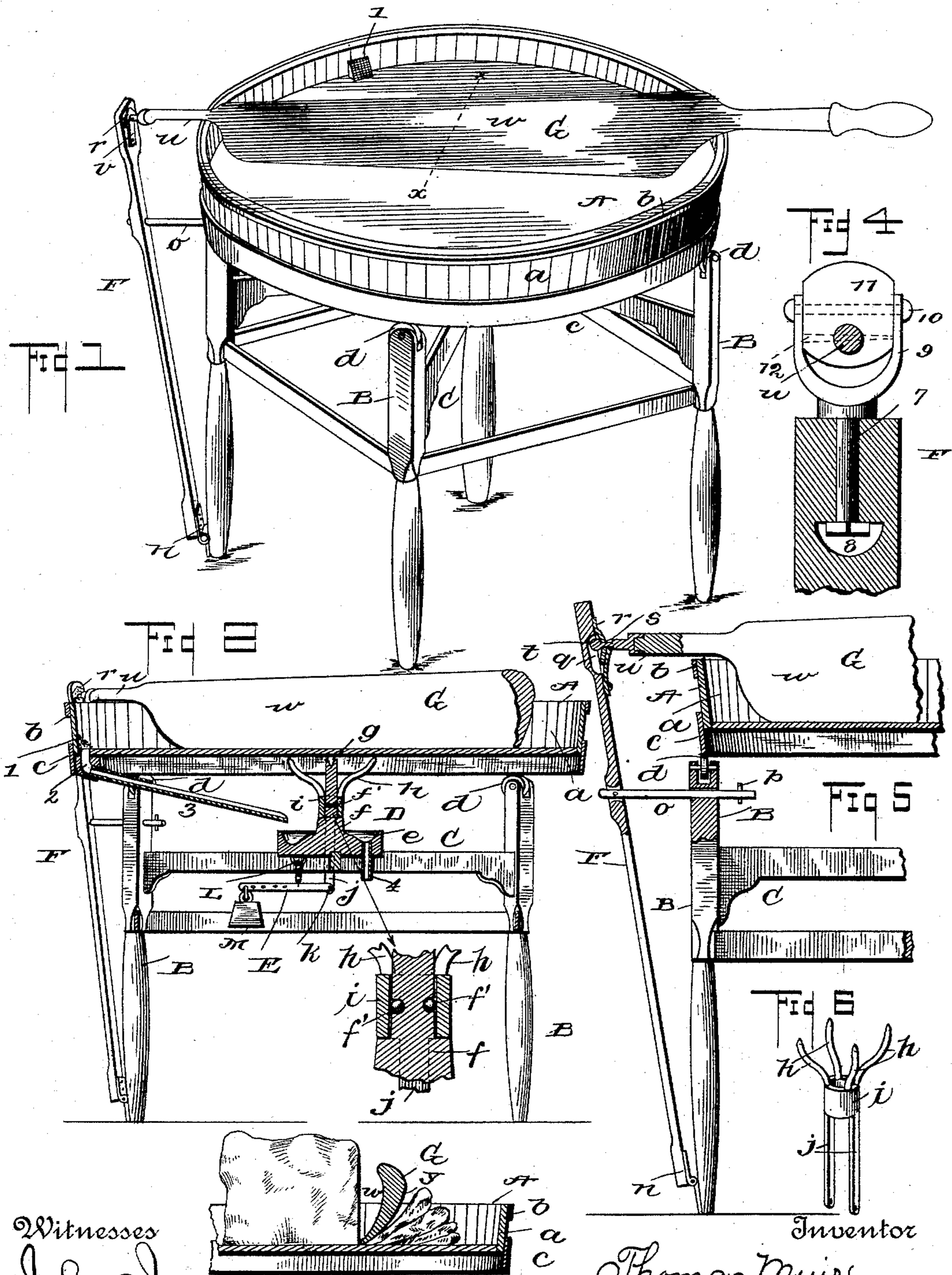


(No Model.)

