(No Model.)

T. J. PRICE.

CHURN POWER.

No. 492,429. Patented Feb. 28, 1893.

Fig. 1

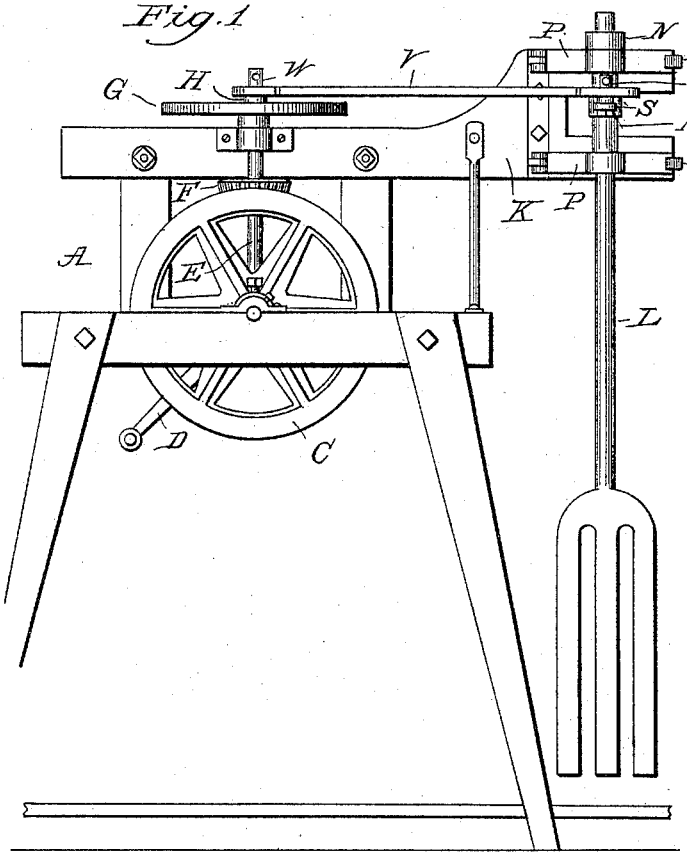


Fig. 3.

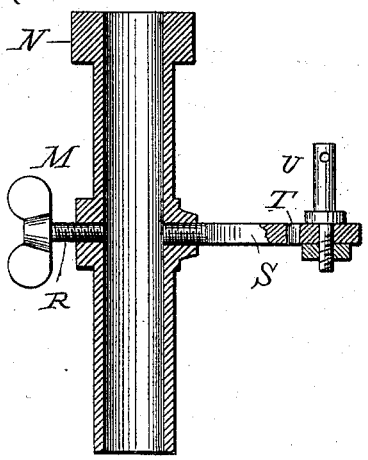


Fig. 2.

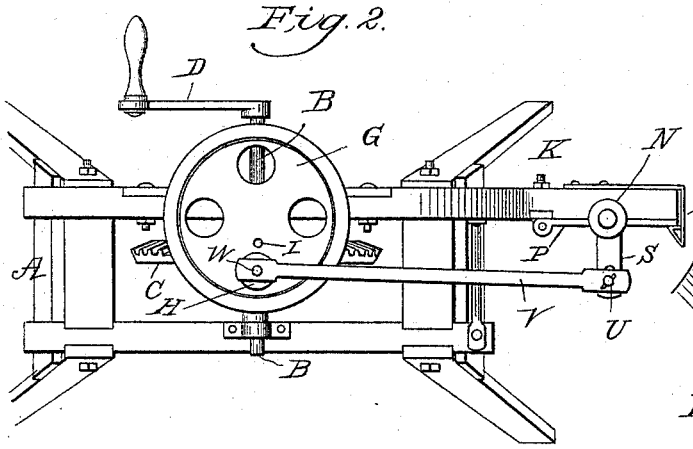
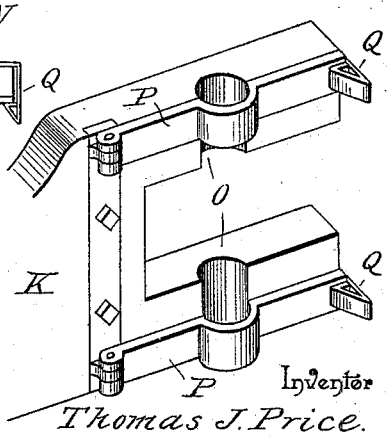


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS J. PRICE, OF MONROE, NORTH CAROLINA.

