown and it is preferred to fill the water sack 5 by the clip 18 before the ink stick is inserted, however, the pen may be dipped in water and the sack refilled at any time, as may be desired. It will be noted that ordinarily there will be no action in the pen, however, as pressure is applied to the nib 7, the working action thereof will cause a small amount of water to feed thru the ink stick and this will supply ink to the point. The ink stick may readily be withdrawn and a new stick inserted from the chamber 3 as the ink is used. The device thereby provides a self inking fountain pen that manufactures its own ink as it is used.

Having thus fully described the invention what I claim as new and desire to secure by Letters Patent, is:

1. An improved fountain pen comprising a barrel adapted to contain water, a feeder member fitted to said barrel and having a longitudinally extending bore communicating at its inner end with the water space in the barrel and being freely open at its outer end, said feeder member having a slotted side wall communicating with the bore, a pen point associated with the feeder member and fitted about said slotted side wall, and a cartridge removable and frictional the slot of the feeder member, an ink making material in said cartridge, and a hook upon the outer closed end of the cartridge case exposed for withdrawing the cartridge axially out of the feeder member.

2. An improved fountain pen comprising a