

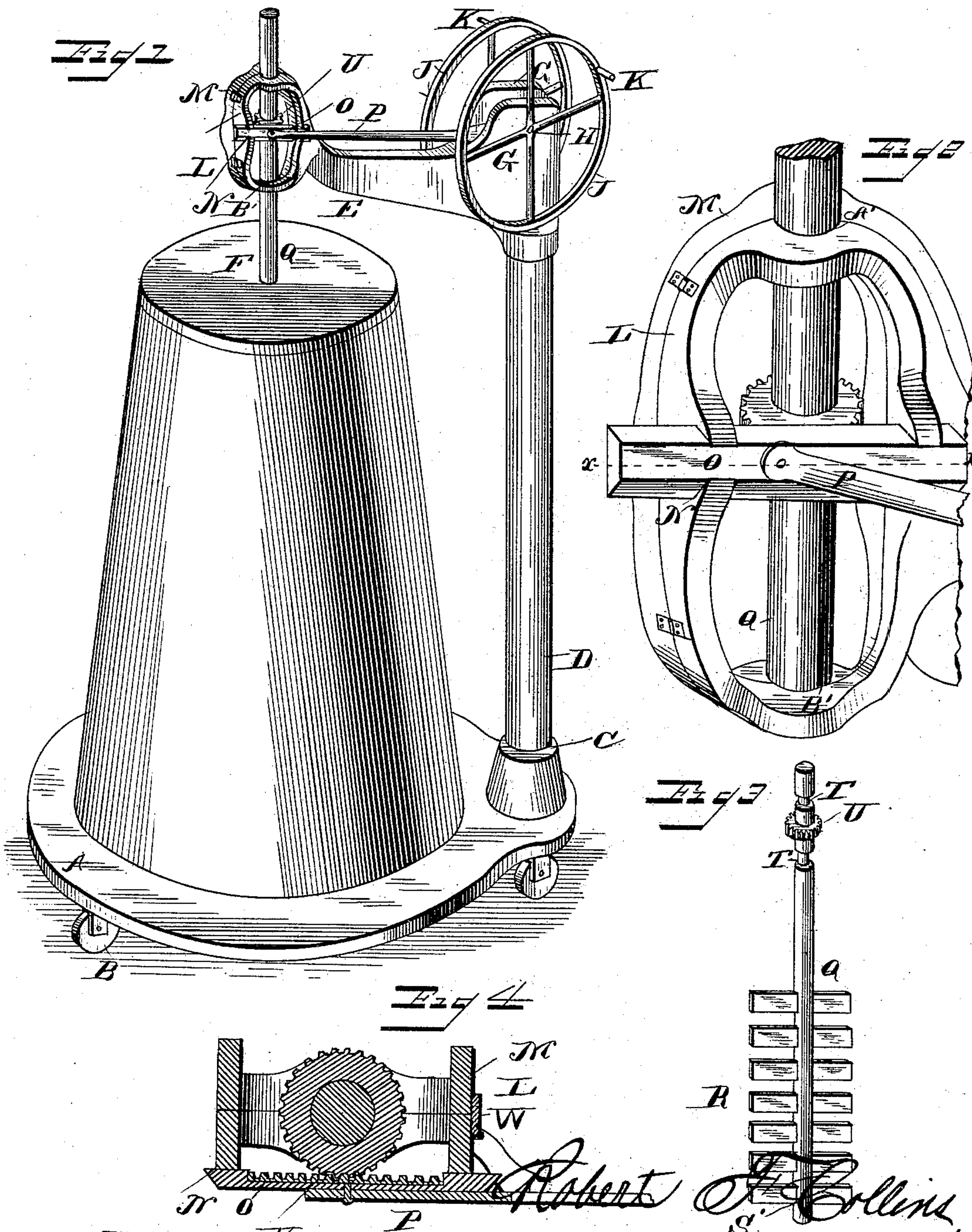
(No Model.)

R. F. COLLINS.

CHURN.

No. 378,770.

Patented Feb. 28, 1888.



WITNESSES
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UNITED STATES PATENT OFFICE.

ROBERT FULTON COLLINS, OF MANCHESTER, OHIO.

CHURN.

SPECIFICATION forming part of Letters Patent No. 378,770, dated February 28, 1889.

Application filed September 17, 1887. Serial No. 249,953. (No model.)

To all whom it may concern:

Be it known that I, ROBERT FULTON COLLINS, a citizen of the United States, and a resident of Manchester, in the county of Adams and State of Ohio, have invented certain new and useful Improvements in Churns; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my new and improved churn and churn-power. Fig. 2 is a perspective detail view, on an enlarged scale, of the churn-power. Fig. 3 is detail view of the churn-dasher, and Fig. 4 is a horizontal sectional view taken on line *xx* of Fig. 2. The same letters of reference indicate corresponding parts in all the figures.

My invention relates to churns, and more particularly to motive powers for operating the same, or for similar purposes; and it consists in the new and improved construction, arrangement, and combination of parts, which will be hereinafter fully described and claimed.

