F. W. COOPER.

CHURN.

APPLICATION FILED JUNE 30, 1908.

913,621. Patented Feb. 23, 1909.

Fig. 1.

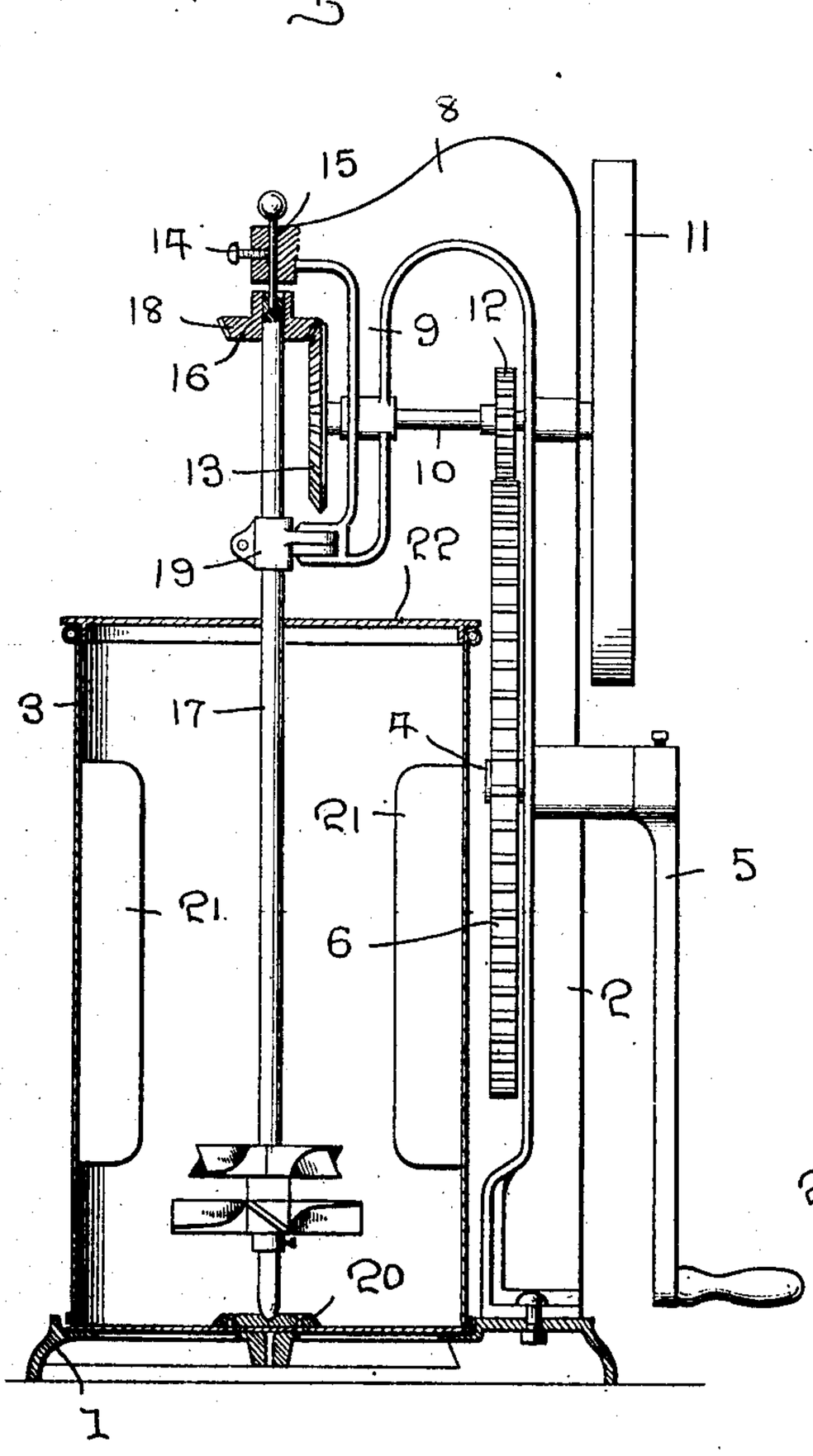


Fig. 3.

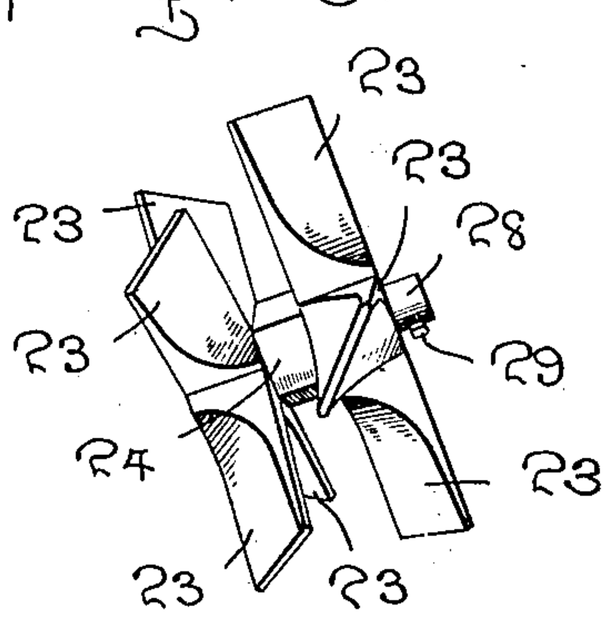
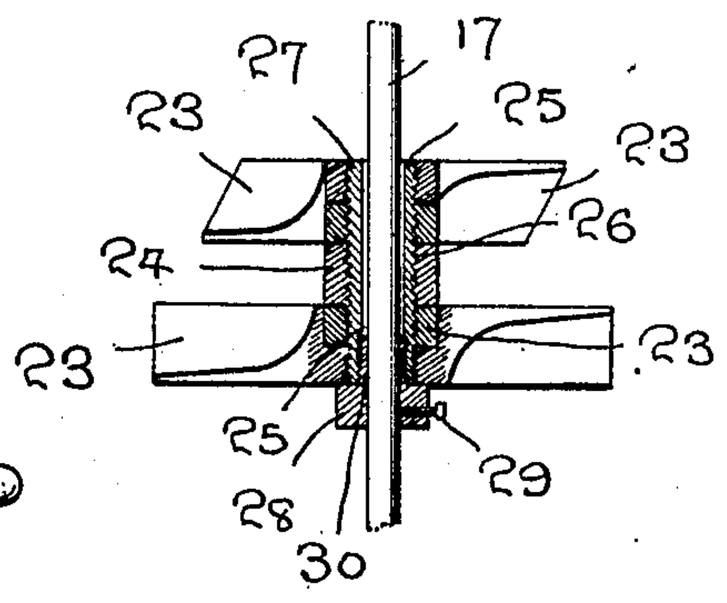


