

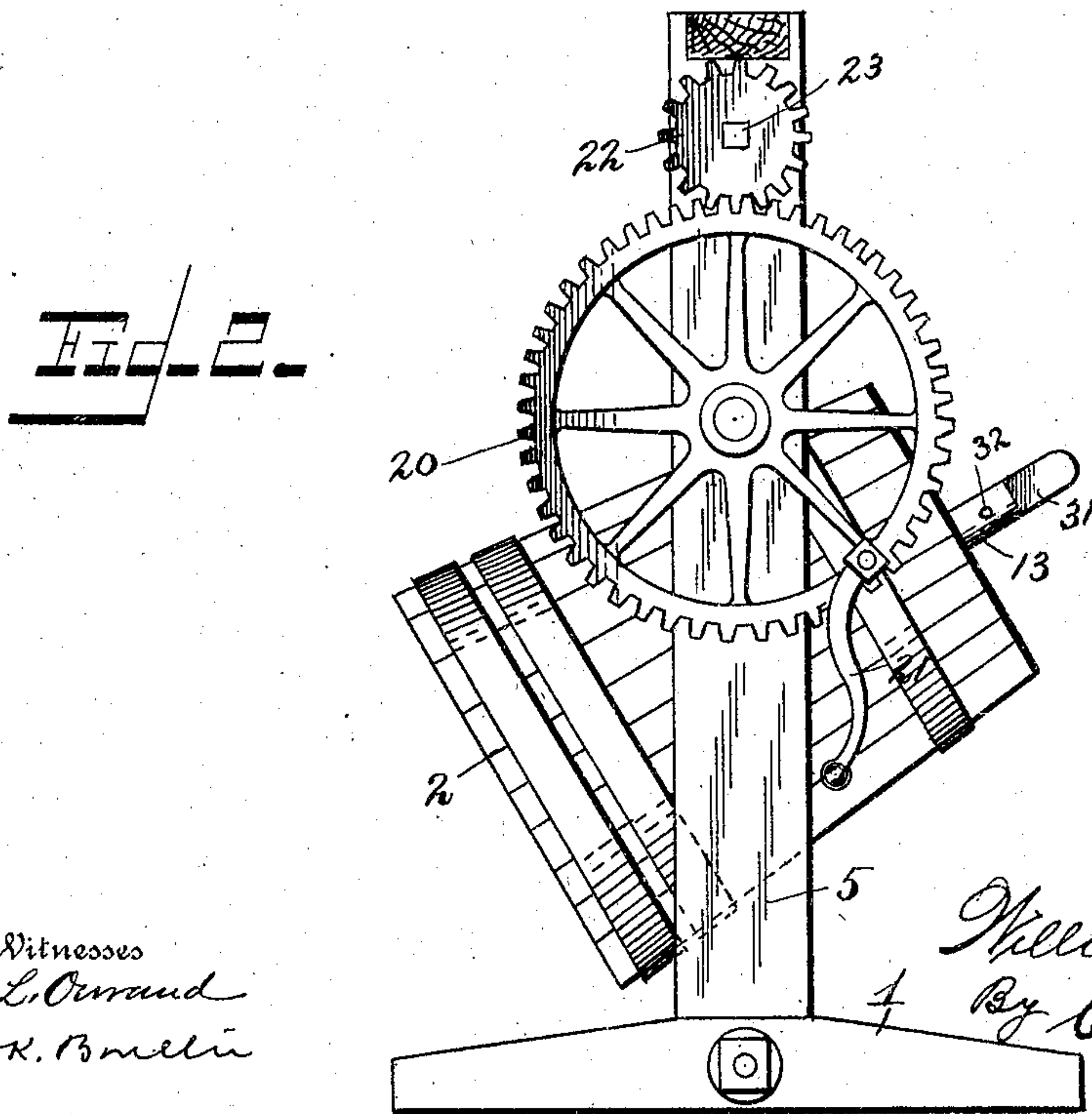
