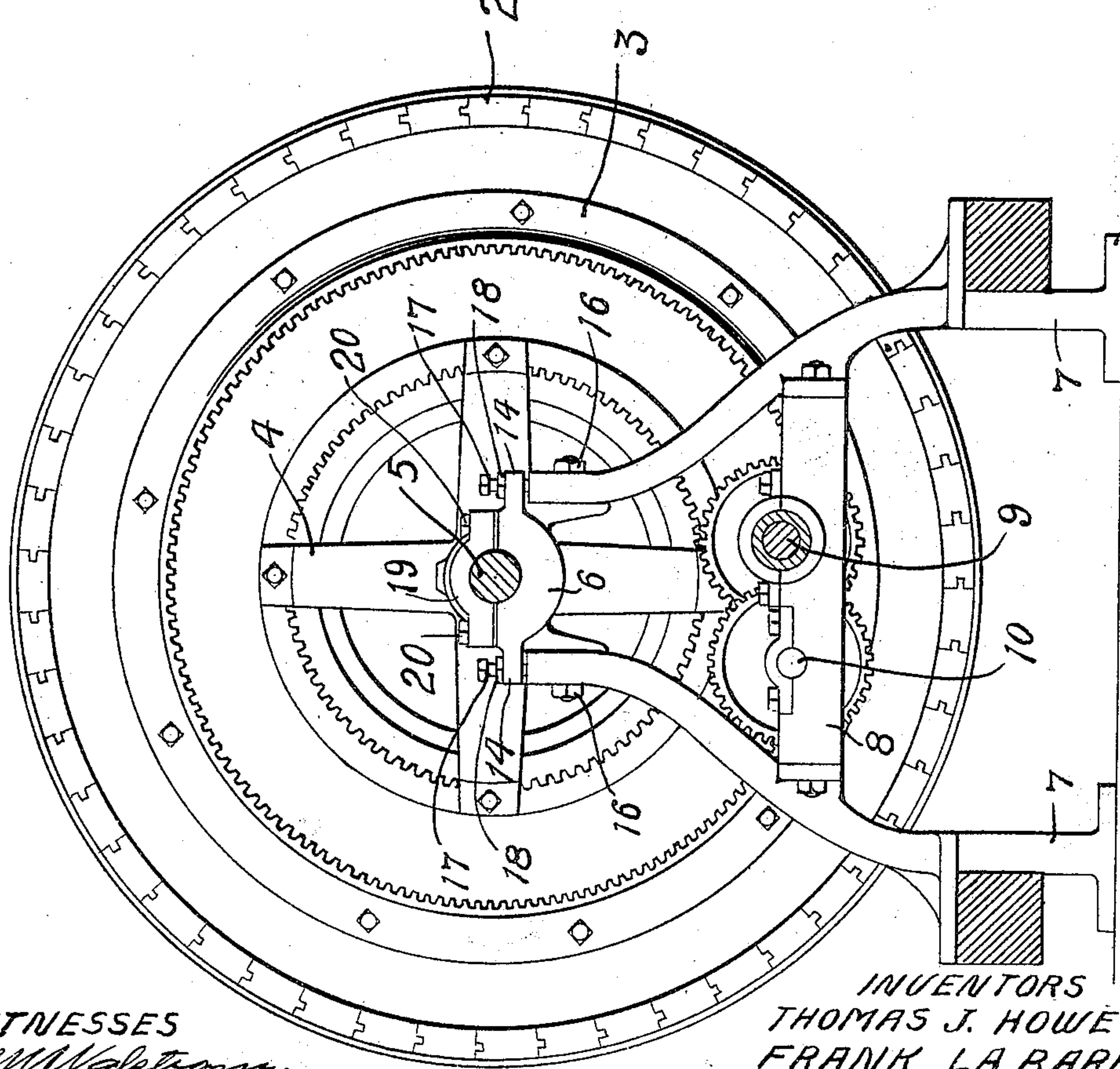
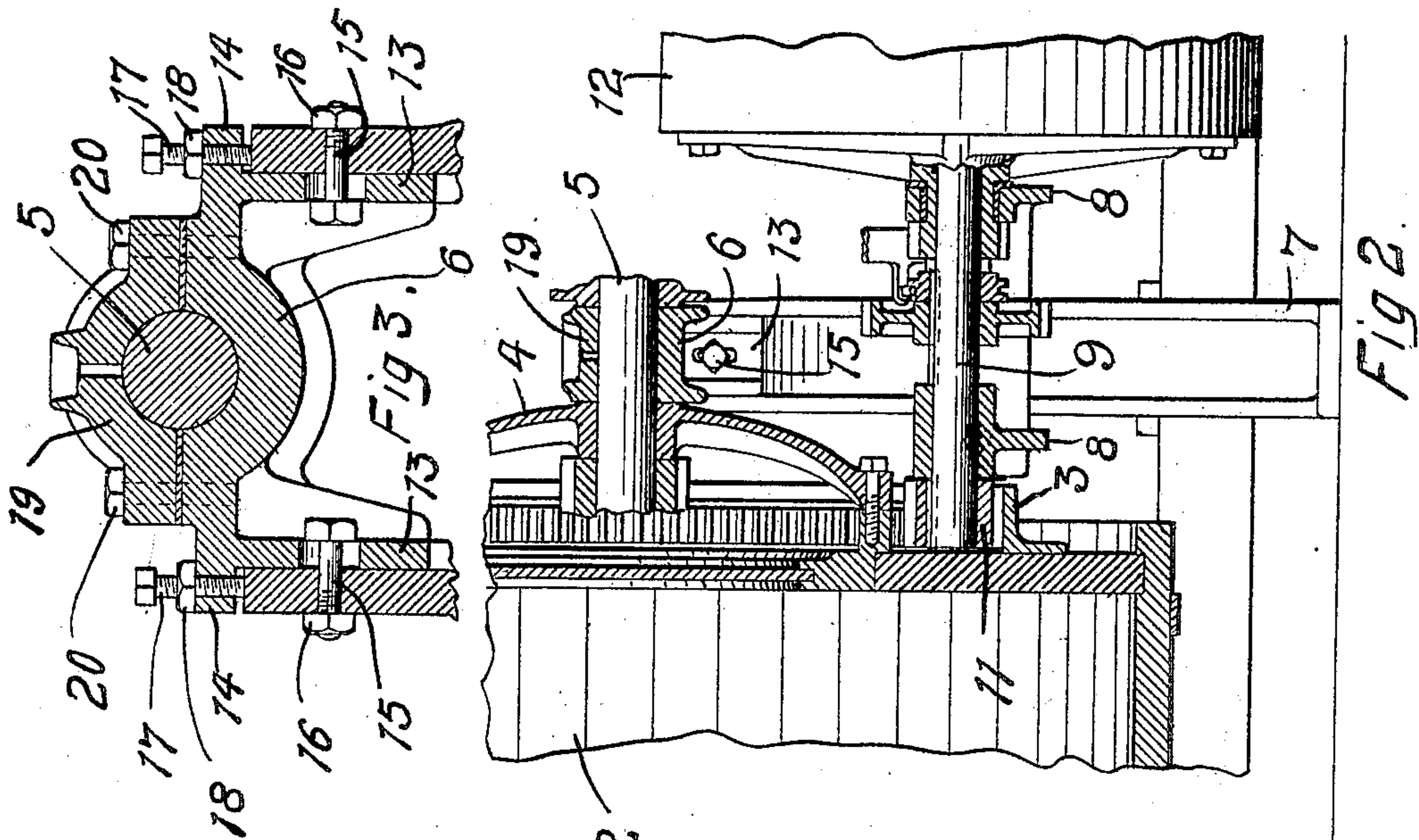


