

(No Model.)

L. F. SULLIVAN.  
CHURN.

No. 459,771.

Patented Sept. 22, 1891.

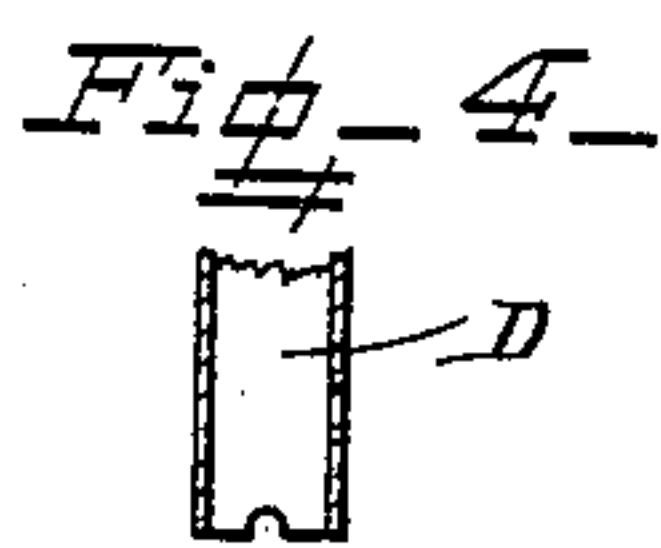
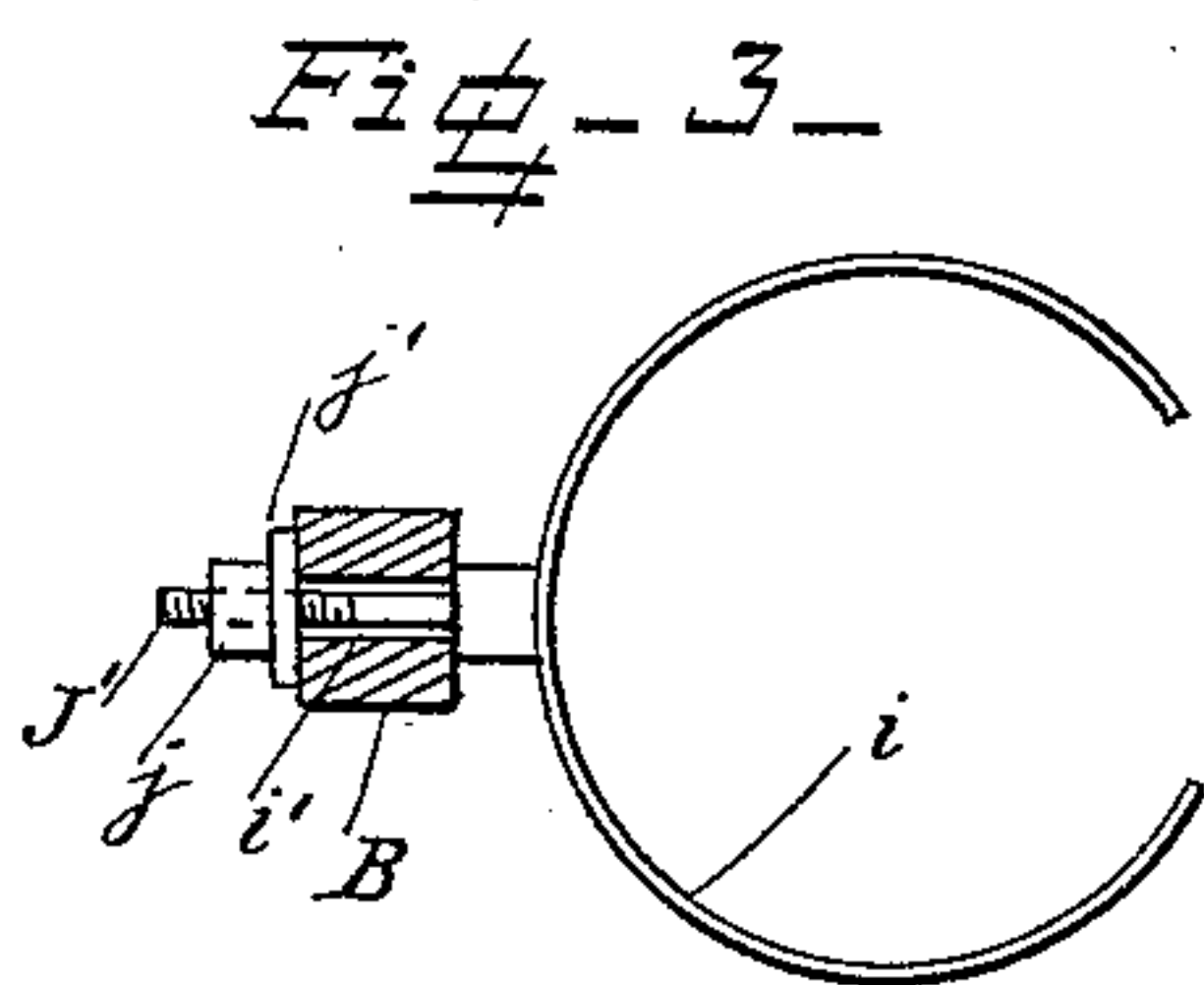