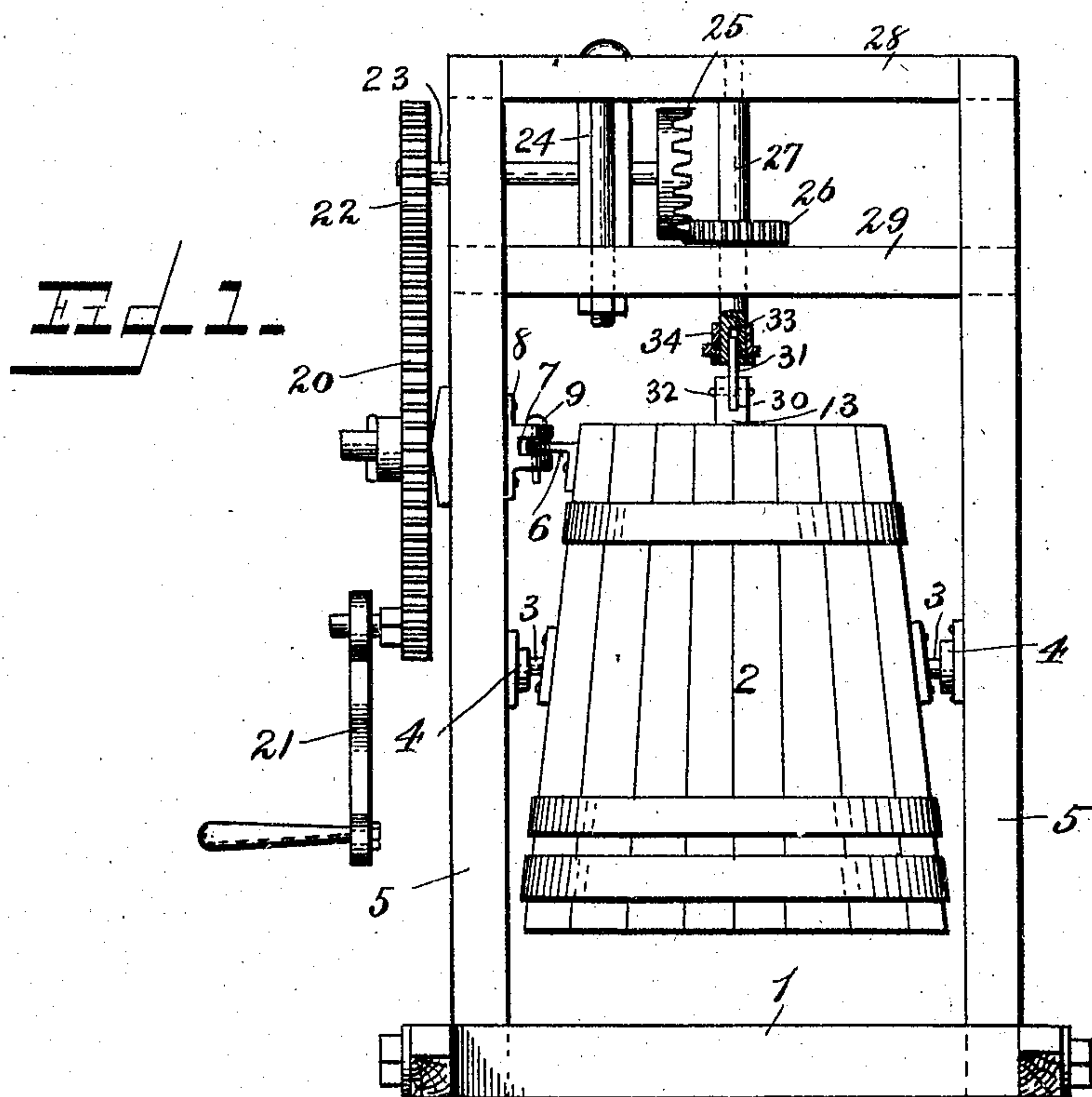
No. 791,632.