No. 822,674.

PATENTED JUNE 5, 1906.

F. LA BARE & T. J. HOWE.  
COMBINED CHURN AND BUTTER WORKER.

APPLICATION FILED AUG. 12, 1905.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

FRANK LA BARE AND THOMAS J. HOWE, OF OWATONNA, MINNESOTA,  
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MINNESOTA, A CORPORATION OF MINNESOTA.

## COMBINED CHURN AND BUTTER-WORKER.

No. 822,674.

Specification of Letters Patent.

Patented June 5, 1906.

Application filed August 12, 1905. Serial No. 273,895.

*To all whom it may concern:*

Be it known that we, FRANK LA BARE and THOMAS J. HOWE, of Owatonna, in the county of Steele, State of Minnesota, have invented certain new and useful Improvements in a Combined Churn and Butter-Worker, of which the following is a specification.

This invention relates to improvements in combined churns and butter-workers; and the objects we have in view are to provide a machine of this class with means whereby the churn-supporting bearing may be readily adjusted, so as to insure at all times the proper relation between the driving-shaft and the churn barrel or drum; also, to provide simple and efficient means for supporting the churn-driving mechanism.

Other objects of the invention will appear from the following detailed description, taken in connection with the accompanying drawings, in which—

Figure 1 is an end elevation of a churn embodying our invention. Fig. 2 is a partial longitudinal section of the same. Fig. 3 is a vertical section of the bearing-block and its support and adjusting means.

In the drawings, 2 represents a suitable churn drum or cylinder, preferably provided upon its end with an internal ring-gear 3. The churn-barrel is also provided with a spider 4 and gudgeon 5, said gudgeon being supported in a bearing-block 6.

