

UNITED STATES PATENT OFFICE.

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IMPROVED PRINTING-INK.

Specification forming part of Letters Patent No. 47,909, dated May 23, 1865.

To all whom it may concern:

Be it known that I, ANATOLE AUGUSTE HULOT, of the imperial mint, Paris, in the Empire of France, (gentleman,) have invented a new Typographic Ink; and I do hereby declare that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known, and of the usual manner of making, modifying, and using the same.

My invention consists in the manufacture of a deleble or indelible black or colored ink containing neither fatty substances, fatty varnish, or water, and applicable to printing postage and other similar typographic stamps or labels, and also to other printing.

The movable adhesive stamp, post-stamp, or label can only secure the amount of duty that it represents by uniting to a type that cannot be forged a perfect printing, and as the use of these stamps imposes on the public the necessity of canceling them by writing on the design with common ink a signature, date, or other mark, they must be printed with an ink such that any attempt at washing out or effacing the canceling by reactive agents will cause the printing itself to disappear, as well as the writing. Ordinary writing-ink—that is to say, the black prepared by the combinations of iron with gall-nut acids, tan, or of any other known vegetable extracts producing a similar reaction—has not been successfully employed in the usual typographic printing, because the material forming the ink used with printing-varnish produces an inferior impression, and which, preserved partly by the varnish from the action of the reactive agents, does not generally yield to washing, and thereby facilitates fraud, as the canceling can be effaced without affecting the printing. Many trials in printing typographic stamps with ink more or less thick have shown that the presence of water in the typographic ink, no matter how small the quantity, prevents the proper distribution of the ink, which dries on the surface of the roller, and thus prevents a perfect impression being obtained.

By my invention these difficulties are avoided, for I produce an ink which, by its easy distribution, prints perfectly. It may be made deleble or indelible to any degree, black or colored, and of any shade, according to the coloring-matter employed, and it contains neither fatty substances or fatty varnishes or any trace of water.

I prepare the ink of my invention as follows:

First. To compose the non-fatty varnish capable of being dissolved in water, I melt at a low temperature (to prevent its rising into froth) two parts, in weight, of pure honey, (for light colors white honey is more suitable,) to which I add two parts of neutral glycerine, at 28°. I agitate the composition, and as soon as it is well mixed I leave it to cool and settle. The vegetable or mineral coloring substances to be used with this composition must be perfectly dried and ground with the utmost care, and then, to form the ink, I add to one part of color thus prepared four parts of the above-described composition, and I work the whole well together. It must be understood, however, that the above proportions need not be strictly adhered to, either as regards the composition of the varnish or in its combination with the colors, the same colors being capable of producing different shades, the darker ones requiring a larger proportion of color and the lighter shades a larger proportion of honey. I have found by practice that the same result may be obtained by working the colors with the glycerine alone in suitable proportions, and then adding the raw honey and mixing the whole together.

I also prepare a second non-fatty varnish in the same manner as the first by substituting molasses for the honey, and I would here observe that the first varnish hereinbefore described dries rapidly and renders the colors fast; but the second varnish dries slowly. When mixed in suitable proportions with the first, it gives a luster to the printing. Any mixture of mucilaginous, gelatinous, albuminous substances, &c., are detrimental to the spreading of the ink. The colors employed with the ordinary typographic varnish can also be used with the varnishes prepared according to my invention, and all the dry drying-colors—extracts from wood, carmine, and especially aniline colors—are well adapted for printing in a very perfect manner in combination with the honey and glycerine varnish. The deleble black—composed of iron and tan or gall-nut acids—should not contain any gum, but should be as neutral as possible. It must be dried in vacuum at a low temperature, and in order to vary the shades of the deleble black other wood extracts can be added to the nut-gall extracts. For preparing the inking and feeding rollers I use the following composition, videlicet: thirty-three parts of glue, fifty-two of honey, seven

of water, and eight of glycerine. For certain colors the honey may be replaced by the same proportion of molasses as before stated, and the glycerine is not absolutely necessary. The ink hereinbefore described can be employed to print typographic or copper-plate stamps of all kinds, either with deleble black or one or more fast colors. It can also be used for relievo-stamps with colored grounds and deleble vignettes for envelopes; also, for printing bank-notes, commercial bills, and all other papers or documents where it is required to prevent the possibility of the printing being effaced by washing or blotting out.

This ink can also be employed to imitate water-color pictures with one or more colors, and printed on paper or vellum, and also to printing on dyeing-colors on silk, cotton, linen, and other stuffs or fabrics.

Having now described the nature of my said invention and in what manner the same is to be performed, I wish it to be understood that I do not confine myself to the precise details herein laid down; but

What I claim is—

1. The manufacture of typographic ink capable of being washed out when printed on movable adhesive and postage stamps, labels, or designs requiring to be dated, signed, marked, or otherwise written upon with common ink, as hereinbefore described.

2. The application of the said typographic ink to the printing of typographic or copper-plate stamps of all kinds, either with deleble black or with fast colors, and to relievo-stamps with colored grounds and deleble vignettes for envelopes, to bank-notes, and other documents where it is required to prevent the printing from being washed out.

3. The application of the said typographic ink to imitate water-color pictures with one or more colors, and printed on paper or vellum, and also to printing in tinctorial colors on silk, cotton, wool, and other textile fabrics.

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