

UNITED STATES PATENT OFFICE.

PETER H. VANDER WEYDE, OF BROOKLYN, N. Y.

IMPROVEMENT IN POSTAGE-STAMPS.

Specification forming part of Letters Patent No. **180,394**, dated July 25, 1876; application filed July 29, 1875.

To all whom it may concern:

Be it known that I, PETER H. VANDER WEYDE, of the city of Brooklyn, New York, have invented a new Method of Preparing Postage-Stamps, intending to do entirely away with the canceling or so-called "killing" by hand, which is a laborious and tedious operation, especially in the large post-offices of our metropolitan cities, where letters arrive hourly by the thousand.

Many attempts have been made to reduce the labor, and even the double stamp, consisting of a combination of the stamp bearing the date and the canceling-stamp, has been judged valuable enough to command a special appropriation to the patentee, and a consequent lawsuit between him and the real inventor.

Methods proposed by which the canceling is effected by chemical action a few hours after the moisture has been applied to affix the stamp on the letter have, by experience, been found to be totally impracticable, and thus far no reliable method has been found to effect this canceling without labor.

After I have had this subject on my mind for several years I have come to the conviction, fortified by practical experimental tests, that the only sure and reliable method for wholesale canceling is the application of heat. In order to apply this agent for this purpose I have the postage-stamps printed with pigments which will resist dryness and moisture, cold and light, but not heat, as they will totally volatilize at a temperature of from 212° Fahrenheit, the boiling-point of water, to 300° or 350° Fahrenheit, a temperature not high enough to injure or even change any ink, writing-fluid, aniline, &c., or even vegetable coloring matter.

Fortunately modern chemistry has taught us the knowledge of many colored solids which will evaporate at that temperature, and all that we have to do is to have the postage-stamps printed with such substances, when they will remain unchanged any length of time, until at last, when affixed to letters and dropped in the post-office, they are then simply thrown in a box, heated by a steam-coil or other suitable means to the temperature of 300° Fahrenheit, more or less, and left there for the space of a few minutes, when the whole figure of the postage-stamp will have become obliterated by volatilization.

The substances which can be used for this purpose are bi-iodide of potassium for scarlet, realgar for dark red, orpiment for yellow, red iodide of mercury, some colored cyanides and fulminates. All permanent colors may also be used, especially when, for the purpose of printing, they have been mixed with a protective mucilage or varnish-like substance, as a solution of shellac in borax solution, &c. Fixed oils form a protecting material, which would tend to prevent volatilization, except when we make use of some volatile ethereal oils and resinous substances, which would only protect the volatile coloring matter against the usual agencies of moisture, &c., but volatilize with the pigment at 300° Fahrenheit. Some intermixtures also affect the disappearance by heat as a mixture of cyanide of mercury with bi-iodide of mercury, or the sulphide of arsenic with the sulphide of cyanogen; further, the iodides and bromides of cyanogen and mercury, &c.

In order not to destroy the denomination of the stamps, in canceling them, I print them with two different inks—one to indicate the monetary value—which ink is of the ordinary kind, or any other ink indestructible by heat, and the other for the remaining portion of the design, consisting of one of the substances above described, volatilizable by heat. When the latter is destroyed by the heat the stamp is considered canceled, notwithstanding the primitive value is still visible.

What I claim as my invention, and wish to secure by Letters Patent, is—

1. The process of producing postage-stamps by printing the same with a pigment consisting of bi-iodide of potassium, or equivalent substance heretofore named, volatilizable at a temperature of 300° Fahrenheit, substantially as described, and for the purpose set forth.

2. The process of producing postage-stamps consisting of printing them with two different inks—one being the ordinary printing-ink, or other ink indestructible by heat, and the other consisting of bi-iodide of potassium, or other equivalent substance heretofore named, volatilizable at a temperature of 300° Fahrenheit, substantially as and for the purpose set forth.

P. H. VANDER WEYDE.

Witnesses:

WM. H. SCHUTTE,
HENRI GERARDE.