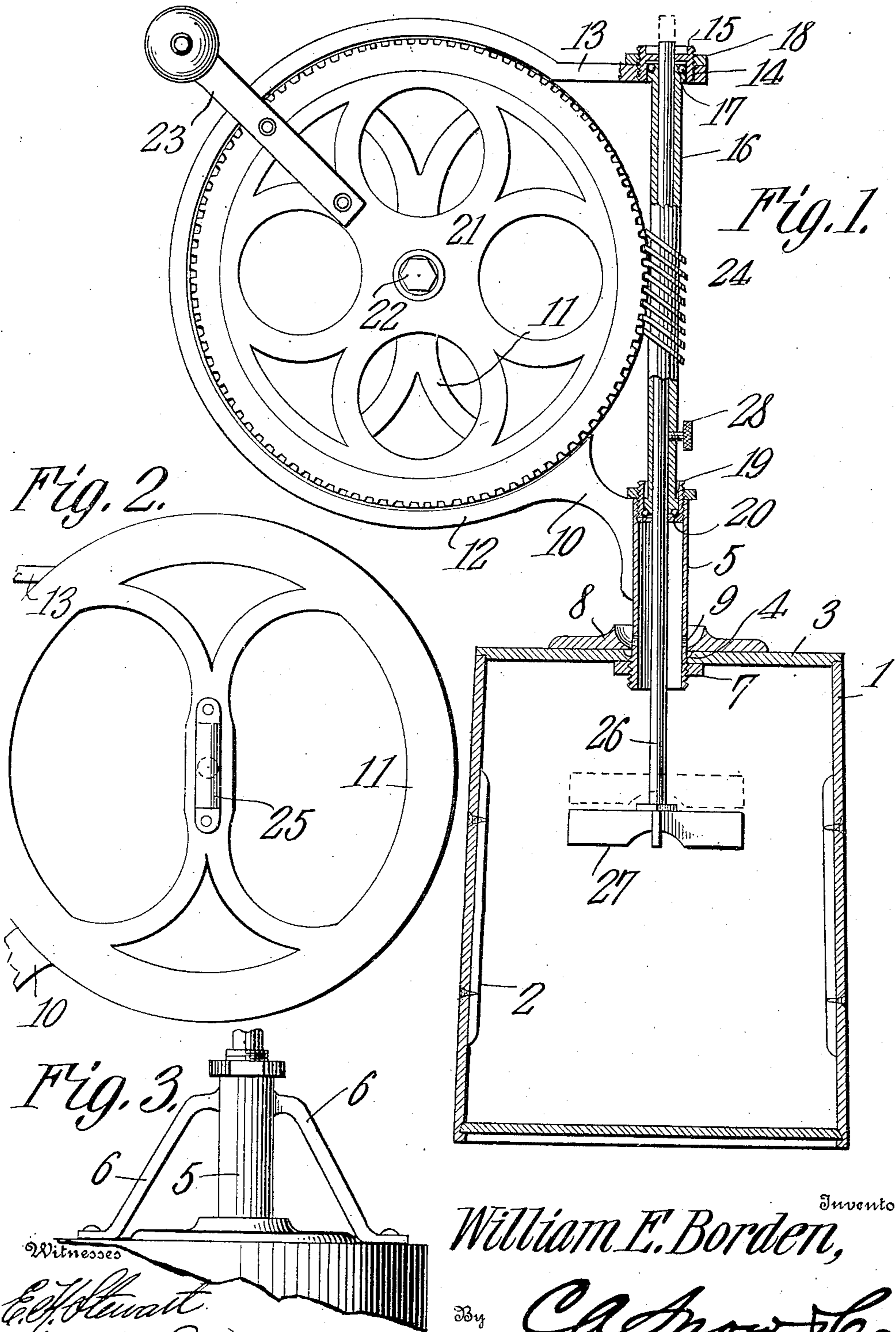


No. 869,876.

PATENTED NOV. 5, 1907.

W. E. BORDEN.  
CHURN.

APPLICATION FILED AUG. 2, 1907.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## CHURN.

No. 869,876.

Specification of Letters Patent.

Patented Nov. 5, 1907.

Application filed August 2, 1907. Serial No. 386,816.

*To all whom it may concern:*

Be it known that I, WILLIAM E. BORDEN, a citizen of the United States, residing at Hillsboro, in the county of Highland and State of Ohio, have invented a new and useful Churn, of which the following is a specification.

