

(No Model.)

2 Sheets—Sheet 1.

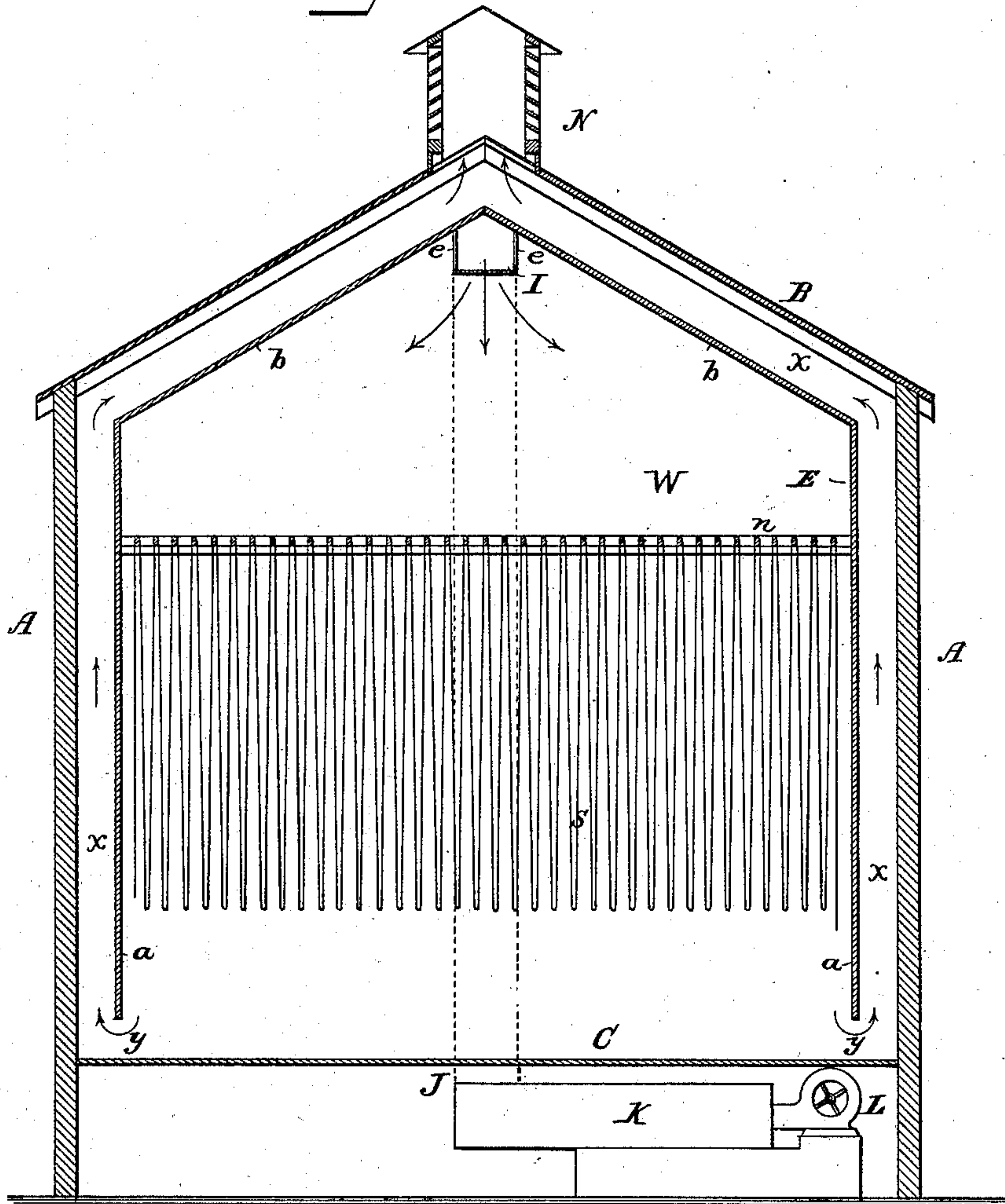
T. SIMPSON.

PROCESS OF AND APPARATUS FOR AGING FABRICS.

No. 255,543.

Patented Mar. 28, 1882.

Fig. 1.