PATENTED JUNE 6, 1905.

W. O. LINDGREN.  
CHURN.

APPLICATION FILED MAY 31, 1904.

2 SHEETS—SHEET 1.



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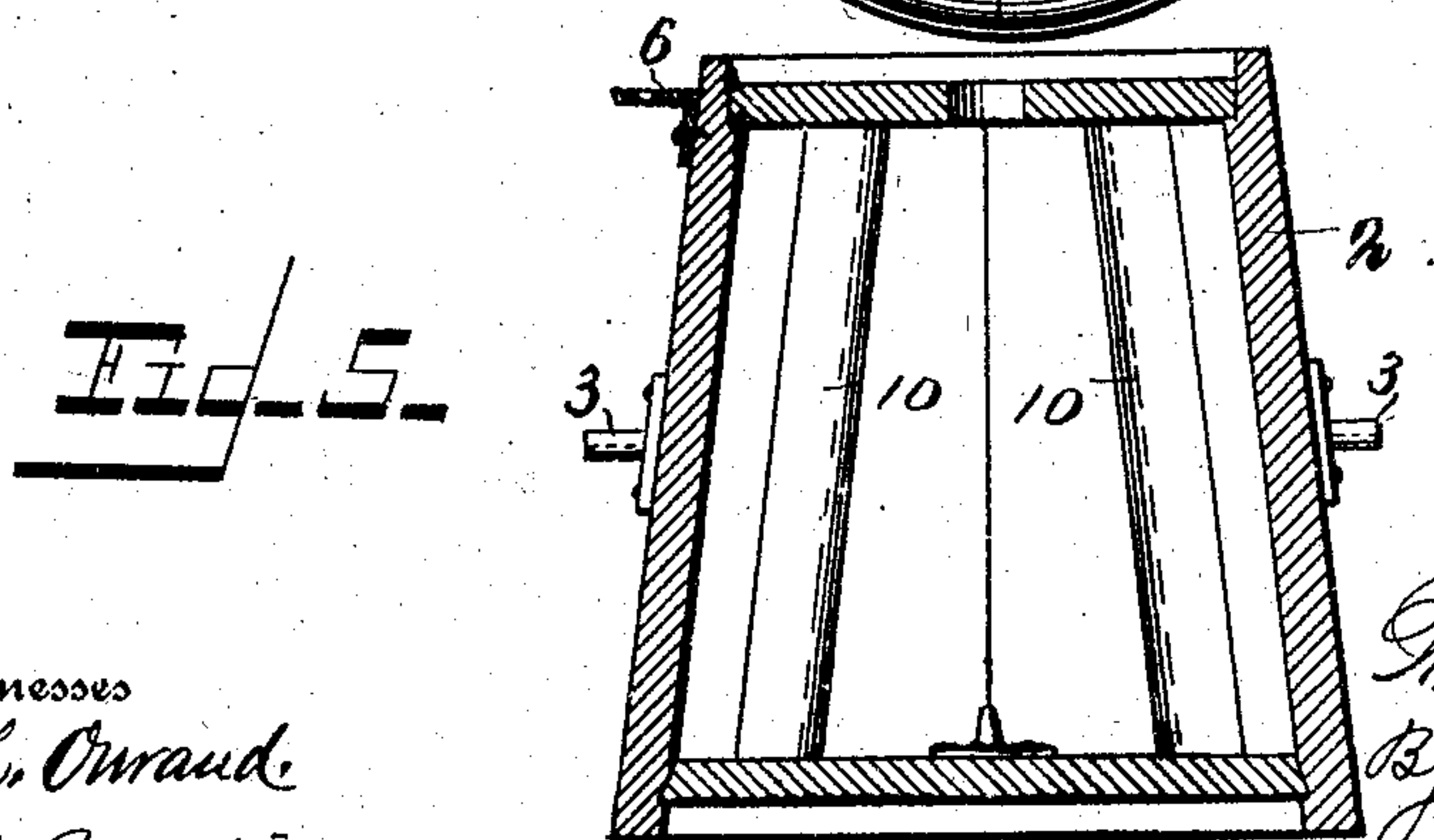
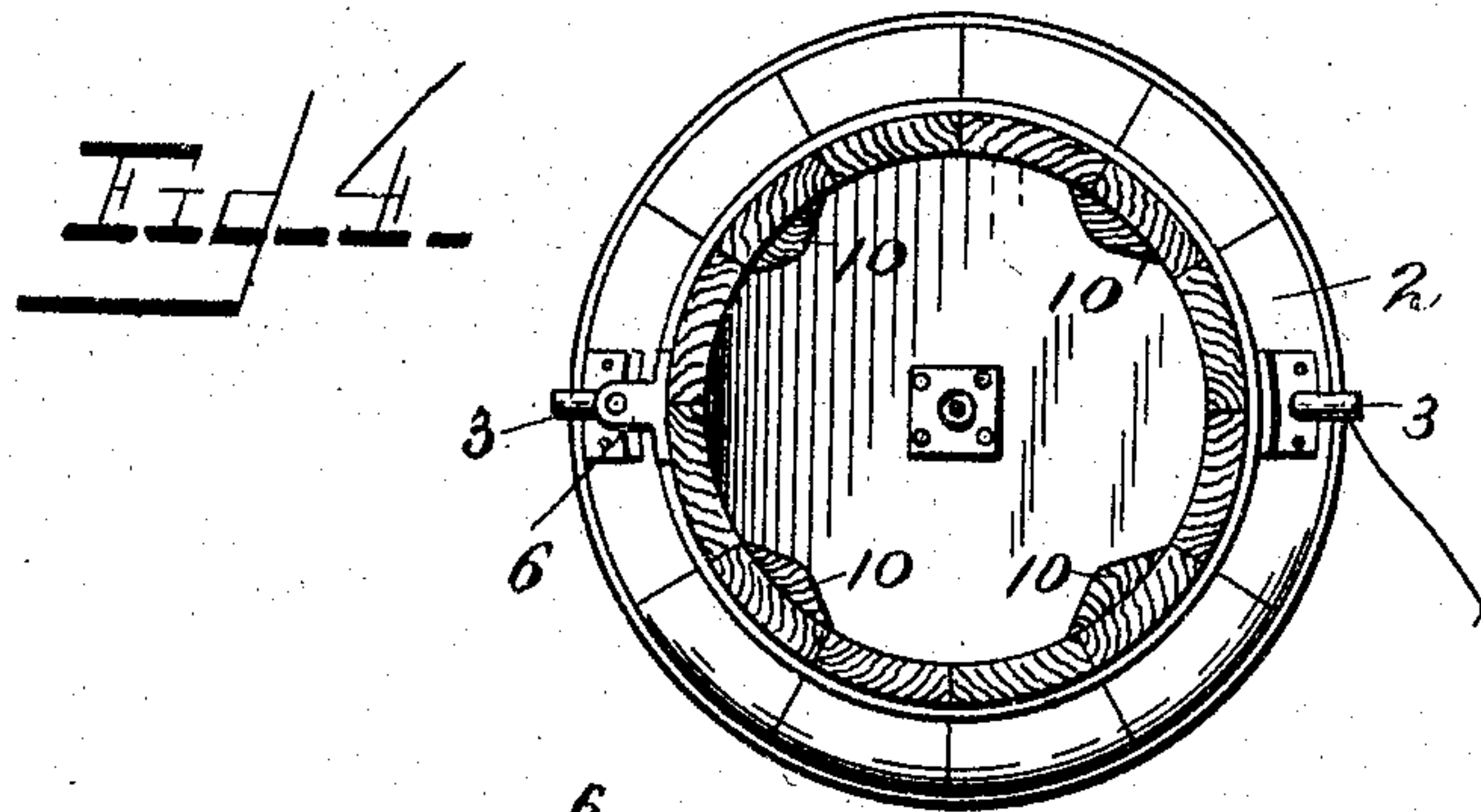