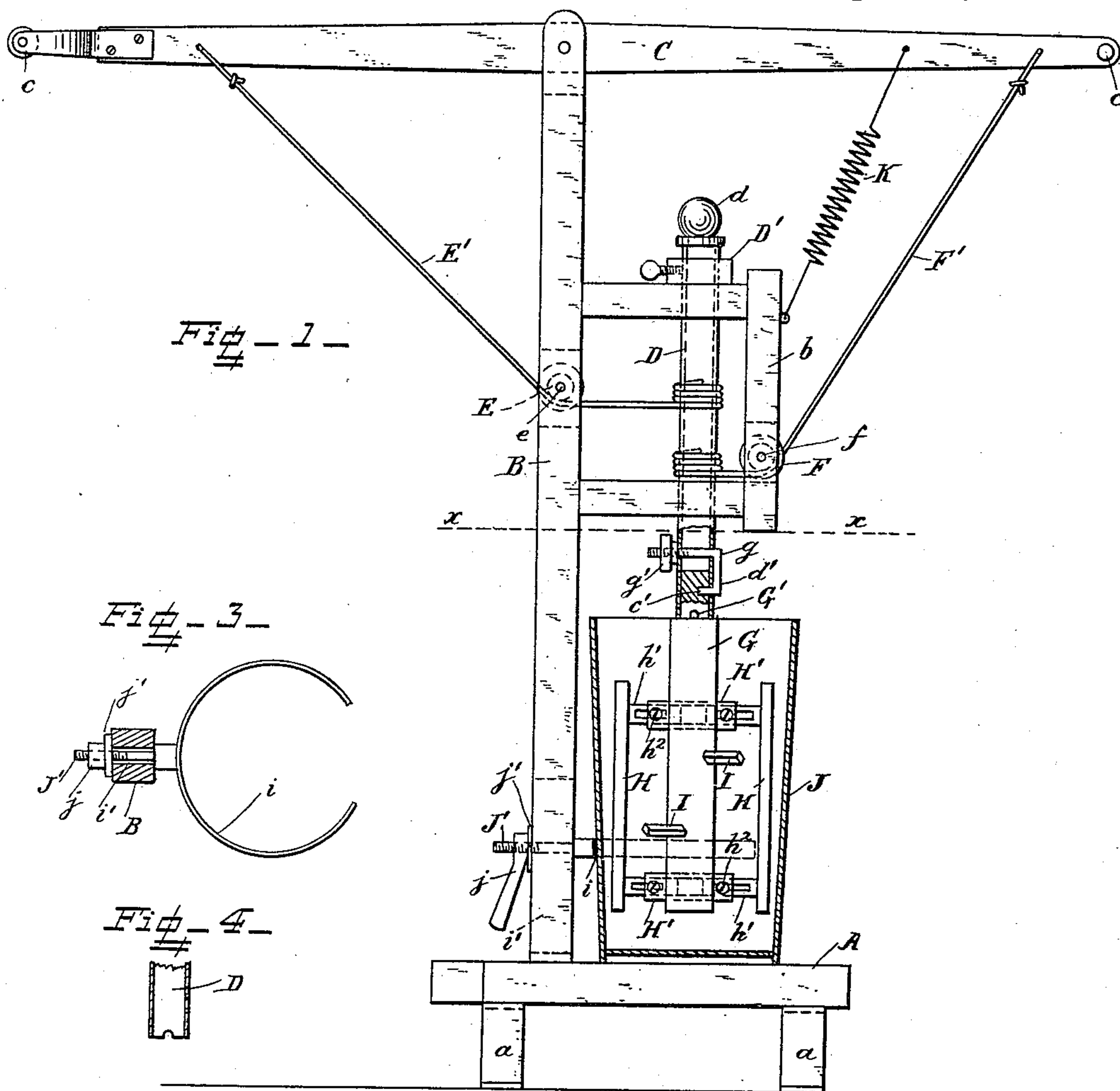
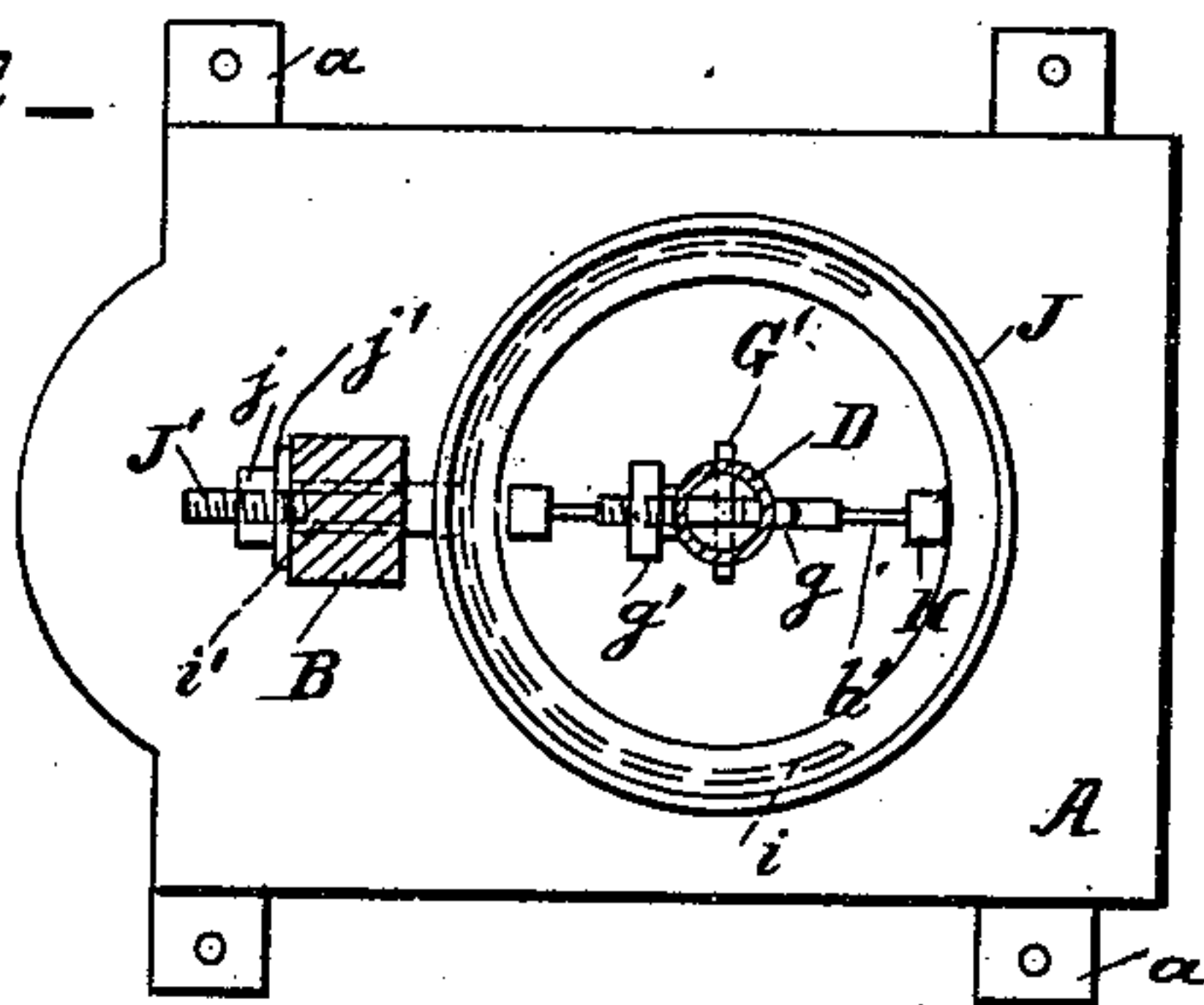