This invention relates to churns and its object is to provide mechanism whereby a high speed of rotation may be obtained with the minimum power.

Another object is to provide power mechanism which is of simple, durable and efficient construction and can be readily placed in position upon the top of the churn.

A still further object is to provide a dasher which is adjustably connected to the power mechanism.

With these and other objects in view the invention consists of certain novel features of construction and combinations of parts which will be hereinafter more fully described and pointed out in the claims.

In the accompanying drawings is shown the preferred form of the invention.

In said drawings: Figure 1 is a vertical section through a churn embodying the present improvements. Fig. 2 is a portion of the housing of a drive gear. Fig. 3 is an elevation showing the means for connecting the power mechanism to the top of the churn.

Referring to the figures by characters of reference, 1 designates the churn body which may be of any preferred form and having a desired number of narrow blades 2 secured therein and extending longitudinally thereof, said blades acting as fixed agitators for the liquid thrown thereagainst by the dasher. The top or closure 3 of the churn body has a central opening 4 through which extends a tubular body 5 which may be fastened to the top in any preferred manner as by means of legs 6 which are bolted or otherwise fastened to said top. The lower end of the tubular body is screw threaded and is designed to be engaged by a nut 7 which, when tightened, presses against the lower or inner surface of the top. A cup 8 is secured upon the top and surrounds the tube and that portion of the tube within the cup has apertures 9 so that when water is poured into the cup it will be free to flow through the apertures and thence downward through the tube 5 and into the churn body.

Formed with the tubular body 5 is an arm 10 extending from the lower portion of a substantially circular housing 11. This housing has a flange 12 extending partly therearound and projecting from the upper portion of the housing is an arm 13 formed with a screw threaded opening 14. This opening is located directly above the body 5 and is designed to receive a screw threaded cup 15 in which is revolubly mounted the upper end of a sleeve 16. Balls 17 or other anti-friction devices are interposed between the cup and the end of

the sleeve and a lock nut 18 is preferably located upon the cup to prevent displacement thereof. The other end of the sleeve projects into a cup 19 which is screwed into the upper end of the tubular body 5 and suitable anti-friction devices such as balls 20 are interposed between the bottom of the cup and the adjoining end of the sleeve 16. A worm gear 21 is disposed within the housing 11 and partly surrounded by flange 12 and this gear is mounted to rotate upon a stud shaft 22 extending from the center of the housing. A crank 23 or other suitable device is connected to the worm gear so as to facilitate the manual actuation thereof. A worm 24 is formed upon the sleeve 16 and is engaged by the worm gear so that when said gear is rotated the sleeve 16 will also be revolved. A grip 25 is preferably fastened to the back of the housing so that the same can be steadied by the left hand of the operator while the worm gear is being rotated by the other hand. A stem 26 projects through the tubular body 5 and sleeve 16 and is provided at its lower end with radial blades 27 constituting the dasher. A set screw 28 is screwed into the sleeve 16 and designed to bind upon the stem and hold it in any position to which it may be adjusted.

It is thought that the operation of the mechanism will be fully understood from the foregoing description. When the gear 21 is rotated in the manner heretofore described the worm 24 and sleeve 16 will be revolved at a high speed and as the dasher stem 26 is locked within the sleeve it is apparent that the dasher will also revolve and throw the liquid contents of the churn body against the fixed agitators 2. The height of the dasher can be regulated by adjusting the stem 26 in the manner heretofore described.

What is claimed is:

1. The combination with a churn body, a supporting structure thereon having an opening therein communicating with the interior of the body, and means for directing liquid into the opening; of a sleeve revoluble within the supporting structure, means for rotating the sleeve, adjustable end bearings for the sleeve, a stem adjustably mounted within the sleeve, and a dasher revoluble with the stem.

2. The combination with a churn body, a tubular body portion secured thereon and having openings therein, and a cup surrounding the apertured portion of the body; of a sleeve revoluble within the body, means supported by the body for rotating the sleeve, adjustable bearings for the sleeve, a stem extending through and adjustable within the sleeve and tubular body, means for locking the stem in adjusted position, and a dasher revoluble with the stem.

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

WILLIAM E. BORDEN.

Witnesses:

OLIVE LEMON,

GEORGE H. HETHERINGTON.