

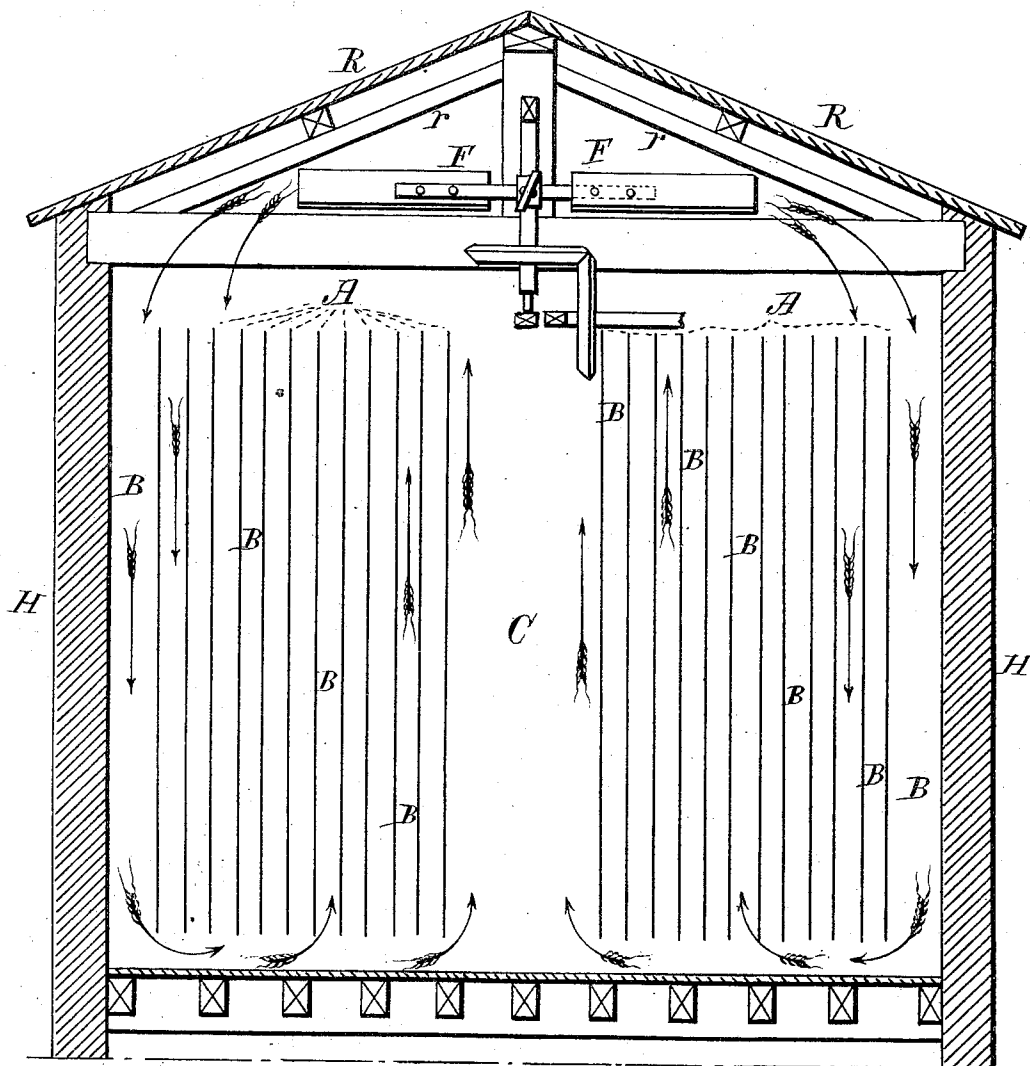
(No Model.)

O. LUMPP.

METHOD OF AND MEANS FOR DRYING MATERIALS OF EXTENSIVE
SUPERFICIAL AREA.

No. 280,490.

Patented July 3, 1883.



Witnesses
William S. Poulter
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UNITED STATES PATENT OFFICE.

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METHOD OF AND MEANS FOR DRYING MATERIALS OF EXTENSIVE SUPERFICIAL AREA.

SPECIFICATION forming part of Letters Patent No. 280,490, dated July 3, 1883.

