

# UNITED STATES PATENT OFFICE.

LOUIS NEUHAUS AND FELIX F. DAUS, OF NEW YORK, N. Y.

## PAD FOR RAPID COPYING.

SPECIFICATION forming part of Letters Patent No. 445,977, dated February 10, 1891.

Application filed October 11, 1890. Serial No. 367,860. (No specimens.)

*To all whom it may concern:*

Be it known that we, LOUIS NEUHAUS, a citizen of the United States, residing in the city, county, and State of New York, and FELIX F. DAUS, a citizen of the United States, residing at New York, N. Y., but temporarily residing in London, England, in the Kingdom of Great Britain, jointly have invented certain new and useful Improvements in Pads for Rapid Copying, of which the following is a specification.

Heretofore the pads that have been used in rapid copying have always had a gelatinous surface and the pad has always contained more or less gelatine. The effect of this has been that the gelatine in the pad was affected by hot weather, and that part of the gelatine adhering to the copies made would cause the manuscript of the copies to curl and become sticky.

The object of this invention is more particularly to provide a pad which will not be and is not affected by hot weather, and which causes no sticky or curly matter to adhere to the copy, and therefore does not cause such copy to curl, at the same time to make a composition pad which shall be cheaper and require no special pen nor special paper.

Another of the advantages of the composition which is the subject of this invention is that when the original manuscript is placed upon the composition pad, the composition of the pad not being affected by the heat the ink of the original does not run or flow, and therefore leaves a clean negative on the composition, from which clean copies can then be made.

The method of making our composition pad is as follows: The first step is to take three parts of dry and powdered china-clay of the kind known in the trade and art as "china-clay No. 1," one part of French powdered chalk, and one-half part of plaster-of-paris. These three ingredients are then mixed and sieved in a sieve in the usual way, and the product resulting from this process is set aside. The next step is to take three-quarter part of ordinary starch and three-quarter parts of dissolved yellow dextrine, otherwise known as "British gum." This dextrine we dissolve by mixing one-quarter part of yellow dex-

trine with one part of boiling water. To the mixture of starch and dissolved dextrine we add one-sixty-fourth part of chloride of calcium in the pure crystal, one-sixteenth part of ordinary sugar, and one and one-quarter part of liquid glycerine. This second mixture is then stirred until it acquires some consistency. It is then kneaded or otherwise mixed with the powders resulting from the sieving process described in the first step, and this kneading is continued until it has obtained a consistency sufficient to allow it to be cut into pads or sheets of any required thickness.

We have found by experiment that the following mixture in the proportions above stated produces a very satisfactory result: We take three pounds of china-clay No. 1, dry and powdered, one pound of French powdered chalk, and one-half pound of plaster-of-paris. These three we mix in a sieve and collect the mixture resulting from the sieving process. We then take three-quarters of a pound of ordinary starch, three-quarters of a pound, being twelve ounces, of dissolved dextrine, dissolved by taking four ounces of yellow dextrine and mixing with it one pound, or sixteen ounces, of boiling water. To this we add one table-spoonful, or a quarter of an ounce, of chloride of calcium in the pure crystal, four table-spoonfuls, or one ounce, of ordinary sugar, and twenty ounces of liquid glycerine. After this has been stirred we mix this composition with the powder resulting from the sieving process by kneading it until it acquires a consistency enabling it to be cut into required sheets.

When it becomes necessary to color the sheets, any coloring-pigment may be added to the dextrine to give the pad the required color. After the composition has been cut to the required size it is placed in a tray made of such metal or other substances as will not absorb the moisture of the composition pad.

The method of using the pad after it has been placed in the tray is that which is ordinarily employed in rapid copying from any pad. The original manuscript is to be written in an ink composed of properties which will cause it to leave an impression upon this pad. After the negative impression has been

made upon the pad a blank sheet of paper is then placed upon the impression and a positive copy will be made upon the paper. Pursuant to this method any number of copies  
5 may be made from one impression.

It is clear that the amount of ingredients to be put into the composition must depend upon the size of the pad to be made; but they must be mixed in the proportions herein set  
10 forth. It is also clear that the same result can be obtained by using for any of the ingredients set forth their chemical equivalent, and we do not limit ourselves to the precise chemical agents or ingredients here set forth,  
15 but desire to claim and do claim as part of our invention the chemical equivalents in kind or weight of any of the ingredients there described.

Having thus described our invention, what  
20 we claim is—

A composition pad usable in rapid copying, composed of a mixture manufactured as follows: by mixing three parts of dry and powdered china-clay No. 1, one part of French  
25 powdered chalk, and one-half part of plaster-

of-paris, and adding to this mixture, by kneading or otherwise, the composition resulting from mixing three-quarter parts ordinary starch, three-quarter parts dissolved dextrine, one sixty-fourth part of chloride of calcium  
30 in the pure crystal, one-sixteenth part of ordinary sugar, and one and one-quarter part of liquid glycerine.

In witness whereof we have hereto affixed our signatures each in the presence of two  
35 witnesses, as follows: the said LOUIS NEUHAUS, on the 12th day of September, 1890, in the city of New York, and the said FELIX F. DAUS, in the city of London, England, on the 22d day of September, 1890.

LOUIS NEUHAUS.

FELIX F. DAUS.

Witnesses as to Louis Neuhaus:

GEO. H. SONNEBORN,

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