Fig. 2 -



WITNESSES  
Walter Allen  
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INVENTOR  
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by Herbert W. Jenner. Attorney

# UNITED STATES PATENT OFFICE.

LULIE F. SULLIVAN, OF HOLDEN, MISSOURI.

## CHURN.

SPECIFICATION forming part of Letters Patent No. 459,771, dated September 22, 1891.

Application filed March 31, 1891. Serial No. 387,100. (No model.)

*To all whom it may concern:*

Be it known that I, LULIE F. SULLIVAN, a citizen of the United States, residing at Holden, in the county of Johnson and State of Missouri, have invented certain new and useful Improvements in Churns; 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 appertains to make and use the same.

This invention relates to churns; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of the churn, partly in section. Fig. 2 is a sectional plan view from above, taken on the line *xx* in Fig. 1. Fig. 3 is a detail plan view of the spring-segment, and shows the slot in the post. Fig. 4 is a detail sectional view of the lower and notched end of the shaft D.

A is the stand supported on the legs *a*.

B is an upright secured to the stand and having the frame *b* secured to its upper part.

C is an operating-lever pivoted to the top of the upright B and provided with handles *c* for operating it.

D is a hollow vertical shaft journaled in the frame *b* and provided with a knob *d* at the top for raising it.

D' is an adjustable collar, which rests upon the top of the frame *b* and holds the said shaft at any desired height.

E is a pulley journaled on the pin *e* in a slot in the upright B.

F is a pulley journaled on the pin *f* in a slot in the frame *b*.

E' is a cord secured at one end to one end of the operating-lever. This cord E' passes over the pulley E and has its other end wound upon and secured to the hollow shaft D. F' is a similar cord secured at one end to the opposite end of the operating-lever. This cord F' passes over the pulley F and has its other end secured to the shaft D after being wound upon it in the opposite direction from the cord E'.

G is the dasher-shaft, the upper end of which is inserted in the hollow shaft D.

G' is a pin, which passes through the dasher-shaft and engages with notches in the lower end of the hollow shaft D, so that both shafts

revolve together. A coupling-bolt *g* passes clear through the shaft G and is provided with the thumb-nut *g'*. The other end of the bolt *g* extends downward outside the shaft D and enters a hole *c'* in the shaft G, being provided with a hooked end *d'*, which passes through a hole in the side of the shaft D and enters the said hole *c'*. The two shafts are thereby secured together and may be quickly coupled and uncoupled.

The churn-dasher is provided with vertical blades H, having horizontal slotted arms *h'* at the top and bottom. The shaft G is provided with hollow arms H' in which the said arms *h* may be slid back and forth, and *h'* are bolts for securing the arms together after the blades have been set to suit the diameter of the churn-barrel placed on the stand.

I are intermediate short blades projecting from the shaft G.

J is the churn-barrel. Barrels of various size may be used and placed on the stand, as shown in the drawings. The barrel is secured in position by a spring-segment *i*, which partially encircles it.

J' is a bolt secured to the segment *i*, and *i'* is a vertical slot in the upright A for the said bolt to pass through. The churn-barrel is placed on the stand, and the segment is slid upward upon it until it grips it tightly. The segment is then secured by the hand-nut *j* upon the bolt J', which comes against the washer *j'* and clamps the bolt in the slot of the upright.

K is a spring secured to the frame and to one end of the operating-handle. This spring may be dispensed with when the churn is operated by two people. Its use is to raise the lever automatically when the churn is operated by one person, so that the person only has to exert a downward pressure on the handle at one end of the operating-lever. The reciprocation of the lever causes the dasher to be revolved in the churn-barrel, first in one and then in the reverse direction by means of the cords.

What I claim is—

1. In a churn, the combination, with the removable churn-barrel, of the stand provided with an upright having a vertical slot in it, and a spring-segment partially encircling the barrel and provided with a bolt adapted to



be slid in the said slot and clamped to the upright, whereby churn-barrels of different sizes may be held in position, substantially as set forth.

5 2. In a churn, the combination, with the dasher-shaft provided with hollow horizontal arms, of the vertical blades provided with slotted arms adapted to be slid in the said hollow arms, and the bolts for clamping the  
10 arms together after the size of the dasher has been adjusted to suit the churn-barrel, substantially as set forth.

15 3. In a churn, the combination, with a hollow operating-shaft provided with notches at its lower end, of a removable churn-dasher

shaft engaging with the said hollow shaft and provided with a pin engaging with the said notches, and the coupling-bolt provided with a nut on one end and passing through the hollow shaft and bent downwardly and provided with a hooked end adapted to re-enter the said shafts for securing the two shafts together, substantially as and for the purpose set forth. 20

In testimony whereof I affix my signature in presence of two witnesses. 25

LULIE F. SULLIVAN.

Witnesses:

T. C. CARTER,

E. E. BOGGS.