77 represent the legs of the machine, which are usually formed of cast metal and are separated at their upper ends to receive and support the bearing-block, as hereinafter described. These legs have secured to them a bridge-tree 8 8, upon which the driving-shafts 9 and 10 of the machine are supported. These driving-shafts are arranged to drive the drum of the churn at a high or a low speed, and one of the shafts 9 is provided with a pinion 11, that meshes with the internal ring-gear 3. We do not need to describe the details of construction of the two-speed gearing. A belt-pulley 12 is provided, by means of which power may be applied to drive the machine. The bearing-block 6 is provided with the downwardly-depending webs or plates 13, which fit between the upper ends of the legs 7. This block is also provided with the flanges 14, extending over the upper ends of said legs. The webs 13 are

preferably slotted and are provided with the locking-bolts 15, which pass through said slots and through suitable holes in the legs 7 and are held in position by the nuts 16. Suitable adjusting-screws 17 are arranged in the flanges 14, their lower ends bearing upon the tops of the legs 7. Suitable locking-nuts 18 are provided upon said screws. A cap 19 is provided for the bearing-block 6, said cap being held in position by suitable screws 20.

Operation: The drum-driving shaft, it will be noted, is mounted in bearings on the bridge-tree, and said bridge-tree is rigidly and permanently secured to the legs 7, and said bridge-tree forms the means for connecting said legs. There is therefore always a permanent and fixed relation between the bridge-tree and the legs and also between the shaft for driving the drum and the pinion thereon that engages the ring-gear on the drum and said legs. The shaft or gudgeon 5, supporting the drum, is mounted, as already stated, in the bearing-block 6, and it follows that by raising or lowering the bearing-block 6 the ring-gear on the end of the drum may be adjusted toward or from the driving-pinion 11. By loosening the nuts 16 upon the bolt 15 and turning the screws 17 the bearing-block 6 may be raised or lowered and the ring-gear may be adjusted toward or from the pinion 11. There is a great strain in the operation of large machines upon the pinion and the internal ring-gear with which it is in mesh, and to secure the best results it is desirable to have these parts properly in engagement at all times. This can be accomplished by adjusting the bearing-block 6 in the manner already described. This block also serves as means for connecting the upper ends of the legs, while the bridge-tree 8 serves to connect the legs at or near the center thereof. This construction is simple, inexpensive, and very durable.

We claim as our invention—

1. In a machine of the class described, the combination, with a drum and a ring-gear arranged thereon, of suitable supporting-legs, a bridge-tree secured to said legs, a driving-shaft supported upon said bridge-tree and provided with a pinion engaging the ring-gear on the drum, an adjustable bearing-block supported upon said legs, and a shaft or gudgeon secured to the end of the drum



and supported in said bearing-block, for the purpose set forth.

2. The combination, in a machine of the class described, with the churn-drum provided with a central gudgeon, and a ring-gear on the end of said drum, of suitable supporting-legs, a bridge-tree secured to said legs, a driving-shaft supported upon said bridge-tree and provided with a pinion engaging said ring-gear, a bearing-block arranged upon said legs and provided with webs projecting between the same, means for adjustably securing said block to said legs and means for raising or lowering said block, substantially as described.

3. The combination, in a machine of the class described, with the drum provided with a central gudgeon and a ring-gear on the end of said drum, of the supporting-legs 7, the bearing-block 6, in which the drum-gudgeon is mounted, provided with the webs 13 and flanges 14, engaging said legs 7, suitable adjusting and locking screws for said bearing-block, a bridge-tree secured to said legs, and a driving-shaft supported on said bridge-tree and provided with a pinion engaging said ring-gear, substantially as described.

4. In a machine, of the class described, the combination, with the drum provided with a central gudgeon and a ring-gear on the end of said drum, of the supporting-legs 7 and

bridge-tree 8 secured to said legs, a driving-shaft supported upon said bridge-tree provided with a pinion engaging said ring-gear and bearing-block 6, supporting the central gudgeon of the drum and provided with the webs 13 extending downwardly between the legs 7, and the bolts 15 extending through slots in said webs and locking said webs to said legs, substantially as described.

5. The combination, in a machine of the class described, with the churn-drum provided with the central gudgeon, and a ring-gear on the end of said drum, of the legs 7, a bridge-tree secured to said legs, a driving-shaft supported on said bridge-tree and provided with a pinion engaging said ring-gear, the bearing-block 6 in which the central gudgeon of the drum is mounted, provided with the webs 13 extending downward between said legs, and the flanges 14 extending over the tops of said legs, the locking-bolts engaging said webs, and adjusting-screws arranged in said flanges, substantially as described.

In witness whereof we have hereunto set our hands this 4th day of August, 1905.

FRANK LA BARE.  
THOMAS J. HOWE.

Witnesses:

LEWIS L. WHEELLOCK,  
PAUL A. WHEELLOCK.