

(No Model.)

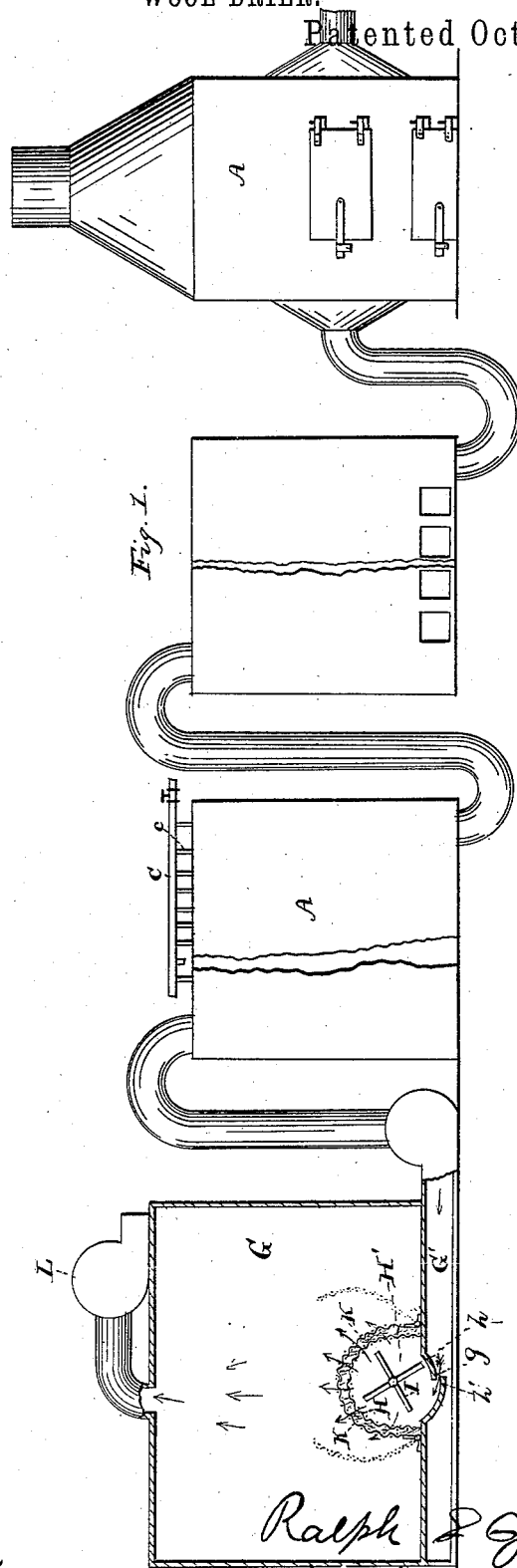
3 Sheets—Sheet 1.

R. S. JENNINGS.

WOOL DRIER.

No. 307,116.

Patented Oct. 28, 1884.



WITNESSES  
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(No Model.)

3 Sheets—Sheet 2.

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Fig. 2.

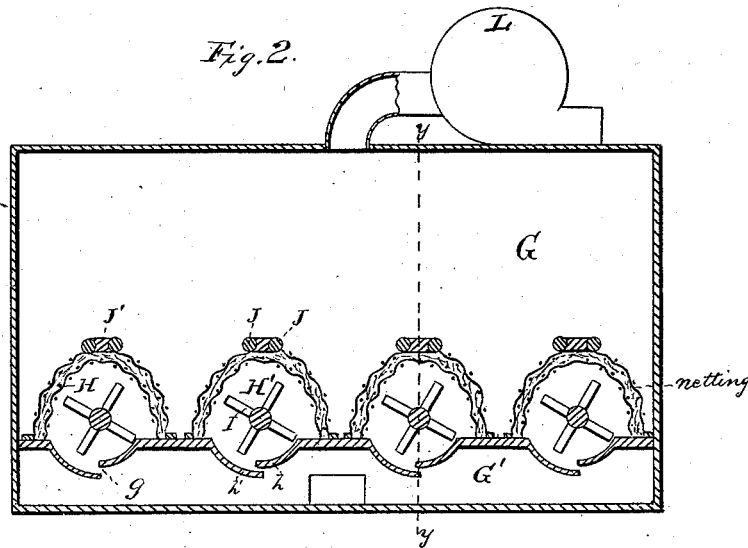


Fig. 3.

