

(No Model.)

I. W. STUART & R. J. GUBBINS.

CHURN MOTOR.

No. 378,059.

Patented Feb. 14, 1888.

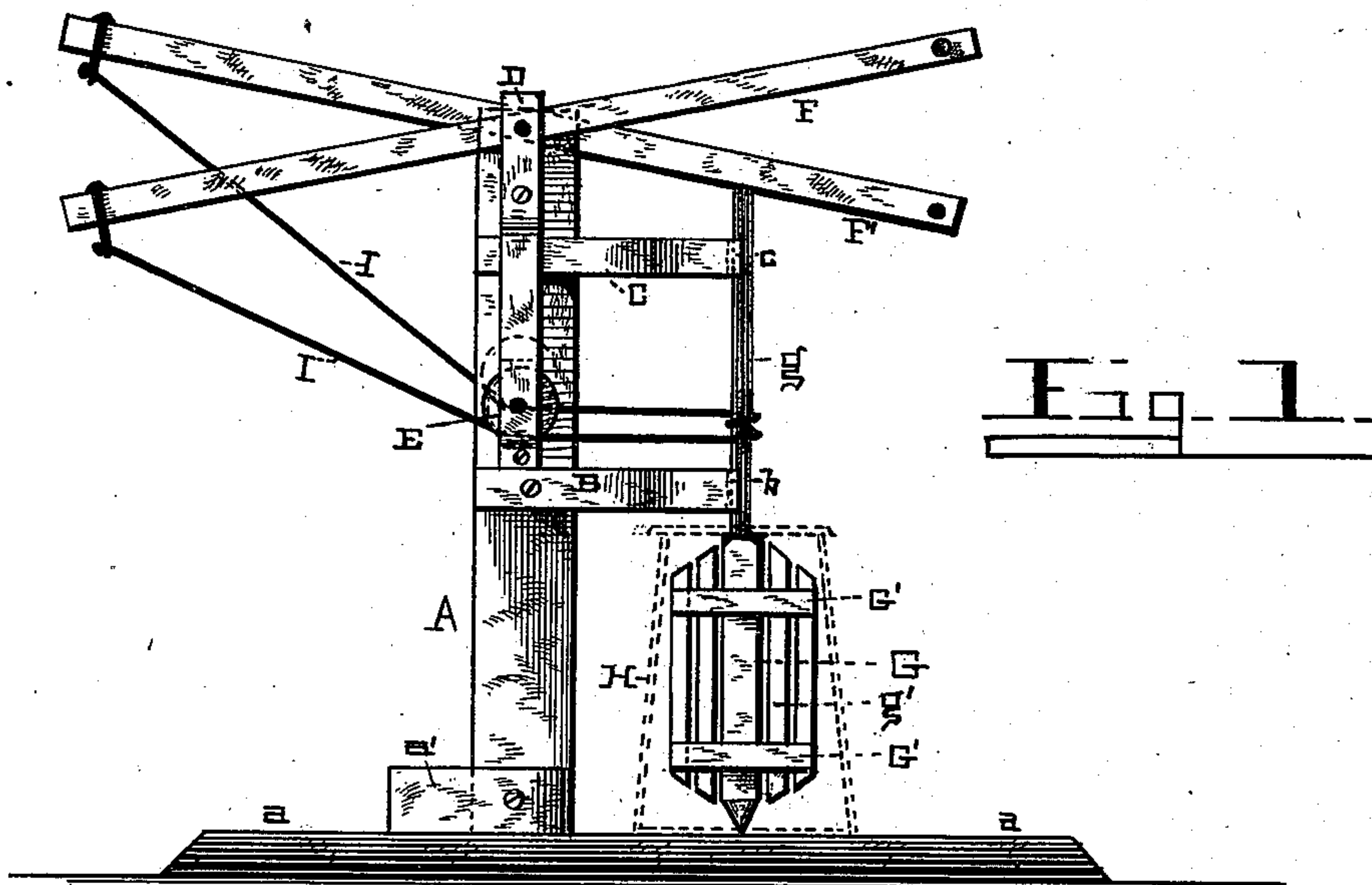


Fig. 1

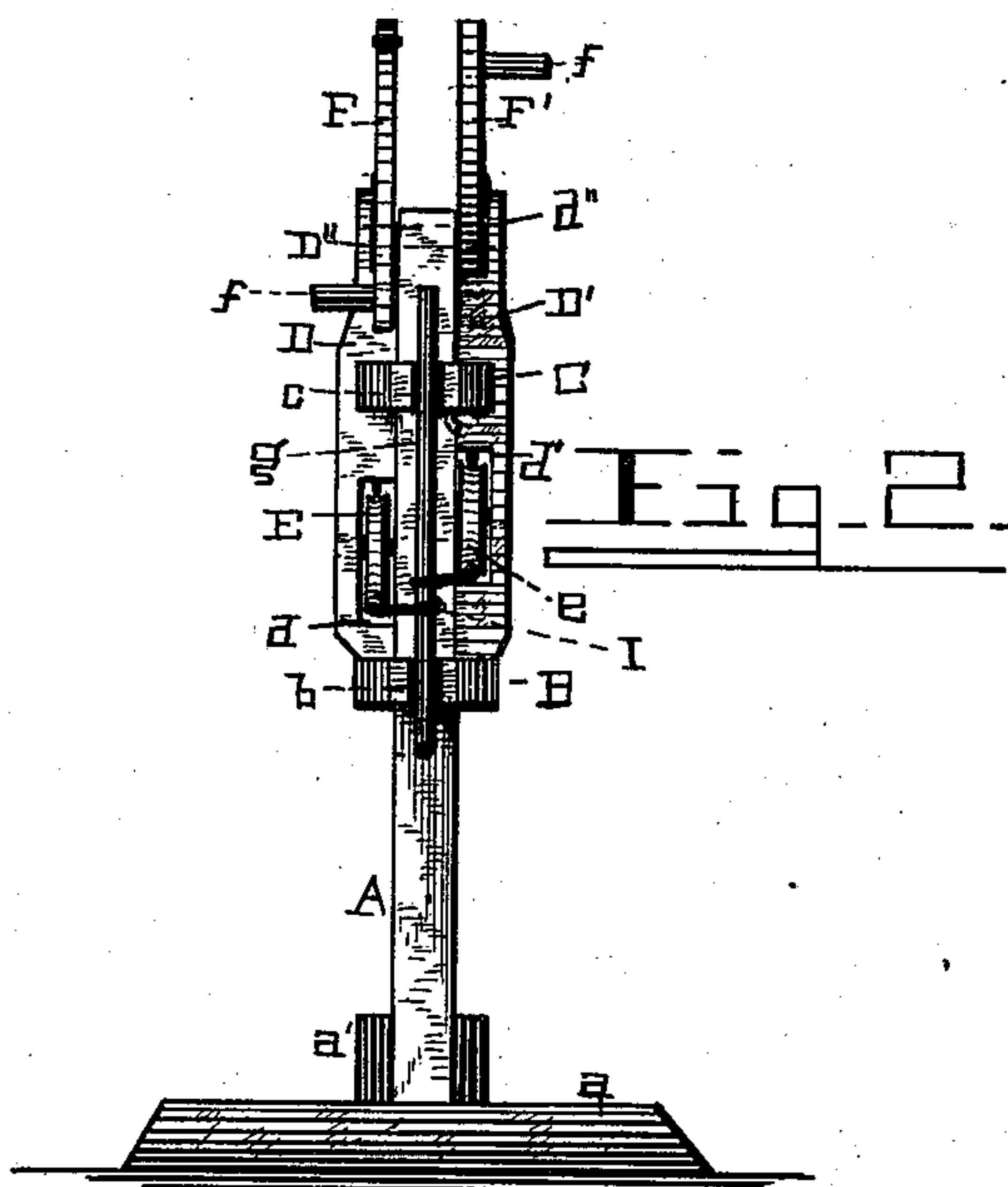


Fig. 2

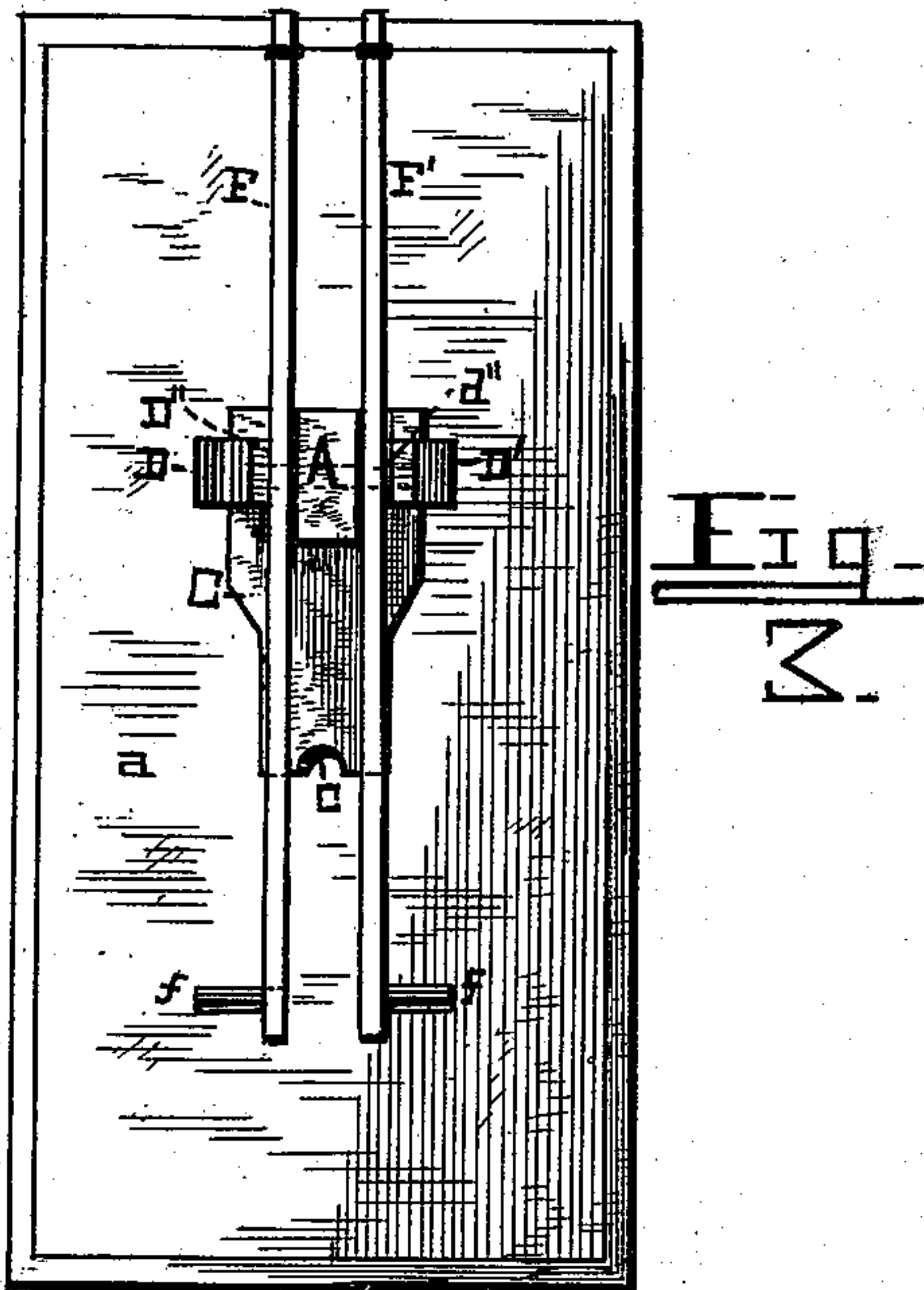


Fig. 3

Witnesses

A. E. Dowell,
R. T. Campbell,

Inventors:
I. W. Stuart and
R. J. Gubbins.
By their Attorney,

W. Alexander

UNITED STATES PATENT OFFICE.

ITHAMER WARNER STUART AND ROBERT J. GUBBINS, OF CEDAR CITY,
MISSOURI.

CHURN-MOTOR.

SPECIFICATION forming part of Letters Patent No. 378,059, dated February 14, 1888.

Application filed September 19, 1887. Serial No. 250,101. (No model.)

To all whom it may concern:

Be it known that we, ITHAMER WARNER STUART and ROBERT J. GUBBINS, of Cedar City, in the county of Callaway and State of Missouri, have invented certain new and useful Improvements in Churn-Motors; and we 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 view of our improved churn-dasher motor or operating mechanism, showing the churn in dotted lines. Fig. 2 is a front elevation of the same. Fig. 3 is a top plan view.

This invention relates to improvements in churn-dasher motors by which the dasher is alternately revolved in opposite directions at a rapid rate; and the invention consists in the novel construction and arrangement of parts, hereinafter described, illustrated in the drawings, and particularly pointed out in the appended claims.

Referring to the drawings by letter, A designates the supporting upright or post carrying the operative parts, and mounted in this instance upon a base, *a*, and braced by clips *a'*, as shown. To the post A, near the center of its height, is secured a horizontal arm, B, which is of sufficient height above the top of base *a* to permit a churn to be set thereunder, as indicated in the drawings. This arm B is provided on its outer end with a notch or recess, *b*, for receiving the vertical handle of the churn-dasher, hereinafter referred to, and bracing the same against lateral movement. The inner end of arm B is bifurcated and embraces the sides of post A, and is rigidly secured thereto, as shown.

C designates an arm similar in all respects to arm B, being provided on its outer end with a notch, *c*, and being secured on post A a proper height above arm B, as shown.

