# UNITED STATES PATENT OFFICE.

ROBERT W. COFFEE, OF RICHMOND, VIRGINIA, ASSIGNOR OF THREE-TENTHS TO WILLIAM P. REDD AND THREE-TENTHS TO CHARLES C. SATTERFIELD, BOTH OF RICHMOND, VIRGINIA.

## VISCOUS STEREOTYPING-MAT COMPOUND.

1,276,492. Specification of Letters Patent. **Patented Aug. 20, 1918.**

No Drawing. Application filed February 6, 1918. Serial No. 215,677.

*To all whom it may concern:*

Be it known that I, ROBERT W. COFFEE, a citizen of the United States, residing at Richmond, in the county of Henrico and State of Virginia, have invented a new and Improved Viscous Stereotyping-Mat Compound, of which the following is a specification.

In the present method of making stereotyping mats, the pastes used among other elements include flour, dextrin and starch.

My invention has for its object, the production of a viscous compound in the making of stereotype mats whereby a number of sheets of paper are laminated together, forming a chemical union between the different ingredients, comprising the said compound, and also combining with the fibrous or cellular tissues of the paper producing a tough, yielding body to the paper which allows very deep impressions to be made.

Another purpose of my invention is to provide a paste compound for the purpose stated, that is of such nature as to produce a perfect matrix after the mat has been impressed on the type form in the usual way, and which, in the finished product, leaves a perfectly smooth face to the mats, and the plates, and screen of half-tones, due to the very smooth surface of the matrix.

Another and very essential feature of my invention is the provision of a paste for stereotype mats, the use of which eliminates both flour and dextrin matters that constitute parts of the standard kinds of stereotype mat forming pastes, and which is also antiseptic to prevent the paste from decomposing. Carbolic acid is frequently used in the employment of pastes containing flour and dextrin to prevent decomposition. I do not use carbolic acid or formaldehyde in the chemical combination of my paste, as it is injurious to the paper.

The compound consists of the following elements, namely: I use a silicious substance, preferably china clay or kaolin for the basic filler, dissolved in a saturated solution of sodium carbonate. The two ingredients are first added together and perfectly mixed. Corn starch is dissolved in water. One part of gluten made of animal tissue to six parts of water are mixed and boiled for a period of ten minutes.

The starch solution and the solution of gluten are then mixed together and added to the sodium carbonate and china clay solution, and the whole boiled for a period of one hour, stirring constantly. While cooking, one part of corn oil, or its equivalent vegetable oil, is added to the compound.

To obtain the desired mixture of the ingredients, as stated, they must be boiled in a steam jacket kettle, and for example, substantially in the following proportions, namely, one part silicious substance, three-fourths part starch, one and one-half parts sodium carbonate, one-tenth part animal gluten, one-tenth part vegetable oil, to which is added two and one-half parts of water to each part of the ingredients.

During its manufacture, the compound becomes very thick and viscous, and for thinning, a solution of sodium carbonate is preferably used,—although water alone may be used.

The composition above as outlined by chemical interaction produces both colloid and lipoid suspension which readily penetrates the fibers of the paper and forms a combination with the said fibers of the paper, producing toughness and softness to the body of the mat.

The heavy or deep impressions, which are so essential for perfect printing, are provided for without danger of bursting the mat under pressure, and with mats built up with my paste composition, the tissue does not peel from the face of the mat, and the mats will withstand the action of the highest temperature of the molten type of metal.

What I claim is:

1. A paste for stereotype mats composed of a base of an earthy silicate, sodium carbonate, starch, animal gluten and a vegetable oil.

2. A compound comprising the following

elements in combination; gluten, starch, sodium carbonate, a vegetable oil and china clay or kaolin, the elements being so proportioned and intermixed that a penetrating substance of viscous nature is provided.

3. A paste for stereotype mats composed of an earthy silicate including china clay or kaolin mixed with sodium carbonate as a base, dissolved corn starch, animal gluten, and a vegetable oil.

4. A paste for stereotype mats comprising a base of china clay or kaolin, sodium carbonate, starch, gluten and a vegetable oil, compounded substantially as specified.

ROBERT W. COFFEE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."