

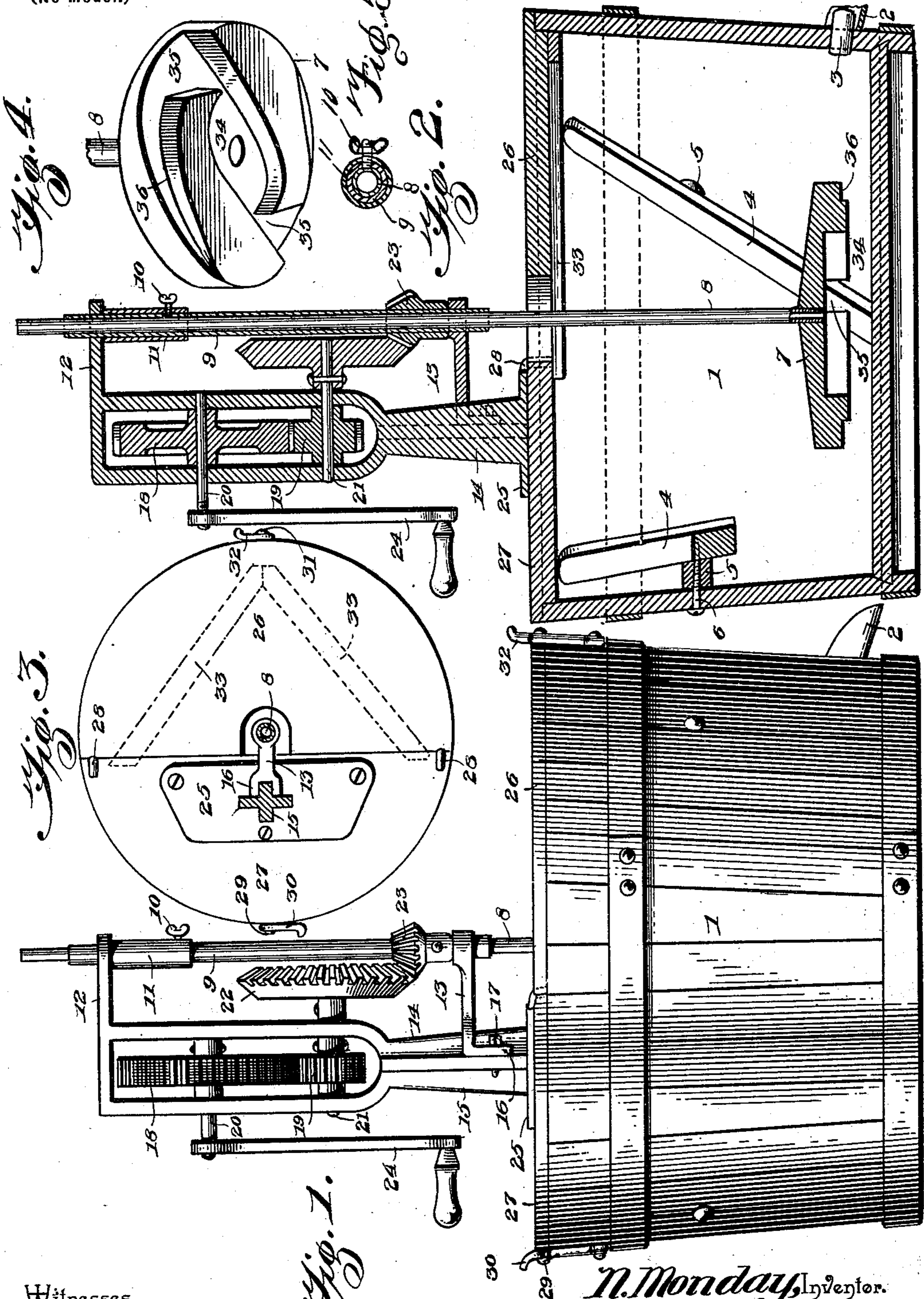
No. 687,047.

Patented Nov. 19, 1901.

N. MONDAY.
CHURN.

(Application filed May 3, 1901.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

NEWTON MONDAY, OF PLATTSBURG, MISSOURI.

CHURN.

SPECIFICATION forming part of Letters Patent No. 687,047, dated November 19, 1901.

Application filed May 3, 1901. Serial No. 58,648. (No model.)

To all whom it may concern:

Be it known that I, NEWTON MONDAY, a citizen of the United States, residing at Plattsburg, in the county of Clinton and State of Missouri, have invented a new and useful Churn, of which the following is a specification.

The invention relates to improvements in churns.

10 The object of the present invention is to improve the construction of churns and to provide a simple, inexpensive, and efficient one capable of being easily operated and adapted to effect a rapid production of butter.

15 The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

20 In the drawings, Figure 1 is an elevation of a churn constructed in accordance with this invention. Fig. 2 is a vertical sectional view of the same. Fig. 3 is a plan view, on a reduced scale, illustrating the construction and
25 arrangement of the sections of the cover. Fig. 4 is a detail perspective view of the rotary dasher. Fig. 5 is a detail view illustrating the construction of the groove of the tubular stem.

