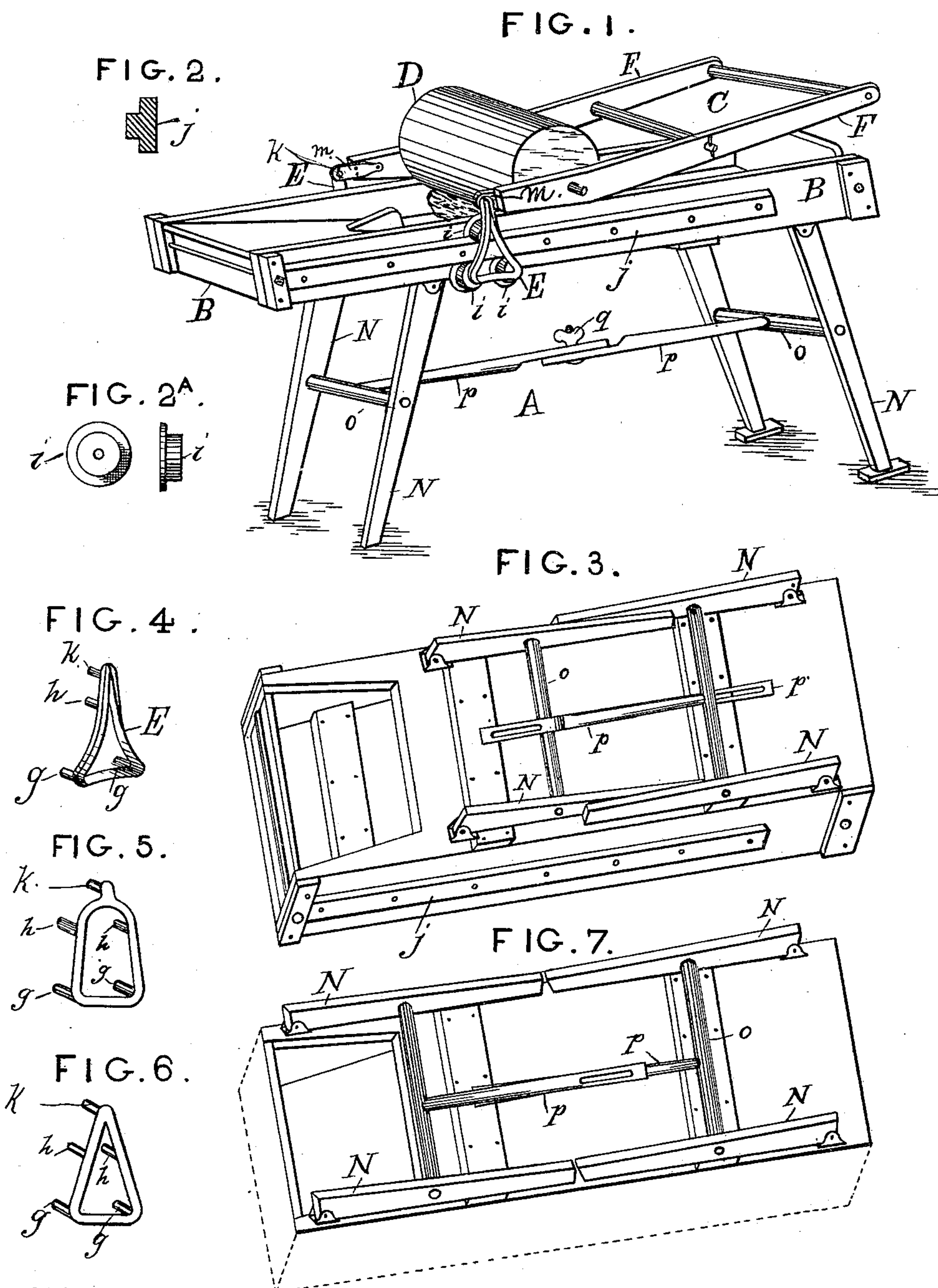


(No Model.)

H. F. KING.  
BUTTER WORKER.

No. 329,746.

Patented Nov. 3, 1885.



Witnesses:

Percy White.

Davis & Mead.

Inventor:

Henry F. King  
by John J. Halsted & Son  
his Attys.



# UNITED STATES PATENT OFFICE.

HENRY F. KING, OF BELLOWS FALLS, VERMONT, ASSIGNOR TO THE VERMONT FARM MACHINE COMPANY, OF SAME PLACE.

## BUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 329,746, dated November 3, 1885.

Application filed May 7, 1885. Serial No. 164,674. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY F. KING, of Bellows Falls, in the county of Windham and State of Vermont, have invented certain new and useful Improvements in Butter-Workers; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of butter-workers in which the buttermilk (or buttermilk and brine) is pressed out from the butter by means of a rolling pressure, the roller moving forward and backward in a tray; and the leading feature of my invention consists in a special construction of certain parts, as will presently appear, whereby friction is materially diminished, the machine is worked with much less labor, the roller-frame is better kept to place and guided, and the whole apparatus, when in use, made more firm and steady by the aid of an adjustable reach, and which also permits the folding of the entire structure into a close compact form for transportation or shipment, or when to be laid away after use, and also permits the raising or lowering of the frame or table at will.

Figure 1 represents in perspective a butter-worker embodying my improvements; Fig. 2, a cross-section of the track for a "retainer;" Fig. 2<sup>A</sup>, plan and edge views, enlarged, of one of the flanged rollers; Fig. 3, the under side of the tray with the legs folded up; Fig. 4, a retainer for three friction-rollers; Figs. 5 and 6 retainers adapted for four friction-rollers, and Fig. 7 an under side of the tray with the legs so arranged as not to overlap when folded up.

