W. H. Sterens,

Cheese Press,

No. 59,475, Patented Nov. 6, 1866.

Fig. 1.

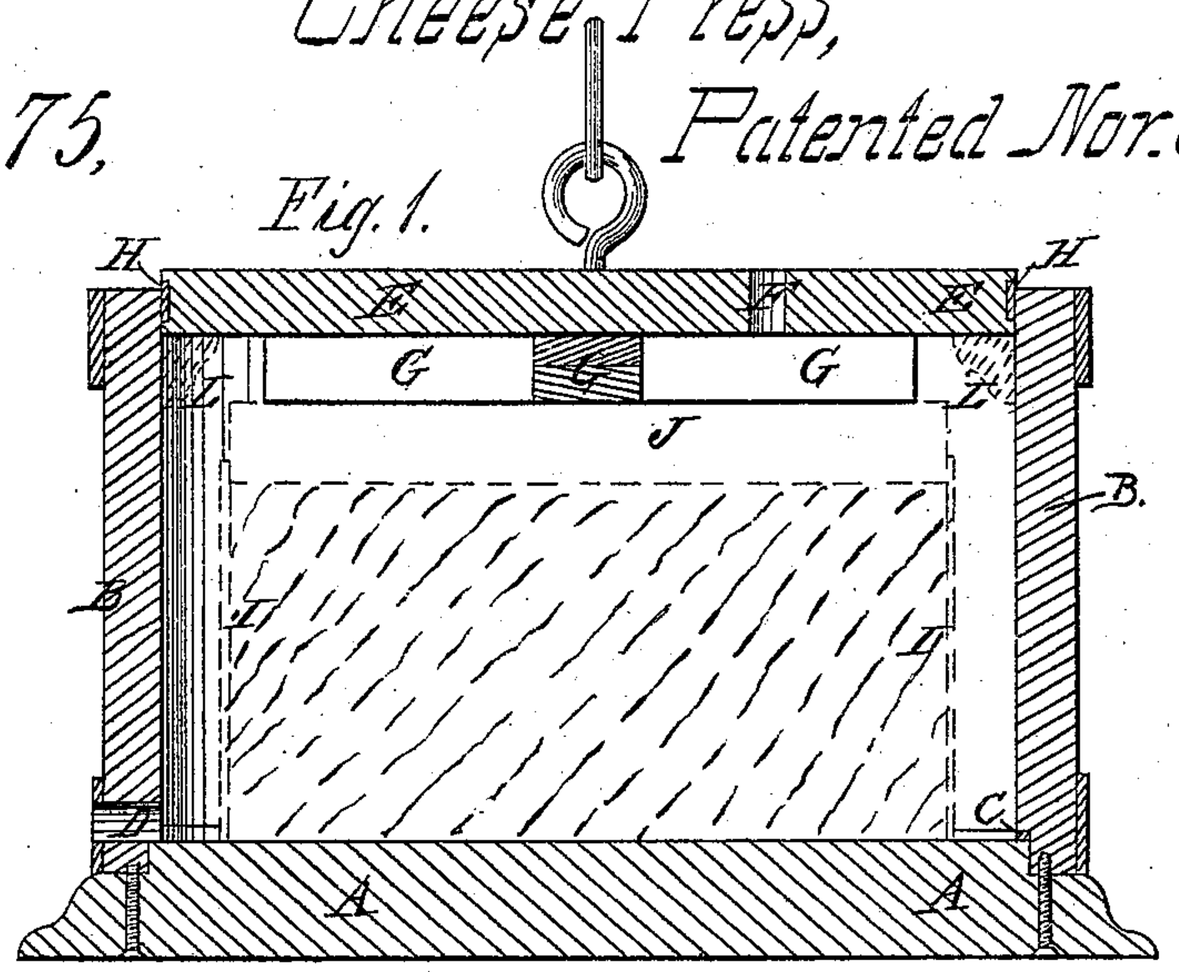
