

UNITED STATES PATENT OFFICE.

WILLIAM S. ROGERS, OF CLEVELAND, OHIO, ASSIGNOR TO J. C. PEARSON COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MAINE.

PROCESS OF MAKING COATED NAILS.

SPECIFICATION forming part of Letters Patent No. 773,525, dated October 25, 1904.

Original application filed March 31, 1903, Serial No. 150,356. Divided and this application filed June 14, 1904. Serial No. 212,581.
(No specimens.)

To all whom it may concern:

Be it known that I, WILLIAM S. ROGERS, a citizen of the United States, and a resident of Cleveland, county of Cuyahoga, and State of Ohio, have invented a certain new and useful Improvement in Processes of Making Coated Nails, of which the following is a specification.

This invention is a division of my application, Serial No. 150,356, filed March 31, 1903, for a certain new and useful improvement in coated nails and process for coating the same and is directed to the process of making such nails described in said application.

My process for the manufacture of coated nails is as follows:

Rosin is dissolved in gasolene or some readily-volatile solvent in about the proportion of thirty-two parts, by weight, of rosin to ninety-six parts, by weight, of gasolene, and a small quantity of a non-drying oil—such as fish-oil, castor-oil, rosin-oil, or similar oil—is added to this solution in about the proportion of one part, by weight, of such oil to the above-given proportions of solution. It will be found that the above amounts of rosin and fish-oil will be almost entirely dissolved in the above-named proportion of gasolene, especially if the mixture is allowed to stand for some time, although without the fish-oil the solution of the rosin would be far from complete. Other non-drying oils assist in the solution in the same way in varying degrees, castor-oil being more effective in this respect than fish-oil, but is more expensive. Solution will take place at ordinary temperatures without artificial heat. The nails to be coated are dipped in the cold solution, the surplus of which is then drained off from the nails, which are dried quickly by evaporating the gasolene or other volatile solvent which does not require heat.

By the use of this process a thin tough transparent practically-colorless coating of rosin and non-drying oil is left upon the nail or other article. On account of the presence of the small amount of non-drying oil the coating is tough and not brittle, and the nails so coated will not stick to each other. As the

nails will not stick to each other, it is not necessary to break them apart when they have dried or on removing them from the kegs in which they are packed, and there is no roughness or break in the coated surface such as would be found if the surfaces were brittle and had stuck together and been separated, as would often be necessary if the coating did not contain the non-drying oil.

The amount of the non-drying oil contained in the resinous solution is so small in proportion that it will not be unpleasantly perceptible to any extent in the handling or use of the article, while it is sufficient to add toughness to the coating and prevent the coating from becoming brittle and flaky and to prevent the coated articles from sticking together after dipping and while they are drying and to increase the holding power of the nail when driven. A less amount even than indicated will be sufficient for practical purposes, and if a very dry coating is wanted it is an advantage to add about one part, by weight, of metallic resinate—such as lead resinate or manganese resinate, or both—to each one hundred parts of the non-drying oil. This is most conveniently done by adding the resinates to warm oil before the non-drying oil is mixed with the rosin and gasolene.

The so-called "cement-coated" nails which have been for a long time sold in large quantities have a coating which softens by heat and friction caused by driving the nail into the wood, and the coating is stripped from the nail and remains about the head of the nail near the surface of the first piece of wood penetrated. In consequence of this stripping of the coating from the cement-coated nails now sold the greater part of the nail is not protected from moisture striking its sides, but only from moisture which might enter near the head of the nail, and the lower part of the nail often has no substantial coating either to protect the nail from moisture or to adhere to the second piece of wood into which the nail is driven, whereby a large part of the value of the coating is lost.

The coated nails made in accordance with

this specification have a tough coating, which
will not strip off when the nail is driven into
the wood, although it will soften sufficiently
by the heat developed in driving to make the
5 nail very tenacious to the material into which
it is driven after the nail has been allowed to
cool. The nail will be protected from mois-
ture throughout its length and the benefit of
the tenacity of the coating for the entire
10 length of the nail is obtained. Another im-
portant feature is that the nail may be drawn
from the wood and used again with its coat-
ing substantially intact, whereas the coated
nails now used when withdrawn from the wood
15 are substantially uncoated nails.

The process of making the composition
without heat and applying it to the nails by
merely dipping the nails in the cold solution
or pouring the cold solution over the nails
20 and drying the coating by the mere evapora-
tion of the gasolene at ordinary temperatures
without artificial heat is a marked improve-
ment over prior processes for coating nails.
Great care should be used, of course, to neg-

lect none of the usual precautions to avoid an 25
explosion of the gasolene.

Other substances may be added to the rosin,
non-drying oil, and the volatile solvent with-
out departing from my invention, and any
readily-volatile solvent similar to gasolene 30
may be used, and I desire to be understood as
including any such modification within my
claim.

What I claim as my invention is—

The process of manufacturing coated nails 35
which consists in dissolving rosin and a small
quantity of a non-drying oil in a readily-vola-
tile solvent, dipping the nails in this compo-
sition without heating, draining off the sur-
plus composition and drying the nails by evap- 40
oration of the volatile solvent, substantially
as hereinbefore set forth.

In testimony whereof I affix my signature in
presence of two witnesses.

WILLIAM S. ROGERS.

Witnesses:

R. B. HOFFMAN,

GEO. H. MATCHETT.