

UNITED STATES PATENT OFFICE.

E. PRATT, OF SALEM, MASSACHUSETTS.

IMPROVEMENT IN PRINTING-INK ROLLERS.

Specification forming part of Letters Patent No. **21,148**, dated August 10, 1858.

To all whom it may concern:

Be it known that I, ELISHA PRATT, of Salem, in the county of Essex and State of Massachusetts, have invented certain new and useful Improvements in the Manufacture of Printers' Inking-Rolls, of which the following is a full, clear, and exact description.

Printers' rolls for inking types have heretofore been made of a compound of glue and molasses; but rolls thus made are liable to many objections, among which are the following: First, in cold weather the rolls harden and stiffen, and time is lost in warming them before they can be used; second, in warm weather the rolls bag, and often work loose from the core; third, the ink in time extracts the molasses from the compound, leaving the glue, which then soon hardens and cracks. These objections render the frequent renewal of the rolls necessary, and their removal has long been considered a great desideratum. Fourth, they are also exceedingly liable to sour and spoil, particularly in warm weather, whereby they are soon rendered worthless.

To remedy the first three of the above difficulties is the object of the first part of my invention, which consists in the incorporation of certain oily or resinous substances with the materials heretofore employed, by which the roll is rendered more permanently elastic, and is prevented from hardening in cold weather or softening and bagging in hot weather to so great an extent, while the molasses is also prevented from working out and leaving the glue, as before mentioned.

The second part of my invention has for its object to remedy the fourth objection above enumerated—viz., the souring or spoiling of the material; and this I accomplish by the incorporation of an alkali with the other ingredients, by which their acidity is corrected and they are rendered less liable to spoil or ferment.

That others skilled in the art may understand and use my invention, I will proceed to describe the manner in which I have carried out the same.

The following are the ingredients which I use to make my improved inking-rolls, and the proportions in which I prefer to use them, although the exact quantities may be somewhat varied without departing from the spirit of my invention: four pounds glue; two quarts molasses, sirup, or honey; one gill rosin-oil in

which two ounces of rosin has been melted; two ounces gum-shellac in a sufficient quantity of alcohol to dissolve it; one table-spoonful of saleratus or sal-soda.

The following is the manner I have adopted of incorporating the above ingredients: The glue is soaked in water for a few hours to soften it, and then boiled in a vessel surrounded with water (like an ordinary glue-pot) until it has become liquid—say for two or three hours. I then add the molasses, sirup, or honey and stir it in; then the saleratus or sal-soda, previously dissolved in water, the rosin-oil, in which the rosin has been previously melted, and the gum-shellac in alcohol, stirring them all into the mass, which is caused to effervesce by the saleratus or soda. I then boil the whole for one or two hours, until the effervescence ceases and the mass assumes a smooth surface without bubbles, when it is ready for pouring into the molds. A core is placed in the mold and the composition is poured in and cools around the core, adhering to it in the ordinary manner of making these rolls. As some of the rosin-oils of commerce are more limpid than others, they will require to have added to them a larger proportion of rosin than those oils which are more viscid.

I will here mention some of the advantages which an inking-roll made in the above manner possesses over those of the ordinary construction. It is comparatively free from air-holes, and consequently more uniform in its consistency. It will not shrink or crack to the same extent. It will not be so apt to bag or start from the core, and is not so much affected by the changes of temperature, and owing to the above characteristics it is far more durable than those heretofore employed.

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

1. The employment of an alkali in the manufacture of inking-rolls, in the manner and for the purpose substantially as herein set forth.

2. The use of rosin-oil, rosin, and shellac, in combination with the other materials employed, in the manner set forth, for the purpose specified.

ELISHA PRATT.

Witnesses:

THOS. R. ROACH,

P. E. TESCHEMACHER.