

(No Model.)

I. W. STUART.

MEANS FOR OPERATING CHURN DASHERS.

No. 356,737.

Patented Jan. 25, 1887.

Fig. 1.

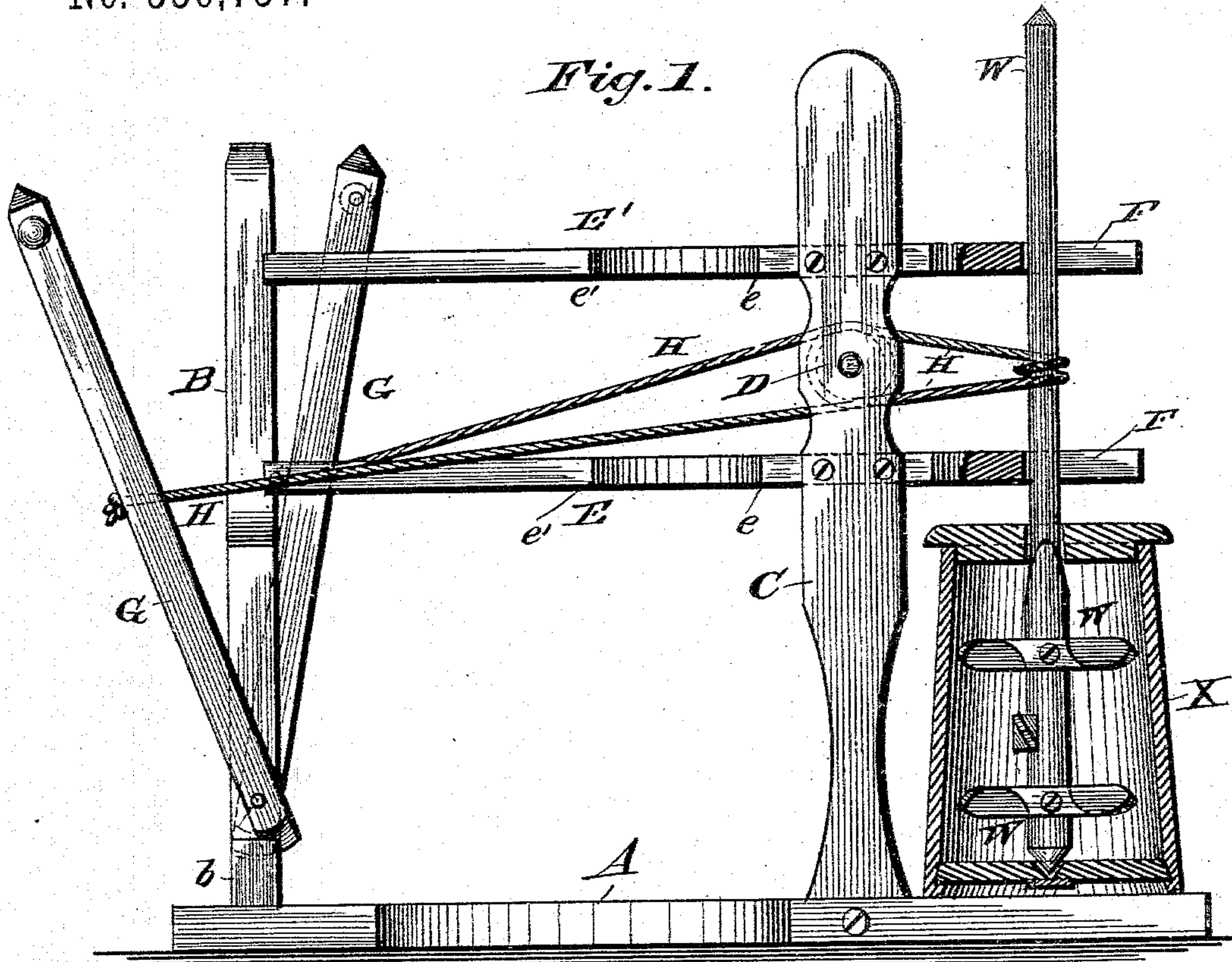


Fig. 2.

