

UNITED STATES PATENT OFFICE.

WILLIAM C. POPE, OF ST. LOUIS, MISSOURI.

EFFERVESCENT INK-TABLET.

SPECIFICATION forming part of Letters Patent No. 751,554, dated February 9, 1904.

Application filed October 29, 1903. Serial No. 179,100. (No specimens.)

To all whom it may concern:

Be it known that I, WILLIAM C. POPE, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented a certain new and useful Improvement in Effervescent Ink-Tablets, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and useful improvement in effervescent ink-tablets, the object being to make a small tablet capable of being dissolved in order to produce a writing fluid of good quality and in such quantity as to supply an ordinary ink-well. In this way the tablets supply fresh ink and there is no liability of sediment collecting in the bottoms of the wells, and the ink-wells can be cleaned and present a neater appearance, due to the manner of recharging them.

The invention consists in the combination with an effervescent base of appropriate coloring-matter so mixed with the base as to be freed when the base effervesces in the presence of water and by dissolving impart color to the dissolving medium. The coloring-matter may be such as desired—that is, black, red, yellow, purple, &c., as wanted.

I have found the following formula to give satisfactory results in the manufacture of effervescent black-ink tablets useful for making black copying and writing fluid: five ounces three hundred and thirteen grains anilin-black, four ounces three hundred and seventy-five grains soluble blue, two ounces three hundred and seventy-five grains bicarbonate of soda, two ounces three hundred and seventy-five grains oxalic acid, two ounces acacia, one ounce sodium chlorid, two ounces sugar.

The above formula is mixed in a dry state and pressed into a tablet of suitable size, one containing ten grains being found appropriate for coloring one ounce of clear water. The base, consisting of the bicarbonate of soda and oxalic acid, may be used to make any color by the addition of the proper coloring-pigment. I prefer to use the anilin colors, as they are readily soluble in water. I have found Tie-

man's Prussian soluble blue to give satisfactory results. The sugar is employed to make a copying-ink. The gum acacia is used simply to hold the mass together for the purpose of making tablets. The sodium chlorid sets the colors, so as to prevent fading.

Instead of ten-grain tablets one-grain tablets can be made to be put into fountain-pens, and after filling same with water they are ready for use.

It will be noticed in the above that the effervescent base employs the oxalic acid and bicarbonate of soda and in that respect differs from the base usually used for medicinal purposes. However, if it is desired to use such a base it may consist of citric acid, bicarbonate of soda, and tartaric acid, as follows: three ounces nutgall, two ounces copperas, two ounces acacia, four ounces bicarbonate of soda, two ounces citric acid, one ounce sugar, four ounces tartaric acid, three ounces oxalic acid, two ounces soluble blue, one ounce drop-black.

Another formula which could be used is as follows: Mix the following ingredients together: two pounds bicarbonate of soda, six ounces drop-black, one ounce Prussian blue, and then mix with the following: two pounds nutgall, one pound copperas, nine ounces oxalic acid, six ounces acacia, six ounces sugar, six ounces citric acid.

In use each tablet is capable of making one ounce of fluid ink, and I recommend in practice that the receptacle for containing the ink be thoroughly cleaned and the required amount of clear water placed therein, after which the tablet may be dropped into the water, when it will immediately effervesce and impart its coloring-matter to the water. The tablets are cleanly and are not liable to deteriorate when exposed to atmosphere and are presented in a convenient form for ready use.

I am aware that the formulas herein given may be modified or changed with respect to the proportions of their several ingredients as well as omitting some of the ingredients mentioned or adding and substituting other ingredients without in the least departing from the nature and principle of my invention.

Having thus described the invention, what

is claimed as new, and desired to be secured by Letters Patent, is—

1. As a new article of manufacture, an effervescent ink-tablet composed of an effervescent base, of oxalic acid, bicarbonate of soda with sodium chlorid, and acacia, and a coloring-pigment; substantially as described.

2. As a new article of manufacture, an effervescent ink-tablet composed of nutgall, copperas, acacia, bicarbonate of soda, citric acid, sugar, tartaric acid, oxalic acid, and a coloring-pigment; substantially as described.

3. The herein-described method of making ink-tablets consisting of mixing one element of an effervescent base with nutgall and copperas, then separately mixing the other ele-

ment of the effervescent base with a coloring-pigment and subsequently combining said elements in the form of a tablet; substantially as described.

4. An effervescent ink comprising nutgall, copperas, acacia, bicarbonate of soda, acid, and a coloring-pigment; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 23d day of October, 1903.

WILLIAM C. POPE.

Witnesses:

GEORGE BAKEWELL,
LENORE WILSON.