(No Model.)

E. H. MARSHALL.

CHURN.

No. 259,885. Patented June 20, 1882.

Fig. 2.

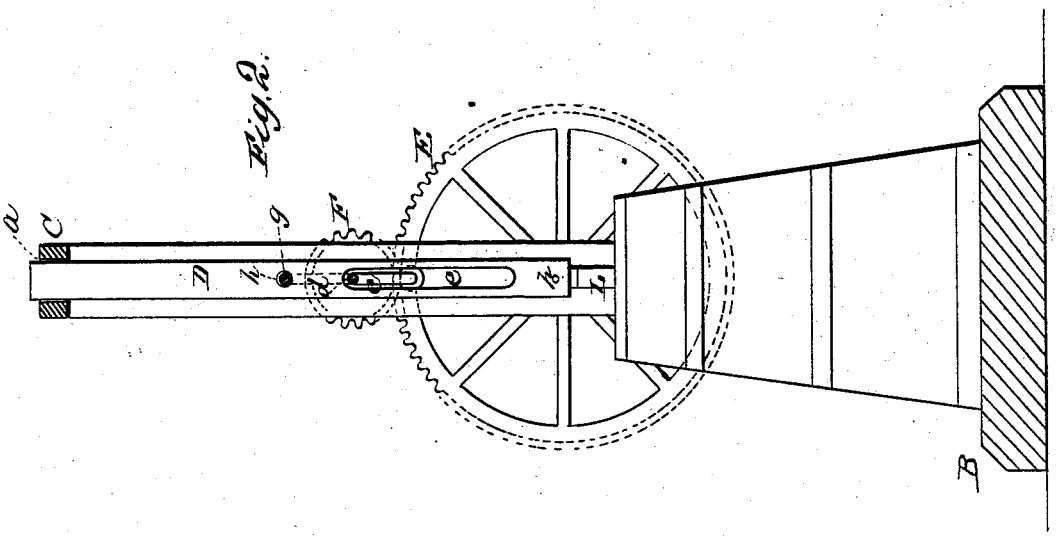
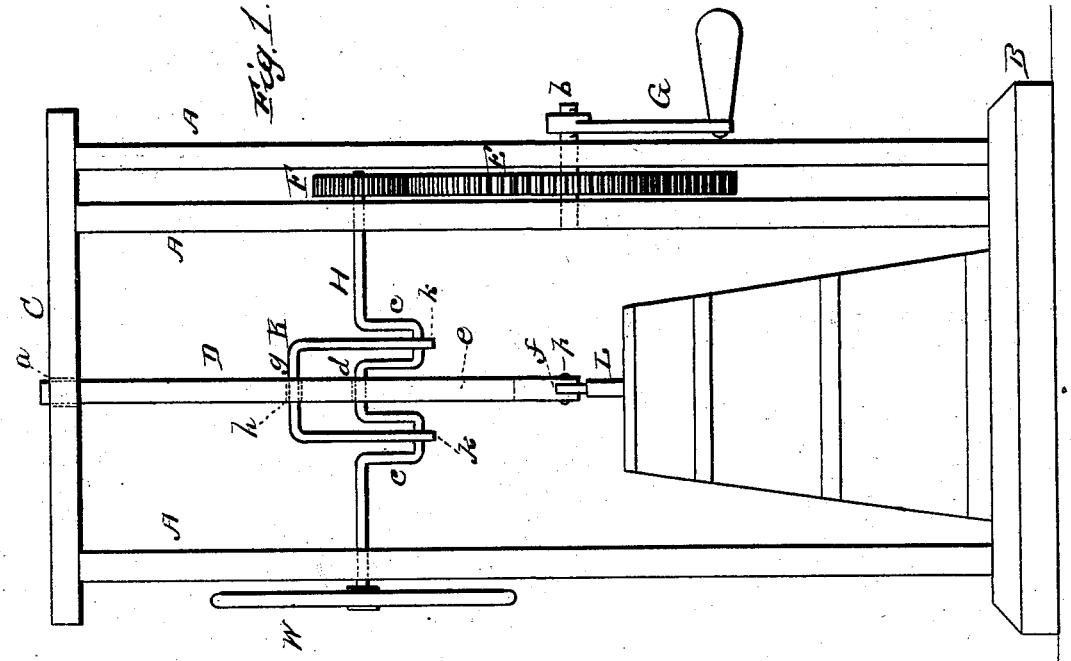


Fig. 1.



WITNESSES

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UNITED STATES PATENT OFFICE.

ELIJAH H. MARSHALL, OF CAMBRIA MILLS, MICHIGAN.

CHURN.

SPECIFICATION forming part of Letters Patent No. 259,885, dated June 20, 1882.

Application filed April 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH H. MARSHALL, a citizen of the United States, resident at Cambria Mills, in the county of Hillsdale and State of Michigan, have invented a new and valuable Improvement in Churns; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of refrence marked thereon.

Figure 1 of the drawings is a representation of a front view of my churn, and Fig. 2 is a vertical sectional view of the same.

This invention has relation to churn-motors; and it consists, in connection with driving-gear and fly, of the double-crank pinion-shaft, the slotted pitman engaging the center bend between the cranks, and the bow-connection, of greater length than the cranks, centrally engaging a bearing in the pitman, and connected on each side thereof to one of the cranks, all as hereinafter set forth, and particularly pointed out in the claim appended.

The object of this invention is to provide a churn-motor having a balanced and evenly-acting pitman which will not sway and create friction in the bearings.

In the accompanying drawings, the letter A designates three uprights, which are secured to a base, B, and are provided at their upper ends with a cross-bar, C, having an aperture or guideway, *a*, through which the upper portion of the pitman D plays. Two of the uprights are placed near to each other in parallel relation, and between them are located the driving-gear wheel E and the pinion F.

The shaft *b* of the driving-wheel is provided with the crank-handle G. The pinion F is mounted on the end of the pinion-shaft H, which is seated in bearings in two of the uprights. The pinion-shaft is formed with two crank-bends, *c c*, and a central reverse bend, *d*, extending to the general line of the shaft, said crank-bends and reverse bend being all in the same plane, as shown in the drawings.

The pitman D is formed with a longitudinal slot, *e*, which engages the middle of the reverse bend *d*, the latter forming an auxiliary guide for the pitman, and at the same time being so arranged that there is a crank-bend on each side of the pitman.

K represents a bow-connection the middle portion, *g*, of which engages a perforation or bearing, *h*, in the pitman beyond the end of the slot *e*, and the ends *k* of which extend on each side of the pitman to the lateral crank-bends *c c*, which they engage. The bow-connection K is therefore longer than the crank-bends, and, being connected to both cranks and arranged between them, their action is balanced, keeping the pitman true and avoiding undue friction in the bearings. The lower end of the pitman is forked at *f* to receive the upper end of the dash-rod L, to which it is connected by means of a pin, *p*.

A fly-wheel, W, is secured to the outer end of the pinion-shaft.

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

A churn motor having the slotted pitman D connected to the dasher-rod, the pinion-shaft H, having the central reverse bend, *d*, engaging the slot of the pitman and the crank-bends *c c* on each side of said pitman, and the bow-connection K, of greater length than the cranks, centrally engaging a bearing in the pitman and having its ends connected, one on each side thereof, to one of the cranks, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

ELIJAH H. MARSHALL.

Witnesses:
MILTON G. FRANK,
GEO. F. HOUGHTBY.