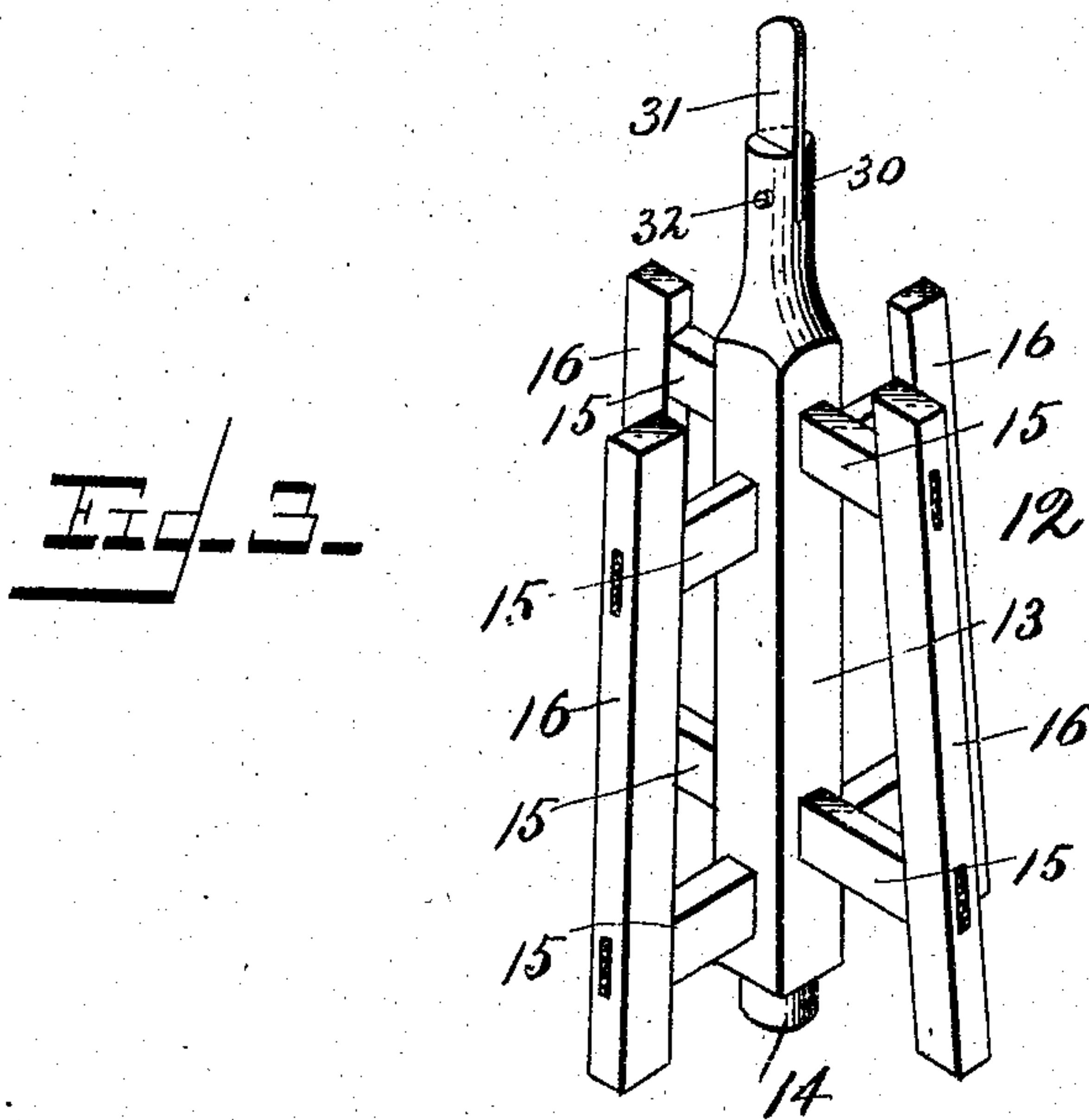
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2 SHEETS—SHEET 2.



