J. F. ELLSWORTH.

PAPER SHEATHING SIDING, &c.

No. 181,778. Patented Sept. 5, 1876.

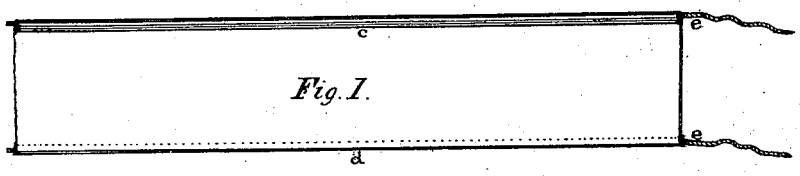

Fig. 1.

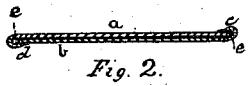

Fig. 2.

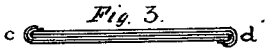

Fig. 3.

Fig. 4.

Witnesses.

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IMPROVEMENT IN PAPER SHEATHING, SIDING, &c.

Specification forming part of Letters Patent No. **181,778**, dated September 5, 1876; application filed February 23, 1876.

To all whom it may concern:

Be it known that I, JOHN F. ELLSWORTH, of Philmont, town of Claverack, county of Columbia, and State of New York, have invented a new and Improved Manufacture of Paper Sheathing, Siding, Roofing, and Lining, of which the following is a specification:

The object of my invention is to protect, strengthen, and preserve the edges of rolls and sheets of paper employed for sheathing, siding, and roofing buildings, or for linings of any kind, by folding, binding, or doubling, and cementing the edges thereof, either without or with a cord, tape, or wire, combined with or inclosed in such folded or bound edges.

The paper usually employed for these purposes, as it comes from the rolls, is inclined to keep coiled up, and not to readily straighten out, so as to be nailed on or attached to the building or other surface or place where used smooth and straight, without considerable strain and force being applied, and in attempting to thus draw out and straighten it, the edges, being raw and unprotected, and of no greater thickness than the body of the sheet or coil, are very liable to be rent and torn. And where two or more sheets or layers of paper are united in the usual manner, and cemented together with such adhesive material as is commonly used, it exudes at the edges, and makes the handling and working with it very disagreeable, and sometimes difficult. Again, the edges of the sheet or coil being no thicker than the body, they frequently tear and break out at the nailings or other attachments.

The above are some of the faults or defects in the present mode of manufacturing paper for these purposes, which my invention is designed to remedy.

The trifling addition to the weight is more than overbalanced by the increased durability and strength, while the saving of time and labor in putting it on, and the comfort and convenience in handling, are additional advantages to be credited to the new manufacture.

When it is made of two thicknesses, as represented in Figures 1 and 2 of the accompanying drawings, the sheets or layers *a b* are of the same widths, and are so united that the margin of each shall project or overlap its companion sufficiently to be folded or doubled, each over the edge or margin of the other. These foldings *c d* will be on opposite sides, and each will cover and inclose the edge of the other, and thus make both the edges or margins one thickness more than the body of the sheet, greatly strengthening and protecting them.

Any even number of sheets or layers may be thus united and folded, limited, however, by their becoming so thick as to be liable to crack and break at the edges. (See Fig. 3.) And by having one, two, or more of the sheets or layers on the outer sides of the mass enough wider than the rest, or if of the same width, by laying them so as to project or lap over the middle ones sufficiently to cover and inclose their edges, the same object is attained, with less of a ridge or elevation on the edges.

For an illustration of this last plan of covering the edges see Fig. 4 of the accompanying drawings.

A cord, tape, or wire, *e e*, Figs. 1 and 2, may be combined with or folded in these edges for increasing their strength and durability.

The nailings in the margins of paper thus prepared will not break or tear out, and the sheet or coil can be drawn out and straightened perfectly without any risk of rending the edges. And when two or more sheets or layers of paper are united by means of coal-tar or other disagreeable cohesive substance, which, as now made and used for these purposes, oozes out and exudes from the unprotected edges, in my improved mode of manufacturing no such result occurs, as the folding of one or more thickness of paper over these edges effectually prevents it.

In putting my sheathing on buildings, the edges may be simply joined together or lapped. When made water-proof, and with the cord or wire in the folded edges, it may be employed to advantage as a substitute for wood siding, roofing, and other outside work on buildings. For this purpose it would, of course, be made narrower than it is for sheathing, lining, and other inside uses.

I claim as my invention and desire to secure by Letters Patent—

1. Paper sheathing, siding, &c., composed of two or more sheets cemented together by coal-tar or like material, the raw edges of the sheets being protected by hems or laps folded around them, substantially as specified.

2. Paper sheathing, siding, &c., composed of two or more sheets cemented together by coal-tar or like material, the raw edges of the sheets being protected by hem or laps, which contain cords or tapes, or wire, substantially as specified.

JOHN F. ELLSWORTH.

Witnesses:

SHERMAN VAN NESS,

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