

(No Model.)

F. G. & A. C. SARGENT.

WOOL DRIER.

No. 327,198.

Patented Sept. 29, 1885.

Fig. 3

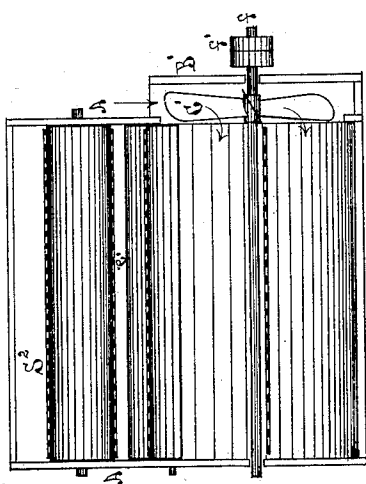


Fig. 2

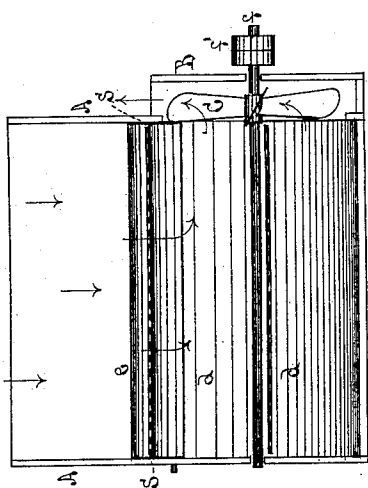
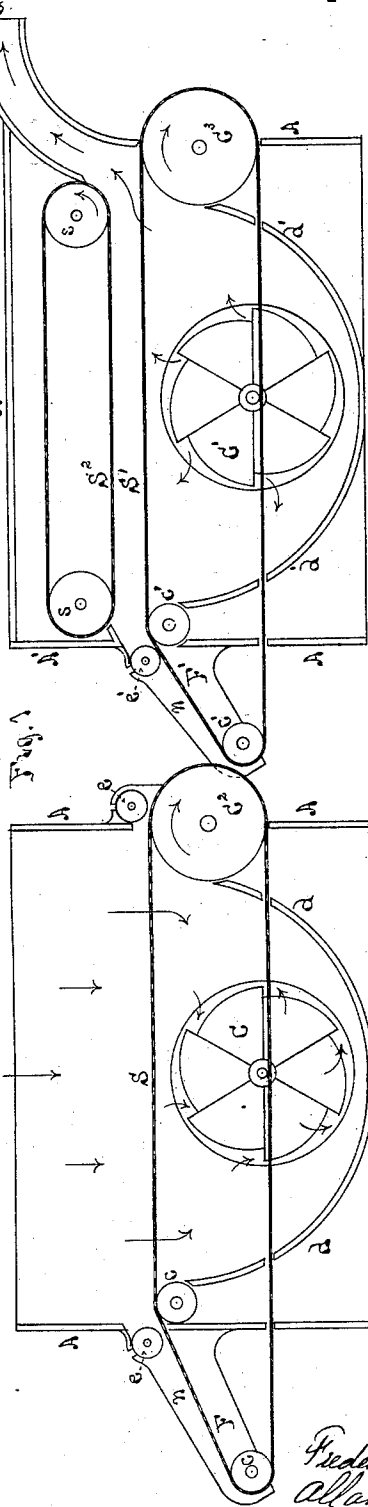


Fig. 1



Witnesses
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their atty.

UNITED STATES PATENT OFFICE.

FREDERICK G. SARGENT AND ALLAN C. SARGENT, OF GRANITEVILLE, MASS.

WOOL-DRIER.

SPECIFICATION forming part of Letters Patent No. 327,198, dated September 29, 1885.

Application filed November 25, 1882. (No model.)

To all whom it may concern:

Be it known that we, FREDERICK G. SARGENT and ALLAN C. SARGENT, of Graniteville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Wool and Fiber Driers, of which the following is a specification.