Fig. 2.



WITNESSES:

Thos. W. Pilley

E. A. Hill

INVENTOR

F. W. Cooper

BY

W. J. FitzGerald & Co

Attorneys

UNITED STATES PATENT OFFICE.

FREDERICK W. COOPER, OF CHARLEROI, PENNSYLVANIA, ASSIGNOR TO CHARLES O. FRYE, J. J. HOTT, CARY PIPER, AND CHARLES A. SPERBER.

CHURN.

No. 913,621. Specification of Letters Patent. Patented Feb. 23, 1909.

Application filed June 30, 1908. Serial No. 441,131.

To all whom it may concern:

Be it known that I, FREDERICK W. COOPER, a citizen of the United States, residing at Charleroi, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Churns; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to churns and pertains more particularly to the dasher blades thereof.

It is an object of the invention to provide a novel device of this character wherein the dasher blades may be properly held by the dasher shaft.

It is also an object of the invention to provide a novel device of this character which will be simple in construction, efficient and advantageous in practice and comparatively inexpensive to manufacture.

With the above and other objects in view the invention consists in the details of construction and in the novel arrangement and combination of parts to be hereinafter more particularly referred to.

In describing the invention in detail reference will be had to the accompanying drawings forming part of this specification wherein like characters of reference denote corresponding parts in the several views, and in which,

Figure 1 is a view partly in section and partly in elevation of a churn and its operating mechanism, illustrating the invention applied. Fig. 2 is an enlarged sectional view, illustrating the invention in detail, and, Fig. 3 is a view in perspective of the invention detached and in assembled relation.

In the drawings 1 denotes the base from which is erected the upright 2. Resting upon the base 1 is the churn body 3. Journaled in the upright 2 is the shaft 4 which has affixed thereto the operating handle 5 and a gear wheel 6. The upper portion of the upright 2 is carried forward, as at 8 and is provided with the depending portion 9.

Mounted in the depending portion 9 and the upright 2 is the countershaft 10 which projects beyond the upright and has secured to said projecting portion the balance wheel 11. Said counter shaft is provided with a gear wheel 12 which meshes with the gear wheel 6. The shaft 10 is further provided with the bevel gear 13. Extending vertically through a perforation in the top section 8 and held in position therein by a set screw 14 is a pin 15. This pin 15 extends within a recess 16 in the upper end of the dasher shaft 17 and said dasher shaft has fixed upon its upper end the bevel gear wheel 18 which meshes with the bevel gear wheel 13 before referred to. The shaft 17 also passes through clips 19 pivotally held by the lower end of the depending portion 9. The lower end of the shaft 17 rests in the bearing 20 attached to the bottom of the churn body 3. Within the churn body 3 there is provided a plurality of vertical breakers 21 and said churn body is further provided with a cover 22. The dasher is attached to the shaft 17 adjacent the lower end thereof and consists, preferably, of two sets of wooden blades positioned one above the other having their faces arranged on a proper bevel. It has been found best that each set consist of two blades 23 arranged at right angles to and mortised into each other, and each set is separated a desired distance one from the other by the interposed block or spool 24.

The overlapping portions of the blades 23 are provided with openings 25 which are adapted to register with an opening 26 in the spool 24. Through these openings 25 and 26 is threaded a metallic sleeve 27 which loosely embraces the shaft 17. It will thus be seen that the sleeve 27 efficiently locks the various parts of the dasher and in assembling the device it has been found best that the openings 25 and 26 be of less diameter than the diameter of the sleeve 27, as is thought to be obvious.

In order that the dasher may be held against movement on the shaft 17 a collar 28 snugly embraces said shaft and said collar has threaded therethrough a set screw 29 adapted to bind against the shaft 17 and hold the collar 28 against movement thereon. This collar 28 is provided with an exteriorly threaded boss 30 which is adapted to engage an interiorly threaded end portion of the sleeve 27.

While there has been shown but two sets of blades it is to be understood that as many may be employed as desired, although it has been found in practice that two sets perform their functions with great facility. It has also been found desirable that these blades

be formed of wood as the butter will not stick to wood, thus overcoming a great objection to metal dashers.

I claim:

A dasher of the class described, comprising a shaft, pairs of blade members applied to said shaft, the blades of each pair extending at right angles to each other and mortised together and having openings through their mortised portions, blocks interposed between each pair of blades and having openings co-incident with the openings in said blades, an exteriorly threaded sleeve adapted to be secured through said openings to said blocks and blades, a collar having a threaded surface at one end engaging a corresponding surface at one end of said sleeve and means for locking said collar upon said shaft.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FREDERICK W. COOPER.

Witnesses:

CHARLES O. FRYE,

CHARLES A. SPERBER.