

J. A. STEEL.

CHURN.

No. 178,482.

Patented June 6, 1876.

Fig 1

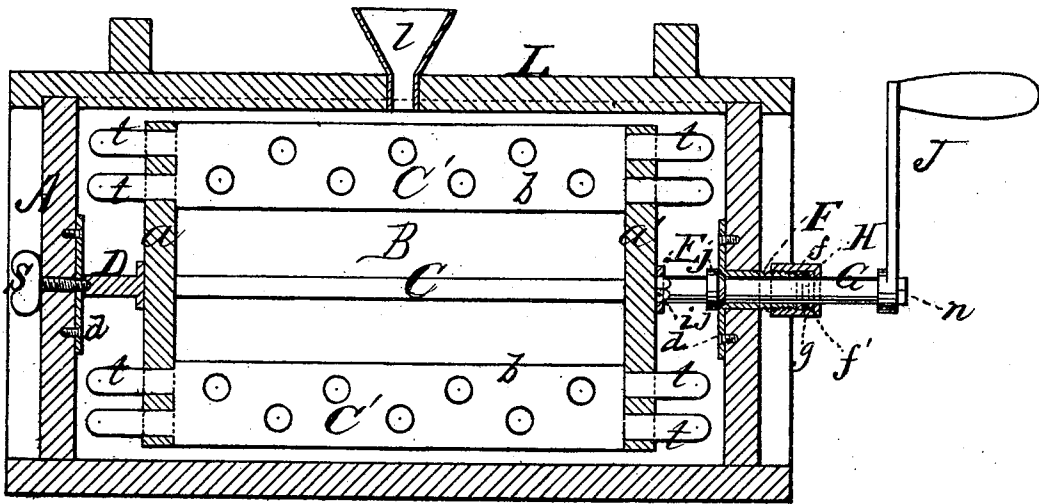
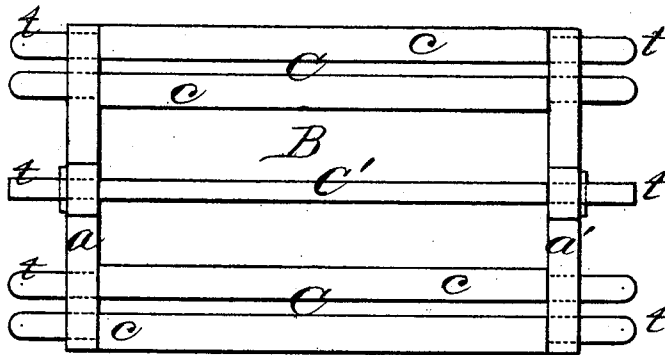


Fig 2



WITNESSES

Mary S. Utley,
E. H. Bates

INVENTOR

John A. Steel,
Chapman & Co.,

ATTORNEYS

UNITED STATES PATENT OFFICE

JOHN A. STEEL, OF WELLSVILLE, OHIO.

IMPROVEMENT IN CHURNS.

Specification forming part of Letters Patent No. **178,482**, dated June 6, 1876; application filed November 6, 1875.

To all whom it may concern:

Be it known that I, JOHN ANDREW STEEL, of Wellsville, in the county of Columbiana and State of Ohio, have invented a new and valuable Improvement in Churns; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of my churn. Fig. 2 is a detail view.

This invention has relation to improvements in churns; and it consists in a rotary dasher, the blades of which are detachably secured to the heads, and the latter and the blades clamped together, as will be hereinafter more fully set forth.

In the annexed drawings, the letter A designates a preferably wooden rectangular cream-tub, within which is arranged in bearings a dasher, B. This dasher consists of two cruciform heads, *a a'*, in the ends of which rectangular slots are made, adapted to receive the rabbeted ends of blades C C', the first of which is composed of two spaced strips, *c*, and the latter of a single perforated board, *b*.

Heads *a a'* are provided, respectively, with a projecting axial journal, D, having a slight recess in its end, and with a plate, E, having in its outer face a prismatic recess, *i*, by and through which it is attached to the cream-box, so as to rotate horizontally therein. This box is provided upon its inside, and at each end, with a perforated metallic plate, *d*, into one of which a screw-threaded sleeve, F, is rigidly secured, which projects through the end of the tub, and is adapted to receive a metallic shaft, G, having a conical collar, *j*. This collar is received into a chamfered recess in the inner end of the sleeve F, and is designed to prevent shaft G from penetrating through the said sleeve beyond a certain fixed point. The inner end of this shaft is of a prismatic form, and is adapted to be received into recess *i* of plate E, and it is held

to its engagement therewith by means of a set-screw, S, passing through a screw-threaded perforation in the plate *d* in the other end of the said box, which enters the recess in journal D, and, when set up, will not only sustain the rotating dasher, but will also jam the collar *j* on the shaft G into the recess in the inner end of sleeve F, the effect of which will be to prevent all leakage of cream through the said sleeve under ordinary circumstances. That this leakage may be altogether guarded against, a washer, *f*, is passed over the end of shaft G, against the end of sleeve F, then a packing-ring, *g*, and finally a washer, *f'*. A screw-threaded cap, H, is then passed over the said shaft, and is screwed upon the projecting end of sleeve F, thus compressing the ring, and effectually preventing all leakage whatsoever.

Whenever, from long use, the wear of the collar *j* against the inner end of sleeve F causes a leak to occur, a slight turn of the set-screw S will renew the necessary contact of the collar and sleeve, and immediately stop the leak.

As shown in Fig. 1, the rabbeted ends *t* of blades C C' project, through cross-shaped heads *a a'*, nearly to the ends of the cream-tub; consequently all the cream in the tub will be thoroughly worked when the dasher is caused to rotate, by means of a crank-arm, J, secured on the end of shaft G by a nut, *n*, or by any other suitable motor.

Heads *a a'* being loosely applied on the ends of blades C C', the effect of setting up set-screw S will be to jam the former against the shoulders on the blades, thereby holding the dasher together; but, if the set-screw S be unscrewed, the dasher may be taken out of the tub, and will instantly and readily separate into its component parts, blades and heads, and will be then in convenient shape for scalding and cleansing.

In practice, the tub will be provided with a lid, L, having a funnel, *l*, through which cream will be introduced into it, and it will also be provided with an eduction spout or faucet for draining off the buttermilk after the butter is made.

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

In a churn, the dasher-blades *U U'*, tenoned into heads *a a'*, and the heads and blades clamped together by means substantially as described.

In testimony that I claim the above I have

hereunto subscribed my name in the presence of two witnesses.

JOHN ANDREW STEEL.

Witnesses:

ELEMELIC S. MAYLONE,
THOMAS B. KELLY.