Our invention relates to that class of fiber-drying machines in which the drying is accomplished by currents of air blowing alternately in opposite directions through the screen on which the wool is carried through the machine, and it is an improved mechanism for carrying out the process of drying fiber patented to us July 22, 1884, No. 302,287; and it consists in making the sections of such a machine independent of each other by partitions, &c., and in providing each section with its independent air-blast and screen-carriers, substantially as hereinafter described, thus deriving greater benefit from each ascending or descending current of air as it passes through the fiber from its flowing constantly in the same direction, and being affected by no cross or counter air-currents.

In the drawings, Figure 1 represents two sections of a machine provided with our improvements, they being represented in longitudinal vertical section. Fig. 2 is a vertical cross-section of the first section of the machine. Fig. 3 is a vertical cross-section of the second section.

A is the casing of the machine.

B B' are boxes on one side of the casing, containing fans C C', which create the air-blasts.

C is a suction-fan drawing the air downward through the screen S. C' is a blast-fan forcing it upward through the screens S' S'.

A feed-apron, F, carries the fiber into the first section of the machine. This feed-apron is formed by an extension of the screen S outside of the casing A and around the rollers c c. At the other end of the section it is carried around the roller C'. From the latter to one of the rollers c a curved tight bottom, d, of the machine extends underneath the fan-opening, and prevents the air from reaching the latter except through the screen S. Transverse slots through this bottom, as long as the breadth of the screen, allow it to pass from roller C' to the lower roller c. This section of the machine is open at the top. Rollers e e

close the air-openings above the screen S at each end and allow the wool to pass beneath them. The fan is driven in the ordinary manner, as well as the roll C', which carries the screen S, and the latter carries the wool through the machine continuously.

The screen S' in the other section of the machine is constructed and driven like screen S. It passes around similar rolls, C' c' c', and has a stop-roll, e'. This section has a tight bottom, d', similar to d. The part F' of the screen receives the wool from the first section and carries it into this one.

A spout, G, delivers the wool out of the machine, and the wool is carried through it by the draft of air escaping after passing through the wool. The top of this section is covered tightly to prevent any escape of the air except through the spout G. In the drawings the arrows indicate the direction of the air-currents.

To keep the wool from being raised too far from screen S' by the air, another screen, S'', is placed over it, traversing around rollers s s in the opposite direction to S', and thus aiding in carrying the fiber through the machine.

The rollers s C' and the fan C' are driven in the ordinary manner. The arrows on rollers C', C'', and s indicate the direction of their revolution, respectively.

n n are side or edge pieces for the apron parts F F'.

It is evident that by this construction of the machine each section is closed away from the other effectually, and the air-current of each flows continuously in the same direction independently of the other.

Although we have represented a machine with only two sections, any greater number may be used, if desired. The air-blast in adjacent sections should, however, be in opposite directions.

The fans C C' are hung upon shafts f f, driven by pulleys f' f'.

The boxes B B' are open on their rear sides, and are placed against openings in the casing A, as shown.

What we claim as new and of our invention is—

1. In a fiber-drying machine, the combination of two independent sections, each provided with an independent traveling screen-apron adapted to convey the fiber through the

section upon it, one of said sections being provided with suitable air-draft mechanism for forcing currents of air in one direction through the fiber and apron, and the other being provided with suitable air-blast mechanism for forcing currents of air in the opposite direction through the fiber and other apron, substantially as described.

2. In a fiber-drying machine, the combination of two independent sections provided with traveling screens S S', and suitable air blast and draft mechanisms adapted to force air through said screens in opposite directions, and having the said sections connected by a portion, F', of the screen S', extending in an

approximately horizontal direction beneath the delivery end of the screen S in the form of a feeding-apron, substantially as described.

3. The combination of one section of the fiber-drier, containing the traveling screen S, with the other section, containing the traveling screen S', extending beyond the casing A', and receiving the fiber upon it from screen S, and the screen S'', substantially as described.

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Witnesses:

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