Referring to the several parts by letter, A indicates a movable cast foundation or base-piece which is supported upon four wheels, B, more or less, and on which the churn-barrel rests.

In a socket, C, formed on one side of the base-piece A, is secured the lower end of an upright, D, preferably of wood, and upon the upper end of which is secured the casting E, in which are supported the principal parts of the operative mechanism. This bracket or casting E is in the form of a large arm which extends inward over the top of the churn-body F, and which is formed at its upper outer end with the parallel ears or upward projections, G G, in which is mounted the transverse crank-shaft H, having an ordinary double crank between the said ears. On the ends of this crank-shaft are mounted large balance-wheels J J, having each a handle, K, by means of which the churn may be operated from either side; and it will be seen that by placing a balance-wheel on each end of the crank-shaft the said balance-wheels will counterbalance each other, and thus cause the machinery of the

motive power of the churn to run smoothly, evenly, and easily.

The inner end of the arm of casting E is formed with the bearing-frame L M, the side or half M of this end frame being separate from the side L and hinged to the same at its outer edge, as shown, so that it can be swung open to insert and remove the dasher-rod, as hereinafter described. The outer side of the stationary half L of this end frame is formed with the transverse bearings N N, in which slide and reciprocate the rack-bar O, which is centrally pivoted on its outer side to the inner end of a pitman, P, which is pivotally mounted at its other end upon the crank of the crank-shaft I, so that as the said shaft is rotated by turning either of the balance-wheels J the pitman will be reciprocated and the rack-bar drawn or reciprocated back and forth, as will be readily understood.

Q indicates the dasher-rod, in the lower portion of which are secured the transverse blades R, which extend on each side of the rod, being secured centrally in mortises or transverse slots S, formed in the dasher-rod. Near its upper end the dasher-rod is formed with the two annular grooves T T, placed at a suitable distance apart, and between these grooves is secured upon the rod a pinion, U, as shown, the teeth of which are adapted to mesh with the teeth of the metallic rack V, which is secured upon the inner side of the wooden rack-bar O.

The hinged half of the inner end frame of the casting E is secured in its closed position by the turn-button W, or, in fact, by any suitable fastening device. To place the dasher-rod in position within this end frame, after the dasher itself has been placed in the churn-body, this turn-button is turned and the hinged half M swung open, when the upper end of the dasher-rod is placed in position within the end frame, so that the pinion U will mesh with the teeth of the rack-bar, to which the inner end of the pitman is pivotally secured. The inner sides of the halves of the end frame of the casting E are formed with the bearings A' B', which fit in the annular grooves T T, formed in the upper end portion of the dasher-rod, above and below the pinion thereof, when the hinged half M is closed, or swung in, and secured in its closed position by turning the button W. By this arrangement it will be

seen that the churn-dasher can be readily placed in operative position and as readily removed, and that when secured in position it will be held firmly and securely, while at the same time it will be permitted to rotate freely and easily. The dasher-rod having been thus secured in position within the end frame of the casting E and the cream placed in the churn-body and the cover thereof put on, the dasher is rapidly rotated by turning either one of the two end balance-wheels, J, which revolve the crank-shaft on the ends of which they are secured, and thus reciprocate the pitman P, and as the said pitman is secured at its inner end pivotally to the rack-bar which carries the rack which meshes with the pinion of the dasher-rod, it will be seen that each revolution of the balance-wheels will give the rack-bar a horizontal back and a forward movement sufficient to turn the dasher-rod once around and back again.

From the foregoing description, taken in connection with the accompanying drawings, the construction, operation, and advantages of my invention will be readily understood.

It will be seen that my invention is comparatively simple in construction, and is very strong and durable, and can be manufactured at a comparatively small cost and that it is exceedingly efficient in its operation. The motive power will run easily and lightly, as the two balance-wheels will counterbalance each other and cause the mechanism to run evenly and easily, so that but little exertion will be required to operate the churn and the labor of churning will thus be greatly reduced. The number of paddles or blades on the dasher

will be governed by the size of the churn. From five to eight will be required.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. The combination, with the dasher-rod having the pinion secured upon it and formed with the annular grooves, of the bracket having the perforated ears and the frame at its inner end formed of the stationary and hinged halves having the bearings, the crank-shaft, the balance-wheels having the operating-handles, the pitman, and the bar having the rack reciprocating in the hinged frame, substantially as set forth.

2. The combination, with the base-plate mounted upon the rollers and formed with the socket, of the upright, the casting formed with the perforated ears, and the frame at its inner end formed of the stationary and hinged halves having the bearings, the crank-shaft, the balance-wheels having the operating-handles, the pitman, the bar having the rack reciprocating in the hinged frame, and the dasher-rod having the paddles or blades secured in the slots in its lower portion, formed at its upper end with the annular grooves, and having the pinion secured upon it between the said grooves, all substantially as and for the purpose set forth herein.

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

ROBERT FULTON COLLINS.

Witnesses:

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