2 Sheets—Sheet 1.

D. H. ROE.

CHEESE-PRESS.

No. 185,455. Patented Dec. 19, 1876.

Fig. 1.

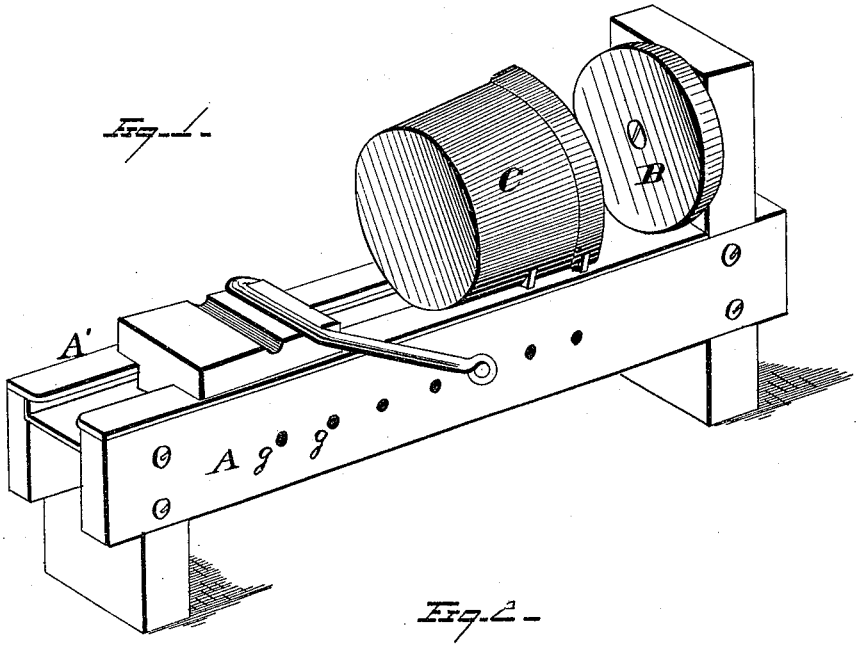
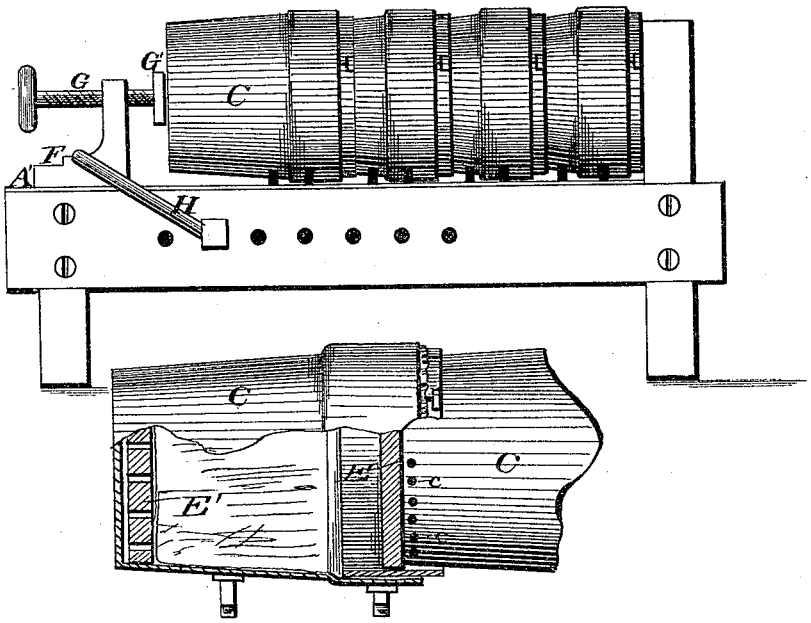


Fig. 2.



WITNESSES

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A. W. Bright

INVENTOR

Daniel H. Roe.

By Leggett and Leggett.

ATTORNEYS

2 Sheets—Sheet 2.

D. H. ROE.

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Fig. 4.

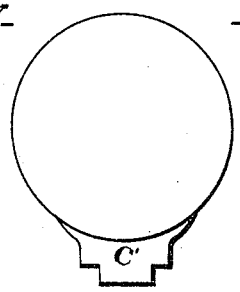


Fig. 3.

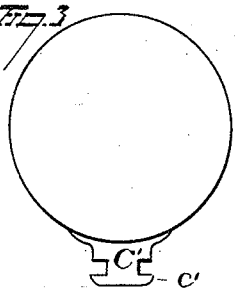


Fig. 5.

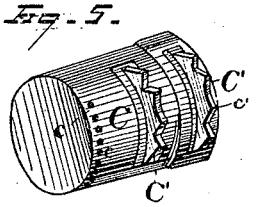


Fig. 6.

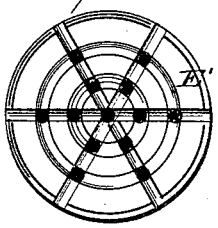


Fig. 7.