Attest:

Courtney A. Cooper.
William Paxton

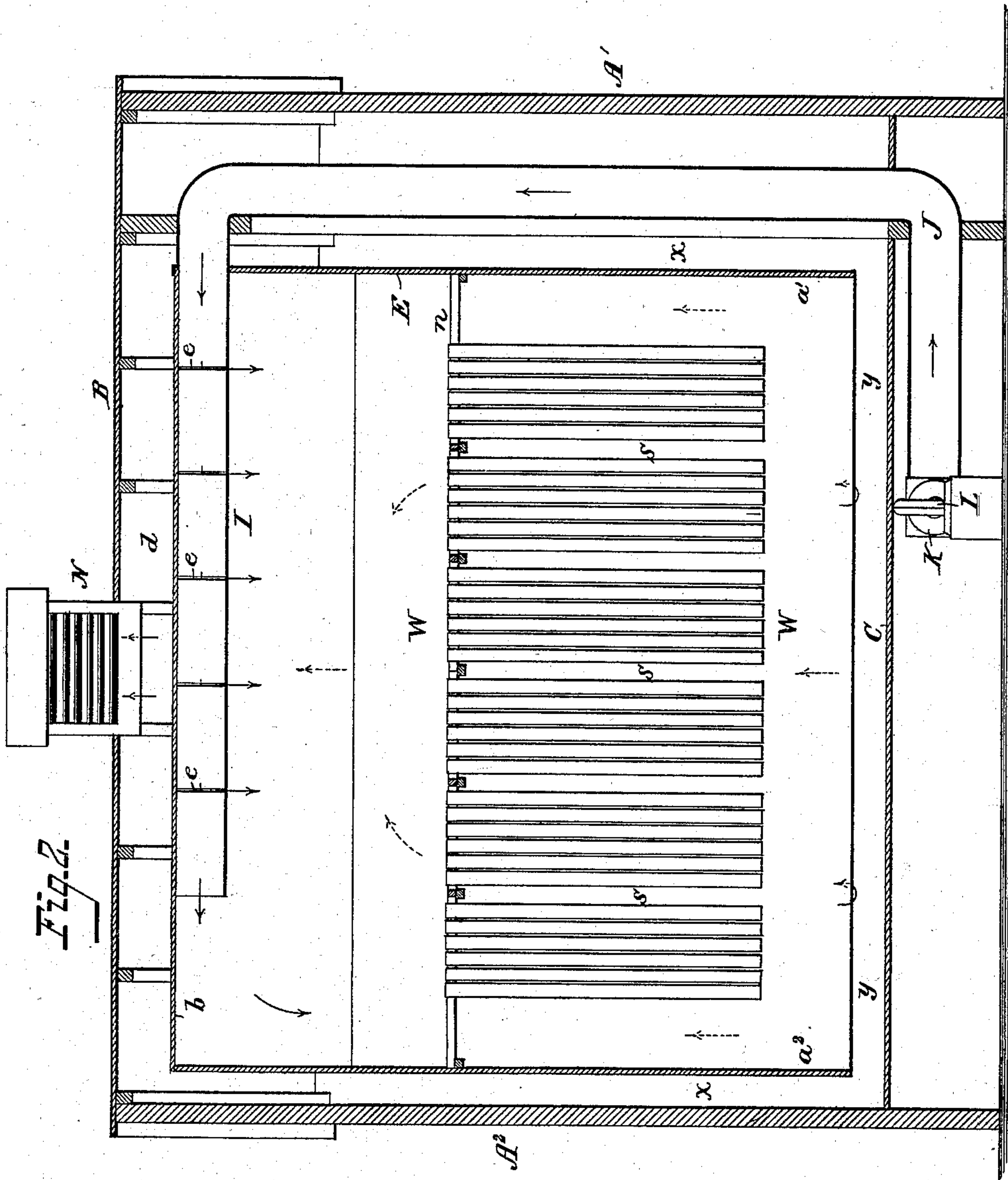
Thomas Simpson
By his attorney
Charles E. Foster

T. SIMPSON.

PROCESS OF AND APPARATUS FOR AGING FABRICS.

No. 255,543

Patented Mar. 28, 1882.



Attest.
Courtney A. Cooper
William Barton

Thomas Simpson
By his attorney
Charles E. Foster

UNITED STATES PATENT OFFICE.

THOMAS SIMPSON, OF PHILADELPHIA, PENNSYLVANIA.

