UNITED STATES PATENT OFFICE.

THOMAS C. VAN NÜYS, OF BLOOMINGTON, INDIANA.

IMPROVEMENT IN MEANS FOR PREVENTING FRAUD IN STAMPS, CHECKS, BONDS, &c.

Specification forming part of Letters Patent No. **200,365**, dated February 12, 1878; application filed November 22, 1877.

To all whom it may concern:

Be it known that I, THOMAS C. VAN NÜYS, of Bloomington, in the county of Monroe and State of Indiana, have invented certain new and useful Improvements in Means for Preventing Fraud in Stamps, Checks, Bonds, &c.; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same.

Having procured Letters Patent No. 197,303 for improvement in means to prevent fraud in stamps, checks, bonds, &c., I have made the following-described improvements upon the same, so as to make more useful the original invention as set forth in said patent.

In addition to the salts of nickel and cobalt named in said patent, I use a soluble salt or salts of mercury—say, the perchloride—in the fluid in which to saturate stamps, checks, drafts, bonds, &c., as stated in my said patent. For this saturating-fluid a solution is made of a salt or salts of either nickel or cobalt, preferably the nitrates, which are soluble in water, or mixtures of the two in any proportions—as, for example, crystallized nitrate of nickel, fifty-six grams; crystallized nitrate of cobalt, thirty-two grams; distilled water, one liter. To this solution of the nickel or cobalt salt or salts, or of both combined, I add about four ounces of a soluble salt or salts of mercury to each gallon of water. After so saturating the stamps, checks, drafts, bonds, &c., and drying them, I write upon them or stamp them with the ink or canceling-fluid, as provided for in my said patent.

I thus add to my saturating-fluid a salt or salts of mercury, for the reason that it makes more durable the black compound that is formed in the body of the paper when written upon with my ink or stamped with my stamping fluid or paste, and prevents such black compound from being removed from the paper by any kind of acids which are used for removing inks and stains from paper.

In the preparation of paper for stamps, checks, drafts, notes, bonds, bills, tickets, labels, &c., to be used in connection with my saturating fluid and ink, (both writing and stamping ink,) as herein provided for, I color such paper in whole or in part with the various compounds used for coloring and tinting paper, and especially with the following coloring-matters, in the proportions here stated, to wit:

First, ten ounces chrome-green, two ounces medium chrome-yellow, one ounce paris-white, one-fourth ounce of patent drier, so as to produce a green compound like that on the three-cent United States postage-stamp.

Second, one ounce English vermilion, four ounces orange-mineral, one-half ounce Venetian red, so as to produce a reddish compound.

Third, four ounces purple lake, two ounces paris-white, one ounce oxide of zinc, one-half ounce patent drier, so as to produce a purplish compound.

Fourth, one ounce of Prussian blue, two ounces white-lead, four ounces paris-white, so as to produce a blue compound.

All the colors are to be mixed to a proper consistence with burned linseed-oil.

Such coloring matter or matters may be put on such paper by means of printed impressions from engravings, by lithographing or ruling, or in such other manner as may be desired; and such paper, at the time it is so colored, or before or afterward, may have printed thereon, either by means of types or engravings, by lithographing or otherwise, such letters, devices, and rulings as may be desired, so as to make stamps, drafts, checks, notes, bonds, tickets, labels, or other instruments, &c. In the printing or otherwise making such letters, devices, or rulings, any colored inks suitable for such purposes may be used.

The paper, stamps, checks, drafts, notes, bills, bonds, labels, tickets, &c., when printed, prepared, and colored, as aforesaid, are then to be saturated in the fluid or fluids above named, composed of a salt or salts of nickel or cobalt, or the two combined, dissolved in water, as described in my said patent, with the addition thereto of a salt or salts of mercury, as provided herein, and then dried, as provided for in my said patent. When dry, the ink or writing-fluid, or stamping ink or paste, is to be applied in all respects, either in writing with a pen or canceling with a canceling-stamp, as described in my said patent.

Any soluble sulphide, such as the alkaline

sulphides or the sulphides of the alkaline earths, or any equivalent sulphide which will by double decomposition produce, with the nickel, cobalt, and mercury salts, insoluble sulphides of those metals, is an essential component of said ink, which may consist of one part either of the sulphide of sodium, (Na_2S,) or of the sulphide of potassium, (K_2S,) and four parts of distilled water, and is applied to the prepared stamps, checks, drafts, bills, bonds, notes, &c., by a pen, metallic or non-metallic. For canceling, the ink can be employed as a paste or canceling-ink, made by mixing either the sulphide of sodium (Na_2S) or the sulphide of potassium (K_2S) with lamp-black, Frankfort black, hard and soft, any of the aniline colors, saccharine matter, such as sugar or molasses, or any others having similar properties, patent drier, varnish, glycerine, or mucilage, with sufficient water, so as to make a paste or stamping-ink, with which any desired coloring may be mixed.

I do not confine myself to the exact proportions of the constituents of the preparation fluid in making the same, as herein named, nor to the exact proportions of the constituents of my canceling ink or paste, or writing-ink, since these may be varied without departing from the principles of my invention. Neither do I confine myself to the exact proportions of the constituents of the various coloring-matters above named, as the same may be varied so as to suit the fancy of those desiring to use them without destroying either the green, red, purple, or blue compounds above named.

The production of a highly-colored insoluble compound in the body of the paper is the essential feature of my invention in connection with paper, stamps, checks, drafts, bills, bonds, notes, labels, tickets, &c., prepared and colored as hereinbefore stated. The sulphides thus formed in the body of the paper cannot be decomposed or removed therefrom without changing or destroying the coloring-matter with which the paper has been colored.

I do not claim, broadly, the application of a soluble salt to paper, and then applying another soluble salt which will produce a colored precipitate in the paper, as a number of such have been described, but do not come within the limits of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

The improvement in the art of preventing fraud in the use of stamps, checks, drafts, bonds, bills, labels, tickets, notes, and all other printed instruments, consisting in coloring, as set forth, the paper from which such instruments are made with one or more of the colors named, then impregnating such instruments, made substantially as described, with a soluble salt or salts of nickel or cobalt, or both, combined with a soluble salt of mercury, and, when dried, writing, printing, or stamping upon said instruments with a soluble sulphide, all substantially as described.

In testimony that I claim the foregoing as my own I do affix my signature in presence of two witnesses.

THOMAS C. VAN NÜYS.

Witnesses:

ROBERT C. FOSTER,

WALTER E. WOODBURN.