

United States Patent Office.

WILLIAM C. SELDEN, OF BROOKLYN, NEW YORK.

Letters Patent No. 75,301, dated March 10, 1868.

IMPROVED STEAM AND WATER-PACKING.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, WILLIAM C. SELDEN, of Brooklyn, Kings county, State of New York, have invented a new and improved Steam and Water-Packing; and that I do hereby declare that the following is a full, clear, and exact description of the composition and mode of manufacturing the same, which will enable others skilled in the art to make use of it.

The invention consists in forming packing by combining paper in any of its various forms with cloth, rubber, and tallow, or with one or more of said substances. The cloth and paper are combined in the following manner:

Sheets of moist paper, card, or pasteboard, and pieces of loosely-woven cloth, of equal size, are alternately placed upon each other and submitted to pressure, so that the paper is forced from both directions through the meshes of the cloth and completely encases the threads. The compound sheet is thus united in one mass, and the cloth prevents the paper from disintegrating on account of the shortness of its fibre. Cotton cloth is preferred, though any other kind of cloth may be used. Hemp, manilla, cotton, or other fibre may replace the cloth, care being taken to distribute it evenly.

The paper may be prepared in the manner described in the patent of myself and John T. Davis, dated the twenty-seventh day of July, A. D. 1867.

Cement may be used to unite the paper and cloth when pressed together, but has not yet been found necessary. Sheets of paper and pieces of cloth may be laid together and wound into a roll, forming circular packing, and the pressure may be applied when in that shape. In some instances I find it is sufficient to roll the packing tightly, and omit further pressure. Packing of square or rectangular section may be cut off the side of thick sheets of paper and cloth. The round packing may be also pressed into a rectangular shape. The round and rectangular varieties are used for packing stuffing-boxes of steam-engines, pumps, &c., and the sheets for joints, where India rubber is commonly employed.

I combine India rubber or other elastic substance with paper packing to give it greater elasticity. The ordinary rubber cloth or common sheet rubber may be laid between sheets of paper or pasteboard, and the mass submitted to pressure, or wound tightly in a roll, and packing made in the same manner and for the same uses as above specified.

I prefer, however, in making packing for stuffing-boxes, to wind the paper, or cloth and paper, about a core of rubber or other elastic substance. The core may be round, square, or any other shaped section desired. I have found that the ordinary rattan makes an excellent elastic core for packing, and need only be soaked in hot water and bent to the desired shape to fit the stuffing-boxes. Many kinds of porous elastic wood, like cork or palmetto, may also form substitutes for the rubber.

I find it of advantage to soak in melted tallow all packing of which paper is an ingredient. The packing may be either dry or moist with water when it is put in the tallow; in the latter case the water evaporates and is replaced by the melted tallow, which completely saturates the material. When the packing is made with a rubber core, I discontinue the soaking in tallow before the grease reaches the rubber sufficiently to dissolve or injure it, (except at the ends, which are cut off.) When the packing is saturated with tallow the steam does not enter the pores and cause disintegration, and the moving surface packed is well lubricated.

I claim as new, and desire to secure by Letters Patent—

1. A packing for steam-engines, pumps, &c., made substantially as described, by combining cloth or fibrous material with paper, or with compounds in which paper is an element.
2. Combining vulcanized India rubber, or other equivalent elastic substance, with paper packing in any of its various forms, or with compounds for packing purposes in which paper is an element, in the manner substantially as described, to secure the results specified.
3. Saturating paper packing with tallow, to accomplish the purposes specified.

Witnesses:

F. C. GOODWIN, U. S. N.,
CHARLTON B. KID.

WILLIAM C. SELDEN.