Application filed March 17, 1883. (No model.) Patented in France October 20, 1882, No. 151,652.

To all whom it may concern:

Be it known that I, OSCAR LUMPP, a citizen of the French Republic, and resident of Lyons, in the French Republic, have invented certain new and useful Improvements in Methods and of Means for Drying Materials of Extensive Superficial Area, (for which I have obtained Letters Patent in France, No. 151,652, under date of October 20, 1882;) and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

The object of this invention is to establish continuous ascending and descending currents of air in such structures in which materials of extensive superficial area are to be dried—such as hides, cloth, or other textile or fibrous materials in large sheets or strips—where horizontal currents of air are not available, and even were such available, they would be difficult of establishing, and where vertical or ascending currents alone produce but slow and imperfect results. In the drying of materials such as described above, and more especially in the drying of hides, it is desirable that the operation should be effected as rapidly as possible. This cannot be done with hot air, such being injurious to hides, nor can it be done by horizontal or ascending air-currents. To effect this drying rapidly the entire surface of the material should be exposed to both ascending and descending currents.

The object of my invention is attained by means of a suitable ventilating or suction and blast fan in combination with deflecting-surfaces, said fan being arranged above the material to be dried and centrally thereof, drawing the air up and throwing the latter against deflecting-surfaces that will cause it to flow downward in currents divided by the suspended material, whereby the entire surface thereof is exposed to its drying influence.

In the accompanying drawings I have shown in vertical section a drying-house, H, for tanneries, having a gable roof, R, the inner faces, *r*, of which form deflecting-surfaces, against which the air drawn up by a fan, F, is pro-

jected, deflected thereby, and caused to flow from the roof to the floor below.

The hides A are suspended from rafters, (which I deemed unnecessary to show in the drawing,) at a short distance from one another, thus forming a series of narrow passages, B. Immediately below the fan, and on a line with the axis thereof and the apex of the angle formed by the deflecting-surfaces *r*, the distance between the adjacent hides is greater than that between the succeeding series of hides on opposite sides of this central passage, C, so as to produce a strong and voluminous upward current by the revolution of the fan. This current is projected by the fan F upon the inclined surfaces *r* of the roof, deflected downward thereby, as shown by the arrows, and, after reaching the series of hides, is divided thereby and passes downward through the passages B, formed between two rows of hides, to be drawn up again by the fan through the central passage, C. Of course more or less air will also be drawn up through some of the narrower passages, and in this manner I can effect the drying of hides in a comparatively short time and at a trifling expense. As shown, the fan rotates in suitable supports, and may be driven by toothed gearing or pulley and belt or any other suitable power-transmitting mechanism from any desired prime motor. Such fan may be of any usual or preferred construction, so long as it is arranged with regard to the deflecting-surfaces as described hereinabove.

Of course it will be readily understood that the same results may be obtained with any other material than hides, provided such material is composed of long strips or sheets capable of being suspended vertically to form the air-passages, and for some materials hot instead of cold air may be used, the hot air being injected into the lower part of the structure and caused to circulate as described.

Having thus described my invention, what I claim is—

1. The herein-described method of drying materials of extensive superficial area, which consists in suspending the same vertically in a chamber, to form narrow air-passages between them on opposite sides of a wide central passage formed by said suspended material,

drawing air upward through the wide central passage, projecting the air drawn up against deflecting-surfaces to deflect the said air downwardly toward the opposite sides of the wide
5 central passage, substantially as described, for the purposes specified.

2. In an apparatus for drying materials of extensive superficial area, a drying chamber or house having its roof formed by deflecting-
10 surfaces inclined downwardly in opposite directions, a ventilating-fan located centrally of and in proximity to said deflecting-surfaces, the material to be dried being suspended be-

low said fan in rows on opposite sides of a vertical line passing through the apex of the
15 angle formed by the deflecting-surfaces, to form air-passages between such rows of material, as described.

In testimony that I claim the foregoing I have hereunto set my hand this 15th day of 20 February, 1883.

OSCAR LUMPP.

Witnesses:

J. P. A. MARTIN,
BENJAMIN F. PEIXOTTO.