W. F. WILLIAMS.

Improvement in Piston-Packing.

No. 131,645. Patented Sep. 24, 1872.

Fig. 1.

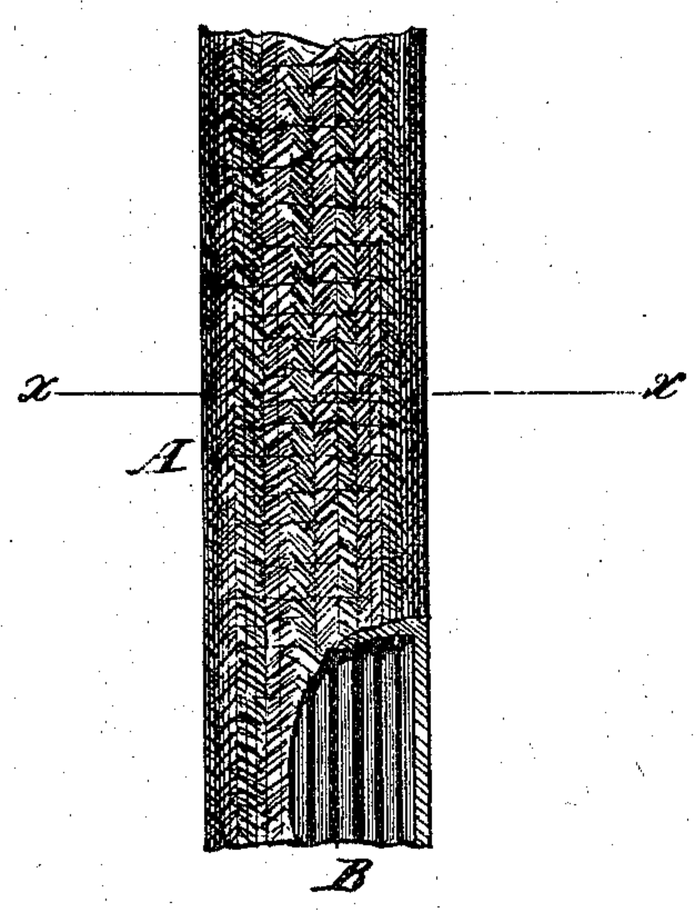
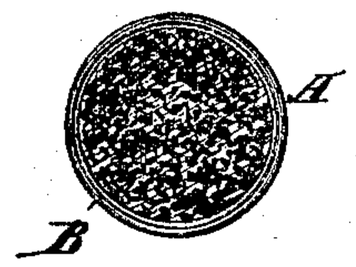


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM F. WILLIAMS, OF SCHENLEY, PENNSYLVANIA.

IMPROVEMENT IN PISTON-PACKINGS.

Specification forming part of Letters Patent No. **131,645**, dated September 24, 1872.

To all whom it may concern:

Be it known that I, WILLIAM F. WILLIAMS, of Schenley, in the county of Armstrong and State of Pennsylvania, have invented a new and useful Improvement in Composition Steam-Packing, of which the following is a specification:

The object of this invention is to provide means for making joints steam-tight, and to form a substance for making gaskets and for packing pistons and piston-rods, which shall be pliable and self-lubricating when applied to frictional surfaces; and it consists in combination of wood or woody fiber, asbestus, and lubricating material, in a surrounding flexible case, as I will proceed to describe.

In the accompanying drawing, Figure 1 is a piece of my improved packing partly in section. Fig. 2 is a cross-section of Fig. 1 on the line *x x*.

Similar letters of reference indicate corresponding parts.

This packing is composed of long delicate wood-shavings or woody fiber and the long fibers of asbestus, placed longitudinally in the casing A. B represents the combined fibers of wood and asbestus, which are saturated with oil and tallow, or with other lubricating material. I do not confine myself to any particular proportions of wood or wood-fiber and asbestus. The casing A may be made of textile, fibrous, or any other flexible material, so that it securely confines the composition. The surrounding case A may be of any shape, either round or flat, and of any desired size.

This packing is more particularly designed for piston-rods where it is used under screw-glands. It may also be applied to pistons, and when gaskets are formed of it the joints of steam-pipe may be made tight with it, as well as man-hole plates of boilers. The mineral fiber protects the vegetable fiber from the effects of the heat, and the lubricating material renders the mass pliable, and it is readily made to assume any desired shape, so that it is readily applied to the desired purpose.

I am aware that asbestus has been heretofore used with flax, cotton, wool, pulverized soap-stone, linen, hemp, and wire-braid, but I have found by practical experience that any other substances which are used to give the required elasticity will carbonize, or, if pulverized, will work out as soon as the covering is worn through by the piston. My oil-saturated shavings, mixed with asbestus, will not carbonize, and will not escape, but will give great elasticity to the packing, entirely prevent "piston-cutting," and will last in a locomotive stuffing-box, without renewal, for the space of two or three months. Hence it is very effective, very durable, and withal exceedingly cheap.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A composition for steam-packing, consisting of long strips of wood and asbestus saturated in oil and placed in a flexible case, as described.

WILLIAM F. WILLIAMS.

Witnesses:
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