CHURN-POWER.

SPECIFICATION forming part of Letters Patent No. 492,429, dated February 28, 1893.

Application filed September 10, 1892. Serial No. 445,501. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. PRICE, a citizen of the United States, residing at Monroe, in the county of Union and State of North Carolina, have invented a new and useful Churn-Power, of which the following is a specification.

My invention relates to improvements in churn-powers the object of my improvement being to provide a power by means of which the length of stroke of the dasher may be varied at will, and whereby a rapid stroke of the same may be accomplished by an easy rotation of the crank-shaft.

A further object of my invention is to attain simplicity, compactness, and strength of construction, with adjustability and detachability of the parts.

Further objects of my invention will appear hereinafter, and the novel features will be particularly pointed out in the appended claims.

In the drawings: Figure 1 is a side view. Fig. 2 is a plan view. Fig. 3 is a vertical sectional view of the dasher-staff support. Fig. 4 is a detail of the sleeve bearing and hinged bars for holding the same in its bearing.

A represents the frame of the churn power, upon which is mounted the main shaft B, carrying the bevel-gear C, and the crank D. A belt-pulley may be substituted for the crank when other than hand-power is to be employed.

E represents a vertical shaft, carrying a bevel-pinion F, which meshes with the said gear-wheel, a heavy horizontal fly wheel or disk G being attached to the upper end of said vertical shaft. Upon the upper side of the fly wheel or disk is arranged the crank pin W, adapted to be arranged in any one of a series of perforations I in the disk.

The frame of the power is carried forwardly to form the arm K, upon which is mounted the dasher-staff L. The upper end of this staff is fitted in a bearing-sleeve M, provided at its upper end with a collar N, and mounted in bearings O which are found in the supporting arm K. These bearings consist of half-bearings, formed in the arm K, and co-acting half-bearings formed in the hinged bars P, which are held in place by retaining springs Q, attached to the end of the supporting arm. The sleeve M is held in its place in these bearings by the collar N, which engages the upper side of the upper bearing, and the dasher-staff fits in the said sleeve and is held in place by a thumb-screw R. To the sides of the sleeve is attached a lateral crank-arm S, provided at its extremity with a series of perforations T to receive the vertical pin U, the pitman V being mounted at one end upon the said pin and at the other end upon the crank pin W.

It will be seen that the relative sizes of the bevel gear and pinion will cause the latter to be rotated more rapidly than the former in about the proportion of four to one, the dasher-staff, which is capable of making about one-third of a complete revolution, is correspondingly vibrated at the rate of four strokes to one revolution of the crank-shaft.

By arranging the vertical pivot-pins in different perforations of the disk, the throw of the dasher-staff may be adjusted at will and the power, which is applied to said staff, may be altered to suit the amount of contents of the churn.

It will be seen that the sleeve M is detachable from the supporting-arm, and that by means of the thumb-screw the dasher-staff may be dropped from the sleeve when the churning has been completed.

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

1. In a churn-power, a vertically-mounted sleeve provided with a thumb-screw, a crank-arm attached to said sleeve, and a dasher-staff fitted in the sleeve and engaged by the thumb-screw, in combination with a vertical shaft, a disk carried by the shaft, a pitman connecting said disk and crank-arm, and means to operate the shaft, substantially as specified.

2. In a churn-power, a sleeve mounted in vertically-aligned bearings and held in place by hinged bars as described, such sleeve being provided with a crank-arm and a thumb-screw, a dasher-staff detachably fitted in said sleeve, and means for operating the sleeve, substantially as specified.

3. In a churn-power, the combination of a supporting-arm provided with vertically-aligned half-bearings, hinged bars connected to said arm having corresponding half-bearings, retaining-springs to engage the free ends

of said bars, a sleeve mounted in the bearings and carrying a crank-arm, a dasher-staff fitted in the sleeve, a horizontal fly-wheel or disk provided with perforations, a crank-pin engaging one of such perforations, a pitman connecting said crank-arm and crank-pin, and means to operate the fly-wheel or disk, substantially as specified.

4. In combination with a supporting-frame, a bar K provided with vertically-aligned half-bearings, hinged bars P provided with co-acting half-bearings, means to lock such bars in their operative positions, a sleeve fitted in said bearings and provided with a collar to engage the upper bearing, a dasher-staff fitted in the sleeve, and means to operate the latter, substantially as specified.

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

THOMAS J. PRICE.

Witnesses:

S. STAFFORD WOLFE,

C. N. SIMPSON.