PROCESS OF AND APPARATUS FOR AGING FABRICS.

SPECIFICATION forming part of Letters Patent No. 255,543, dated March 28, 1882.

Application filed January 17, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS SIMPSON, a citizen of the United States, and resident of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Aging Colored Fabrics, of which the following is a specification.

My improvement relates to the aging of fabrics—that is, to submitting the same after dyeing to the action of moist air, whereby the mordant is developed; and my invention has for its objects to improve, facilitate, and quicken the aging operation, render the same uniform and capable of being carried on with the same facility in all weathers, and overcome certain objections to the ordinary modes of operation, all of which objects I effect by the means hereinafter described and the apparatus illustrated in the accompanying drawings, in which—

Figure 1 is a transverse sectional elevation of the apparatus, and Fig. 2 a longitudinal section.

A A A' A² represent the outer walls, B the roof, and C the floor, of a building of any suitable shape and dimensions.

Within the building, and generally corresponding in shape therewith, is a lining, E, having side and end walls, *a a' a²*, and roof *b*, but so much smaller than the main building as to leave a space, *x*, between the two; and the walls *a a'* are shorter than the walls A A', or are perforated near the bottom to form openings *y* above the floor C, as shown.

Along the ridge, within the inner lining, extends a pipe, I, with perforations *e* at different points, and communicating with a pipe, J, extending to a heater, K, through which the air is propelled by a fan or other blower, L, and thereby heated and driven through the pipes J I and out through the openings *e* into the chamber W, inclosed by the lining E. A jet of steam is injected into the air before it passes to the pipe J, so that it will be delivered to the chamber W in a moist, warm condition. The pieces S of fabric to be aged are hung upon horizontal slats *n*, suitably supported near the top of the inner chamber, W, and are thus subjected to the volume of warm, moist air which descends from the pipe I to the floor, and passes thence through the openings *y* and space

x between the outer and inner walls to the roof, and then to the outer air through a suitable ventilator, N.

Aging-houses as heretofore constructed have been provided with single walls, the air being introduced at the bottom, flowing up over the fabric to the top, and then out at the ventilator. This mode of construction and operation is attended with various disadvantages. All the heavy gases that naturally settle at the bottom of the chamber are carried up and over the fabric. The walls become readily chilled and condense the vapor, the precipitation of the moisture upon the fabric detracting from the beauty and sharpness of the patterns, rendering it necessary to use drier air than it would otherwise be desirable to employ and prolonging the time required to age the fabrics. The operations were further under the influence of the external atmosphere, so that they could not be carried on uniformly, but required to be varied from time to time. By the means above described these difficulties are avoided.

The passing of the air from the top to the bottom of the fabrics facilitates the precipitation of heavy deleterious gases and avoids the injury resulting from carrying them over the fabric. The conducting of the spent air and gases upward between the outer and the lining walls forms a non-conducting lining or envelope, preventing the abstraction of heat, so that the chamber W can be maintained at the desired high and uniform temperature, notwithstanding the chilling of the outer walls and variations of the external temperature. The hygrometric condition of the air within the chamber W may thus be maintained very nearly at the dew-point without danger of precipitating moisture by the sudden chilling of the outer walls.

Owing to the uniformity with which the operations may thus be conducted and to capacity to use air in a very moist condition, I am enabled to conduct the operations much more rapidly and to produce without loss or damage fabrics of a superior quality.

Without limiting myself to the precise construction and arrangement of parts and devices shown,

I claim—

1. The within-described improvement in aging fabrics, the same consisting in subjecting the fabrics properly prepared to the action of currents of moist heated air directed downward over the suspended fabrics, substantially as set forth.

2. In an apparatus for aging fabrics, the combination, with a case or house and with devices for suspending the fabrics therein, of an inlet-opening at the top, an outlet at the bottom, and appliances whereby currents of heated, moist air are passed into and out of the suspension-chamber from the top downward, substantially as specified.

3. The combination of the outer walls pro-

vided with openings at the top, the inner lining with openings at the bottom, an inlet air-pipe, and appliances for passing warm, moist air to said pipe, whereby currents of the warm, moist air are forced downward within the inner chamber and upward between the inner and outer walls, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOS. SIMPSON.

Witnesses:

GEORGE ASHBRIDGE,
W. T. ELLIOTT.