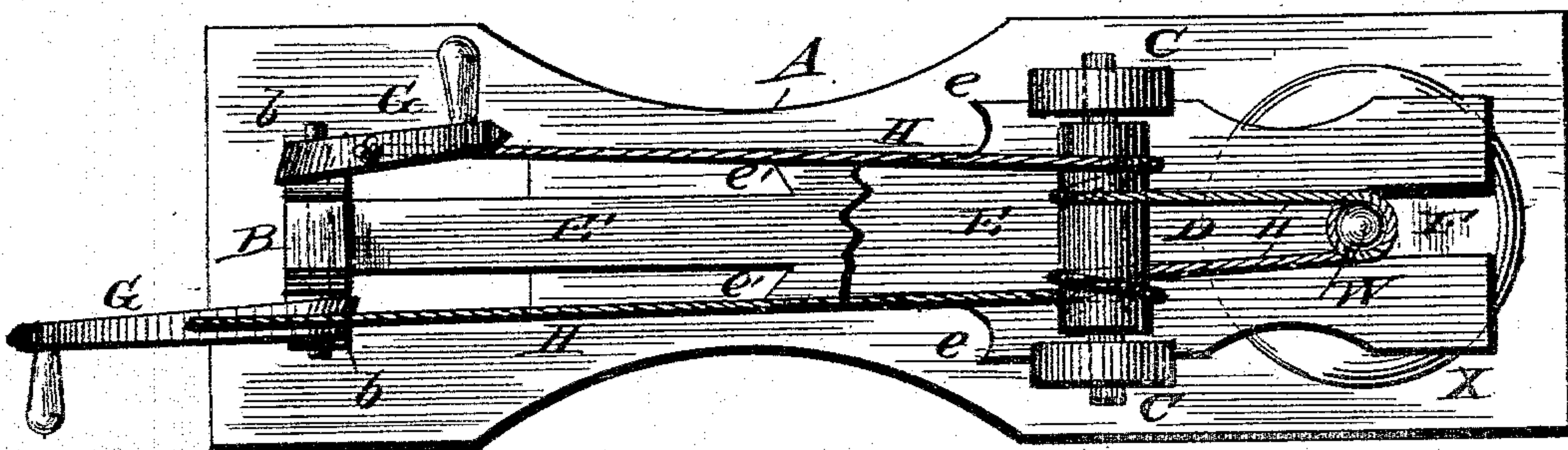
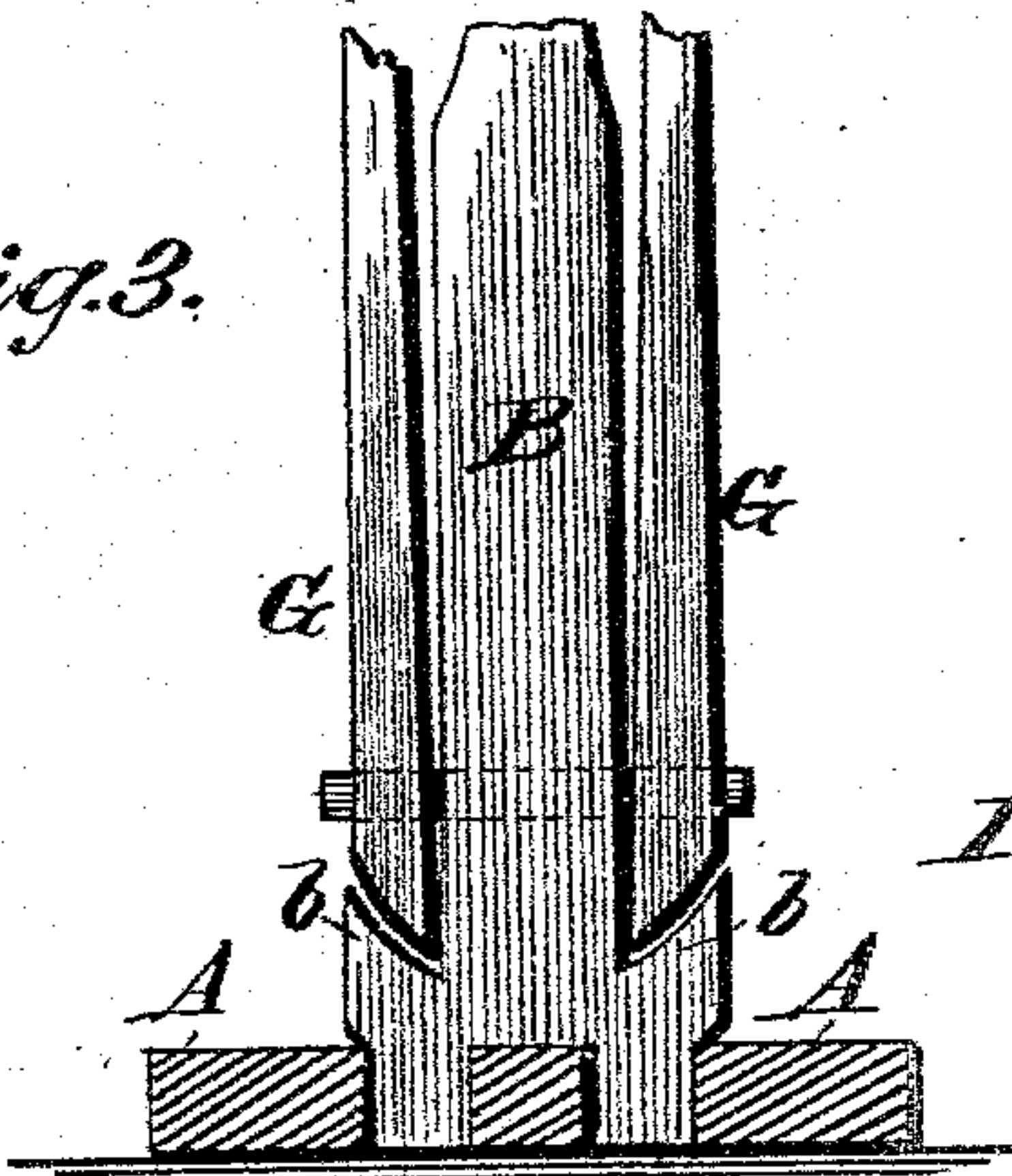


