

# UNITED STATES PATENT OFFICE.

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## ASBESTUS SHEET FOR ROOFING, &c.

SPECIFICATION forming part of Letters Patent No. 230,946, dated August 10, 1880.

Application filed April 19, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY W. JOHNS, of the city of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Asbestos Sheet for Roofing, &c., and Combined Asbestos Sheet, of which the following is such full, clear, and exact description as will enable others skilled in the art to which it most nearly appertains to make and use the same.

My invention consists of a sheet of fibrous asbestos, having on the surfaces of the sheet a glutinous or cementing material, so as to hold between the thus cemented and fastened outside portions of the sheet a loose porous interior, and the combination of this sheet, having one or both sides thus cemented, with hair felt or other sheet.

On a sheet or apron is deposited to any desired thickness fibrous or flocked asbestos alone, or mixed with wool, cotton, or similar material. I prefer to use the asbestos by itself alone. This is wetted or coated with a glutinous liquid sizing, silicate of soda, lime-water, or other material which will make the fibers adhere to one another. The sheet may be now turned over and the other side treated in the same manner—*i. e.*, wetted with glutinous matter—when it will be found that the outsides or surfaces of the sheet are firmly united together, and that they contain within a porous or loose center.

The glutinous matter may be applied to both

sides of the sheet at once by rollers or otherwise.

The sheet thus made, when sufficiently dry, is passed between pressure-rollers, which will firmly fasten the outer portions of the sheet.

Another portion of my invention consists in attaching the above-described sheet to another sheet, such as hair felt, canvas, or paper, by means of adhesive or glutinous matter, forming an asbestos-lined sheet or felt, fire-proof, or nearly so.

The exposed surface of asbestos in the combined sheet may be sized, as described above, or left in a loose or flocky state, as desired. These sheets may be used with great advantage in all places where insulating of any kind is desired, is cheap of manufacture, readily applied, and does not deteriorate by exposure to heat.

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

1. As a new article of manufacture, a flexible sheet, wadding, or batting composed of fibrous asbestos, the outside or surface portions of which are united by a glutinous substance, substantially as specified and set forth.

2. As a new article of manufacture, a sheet of fibrous asbestos attached to hair felt or other sheet, substantially as described.

HENRY W. JOHNS.

Witnesses:

JOHN W. SHUTE,  
WM. N. TOSHACHT.