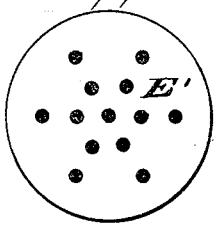


Fig. 8.

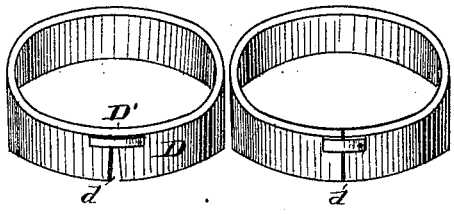
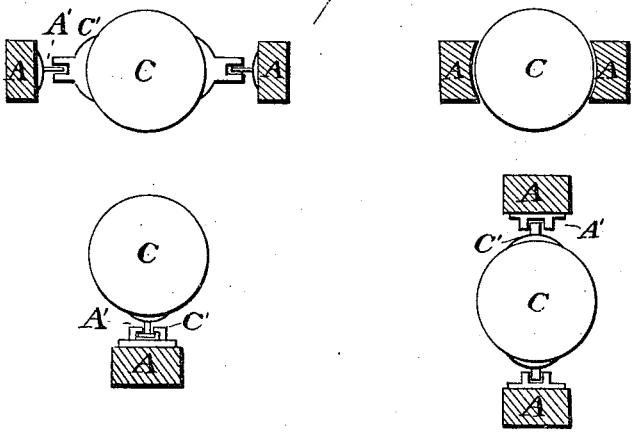


Fig. 9.



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UNITED STATES PATENT OFFICE.

DANIEL H. ROE, OF MADISON, OHIO.

IMPROVEMENT IN CHEESE-PRESSES.

Specification forming part of Letters Patent No. **185,455**, dated December 19, 1876; application filed November 18, 1876.

To all whom it may concern:

Be it known that I, DANIEL H. ROE, of Madison, in the county of Lake and State of Ohio, have invented certain new and useful Improvements in Cheese-Pressing Mechanism; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to new and improved mechanism designed for use in pressing cheese; and consists, first, in an improved gang-press; second, in the combination, with such a press, of cheese-hoops, the press-frame and hoops being relatively so constructed that the hoops shall be held firmly to the frame during the operation of pressing; third, in forming the bandaging-section of the hoop so that its outer edge shall be continuous or unbroken, but provided with one or more gore-shaped slots, extending from the inner edge to, or nearly to, the outer edge, whereby the hoop may be prevented from liability to lap at its ends, and at the same time may, if necessary, yield at its inner edge sufficiently to prevent the tearing of the bandage; fourth, in maintaining a solid bottom to the cheese-hoop, but providing perforations around the edge of the body of the hoop adjacent to the bottom, for escape of whey; fifth, in the employment, within the cheese-hoop, adjacent to its permanent or fixed bottom, of a removable disk or plate, said disk or plate being perforated and grooved, so as to permit the expressed whey to escape through the perforations in the sides of the hoop; sixth, in the special features of construction, which enable me to carry out the special objects of my invention.

In the drawings, Figure 1 is a perspective view of a cheese-press embodying my invention, showing one hoop in position. Fig. 2 is a view of same in side elevation, showing by broken sections the relations of the various parts. Fig. 3 is a cross-sectional view through the guide adjacent to the open end of the hoop; Fig. 4, a sectional view through the rear guide; Fig. 5, a separate view of a cheese-hoop inverted; Fig. 6, a separate view of the inner removable plate or disk, showing that side adjacent to the bottom of the cheese-hoop; Fig. 7, a separate view of the said plate or disk, showing that side adjacent to the cheese; Fig. 8, a separate view of the bandaging-section of the hoop. Fig. 9 shows variations of relative construction of hoop and press-frame for retaining the hoop to the frame.

A is the frame; B, the foot-block, attached to the frame, though it may be detached, its function being to follow into the adjacent hoop. C are the hoops; D, the bandaging-sections of the hoops; E, the followers; E′, the perforated removable inner plates or disks; F, the carrier-block, which bears the stationary nut or head, through which the screw passes. G is the pressure-screw, with its disk G′. H is a clevis device or retainer for securing the carrier-block F at any desired point. The frame A is provided with guides A′, and the cheese-hoops are provided with corresponding cross-heads or guide-pieces, which engage with the guides A′, and thus hold the hoop always snugly to the frame, and permit of its having only a longitudinal motion in the frame, and the hoops are therefore never liable to jump from the frame as pressure is being applied.

