

UNITED STATES PATENT OFFICE.

J. B. PALSER AND G. HOWLAND, OF FORT EDWARD, NEW YORK.

IMPROVEMENT IN PREPARATION OF STRAW FOR PAPER-PULP.

Specification forming part of Letters Patent No. **27,564**, dated March 20, 1880.

To all whom it may concern:

Be it known that we, J. B. PALSER and G. HOWLAND, of Fort Edward, in the county of Washington and State of New York, have invented an improved and useful article of manufacture which we denominate "Staple Fiber"; and to enable others skilled in the art to make and use the same we do hereby declare that the following is a full, clear, and exact description of our improvement.

Our staple fiber is made from common rye or wheat straw or other stalks in the following manner: The straw or other fibrous substance from which the article is to be produced is first cut into short lengths through the agency of any suitable cutting mechanism, then winnowed to remove impurities, then crushed and abraded by being passed between iron rollers. Thus prepared, the straw or other material is placed within a steam-boiler or other suitable receiver containing a solution of caustic alkali of a strength indicating about 3.50° to 3.75° Baumé, sixty gallons of the solution being mixed with every one hundred pounds of the straw. The boiler or receiver is then closed and heat is applied in any suitable mode until the steam-gage indicates a pressure within the boiler of from about one hundred and ten to about one hundred and thirty pounds, or so as to melt down or loosen from the fiber of the straw the albuminous, glutinous, fatty, starchy, saccharine, and earthy matters that are incorporated with the fiber, leaving the said fiber separated and uninjured. The pressure before named is continued for about four hours, when the boiler is opened and the contents dis-

charged. The fiber is now washed in water, heated or cold, and then dried by exposure to solar rays and the atmosphere, or by hot air, or by means of any suitable rotary or other drying apparatus. After drying the fiber is packed in bales, and is then ready for shipment to market.

Our staple fiber thus produced is susceptible of use for many different purposes, among which we would mention the manufacture of paper. For this purpose it is only necessary to wet the staple fiber with water and then subject it to the usual bleaching and other processes employed in paper-making, no admixture of other fibrous stuffs—such as cotton or linen—being necessary. The paper produced from our staple fiber is strong and of excellent quality and may be employed for writing or printing, as desired.

Our staple fiber is also useful for the manufacture of that class of articles known as papier-maché, ornamental cornices, picture-frames, moldings, tables, panels, globes, steam-packing, book-covers, tool-handles, furniture, and many other useful objects.

Having thus described our invention, we claim and desire to secure by Letters Patent as an improved article of manufacture—

The staple fiber made substantially as herein set forth.

J. B. PALSER.
G. HOWLAND.

Witnesses:

JAMES L. REYNOLDS,
LUCY W. REYNOLDS.