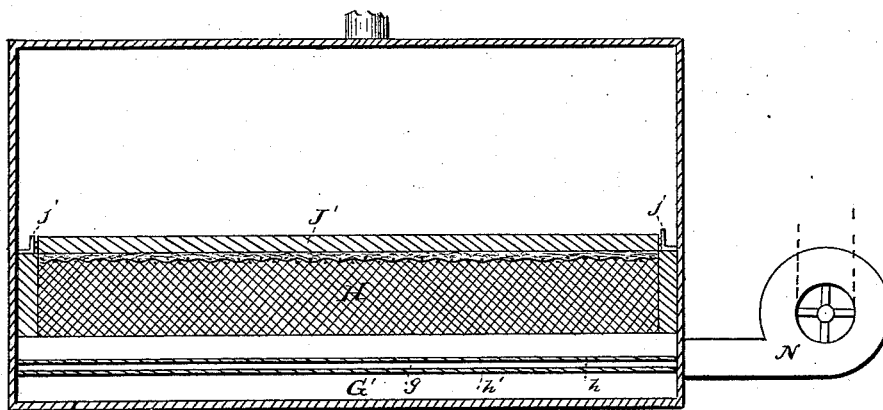
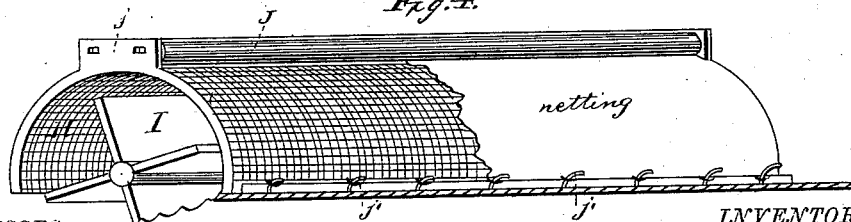


Fig. 4.



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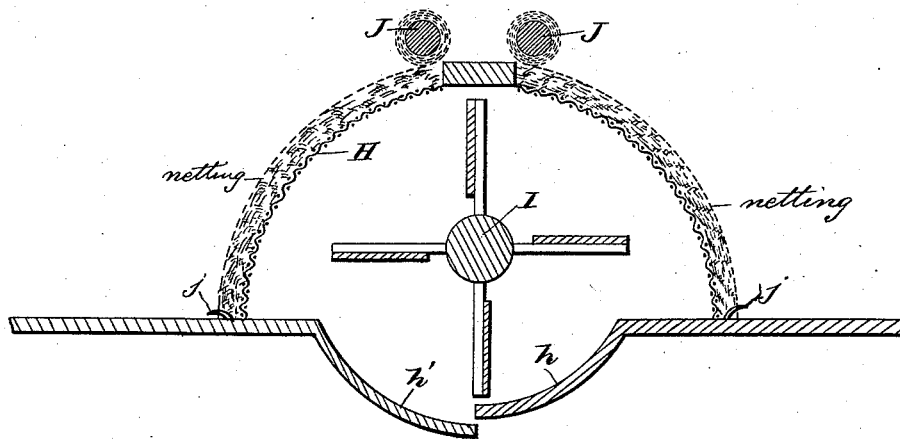
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*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

RALPH S. JENNINGS, OF BOSTON, MASSACHUSETTS.

## WOOL-DRIER.

SPECIFICATION forming part of Letters Patent No. 307,116, dated October 28, 1884.

Application filed June 20, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, RALPH S. JENNINGS, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Wool-Driers, of which the following is a specification, reference being had therein to the accompanying drawings.

Figure 1 is a side elevation of a series of devices adapted to carry out my invention. Fig. 2 illustrates a drying-room provided with a modified form of holders. Fig. 3 is a section on the line *y y*. Fig. 4 is a perspective of one of the holders detached. Fig. 5 is a transverse section of that shown in Fig. 4.

In the drawings I have represented a series of devices which I prefer to use for treating the air, though some parts of the invention can be carried out without employing all of these. Said air-treating devices consist of a furnace, A, for heating the air, and means for cooling it. As the furnace or heater is fully shown and described in other applications of mine, it need not here be described in detail. In said other applications I have shown and described advantageous forms of coolers or condensers, and therefore they, also, need not be set forth here in detail.

