

A. D. HUNTLEY.  
Reciprocating Churns.

No. 143,906.

Patented Oct. 21, 1873.

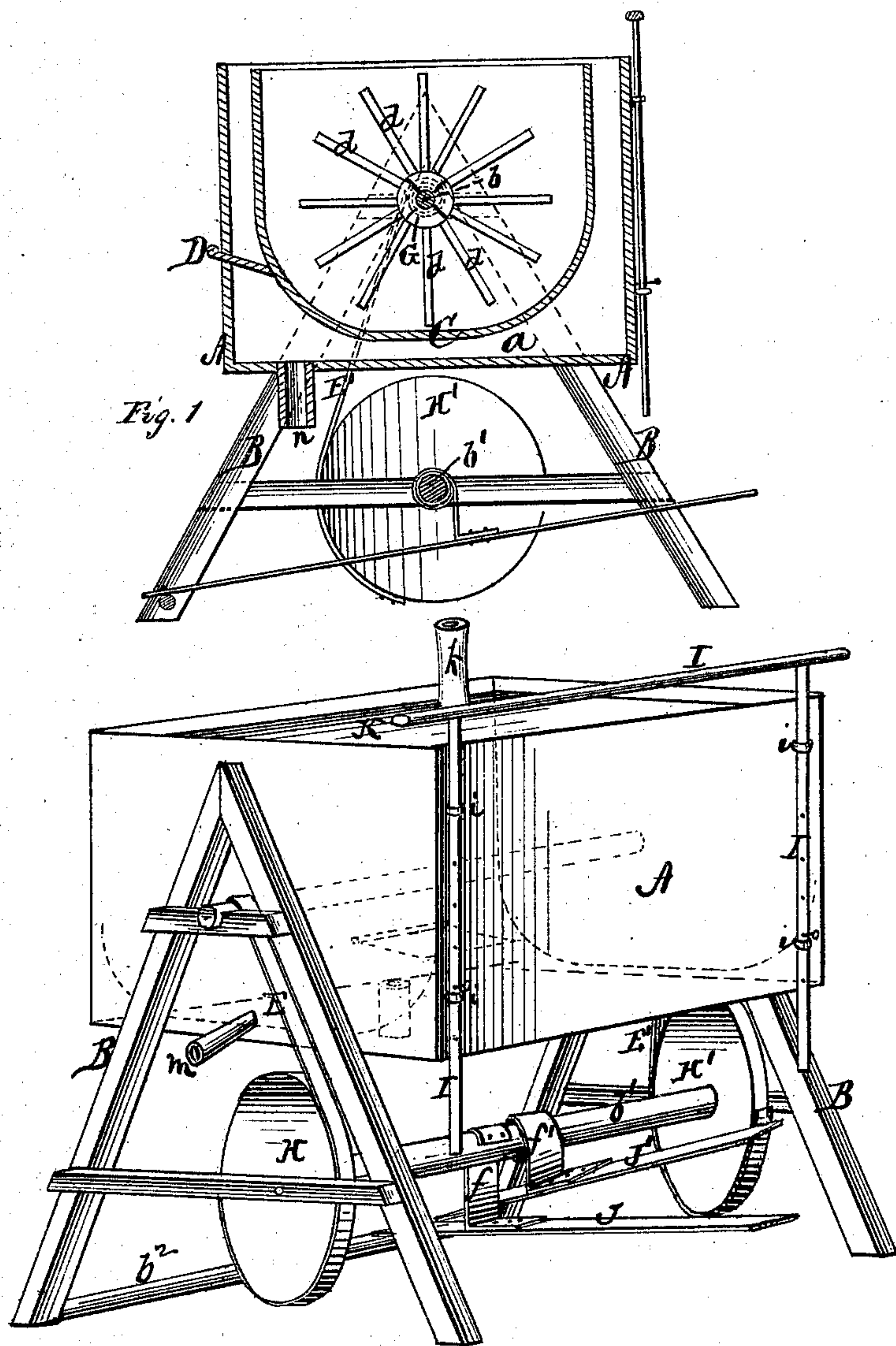


Fig. 1

Fig. 2

Witnesses

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# UNITED STATES PATENT OFFICE.