T. MUIR.  
BUTTER WORKER AND WEIGHER.

No. 485,968.

Patented Nov. 8, 1892.



Witnesses  
John D. Smith  
S. A. Jones

Inventor  
Thomas Muir  
By his Attorneys  
Harris & Paxton

# UNITED STATES PATENT OFFICE.

THOMAS MUIR, OF MARGARETVILLE, NEW YORK.

## BUTTER WORKER AND WEIGHER.

SPECIFICATION forming part of Letters Patent No. 485,968, dated November 8, 1892.

Application filed April 14, 1891. Serial No. 388,832. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS MUIR, a citizen of the United States, residing at Margaretville, in the county of Delaware and State of New York, have invented certain new and useful Improvements in Butter Workers and Weighers; and I do 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 appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to that class of butter-workers generally illustrated and described in my patent, No. 206,036, dated July 16, 1878, and my present improvements embodying more particularly a new construction and arrangement of the bowl, the form of the working lever or cutter, and devices for admitting of the free rotation and transverse movement of said lever or cutter, together with means for draining the bowl, and also a provision for utilizing the bowl as a scale-platform in weighing butter.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of an apparatus embodying my improvements. Fig. 2 is a transverse sectional view of the apparatus. Fig. 3 is a cross-sectional view through the working lever or cutter, taken on the dotted line *x x*, Fig. 1, illustrating its operation in cutting and pressing butter. Fig. 4 is a modification of the connection between the lever or cutter and the standard. Fig. 5 is an enlarged detail view of one side of the apparatus, and Fig. 6 is a detail view of the armed sleeve.

The bowl proper A consists of a bottom and series of staves *a*, forming the sides, the latter being secured by upper and lower hoops or bands *b c*, the latter of which depending below the bottom of the bowl to present a circular track or way, bearing and guided on the rollers *d*, mounted in the upper ends of the vertical legs or supports B of the supporting-frame.

The vertical legs or supports B are connected together by four cross-braces C, upon which is centrally mounted a circular block D, having an annular gutter *e* in its upper

face, and a central standard *f*. The upper end of the standard *f* is recessed for the reception of a pivot *g*, depending centrally from the under side of the bowl. While this pivot forms a central support, the bowl is further sustained adjacent to its center by means of the four curved fingers *h*, extending radially from a sleeve *i*, embracing and sliding on the standard *f*. Depending from the sleeve are two vertical bars *j j*, passing through openings in the block D and connected at their lower ends by a pin *k*, connected with a scale-beam E, pivotally hung from a loop L on the under side of the block D and counterbalanced by a poise M. The standard *f* is recessed for the reception of three antifriction-spheres *f'*, which bear between the standard and sleeve *i*.

A vertical standard F is located adjacent to one of the supporting-legs B and extends to a point above the side of the bowl A, said standard being connected to the lower part of the said leg by a hinge *n*, the hinge movement of said standard being limited by a short horizontal bar *o*, pivotally connected to the standard and playing through a slot in the leg and carrying a transverse pin *p* at its inner end to prevent its complete withdrawal from the slot. The said standard is provided on its inner side and near its upper end with a recess *q*, which is partly closed at its top by a plate *r*, having a vertical slot *s* in its lower portion. This plate leaves sufficient of the recess exposed to permit the introduction or withdrawal of a ball *t* on the end of the working lever or cutter G. When the ball is inserted, the stem *u*, connecting it with the working lever G, may be moved into the slot, so that it can play freely, but be retained therein by a latch *v*, pivoted at its lower end to the standard, so that it can be moved to close the lower part of the recess.

