

UNITED STATES PATENT OFFICE.

EDMUND S. HANNA, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN PACKINGS FOR JOURNAL-BOXES.

Specification forming part of Letters Patent No. 124,133, dated February 27, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, EDMUND S. HANNA, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Paper-Boxes and Bearings for Machinery; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to the use of paper-pulp or paper which has been treated, as described in Letters Patent No. 113,454 and No. 114,880, to a bath of the mother-water or liquor of chloride of zinc, or of the concentrated solution of the chloride of zinc, in the place of brass, Babbitt's metal, and other metals or metallic mixtures now in use for journal-packing for boxes and bearings for shafts, axles, &c.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same.

Boxes and bearings for machinery have been made heretofore with various metals and metallic compounds. The object is to secure a smooth firm bearing-surface, which will not cut or wear away the journals, nor heat under their action, and one, also, which is easily renewa-

ble. Many of the substances used do not so combine these desired qualities as to be successfully and advantageously used for the purposes in view. Paper, treated as described, I have found by trial, possesses many, if not all these requisites, and affords an excellent and superior material for the manufacture of boxes and bearings for machinery, and for a lining for the boxes and bearings already made.

I take ordinary paper or paper-pulp, as described in said Letters Patent, and treat it with a bath of mother-water of chloride of zinc, or of the chloride of tin, calcium, magnesium, or aluminum, or with a bath of the concentrated solution of chloride of zinc. The paper, after being so treated, may be made into boxes of any shape, or used as a lining for packing for boxes and bearings.

What I claim is—

As a packing for journals, axles, &c., paper or paper-pulp which has been previously treated with the liquor or concentrated solution of chloride of zinc, &c., substantially as described.

In testimony whereof I, the said EDMUND S. HANNA, have hereunto set my hand.

Witnesses: EDMUND S. HANNA.

A. S. NICHOLSON,
JAMES J. KAY.

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