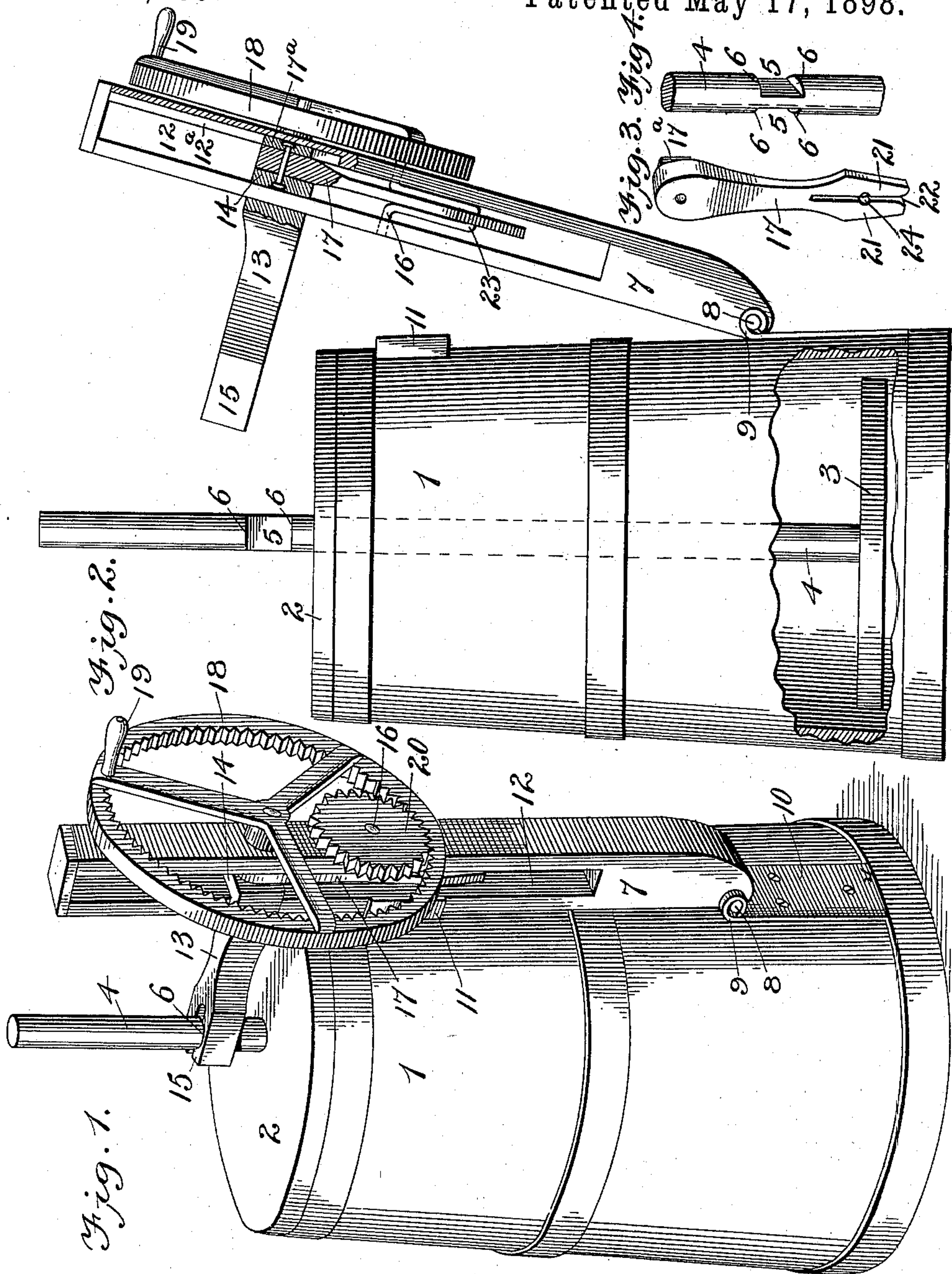


(No Model.)

J. A. MADDOX.
CHURN.

No. 604,059.

Patented May 17, 1898.



Inventor
John A. Maddox

Witnesses
Edwin G. McKee

By his Attorneys,

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UNITED STATES PATENT OFFICE.

JOHN A. MADDOX, OF WEST UNION, OHIO, ASSIGNOR TO C. C. BLOOM, OF
SAME PLACE.

CHURN.

SPECIFICATION forming part of Letters Patent No. 604,059, dated May 17, 1898.

Application filed July 7, 1897. Serial No. 643,742. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. MADDOX, a citizen of the United States, residing at West Union, in the county of Adams and State of Ohio, have invented a new and useful Churn, of which the following is a specification.

My invention relates to churns, and has for its object to provide a simple and efficient construction and arrangement of parts whereby the operating mechanism may be readily engaged with and disengaged from the dasher.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a churn constructed in accordance with my invention. Fig. 2 is a side view, partly in section, of the same, showing the operating mechanism disengaged from the dasher-staff. Fig. 3 is a detail view in perspective of the pitman. Fig. 4 is a detail view of a portion of the dasher-staff to show the spaced shoulders with which the fork of the cross-head or slide engages.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

1 designates a churn-receptacle which may be of any suitable size and construction, the same being provided with a removable cover 2, and 3 represents a dasher mounted for reciprocation in the receptacle and having a staff 4, provided above the plane of the cover with opposite depressions 5, forming seats, said depressions providing opposite flat surfaces terminating at their upper and lower ends in shoulders 6.

