

# UNITED STATES PATENT OFFICE.

GEORGE B. FOX, OF LOCKLAND, OHIO.

## MANUFACTURE OF PAPER.

SPECIFICATION forming part of Letters Patent No. 229,690, dated July 6, 1880.

Application filed May 14, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE B. FOX, of Lockland, in the county of Hamilton and State of Ohio, have invented a new and useful Improvement in the Manufacture of Paper, of which the following is a specification.

My invention consists in a species of paper or paper-board formed from horse, hog, or other non-fleecy hair as a stock, either alone or intermixed with cotton string, straw-waste, or other common paper-stock, and adapted for roofing material, packing-paper, carpet-lining, and analogous uses.

In practicing my invention I cause the hair to undergo the same process as in the manufacture of paper from other stock, treating it as paper-stuff is usually treated, except that it is not submitted to the alkaline bath nor pulped so fine, entering it at the beater and passing it out in a finished condition between the drying or pressing rolls. Usually I mix it with cotton string, straw, or other waste, prior to the pulping operation; but hair alone may be the sole ingredient. Different kinds of hair may be used intermingled, or hair of one species may be used by itself. Cattle hair is preferable to hog, but the two mix well.

The product is a paper, properly so called, but of its own peculiar nature. It is open and porous, capable of being readily saturated, and of light weight for its bulk or thickness. The greater the proportion of hair in the stock the

more porous is the paper; hence a very large proportion of hair is desirable when it is intended to be used for packing, carpet-lining, and like purposes, or when it is to be saturated with tar, asphalt, or other liquid, and when it is liable to be affected by the action of heat and cold, so as to cause expansion or contraction.

It is cheap, since the body is composed of material which has been and, owing to its abundance, will always remain cheap and practically valueless.

I am aware that woolen rags have heretofore been used in the manufacture of paper. Such rags, as well as wool in its raw state, are very expensive, and in nature very different from the animal hair which I propose to use, and I therefore lay no claim to paper having these for its body; but

I claim as my invention—

1. The new article of manufacture consisting of paper or paper-board formed from non-fleecy animal hair as a stock, as described.
2. The improvement in the art of manufacturing paper or paper-board consisting in the substitution or introduction of animal hair, as a stock, in place of the usual paper-stock, as described.

GEO. B. FOX.

Witnesses:

DANL. KELLY,  
JOSEPH G. PARKINSON.