N. E. CHAFFEE.

DRYING MACHINE.

No. 6,119. Patented Feb. 20, 1849.

Fig: 1.

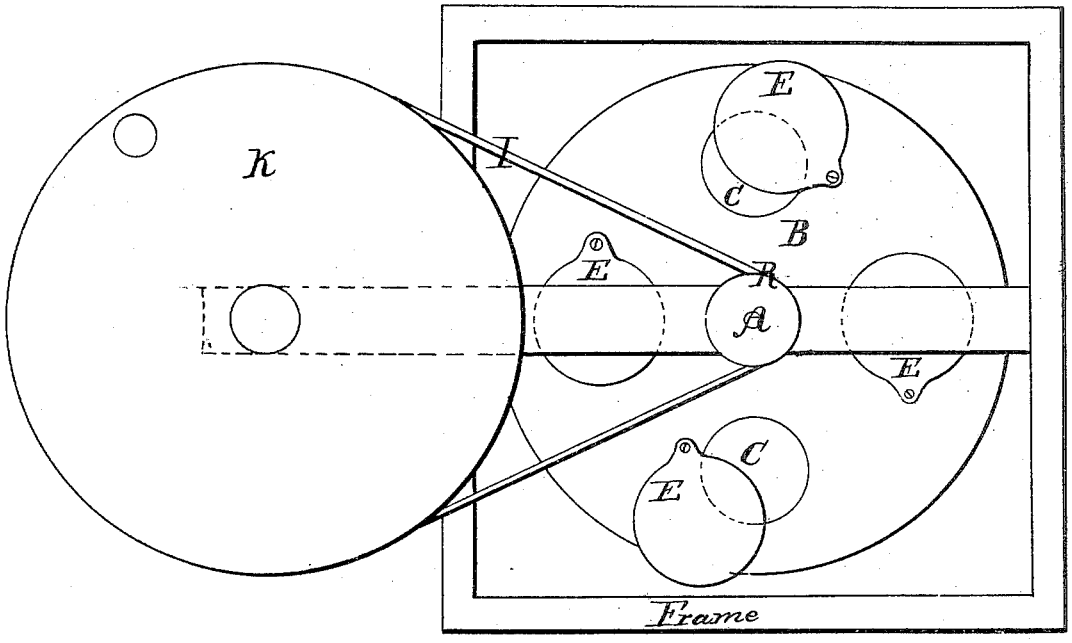
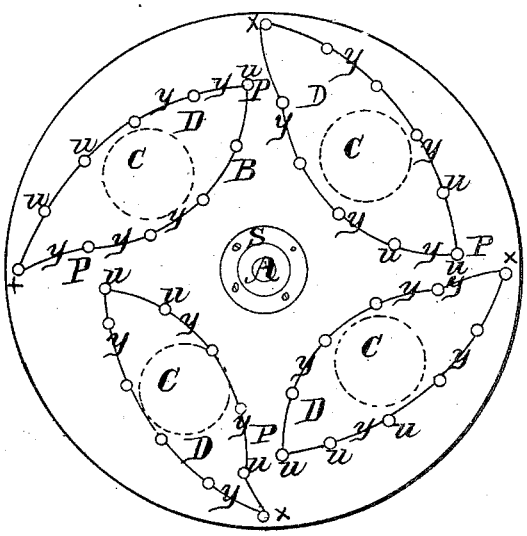


Fig: 2.



UNITED STATES PATENT OFFICE.

NELSON E. CHAFFEE, OF ELLINGTON, CONNECTICUT.

DRYING-MACHINE.

Specification of Letters Patent No. 6,119, dated February 20, 1849.

To all whom it may concern:

Be it known that I, NELSON E. CHAFFEE, of Ellington, in the county of Tolland and State of Connecticut, have invented a new and useful Machine for Drying Wool and Cloth; and I hereby do declare that the following is a full, clear, and exact description.

The nature of this invention consists in providing a wheel composed of two circular sides united together by an axle passing through the center of the same so as to leave a space between the said two sides, the which space I divide into four separate chambers by wire wickerwork into which to put the wool or cloth to be dried, and by giving the wheel a great velocity the air impinges through the wickerwork on the periphery of the wheel on the cloth or wool and dries the same in an incredibly short period.

To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation reference being had to the accompanying drawings making part of this specification in which—

Figure 1 is a side elevation and Fig. 2 a side section.

The same letters indicate like parts on both the figures.

A is the axle of the wheel.

B is the circular side of the wheel.

C, C, C, C, are circular openings on one side of the wheel to allow the wool or cloth to be put in or taken out of the chambers in the wheel.

D, D, D, D, are the chambers to hold the cloth or wool. These chambers are formed of strong wire or wickerwork, so that the periphery of the wheel resembles the wire work of a cage. The two sides of the wheel are united by the axle which has a shoulder S. Secured on the inside of B, one on each side. The space between the two sides of the wheel is conventional not confined to any particular diameter. W, in Fig. 2, represents stout circular rods made of iron and fixed transversely in the sides of the wheel crosswise between the two sides. Y, represents more slender rods or wires running through W, and circularly according to the form of the chambers. At the points X, X, X, X, are narrow passages communicating with the outside of the wheel and the interior parts inside of the chambers, so that when the wheel revolves the air will have a very free and rapid circulation through the passage P, P, P, P, around the wool or cloth in the chambers; therefore on the periphery of the wheel and in the inside of the wheel the wool or cloth, is exposed to the air impinging on the cloth and which dries the cloth or wool very rapidly.

The wheel is fixed on a proper frame of wood or metal. E, E, E, E, are sliding covers of C to close the said openings.

K, is a large drum and a band I, from it drives the small pulley R, on the axle A, of the wheel communicating to it a very rapid motion.

The plans at present in use for drying cloth or wool, are first the stenters for stretching cloth or by hanging it over poles, and in cold weather this requires to be done in heated apartments, wool has to be dried on a floor of a warm apartment, or is spread in nets but in cold weather it requires heat to dry it—artificial heat—and then the process is a long one requiring at least about one day's time. By my machine I have dried as much cloth in two hours, as could be dried in a large heated apartment in one day and no heat, at least by combustion employed for my wheel.

The causes of this machine drying cloth and wool so rapidly, are two in number. First the heat generated in the atmosphere, around the wheel by the rapid motion of the wheel, causing the particles of which the atmosphere is composed to rub against one another, and secondly the air so heated is quickly absorbed by the wet cloth, as the motion of the wheel will cause the cloth however closely packed in the chambers to move somwhat as the wheel revolves, therefore there will be a continual formation of vacuums in the chambers and the air will be continually rushing in and be driven out of the cloth or wool expelling the watery or moist particles in a simple, natural and beautiful manner. I have endeavored to account for the philosophical results attained by my invention, its practical results are so different from any other process to accomplish the same object, and so much superior, both in speed (rapidity) and cheapness that the old plans must soon for the better be abandoned and our cloth factories save a great deal by the change.

What I claim as my invention and that

for which I desire to secure Letters Patent is—

For a wheel divided into chambers as described, open to the free circulation of the atmosphere around the periphery and through the passage P, P, P, P, around the interior parts of the chambers also, for the purpose herein set forth. I do not confine my claim to the chambers formed of iron wires or rods, for some purposes wood would be preferable, neither do I confine my claim to four chambers in the wheel, but to two or more formed as described.

NELSON E. CHAFFEE.

Witnesses:
JOHN H. BROCKWAY,
G. W. CALHOUN.