Hingedly mounted for swinging movement in a vertical plane is a standard or frame 7, which in the construction illustrated is provided at its lower end with lateral trunnions 8, fitted in spaced bearings 9, formed on a clip-plate 10, which is adapted to be secured to the side of an ordinary churn-receptacle. When in its normal or upright position, this standard fits in a keeper 11, also secured to the side of the receptacle and having lateral ears to bear against corresponding side surfaces

of the standard, and thereby hold the latter against lateral vibration.

The standard is preferably slotted to form a guide 12, upon which is mounted a cross-head or slide 13, the same terminating at one end in a loop 14, which fits upon the guide, and terminating at the other end in a bifurcation or fork 15 to engage the dasher-staff between the spaced upper and lower shoulders, the arms of the bifurcation or fork fitting in said seats at opposite sides of the staff.

The means for operating the slide or cross-head are also mounted upon the swinging standard, and in the construction illustrated consist of a crank-shaft 16, a pitman 17, connecting the crank-shaft with the cross-head or slide, and driving mechanism for rotating the crank-shaft. The driving-wheel 18 consists of an internal gear of large diameter provided with a crank-handle 19 and an intermeshing pinion 20, which is secured to the crank-shaft. The pitman is pivotally connected to the slide or cross-head and is provided at the opposite end with a bifurcation forming opposite jaws 21, which are spaced apart to form a slot 22 of a width less than the diameter of the spindle portion 23 of the crank, said slot communicating at its inner end with an enlargement 24, forming the bearing in which said spindle portion of the crank is received. The jaws formed by the bifurcation of the extremity of the pitman are yieldingly held in their normal positions with the slot, as above indicated, of less width than the diameter of the spindle portion of the crank; but at its outer end the slot is flared, whereby the pitman may be connected with the spindle portion of the crank by forcing the latter thereinto, and thus spreading the jaws in opposition to the yielding resistance offered thereby until the spindle portion reaches the bearing at the inner end of the slot.

From the above description it will be seen that when the standard is in its upright or normal position in engagement with the keeper on the side of the receptacle the slide or cross-head is in engagement with the dasher-staff, and hence the operation of the driving-wheel will cause the vertical reciprocation of the

dasher; but when it is desired to release the dasher-staff to open the receptacle the operating mechanism may be disengaged from the dasher-staff by swinging the standard outwardly or from the receptacle a sufficient distance to remove the fork or bifurcation of the slide from its position between the spaced shoulders of the dasher-staff. (See Fig. 2.) No fastening devices are required to maintain the slide or cross-head in engagement with the dasher-staff, and hence it is obvious that the engagement and disengagement of the parts may be accomplished with facility and whenever required. Furthermore, the operating mechanism may be constructed as an attachment for an ordinary reciprocating vertical dasher churn, the securing-plate upon which the bearings for the trunnions of the standard are formed and the keeper for engaging the standard at an intermediate point being constructed for attachment by screws or similar fastening devices to the side of the churn-receptacle. The only preparation necessary to adapt an ordinary churn for the use of the improved operating devices is to form the above-described shoulders on the dasher-staff by flattening the latter at opposite sides for engagement by the fork or bifurcation of the slide or cross-head.

In order to stiffen the pivot-pin by which the pitman is connected to the loop of the slide or cross-head, I employ a slide-block 17^a, fitting in a guide-groove 12^a in the standard.

Various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. In a churn, the combination with a receptacle and dasher, of a swinging standard adapted for movement toward and from the plane of the dasher-staff, a slide or cross-head mounted for reciprocation upon the standard and forked or bifurcated to engage the dasher-staff between spaced shoulders, and operating devices mounted upon the standard for

reciprocating the slide, substantially as specified.

2. In a churn, the combination with a receptacle and dasher, of a swinging standard mounted upon the receptacle for movement toward and from the plane of the dasher-staff, a keeper on the receptacle for receiving and engaging the standard when in its normal or upright position, a slide or cross-head mounted for reciprocation upon the standard and bifurcated to engage the dasher-staff between spaced shoulders, and operating devices mounted upon the standard for actuating the slide, substantially as specified.

3. An attachment for churns comprising a standard, a securing-plate to which the standard is hingedly connected, said securing-plate being adapted to be fastened to the side of a churn-receptacle, a slide or cross-head mounted for reciprocation upon the standard and adapted to extend inwardly over the top of the churn-receptacle, said slide or cross-head terminating in a fork or bifurcation for engagement with a dasher-staff between spaced shoulders thereon, and operating devices mounted upon the standard for reciprocating the slide, substantially as specified.

4. A dasher-operating mechanism having a standard, a slide or cross-head mounted for reciprocation upon the standard and adapted to be engaged with a dasher-staff, a crank-shaft and means for operating the same, and a pitman pivotally mounted at one end upon the slide or cross-head, and bifurcated at the other end to form spaced yielding jaws between which the interval is less than the spindle portion of the crank, and also provided, in communication with the interval between the jaws, with a bearing for said spindle portion of the crank, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN A. MADDUX.

Witnesses:

C. C. BLOOM,
LEONARD YOUNG.