

(No Model.)

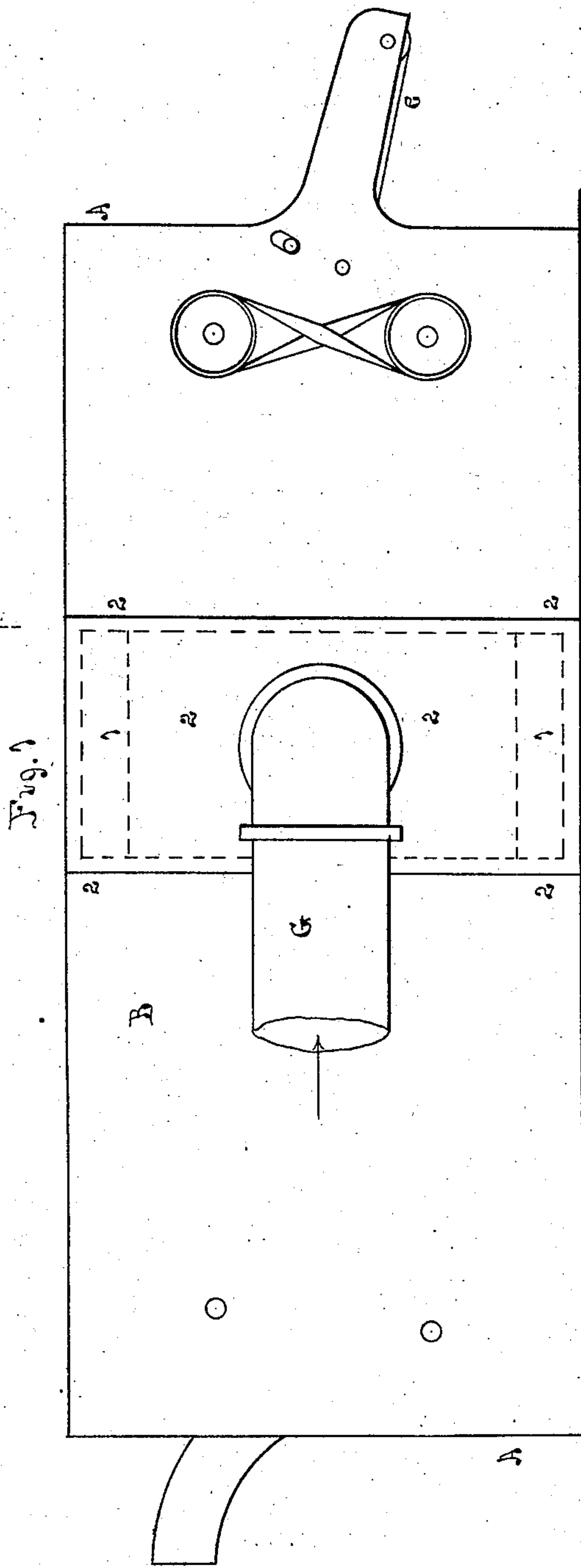
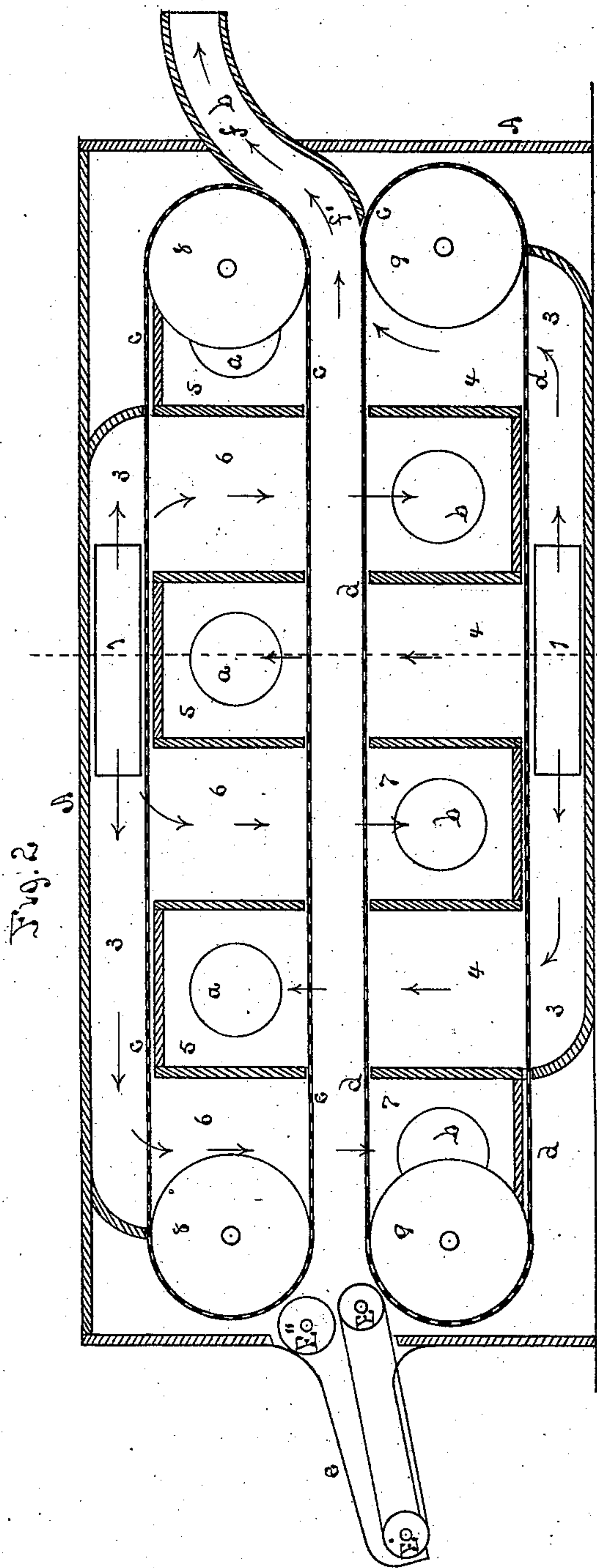
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F. G. & A. C. SARGENT

