

# UNITED STATES PATENT OFFICE.

LEWIS FRANCIS, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND CYRUS  
H. LOUTREL, OF SAME PLACE.

## IMPROVEMENT IN PRINTERS' INKING-ROLLERS.

Specification forming part of Letters Patent No. 41,887, dated March 8, 1864.

*To all whom it may concern:*

Be it known that I, LEWIS FRANCIS, of the city, county, and State of New York, have invented, made, and applied to use a new and Improved Composition for the Manufacture of Printers' Inking-Rollers; and I do declare the following to be a full and correct description of my invention.

The nature of my invention consists in certain improvements, as hereinafter set forth, in the manufacture of the improved composition for the manufacture of printers' inking-rollers, for which Letters Patent were granted Frederick Letmate and myself, under date of May 6, 1862.

In the manufacture of my present composition I employ the ingredients formerly used—namely, glue, glycerine, and castor-oil, or any of the fixed oils—and in addition the ingredients mentioned hereinafter.

In making my improved composition the ingredients employed are combined in about the following proportions, namely: glue, fourteen (14) pounds; glycerine, twenty-eight (28) pounds; castor-oil or any of the fixed oils, two and one-quarter pounds; borax, three (3) ounces; ammonia, two (2) ounces; sugar, seven (7) pounds.

The water in which the glue is to be soaked has, previous to such soaking, half a pound of lime dissolved in it, and is then decanted. The glycerine is placed in a steam-kettle and heated to a temperature of about 200° Fahrenheit, and the glue and the other ingredients employed are added gradually to the glycerine, the latter being kept well stirred until all the ingredients have been added and thoroughly incorporated with the glycerine. The composition thus formed may be cast into thin sheets or cakes of any desired form. The sheets or cakes are exposed to the air several days in order that any water remaining in the composition may be thoroughly evaporated. By this last process all liability of the compo-

sition to shrink, after being cast into rollers, from the presence of water is obviated. The composition is then ready for remelting or casting into rollers in the usual way.

A composition made in this manner and composed of the ingredients stated will not shrink, and possesses a very great degree of suction—that is, capacity to receive and hold printing-ink and still impart it freely to the type or form from which an impression is to be taken.

The peculiar advantages I would claim for my invention are: that rollers made from it never lose their suction or become hard or dry; that rollers made from it will not shrink; that rollers made from it last very much longer than the ordinary glue-and-molasses roller, and, when desired, can be remelted and recast, thus enabling the printer to use my composition repeatedly in the manufacture of rollers, which is not the case with the composition now in use, which is of little use after the roller made from it has become defective.

I do not wish to be understood as confining myself to the use of lime, ammonia, or borax, as any of the alkalies or alkaline earths or alkaline compounds of any of the alkaline earths or alkalies may be used. Neither do I intend to confine myself to the use of the ingredients employed by me in the proportions herein set forth, as in some cases it may be necessary to vary these proportions.

Having thus described my invention, what I claim therein as new, and desire to secure by Letters Patent, is—

The use or employment of the ingredients specified, when combined to form a composition for the manufacture of printers' inking-rollers.

LEWIS FRANCIS.

In presence of—  
A. SIDNEY DOANE,  
I. PONGE.