Fig. 3.



WITNESSES

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MEANS FOR OPERATING CHURN-DASHERS.

SPECIFICATION forming part of Letters Patent No. 356,737, dated January 25, 1887.

Application filed November 1, 1886. Serial No. 217,695. (No model.)

To all whom it may concern:

Be it known that I, ITHAMER W. STUART, of Cedar City, in the county of Callaway and State of Missouri, have invented certain new and useful Improvements in Means for Vibrating Churn-Dashers; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a side elevation of my improved churn-motor. Fig. 2 is a top plan view of the same with the upper brace or connecting-piece removed, and Fig. 3 is a detail.

This invention relates to improvements in churn-motors, and has special reference to the means for imparting to the dasher an alternate rotary motion.

The invention consists in the novel construction and arrangement of parts hereinafter described, and particularly specified in the claim.

A designates the base or platform of the motor, of general rectangular form. From one end of this base rises a vertical standard, B, of suitable height, and from near the opposite end of the base rise two vertical similar standards or uprights, C C, between which is journaled a friction-roller, D, which serves a purpose hereinafter more particularly referred to. The roller D is journaled between uprights C at a point considerably higher than the top of a churn, X, which is placed upon the platform during the operation of churning, and is hereinafter referred to.

E E' designate two similar horizontal brace-pieces which extend from the rear upright, B, forward to and beyond the uprights C. The brace E is secured below the friction-roller and the brace E' above the same. These braces are of sufficient width at their front ends to be secured at their edges between uprights C C in any suitable manner. From these uprights the braces extend inward toward upright B a short distance, and are then narrowed suddenly, forming two opposite notches, e. From these notches they extend rearward a short distance and are again narrowed, forming a second pair of notches, e'. From these notches the braces extend to upright B, to which they

are secured. The notches e e' of braces E E' serve a purpose hereinafter explained.