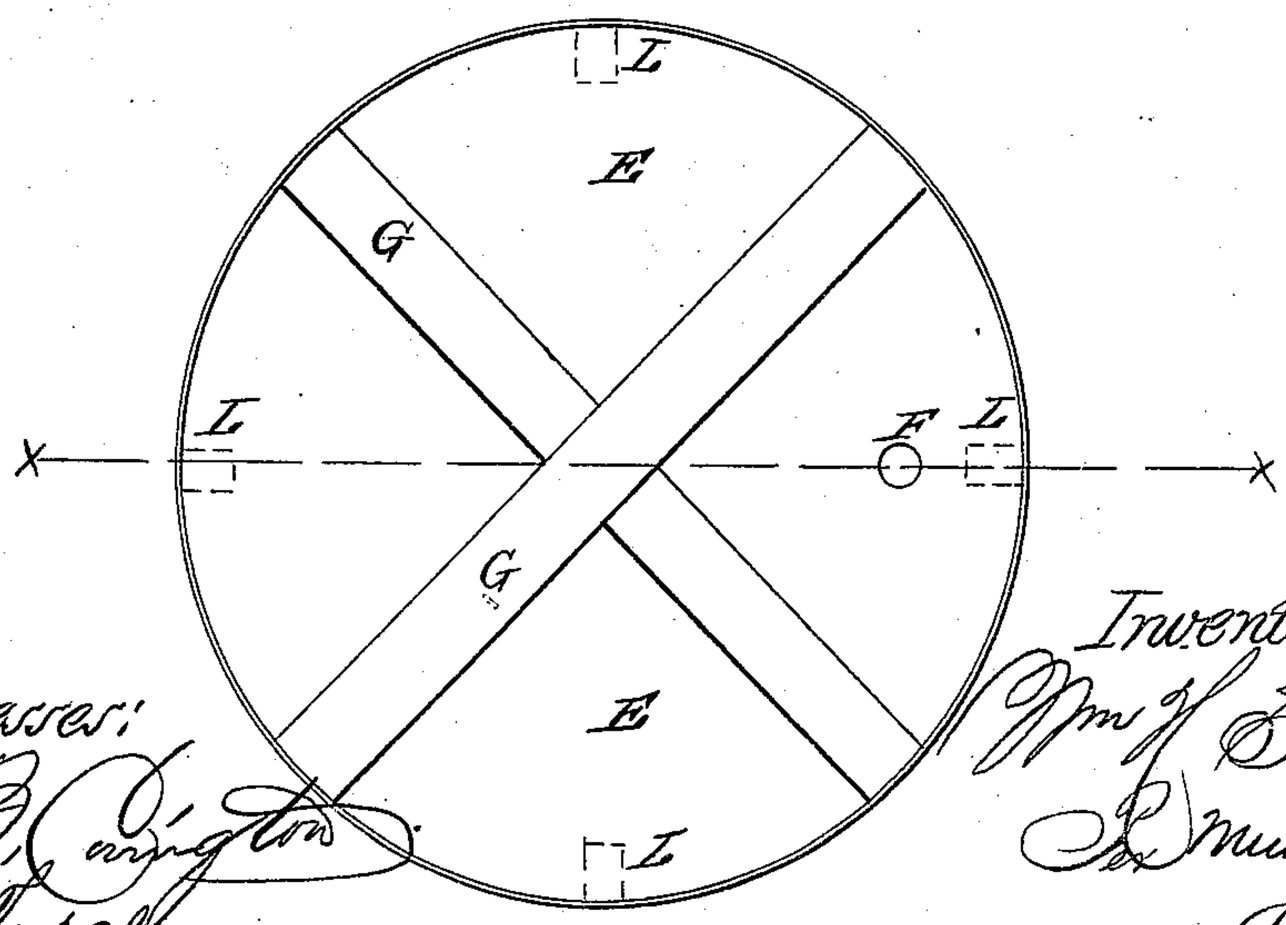


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM H. STEVENS, OF WINONA, MINNESOTA.