The room in which the wool or other material to be treated is placed is represented by G. It may be of any suitable shape and size. Upon the bottom there are one or more screens or holders, H H. These are preferably made of woven wire, and are arranged in semi-cylindrical form, though the form may be somewhat varied without departing from the invention. Below the holder or holders there is formed a chamber, G', into which the air is initially received, and from which it is drawn by being forced through the screens or holders H H. Communication between the chamber G' and the chamber H' is effected through a narrow slot or throat, *g*, which is formed by means of a curved arch or partition, *h*, and an overlapping arch or partition, *h'*, the edge of the latter being a little lower than that of the former, so as to pass a little beyond its edge. I represents a distributing-fan mounted on a horizontal axis and extending from end to end of the screen or holder H, there being one such fan for each screen.

In order to hold the wool or other material properly in position, I combine with the screen or holder H retaining devices adapted to be placed upon the side or face of the mass of wool opposite to that on which lies the screen or holder.

Referring to Fig. 1, K K represent sections of screens or gauze hinged to the floor of the drying-room at a short distance from the lower edges of the screen or holder H. After the wool has been placed upon the said screen or holder H, the parts K K are turned down to hold it in place. L is an exhaust-fan communicating with the interior of the chamber G, and when in operation exhausts the air from the upper sides of the screen.

When the machine is in use, the distributing-fan I is rotated very rapidly, and it operates to force the air radially through the screen or holder H at all points uniformly, it further acting to suck air in through the slot or throat *g*. As there is great pressure exerted upon the wats or layers of wool while on the screen, they will be blown off or displaced if not held properly in position, which holding is effected by means of the retainers K K.

In Figs. 6, 7, and 8 there are shown modifications of the devices last above described. In said figures, J J represent rollers above the screen or holder H, being supported in the construction shown by brackets *j* at the end of a beam, J'. Upon the rollers J are wound sheets of netting or loose open-meshed fabric adapted to be unwound from the rollers, the fabric carrying eyes or other means for fastening the fabric to tenter-hooks *j'*.

If desired, a blast-fan or forcing-fan may be combined with the apparatus, as shown at N. Under many circumstances, however, it will be found that a copious suction through the air-treating apparatus and from the lower chamber will be effected by means of the distributing-fans I, so that a fan of the nature of that shown at N may be dispensed with.

Although I have described this mechanism as being specially adapted to the drying of wool, yet it will be readily understood that other materials which can be held in place and disposed relatively to the various parts of the apparatus in the same manner as that described can be successfully treated by said

apparatus. Therefore I do not wish to be limited to this material, which I have selected in order to clearly set forth and illustrate the apparatus and invention.

5 I do not in this case claim any of the combinations, processes, or inventions specifically claimed in my other pending applications, respectively numbered 65,006, 86,026, 73,148, 87,468, 87,469, 86,319, 97,403, 106,070, 103,414,  
10 121,265, 121,424, 121,561, and 124,602, preferring to claim herein only the matters set forth in the following claims, and reserving to myself the right to claim in said other applications the matters therein shown and described and not herein claimed.

15 What I claim is—

1. In a machine for drying wool and similar materials, a screen or holder of the form of an arch, a distributing-fan on the concave  
20 side of said holder, an inclosed chamber on the convex side, and means for exhausting the air from said chamber, substantially as set forth.

2. In a machine for drying wool and other  
25 materials, the combination of a screen or holder, a suction-fan which forms a positive vacuum upon one side of said screen or holder by exhausting the air therefrom, a second fan which forces air through the wool on said  
30 holder, and a retaining device which prevents the vacuum-forming or exhaust fan from dis-

placing the wool on the holder, substantially as set forth.

3. In a wool-drier, the combination of a chamber having one side constructed of a sup- 35 port adapted to hold a layer of wool, which, when in place, forms an arched wall across the path of the air, a suction-fan which acts positively to form a vacuum in said chamber, whereby the passage of the air through the  
40 wool or other material is facilitated, and a distributing-fan in proximity to said holder, and arranged, substantially as set forth, to drive the air-uniformly against the parts thereof, as described.

4. In a machine for drying wool and similar material, a series of screens or holders, an in- 45 closed chamber on one side of said holders, into which the air that passes through them is received, an exhaust-fan which withdraws  
50 the air from said chambers, an inclosed air-supply chamber on the other sides of said holders, and a series of distributing fans respectively arranged in proximity to said holders, and which draw air from said air-supply  
55 chamber, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

RALPH S. JENNINGS.

Witnesses:

WILLIAM F. COLLINS,  
HENRY H. PAGE.