The front ends of braces E E' extend beyond the uprights C, as described, and are provided with central vertical longitudinal slots, F, in which rests and plays or rotates the upper end of the churn-dasher W.

G G designate levers pivoted at their lower ends on opposite sides of upright B, near the lower end thereof, and extending upward from their pivots above the upper brace, E', and have handles or suitable hand-holds on their upper ends, by which they are alternately reciprocated.

H designates a rope or cord having one end secured to one lever G at a suitable point. Thence it extends to and takes one turn around the roller D. Thence it passes to and takes one turn around the upper end of the cylindrical handle of dasher W. Then it runs back to the roller and takes a second turn around the latter, but oppositely to its first turn thereon, and thence to the other lever G, where its remaining end is secured. By passing the cord around the roller, as described, between the levers and churn-dasher handle, the cord is always kept in one position on the handle of the dasher, and cannot run up and down thereon as it is rotated, or cause the handle to vibrate vertically in operation.

The levers G are kept in position on their pivots on upright B by the following means: The base or head b of upright B is widened, (giving the upright somewhat the shape of an inverted letter T,) being concaved or rounded from the upper edges of the head b inward, on each side, to the main body of the upright, as shown. The lower ends of the levers are rounded or beveled to correspond with the concaved notches of head b, above referred to, in which they play. The pivot of the levers is placed sufficiently above the head b to permit the levers to be put in position thereon or removed therefrom when brought horizontally in line with the base A, as their side edges will then clear the upper edges of the concave notches; but when in working position upon upright B, (having a play in an arc of about ninety degrees,) if they should work outward on their pivots their rounded ends would en-

gage against the concave notches of head *b* and prevent their escape from their pivots. This construction, while very useful and efficient, I do not wish to confine myself to, as the
5 levers could be secured to the uprights in various well-known ways.

The dasher *W* is provided at its lower end, which enters the churn, with a series of blades or beaters, preferably propeller-shaped blades,
10 as shown, to agitate the cream.

The manner of using the motor is as follows: The churn *X* is placed upon base *A* vertically beneath the inner ends of the slots *F* of pieces *E E'*. The dasher *W* is then placed in the
15 churn, its handle extending upward between the pieces *E E'*, and resting against the inner ends of the slots *F F* thereof, being held securely therein by the rope *H*, as described. The levers are then reciprocated alternately,
20 and, through the medium of cord *H*, rotate the dasher in alternate directions in a very rapid and powerful manner. The notches *e e'* of pieces *E E'* may be used to regulate the length of the stroke of the levers by causing the inner
25 ends of the levers to enter the same, which is easily done by the operator, and thus the number of revolutions of the dasher may be equalized, thereby producing better and more efficient work. The notches also save strain on
30 the operator by obviating the necessity of his stopping the stroke of the levers by main force, as each lever, when engaged by a notch, will, through the cord *H*, instantly stop the movement of the other lever. The
35 churn *Y* is preferably secured to the base *A* by suitable fastening devices forming no part

of the present invention, so that it will not rock or move during the operation of churning.

Where very large motors are to be constructed, the base *A* may be dispensed with
40 and the uprights secured directly to the floor of the building in which the motor is to be used.

I am aware that cords and levers have been used in various ways to operate the dasher of a churn, therefore I do not claim such, broadly;
45 but,

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

In a churn-motor, the combination, with a
50 suitable base, of a rear upright and two front uprights having a friction-roller journaled between them, and connecting-braces *E E'*, having slots *F*, and stop-notches *e e'*, with the levers *G*, pivoted at their lower ends to the rear up-
55 right, and adapted to be engaged in the notches *e e'*, to limit their motion, and actuating-cord *H*, passing from one lever around the friction-roller, around the dasher-handle, which is engaged in the slots *F* of the braces,
60 and again around the roller in a contrary direction to the opposite lever, all constructed and arranged to operate substantially in the manner and for the purpose described.

In testimony that I claim the foregoing as
65 my own I affix my signatures in presence of two witnesses.

ITHAMER W. STUART.

Witnesses:

JOHN L. RHODES,
JOHN W. REYNOLDS.