IMPROVEMENT IN CHEESE-PRESSES.

Specification forming part of Letters Patent No. **59,475,** dated November 6, 1866.

To all whom it may concern:

Be it known that I, WILLIAM H. STEVENS, of Winona, in the county of Winona and State of Minnesota, have invented a new and useful Improvement in Cheese-Presses; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical central section of my improved press, the section through the piston being taken in the line *x x*, Fig. 2. Fig. 2 is a bottom or under-side view of the cover or piston.

Similar letters of reference indicate like parts.

My invention has for its object to furnish a cheese-press convenient, durable, not liable to get out of order, and especially adapted for use in cheese-factories, or where large numbers of cheeses are made; and it consists of a cylindrical atmospheric press, constructed and operated as hereinafter more fully described.

A is the bottom, and B the sides, of the press. The sides and bottom may be joined or connected in any convenient manner, care being taken to make the joint air-tight; and to secure this result the joint should be packed with a rubber packing, C, or its equivalent, as represented in Fig. 1.

D is a hole through the side of the press, just above the bottom or stationary head A, for drawing off the whey. In this hole should be placed a stop-cock.

The cover or movable head E should be made of such a size as to exactly fit into the cylinder; and to insure its being air-tight it should be furnished with rubber or other elastic packing H. This packing should be placed in a groove formed around the edge of the movable head or piston E, as shown in Fig. 1.

F is a hole through the piston E, in which should be placed a short pipe furnished with a stop-cock.

Strengthening-pieces G may be placed on the lower side of the piston E, to guard against the warping of said piston. These pieces may be of such a length as to reach across the piston, as shown in Fig. 2, or they may be of such a length as to pass into the hoop or mold I, in which the curd is placed for pressing. This latter construction I prefer.

There should also be attached to the piston E guards or guides L, (represented in red in the drawings,) to prevent the said piston from tipping in its ascent or descent, and thus admitting the air. These brackets or guides L may be attached to either the upper or under side of the piston E, as may be desired; but when attached to the under side, care must be taken to make them of such a size that they will pass down between the hoop I and the sides B of the press.

The hoop or mold I should be of such a size as to allow space between said hoop I and the sides B of the press for the whey when pressed out of the curd.

J is a head fitting into the hoop or mold I, against which the piston E acts in pressing the curd.

The press may be made of wood, the sides being staves firmly hooped; or it may be made of metal.

By this invention the cheese is pressed in a vacuum. This forces the air out of the curd, and makes the cheese more compact than when pressed in the ordinary manner. The cheese is also without the air-cells, which furnish such convenient lurking-places for insects, skippers, &c., and in which molding, souring, fermentation, &c., always begin.

In the ordinary process the pressure is frequently applied too suddenly, causing the whey to run off too rich or milky; but by my process the pressure cannot be otherwise applied than gradually, thus preventing waste and securing a large yield.

In using my improved press, the curd is placed in the hoop I in the ordinary way. The hoop and curd are then placed in the cylinder, and the cover J and piston E placed upon it, as represented in Fig. 1. The stop-cock in the hole C is then turned so as to prevent the entrance of air through said hole C. An air-pump is then connected to the short pipe in the hole F, and the air within the press pumped out. This forces the piston E and cover J down upon the curd. When the

requisite amount of pressure has been obtained, the stop-cock in the pipe in the hole F is turned, and the pump disconnected from the press. The press may then be set aside and another operated upon.

By this invention much less space is required for carrying on the manufacture of cheese, as the whole system of levers, weights, and screws is done away with, one air-pump being sufficient for an extensive factory.

I claim as new and desire to secure by Letters Patent—

A cylindrical atmospheric cheese-press, constructed and operated substantially as described, and for the purpose set forth.

WILLIAM H. STEVENS.

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