The working lever or cutter G extends entirely across and beyond the bowl A and terminates in an operating-handle. The body of the working lever or cutter G is of the form shown most clearly in Figs. 1 and 2 and is slightly depressed on one side *w* and rounded on the other side *y*, this form being suitable for enabling the butter to be worked and cut without impairing or destroying the grain. The bottom of the bowl A is provided at one

side with an opening covered by a movable drain-plate 1, communicating with a junction-box 2, in which one end of a pipe 3 bears, the pipe being inclined, so that its other end will discharge the milk, water, &c., into the gutters, from which it passes to any suitable receptacle through the depending discharge-tube 4. The perforated drain-plate permits the contents of the bowl to be thoroughly drained and at the same time intercepts any fine particles of butter. A cork may be substituted for the drain-plate and brine can then be introduced into the bowl. The pipe 3 is cut away on its upper side for a part of its length, so that it can be readily cleansed. As the pipe 3 is removable, it can be detached and a cloth readily passed through the same.

From the foregoing it will be apparent that the construction herein described is not only simple and efficient, but that the butter can be thoroughly worked and the bowl conveniently rotated with ease and little exertion. The form of the knife, as has been explained, operates to work the butter without impairing the grain of the same. The scale attachment enables a predetermined quantity of butter to be placed in the bowl when desired, and the butter, after the buttermilk is pressed out, can be weighed, and then the scale can be set and the quantity of salt necessary to salt the butter added.

In lieu of the connection between the working lever and standard described I may employ the construction disclosed in Fig. 4, wherein a bolt 7 is received in the standard by means of a nut 8, the projecting portion of said bolt being formed to present a yoke 9, in which is seated a transverse bolt 10, suspending a block 11, perforated for the reception of the reduced end of the working lever, the said reduced end being held by a pin 12. This arrangement secures all the movements of which the construction first described is possible.

I claim—

1. The combination, with the bowl, of the vertical standard hinged at its lower end and a working lever or cutter having a universal connection with said standard at or near the upper end of the latter, whereby the downward pressure of the worker will operate by its leverage to exert an upward pulling strain upon the swinging standard, substantially as set forth.

2. The combination, with the bowl and vertical standard hinged at its lower end, arranged in operation to swing freely at its upper end toward and from the bowl, and recessed at its upper end, of a working lever or cutter having a ball-bearing in said recess and devices for retaining the ball in position, substantially as set forth.

3. The combination, with the bowl and ver-

tical standard hinged at its lower end and recessed at its upper end, of slotted plate 7, secured across the upper part of the recess, a working lever or cutter having a ball on the end bearing in said recess, and a latch pivoted on said standard to retain the ball in the recess, substantially as set forth.

4. The combination of the supporting-frame having the central block D, provided with the movable sleeve, and radial fingers to sustain said bowl, the sleeve being provided with bars depending through said block, and a scale-beam arranged for operation by the vertical movement of the bowl, substantially as set forth.

5. The combination, with the supporting frame and bowl, of the vertical standard hinged at its bottom, a working lever having a universal connection with said standard, together with a bar o, pivoted to the standard, playing through a slot in the frame, and devices for limiting the movement of the said bar o, substantially as set forth.

6. In a butter-worker, substantially as described, the combination of the bowl, devices for working the butter in said bowl and for supporting the bowl during such operation, a vertically-movable weighing-support for the said bowl, and a scale arranged for operation by the movement of said support, substantially as set forth.

7. The combination, with the supporting-frame having the standard f, of the bowl pivoted upon said standard and a sleeve embracing said standard and provided with curved arms, together with antifriction-spheres interposed between standard and sleeve, substantially as set forth.

8. In a butter-worker, the combination of the frame, the bowl supported normally on said frame, devices connected with the frame, whereby to work the butter in the bowl, and a weighing-support arranged within and movable independently of the supporting-frame and adapted to support the bowl and its contents during the operation of weighing, substantially as set forth.

9. In a butter-worker, the combination of the supporting-frame having a central shaft or standard f, a sleeve embracing said standard and movable vertically thereon and provided with arms arranged to bear under and support the bowl and contents during weighing, a scale, and connections between such scale and the said sleeve, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS MUIR.

Witnesses:

G. G. DECKER,  
D. A. ANDREASS.