30 Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a churn-body, consisting, preferably, of a tub; but any other suitable receptacle may be employed, and this churn-body is provided with a suitable spout 2, and it has a suitable opening, which is normally closed by a suitable plug 3, adapted to be
35 withdrawn to permit the milk to be drawn off after the operation of churning has been completed.

40 Within the churn is arranged a series of inclined stationary agitators 4, spaced from the sides of the body by blocks or sleeves 5 and adapted to cause the contents of the churn-body to be agitated when the same come in contact with them, as hereinafter described. The inclined bars, which have a slight curve, are secured at their lower ends to the bottom
45 of the churn-body and are connected with the sides by screws 6, which pass through the sleeves 5, and the latter are located about

midway between the ends of the agitator-bars, as clearly illustrated in Fig. 2 of the accompanying drawings.

55 Coöperating with the stationary agitators is a rotary dasher 7, secured to a tubular stem 8, which is adjustably mounted within a tubular shaft 9 by a set-screw 10 and capable of being raised and lowered to position the
60 dasher to the liquid contents of the churn-body. The tubular stem is provided with an exterior groove or face 11, forming a seat for and adapted to be engaged by the set-screw to enable the latter to firmly clamp the stem
65 in the tubular shaft. The tubular shaft, which is disposed vertically, is journaled in suitable bearings of upper and lower arms 12 and 13 of a standard 14, and its ends are reduced to form shoulders to fit against
70 the said arms. The arms 12 and 13, which are provided with suitable perforations to receive the shaft, are disposed horizontally, the upper one being integral with the standard and the lower one being detachably secured
75 to the same. The lower portion of the standard is flanged, and the arm 13 is bifurcated at its inner end to straddle one of the flanges of the lower portion 15 of the standard and is provided at opposite sides of the bifurca-
80 tion with depending lugs 16, which are secured to the standard by suitable fastening devices 17. The upper portion of the standard is provided with a vertical opening for the reception of gears 18 and 19, and it is pro-
85 vided at opposite sides of the opening with suitable bearings for the reception of upper and lower horizontal shafts 20 and 21. The lower shaft 21 is extended from the inner side of the standard and carries a bevel gear-wheel
90 22, which meshes with a bevel-pinion 23 of the tubular shaft. The bevel-pinion 23 is arranged adjacent to the lower arm 14, and the lower horizontal shaft carries the pinion or gear 19, which meshes with the upper gear-
95 wheel 18. The gears 18 and 19 are provided with suitable hub extensions, which are secured by pins or other suitable fastening devices to the upper and lower shafts, as clearly shown in Fig. 1. The upper shaft is extend-
100 ed and has a crank-handle 24 secured to it, and when the crank-handle is operated the vertical stem is rapidly rotated. The standard is provided at its base with a plate 25,

which is secured to the cover of the churn-body, and this cover is composed of segmental sections 26 and 27. The section 27, upon which the standard is mounted, is engaged
 5 at opposite sides of the churn-body by hooks 28, rigidly secured to and extending upward from the said body. The hooks 28 are arranged at the ends of the section 27, which is provided between its ends with a projec-
 10 tion 29, which is engaged by a pivoted hook 30. The other section 26, which is provided with a central opening to receive the dasher rod or stem, is provided with a projection 31, which is engaged by a hook 32, arranged at
 15 the outer edge of the section 26. The inner edge of the section 26 is arranged contiguous to the inner edge of the section 27, and the said section 26 is interlocked with the other section 27 by means of cleats 33, secured to
 20 the lower face of the section 26 and arranged at an angle to each other and extending beneath the section 27. When the sections are secured in this manner to the top of the body, they are firmly held in position.
 25 The dasher 7, which consists of a disk, is provided at its lower face with a central chamber or recess 34, and it has inwardly-tapering grooves or recesses 35 located at opposite sides of the chamber and extending outward
 30 therefrom. The dasher is also provided at its lower face with peripheral grooves or recesses 36, extending from the outer ends of the tapering recesses or grooves 35. When the dasher is rapidly rotated, the cream in the
 35 central chamber or recess 34 will be thrown outward by centrifugal force, and as the dasher is located beneath the surface of the cream this will tend to create a vacuum and

air will be drawn downward through the tubular stem or dasher-rod and will be thrown
 40 outward by the rotation of the dasher. The cream as it is thrown outward comes in contact with the stationary agitators, and the agitation is thereby rendered more complete. The peripheral recesses or grooves 36, which
 45 form inclined faces, are adapted to impart a downward movement to the contents of the churn-body, and the agitation of the same is thereby increased.

It will be seen that the churn is simple and
 50 comparatively inexpensive in construction and is capable of rapidly agitating the cream and of aerating the same, and that it will enable butter to be rapidly produced.

What I claim is—

In a churn, the combination of a rotary dasher consisting of a disk provided with a central chamber or recess 34 and having inwardly-tapered recesses 35, located at diametrically opposite points and extending from
 60 the periphery of the disk to the central chamber or recess 34, said disk being also provided at diametrically opposite points with the grooves 36 arranged at the periphery of the disk, between the said recesses 35 and taper-
 65 ing therefrom in depth and width and extending from one of the recesses 35 to a point opposite the other, and a tubular dasher rod or stem, substantially as described.

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

NEWTON MONDAY.

Witnesses:

THOS. W. WALKER,
 D. H. FROST.