It is apparent that the peculiar relative construction of the hoop and frame, as shown, is not essential, as there are many ways in which the two can be so constructed relatively to each other as to effect the purpose sought, viz., that each hoop shall, by virtue of the relative construction of hoop and frame A, be firmly held to the frame, and prevented thereby from flying out during the operation of pressing. Several such constructions are shown in Fig. 9, in which corresponding letters represent corresponding parts. Thus the guiding mechanism and retaining devices may be beneath, on the sides, or above the hoop. So, also, the hoop may be plain, with no attachments, and the frame be fitted to it to effect the purpose, and other methods may be readily suggested; but I would have it understood that my invention contemplates any structure or relative construction of frame A and hoop, so that each hoop shall bear such a direct relation to the frame that the two cannot be separated by longitudinal pressure on the hoops.

C′ represents the cross-pieces on the hoop C,

that engage with the guides A′ on the frame A. In the particular instance shown, I make the guide adjacent to the mouth of the hoop with projections *c′*, which engage beneath the guides A′, while the rear guide-piece C′ is made without these engaging projections *c′*. This construction enables me to hook any hoop directly into place on the frame without sliding the hoop on at the end of the frame, and necessitating the removal of the carrier-block F.

I do not limit myself to any particular kind of hoop, for any hoop may be employed; but I prefer to employ such hoops as are shown in the drawings, known as "telescopic and self-bandaging hoops," and I may employ, with such hoops, the ordinary unbroken bandaging-sections; but I prefer to employ such sections as are shown at D. The ends of these hoops or bandaging-sections are fastened together, as shown at D′, preferably with a rigid fastening to one end of the hoop and a single rivet, which, to a certain extent, acts as a pivot at the other end, as shown in Fig. 8, though any other means of fastening may be employed. I provide the bandaging-section with a gore-shaped slot or slots, *d*, so that when the section is in use in a hoop, if the bandage should be considered strained, the bandaging-section, by reason of having these slots *d*, may yield and permit the bandage to slip slightly without tearing.

I employ a solid bottom for the hoop, and provide the sides of the hoop with perforations *c* adjacent to the bottom for the escape of the whey. These perforations may, as shown in the drawings, be only adjacent to the lower side, or they may extend all the way around.

Within the hoop, and adjacent to its bottom, I employ a removable disk or plate, E′, which is perforated, and on the side adjacent to the bottom of the hoop the perforations are joined by grooves to permit the ready escape and flow of the whey.

I do not limit myself to any particular means for exerting the pressure, but the device shown of the screw and carrier-block F G and the clevis or retainer H, which may be readily adjusted forward or backward to the different holes *g*, I deem to be a very convenient and efficient construction.

It will be noticed that when two or more hoops are employed, as shown in Fig. 2, the mouth end of each hoop encircles and firmly retains the bottom end of the one next in front, which dispenses with the necessity of employing the projections *c′* on the rear guide-pieces C′.

To use this device I proceed as follows: One of the perforated disks or plates is placed in a hoop, and a round piece of cloth is put in upon it. The bandage is then introduced, with its lower edge turned in upon the perforated plate, and its top edge is fastened by the bandaging-hoop. The curd is then introduced, and a round piece of cloth on top of it. A follower, E, is then placed upon it, and it is all ready to be inserted in the frame, as shown in Figs. 1 and 2. The other hoops are filled in like manner. The carrier-block F is then moved forward, if necessary, and secured, and finally pressure is applied by the screw. The expressed whey escapes through the perforated disk, thence through the openings in the side of the can, and is collected or conveyed away.

It is apparent that I may employ a single guide-piece upon each hoop, or I may employ two or more such pieces, C′.

Another advantage is gained by the bandaging-section being made continuous at its outer edge, and open or slotted from that point to the inner edge, viz., that, even though the slot may not be gore-shaped, the joint usually present is dispensed with, enabling the bandaging-section to be more readily inserted. I therefore find that, no matter how far outward from the hoop the outer edge of this section may extend, there is the above advantage in having that portion which extends into the hoop open, and the open or slotted portion, in any event, need not extend along any but that portion which extends, in use, into the hoop.

What I claim is—

1. In a cheese-pressing mechanism, the combination of a frame and cheese-hoop, constructed to engage with each other, substantially as and for the purposes described.

2. The combination, with the frame A, provided with guide or guides A′, of cheese-hoops C, provided with an attachment or attachments, C′, constructed, substantially as described, to admit of hooking the cheese-hoop into the guides at any point, for the purposes set forth.

3. The bandaging-section D, provided with the slots *d*, substantially as and for the purposes described.

4. The cheese-hoop, provided with a solid bottom and with perforations *c* around the same, substantially as and for the purposes described.

5. The combination, with the hoop C, having a fixed bottom and perforations *c*, of the perforated and grooved removable inner plate or disk E′, substantially as and for the purposes described.

6. The combination of carrier-block F and clevis or retainer H, substantially as and for the purposes described.

7. A slotted bandaging-hoop, the slots in which extend only along that portion which projects into the hoop, substantially as and for the purposes described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DANIEL H. ROE.

Witnesses:

WELLS W. LEGGETT,

FRANCIS TOUMEY.