FIBER DRYING MACHINE.

No. 294,510.

Patented Mar. 4, 1884.



Witnesses
A. P. Ockington.
C. E. Wettergren

Inventor
Frederick G. Sargent
Allan C. Sargent
By David Hall Rice
Their atty

(No Model.)

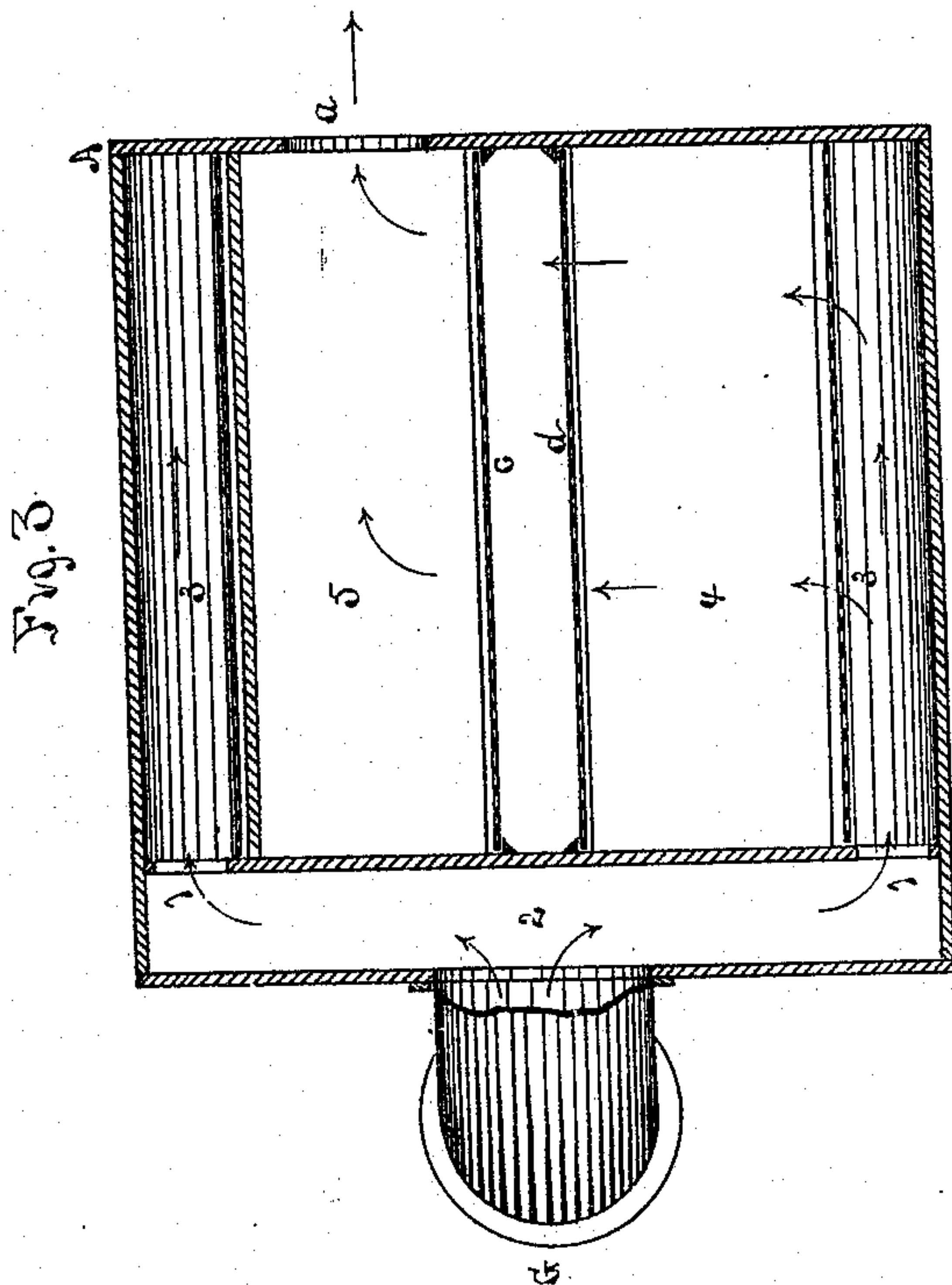
2 Sheets—Sheet 2.