D, D' designates similar bracket-pieces secured on the opposite sides of post A and extending from the top of arm B to the top of the post A. These brackets are properly recessed where they cross arm C, as shown, for the passage of the rear ends of said arm. The bracket D has

a recess, *d*, formed on its inner edge adjoining post A and between arms B and C, and in this recess is mounted a pulley, E, having bearings on a suitable shaft journaled in the bracket D and in post A. The bracket D' is similarly recessed at *d'*, and in the recess is mounted a similar pulley, *e*. The pulley *e*, however, stands somewhat higher than pulley E. Both said pulleys have their axis at right angles to the arms B C, as shown. The upper ends of brackets D D', adjoining the sides of post A, are recessed, as shown at D' *d''*, and in said recesses are mounted about centrally upon suitable bearings or shafts the longitudinal oscillating levers F F'. The front or outer ends of levers F F' are preferably provided with handles or knobs *f*, by which said levers can be oscillated.

G designates the churn-dasher, composed of a central upright or handle, *g*, the upper portion of which, extending above the top of the churn, is rounded and adapted to rest against arms B and C and in the notches *b c* therein, as shown. The lower end of said handle *g* is pointed, to present as little bearing-surface upon the bottom of the churn within which it is placed as possible.

G' G' designate horizontal cross-pieces secured to handle *g* within the churn, and *g'* designates vertical uprights secured to said pieces, so that the milk or cream within the churn, when the dasher is rotated, will be thoroughly beaten and agitated.

H designates the churn, (shown in dotted lines only,) and which may be of any proper construction.

I designates a rope or cord which has one end secured to the inner end of lever F. Thence it is passed down under pulley E and forward to the dasher-handle *g*, around which it is once wrapped, and thence taken back to and under pulley *e* and up to the end of handle F', to which its yet free end is secured.

The manner of using the device is as follows: The rope being secured to the levers F F' and passed under the pulleys, as described, the churn-dasher being removed, dasher G is placed within the churn H and the cover thereof fastened down, the rope I is then looped around the handle *g* of the dasher, and the churn set

under the arm B in such positions that the rounded portions of handle *g* will enter the recesses *b c* of the arms, as shown. The levers F F' at this time may lie parallel horizontally.

5 To work the dasher, lever F is depressed by its handle *f*, raising its rear end and causing rope I to revolve dasher G, at the same time the rope, being drawn upward by lever F, depresses the rear end of lever F'. When the lever F

10 reaches its lowest point, the lever F' is then depressed, causing the opposite rotation of dasher G. The levers F F', it will be observed, oscillate simultaneously in contrary directions, so that when one lever is depressed the

15 opposite lever is elevated, and consequently intermittent opposite rotations are given to dasher G, the amount of rotary movement imparted thereto being regulated by the degree of movement of levers F F'.

20 It will be observed that by reason of pulley *e* being set somewhat above pulley E the twist of rope around handle *g* is kept open—that is, the rope will not bind upon or abrade itself in making the twist around the handle when in

25 operation. It will further be observed that by the peculiar arrangement of levers F F' the power exerted to work the churn-dasher is in a vertical direction, but transmitted to the dasher in a horizontal direction. Owing to

30 the arrangement of the levers less exertion is required upon the part of the operator than is required in the ordinary forms of such motors, in which the levers are pivoted upon the base and worked back and forth in horizontal di-

35 rections. Additional advantages are that great leverage can be obtained to operate the dasher without making the machine of inconvenient size, and also that less floor room is required to mount this motor than in the or-

40 dinary forms now employed.

The post A may be permanently fixed upon a floor, dispensing with base *a*, and the bracket-pieces D D' may be omitted, the pulleys and levers being mounted solely upon the post A, as is evident; but the described construction is 45 preferable, and is simple, cheap, and efficient.

Having described our invention, what we claim is—

1. The herein-described churn-dasher motor, consisting of a vertical supporting-post, a 50 pair of vertically-oscillating levers mounted upon the said post, the pulleys on opposite sides of said post below the levers and standing at different heights thereon, and a rope having its ends attached to the adjoining ends 55 of said levers, passing under said pulleys and around the churn-dasher handle, the pulleys being so arranged as to prevent the rope binding upon itself around the dasher-handle, all substantially as and for the purpose specified. 6c

2. The combination of the post A, the arms B and C, mounted thereon and provided with notches *b c* in their outer ends, respectively, the bracket-pieces D D', pulleys E *e*, mounted on said bracket-pieces and post A, and the ver- 65 tically-oscillating levers F F', mounted on said post and bracket-pieces above the pulleys and arms, with the churn-dasher G, its handle *g*, and the actuating-cord I, all constructed and arranged substantially as and for the purpose 70 described.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

ITHAMER WARNER STUART.
ROBERT J. GUBBINS.

Witnesses:

GEO. H. WYATT,
ALBERT KROEGER.