ABIEL D. HUNTLEY, OF SMYRNA MILLS, ASSIGNOR OF ONE-HALF HIS RIGHT  
TO BENJAMIN F. NICKERSON, OF NEW LIMERICK, MAINE.

## IMPROVEMENT IN RECIPROCATING CHURNS.

Specification forming part of Letters Patent No. 143,906, dated October 21, 1873; application filed  
October 29, 1872.

*To all whom it may concern:*

Be it known that I, ABIEL D. HUNTLEY, of Smyrna Mills, in the county of Aroostook and State of Maine, have invented certain new and useful Improvements in Churns; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing and to the letters of reference marked thereon.

The nature of my invention consists in the construction and arrangement of a churn, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a transverse vertical section, and Fig. 2 a perspective view, of my churn.

A represents the box, made of any suitable dimensions and secured in a frame, B. Within the box A is placed an interior box, C, forming a space, *a*, around the bottom and sides, as shown in Fig. 1; or a false curved bottom may be placed within the box A, so as to form the space only under the bottom of the chamber for the cream. The space *a* formed in either case is designed for holding hot or cold water for regulating the temperature of the cream in the interior box. The water is admitted through and by means of a slide, D, in the side of the exterior box A, which slide may be partially drawn out and water poured on the same. Its upper surface, being concave, will pass into the space or chamber *a*. Longitudinally through the churn passes a shaft, *b*, which has its bearings in the frame B, and upon this shaft is placed a longitudinally-bisected sleeve, G. This sleeve is held on the shaft *b* by means of pins on the shaft, and fastened by hooks or other suitable means, so that the sleeve will revolve with the shaft. On the sleeve G are two or more spiral rows of arms, *d d*, which form the dashers or breakers. Upon or to the ends of the shaft *b* are attached belts E E', which are wound on the shaft in opposite directions, and are also wound around the wheels H H', said wheels being

attached or secured on a counter-shaft, *b*<sup>1</sup>, below the box, and which shaft has its bearings in the frame B. J J' represent two treadles, pivoted or hinged to a shaft, *b*<sup>2</sup>, on one side at the lower part of the frame B. These treadles are respectively, by means of straps or belts, *f f'*, connected with the shaft *b*<sup>1</sup>, said straps being fastened to the shaft and wound around the same from opposite directions. When one treadle is pressed down, revolving the shaft *b*<sup>1</sup> in one direction, the strap from the other treadle is thereby wound up and that treadle raised. By then depressing this second treadle the first one is raised, and so on, alternately revolving the shaft *b*<sup>1</sup> first in one direction and then in the other. The revolving of the shaft *b*<sup>1</sup> in this manner causes the shaft *b*, with sleeve G and arms *d d*, to be revolved first in one direction and then in the other. On the front side of the box A is a frame, I, adjusted in sockets *i i* up and down, forming a handle or support to suit the size of the person operating the churn. K is the lid of the churn, which is provided with a vent-tube *k*, as shown in Fig. 2. The buttermilk is drawn off through a tube, *m*, in the end of the churn, and the water in the space *a* is drawn off through another tube, *n*.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The longitudinally-bisected sleeve G, provided with spirally-arranged arms *d d*, and held on the shaft *b* by pins and hooks or other equivalent means, substantially as and for the purposes herein set forth.

2. The arrangement, with the shaft *b*, of the belts E E', wheels H H', shaft *b*<sup>1</sup>, straps *f f'*, and treadles J J', all substantially as and for the purposes herein set forth.

3. The up-and-down adjustable-frame I, arranged on the box A, as and for the purposes herein set forth.

ABIEL DAY HUNTLEY.

Witnesses:

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