F. G. & A. C. SARGENT.

FIBER DRYING MACHINE.

No. 294,510.

Patented Mar. 4, 1884.



Witnesses
H. P. Ockington.
C. C. Wetgreen.

Inventor
Frederick G. Sargent
Allan C. Sargent
By David H. Allen
Their Atty

UNITED STATES PATENT OFFICE.

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

FIBER-DRYING MACHINE.

SPECIFICATION forming part of Letters Patent No. 294,510, dated March 4, 1884.

Application filed November 13, 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 Fiber-Drying Machines, of which the following is a specification.

Our improvement relates to machines for drying wool and other fibers by air-currents; and it consists in subjecting the same alternately to continuous currents of air from opposite directions, substantially as hereinafter described.

In the drawings, Figure 1 is a side view of a wool-drying machine constructed according to our invention. Fig. 2 is a vertical central section longitudinally through the same. Fig. 3 is a transverse vertical section of Fig. 1.

A is the outer casing of the machine.

c is the traveling perforated screen passing around cylinders or drums 8 8.

d is a similar perforated screen passing around drums 9 and 9'.

e is the feed-apron to deliver the fiber between the screens, which carry it along and deliver it into exit-spout f. The feed-apron travels around rolls E E', which rotate in the usual manner. A check or stop roll, E'', prevents the escape of air at this end of the machine while assisting to feed the fiber forward.

This check or stop roll rises freely up and down, and is for the purpose of filling the entire space above the wool, through which air can escape at this end of the machine, while allowing the wool to pass into the machine freely, and it so adjusts itself as to fill substantially this entire space while rising and falling.

On the side of the machine is a box, 2, into which the blast-pipe G delivers a current of air by means of a fan or other appropriate device of ordinary construction and attachment thereto, which need not be further described or shown, being well known. At the top and bottom of box 2 are air-passages 1 1, through which the air passes into chambers 3 3 above and below the perforated aprons or screens c and d. The traveling screens c d are so placed in the machine that their surfaces

which are opposite to each other are separated by a sufficient space to allow the fiber between them to lie loosely and be opened up by the air-currents, and not compressed or matted between these surfaces, which would materially retard the passage of the air-currents through the fiber and consequent drying of it. From lower chamber, 3, the air-blast passes into chambers 4 4, thence upward through the screens and fiber between them into chambers 5 5, and thence out through passages a a in the side of the machine. In like manner, from upper chamber, 3, the air passes downward into chambers 6 6, and through the screens and intervening fiber into similar chambers, 7 7, and out through holes b b. Thus, while carried forward by the movement of the screens c d, the wool is first subjected, between chambers 6 and 7, to a downward air-current that presses it against screen d, and next, between chambers 4 and 5, it is subjected to an upward air-current, which lifts it against screen c and shakes apart its fibers, and so on alternately until it is delivered at pipe f. At f' the pipe f is brought near enough to screens c and d to doff the wool off them, and the air-current aids to carry it out through pipe f. The pipe f is as wide as the screens c and d.

The stirring and opening of the fiber by alternate currents of air effects a very rapid drying process, and does not injure the fiber.

What we claim as new and of our invention is—

1. In combination with the moving screen-surfaces c and d, the alternate air-passages 4 5 and 6 7, adapted to convey the air-blast in opposite directions through the fiber, substantially as described.

2. In a wool-drying machine, the combination, with two moving screen-surfaces, c d, placed far enough apart to allow the fiber to lie loosely between them, of the air delivery and escape passages 4 and 5 above and below said screen-surfaces, substantially as described.

3. In combination with screens c d, the passages 6 7 and 4 5, and passages 3 3 and 2,

leading from the air-pipe G, substantially as described.

4. In combination with the screens *c d*, having a space between them, and passages 6 7 and 4 5, the feed-apron *e*, and air stop-roll E', substantially as described.

5. In combination with the screens *c d*, the tube *f*, having its edges arranged to doff the

fiber from the screens, substantially as described.

F. G. SARGENT.
A. C. SARGENT.

Witnesses:

DAVID HALL RICE,
N. P. OCKINGTON.