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# UNITED STATES PATENT OFFICE.

WILLIE O. LINDGREN, OF LITCHVILLE, NORTH DAKOTA.

## CHURN.

SPECIFICATION forming part of Letters Patent No. 791,632, dated June 6, 1905.

Application filed May 31, 1904. Serial No. 210,557.

*To all whom it may concern:*

Be it known that I, WILLIE O. LINDGREN, a citizen of the United States, residing at Litchville, in the county of Barnes and State of North Dakota, have invented certain new and useful Improvements in Churns, of which the following is a specification.

This invention relates to churns; and among the objects in view is to provide a churn which shall be comparatively simple and inexpensive in its general construction.

A further object is to provide an improved construction of churn-body and dasher by which butter may be quickly produced, and with the described objects in view.

The invention consists in the novel construction, arrangement, and combination of parts, as hereinafter fully described, illustrated in the drawings, and pointed out in the appended claims.

In the drawings, Figure 1 is an elevation of a churn embodying the invention. Fig. 2 is a side elevation of the churn. Fig. 3 is an elevation of the dasher detached. Fig. 4 is a plan view of the churn-body. Fig. 5 is a vertical sectional view of the churn-body.

1 indicates a suitable supporting-framework adapted to support the operative parts of the churn.

2 indicates the churn-body, which, as shown, is of trunco-conical shape, though it may have a cylindrical shape. The body is provided with trunnions 3, which are removably seated in open bearings 4, secured to the uprights 5 of the framework, whereby the body may be tilted for the purpose of enabling the dasher and contents to be readily removed and also to enable the body to be lifted from its bearings and removed from the framework for any desired purpose.

For maintaining the churn-body in proper position during the churning operation I provide a bent metallic strip, plate, or lug 6, secured to the body 2 and adapted to enter a slot 7 of a bracket 8, secured to one of the uprights 5. A pin 9 passes down through aligned perforations in the ears of the bracket and the plate 6, which pin is removed when it is desired to tilt the body.

The interior of the body 2 is provided with

ribs 10 of triangular shape in cross-section. These ribs are adapted to cooperate with the arms or blades of the dasher, presently described, for the purpose of causing the cream to be agitated or churned more quickly and efficiently than if said ribs were not provided. The number of ribs may be varied.

12 indicates the dasher, the same comprising the central hub or shaft 13, provided at the lower end with a trunnion or pivot 14, the arms 15, passed through the shaft, and the arms or blades 16, joining the outer ends of the arms 15. The general shape of the dasher should correspond to that of the churn-body, within which latter it is adapted to operate, and therefore in the present instance it is of conical shape, and the arms or blades 16 should be so positioned that their path of movement when the dasher is rotated would be close to the ribs to thus cause the cream to be thrown against the ribs by the blades.

The means for rotating the dasher comprises a gear-wheel 20, journaled in a bearing secured to one of the uprights 5 and provided with an operating-crank 21. With the gear-wheel 20 meshes a smaller gear-wheel 22, mounted upon the outer end of a shaft 23, which is mounted in said upright 5 and a bearing-block 24. The inner end of the shaft is provided with a bevel-pinion 25, which gears with a bevel-pinion 26, mounted upon a vertical shaft 27, whose upper end has a bearing in the cross-piece 28 of the frame and which passes down through the cross-piece 29 and projects somewhat below the latter. Any other arrangement of gearing for imparting rotation to the shaft 27 may be employed.

Inasmuch as the churn-body is adapted to be tilted, it is necessary that the connection between the shaft 27 and the dasher should be a separable one, and any desired construction which will permit of the dasher being detached from the shaft 27, which imparts rotation to the dasher, may be employed. In the present instance I provide the upper end of the dasher-shaft with a slot 30, within which is fitted a plate 31, secured within the slot by pins 32. The plate is adapted to detachably fit within a slot 33, formed in the lower end of the shaft 27, and a collar 34 is loosely



mounted on the shaft 27, which collar when slipped down over the end of the plate 31 prevents the latter from working out of the slot 33 in the churning operation. By slipping the  
5 collar upwardly to free the upper end of plate 31 the latter is free to move laterally out of the slot 33 when the churn-body is oscillated upon its pivots.

What I claim, and desire to secure by Letters Patent, is—

1. In a churn, the combination with a supporting-frame, of a body portion journaled in the frame and adapted to be tilted, a dasher  
15 rotatably mounted in the body, said dasher having a central hub or shaft provided with a slot at its upper end, a vertical shaft mounted in the frame and provided at its lower end with a slot, a plate secured in the slot of the dasher-shaft and adapted to removably engage  
20 within the slot of the said vertical shaft, a collar slidingly mounted on the vertical shaft, a lug secured to the churn-body, a bracket secured to an upright of the frame and having a slot within which the lug is seated, a pin pass-

ing through aligned perforations in the ears of 25 the bracket and the lug and means for rotating the last-named shaft.

2. In a churn, the combination with a supporting-frame, of a body portion journaled in the frame and adapted to be tilted, a dasher 30 rotatably mounted in the body and comprising a central hub or shaft, arms extending through the shaft and arms or blades joining the outer ends of the arms, the said central shaft having a slot at its upper end, a vertical 35 shaft mounted in the frame and provided at its lower end with a slot, a plate secured in the slot of the dasher-shaft and adapted to removably engage within the slot of the said vertical shaft, a collar slidingly mounted on 40 the vertical shaft and means for rotating the last-named shaft.

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

WILLIE O. LINDGREN.

Witnesses:

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A. J. FITZ GERALD.