A is the supporting and adjustable frame for the tray B, and C the roller-frame carrying the roller D, the tray inclining, as usual, and having an outlet or outlets for liquid.

E is the retainer, by means of which the traversing arms F of the roller-frame are guided and kept to their proper course when the machine is in use. This retainer is shown in Figs. 1 and 4 as made triangular or tri-

armed, the two lower arms, *g g*, and also the central and upper arm, *h*, being furnished with flanged friction-rollers *i*, which run upon track *j*. It may, however, be adapted for four such flanged rollers, as shown in Figs. 5 and 6—two for an upper track and two for the lower track. Whether three or four flanged rollers be used the retainer is furnished with a centering or journal pin, *k*, at its upper extremity, and by means of which it is suspended or hung on the traversing arm of the frame, one at each side of the tray. This secures a permanent relationship during the working of the machine between the roller-frame and the retainers, the journal-pins not only allowing any needed swing or play of the retainers to prevent the binding of the latter on the tracks when in action, but also permitting any needed rise and fall of the frame and its roller, and also preventing the frame becoming accidentally lifted off the retainers, and requiring no auxiliary device to hold these parts together. The flanges also compel the retainers not only to keep their place on the track, but also hold the retainers to the frame. When but three friction-rollers are used, I place one on the upper or center arm of the triangle, as shown in Fig. 1, and hang the triangles to the extremities of the traversing arms F of the roller-frame, and I prefer in such case to have each of the friction-rollers flanged at its inner side similarly to a car-wheel, and to have the upper and lower tracks correspondingly plowed out, so that all the wheels, both upper and lower, may run on a flanged track. Such track may be very simply made of a single strip of wood, having one side flanged at top and bottom, or of two pieces secured together side by side, one being broader than the other, and in either case being somewhat T-shaped in cross-section, as shown in detail, Fig. 2. It will be now evident that this construction and arrangement of flanged rollers—that is, two such lower rollers and one or two upper ones and the doubly-flanged track—afford the greatest assurance of keeping the parts to place, and that the triangular arrangement allows of the greatest freedom of movement and play, and the provision of upper and lower rollers precludes any tendency to bind or tighten at any point. The construction is also simple and cheap. The re-



tainer-frames E, whether for three or more rollers, may be cast in a single piece, and with pins or journals for the rollers made or cast integral with them. (See Figs. 4, 5, and 6.)

5 They may be hung by means of their centering pins or journals *k* on metal pieces *m*, secured to the end of the roller-frame or directly to the arms F, as may be most convenient.

10 N N are the folding legs, which support the tray, being hinged thereto, as shown; but unless properly stayed or braced the tray would be unsteady and shaky when in use, and if braced by a single piece or brace would  
15 still be far from firm; hence I have provided the following device, which not only holds the whole firmly, but also has means for adjusting it, so that the degree of tightening up may be controlled, as found necessary. To  
20 each of the cross rods or bars *o o* of the legs I connect a strip or bar, *p*, long enough to overlap each other, and fasten them firmly together at any point desired, the two constituting what may be called an "adjustable reach."

25 A simple and efficient means for fastening consists in slotting one or both of the bars *p* near its inner end, and employing an adjusting thumb-screw or pin, *q*, extending through  
30 both bars, and whereby, when the legs are placed the proper distance apart, they may be connectedly held to that position by tightening up the screw or pin. A thumb screw and nut, or any equivalent device, may be  
35 used for this purpose. This adjustment of the lower ends of the legs nearer to or farther from each other serves also to raise or lower the practical height of the tray from the floor to adapt it and the roller-frame to the height  
40 of the person working the machine.

When the whole apparatus is to be folded up and laid aside until again wanted for use, the bars *p* are loosened from each other, the legs are turned inward, so as to fold or lie  
45 against the under side of the tray, the bars *p*

also being similarly brought up against or parallel with the tray, the cross-bars *o* either turning in their bearings or the bars *p* turning on these cross-bars for this purpose, or the bars *p* may, if preferred, be hinged to the cross- 50 bars to allow of this folding.

Instead of the legs being arranged to lap, (each pair side by side at their ends when folded,) as shown in Fig. 3, they may, when short enough, be so applied to the under side 55 of the tray that when folded against it their ends will abut or nearly touch each other, as shown in Fig. 7.

I claim—

1. In a butter-worker, in combination with 60 the roller-frame, a pendent retainer having at its upper end a journal-pin and carrying upper and lower anti-friction rollers adapted to run both on the upper and lower surfaces of a track-bar, as shown and described. 65

2. In a butter-worker, in combination with the roller-frame, the pendent retainers provided each with the journal-pin *k* at its upper end and with the upper and lower flanged friction-wheels, as shown and described, and the tracks flanged on their upper and lower 70 sides, all substantially as set forth.

3. In a butter-worker, in combination with the retainers provided with the journal-pins *k* at their upper ends and with the upper and 75 lower flanged wheels, the tracks, flanged as set forth, the pressure-roller, and the handles or frame for operating the same.

4. In combination with the tray of a butter-worker, folding legs connected to its under 80 side, and the adjustable bars or reach *p p*, connecting the two sets of legs, and a screw or pin for adjusting and securing these bars one to the other to determine the spread of the legs and to firmly hold the tray to its desired 85 position.

HENRY F. KING.

Witnesses:

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