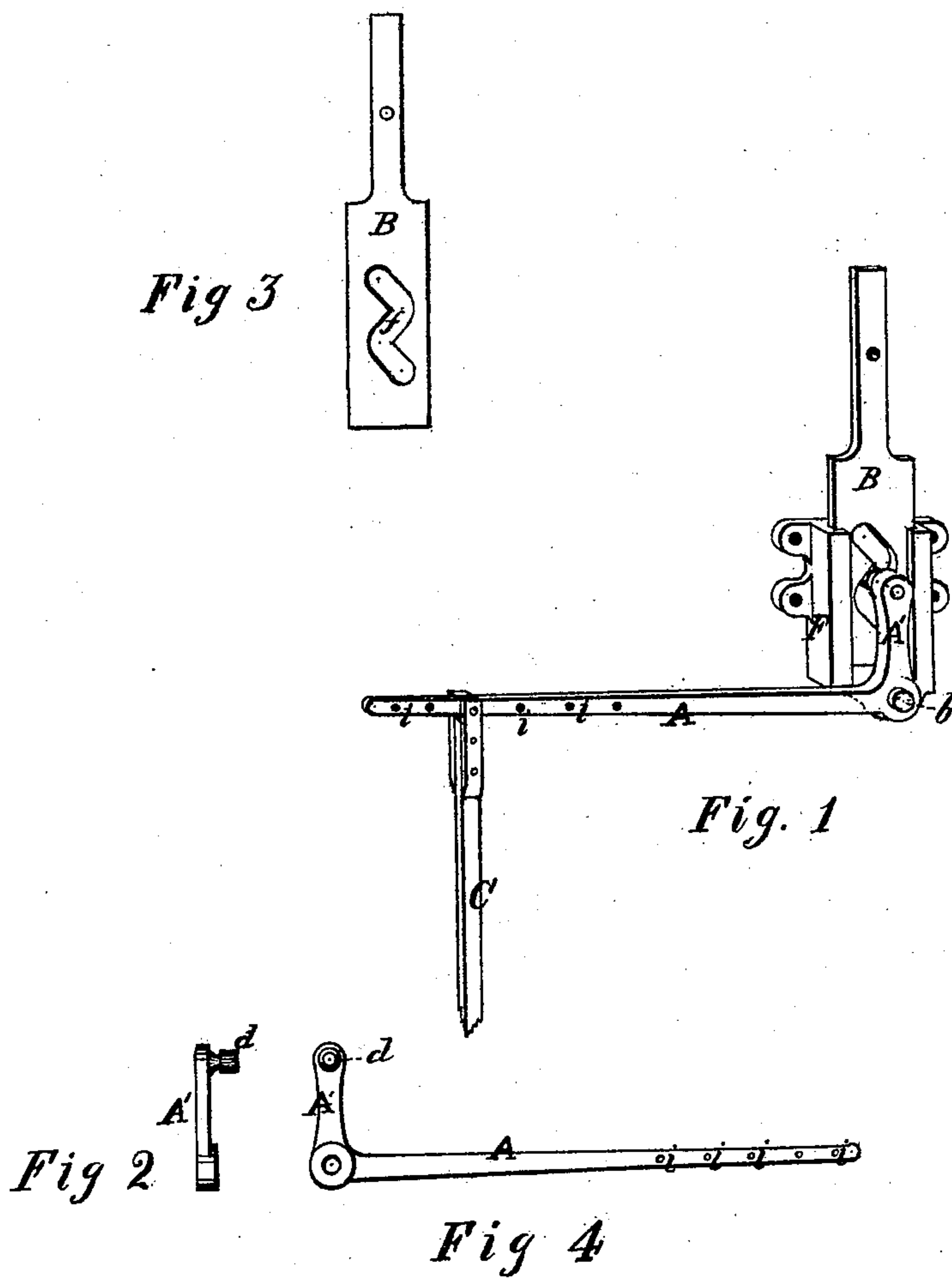


E. L. CORIELL & G. CRAMTON.
 DEVICE FOR MULTIPLYING MOTION.

No. 179,000.

Patented June 20, 1876.



Witnesses

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UNITED STATES PATENT OFFICE.

ELIJAH L. CORIELL AND GILES CRAMTON, OF MARSHALL, MICHIGAN.

IMPROVEMENT IN DEVICES FOR MULTIPLYING MOTION.

Specification forming part of Letters Patent No. 179,000, dated June 20, 1876; application filed October 19, 1875.

To all whom it may concern:

Be it known that we, ELIJAH L. CORIELL and GILES CRAMTON, both of the city of Marshall, Calhoun county, State of Michigan, have invented a new and useful Churning Attachment for Windmills, of which the following is a specification, when taken in connection with the accompanying drawings, of which—

Figure 1 is a perspective view of the lower portion of a windmill tower and platform, with the attachment in place. Fig. 2 is a perspective view of the device. Fig. 3 is a front elevation of the zigzag slide B B. Fig. 4 is a rear elevation of the lever A A'.

It is well known that the motion of the pitman-rod of the windmills in common use among farmers for pumping is not sufficiently rapid for operating a churn directly connected to it.

The object of our invention is to provide a means for multiplying the strokes of such a pitman, and so adapt it to driving a churn.

This attachment consists, essentially, of a zigzag slide, B B, working in a box, F, or other suitable bearing, provided with grooves or guides, and a lever, A A', having a projection, *d'*, either with or without a friction-roller, *d*, fitting closely into the channel *f* of the zigzag.

The lever A A' has its fulcrum at *b*, the projection or friction roller *d* being upon its short arm A'. A light pitman-rod, C, connects the long arm of the lever with the dasher of a common churn. Holes *i i i* are provided in the lever-arm A for adjusting the stroke of the dasher.

The bearing F, that carries the zigzag B, is bolted to a suitable timber, and the zigzag is connected by some convenient means with the pitman-rod of the windmill.

The vertical length of the zigzag channel *f*, Fig. 3, is made equal to the length of stroke given it by the pitman-rod of the windmill.

Since the lever A A' turns or rocks upon the fixed fulcrum *b*, and the friction-roller *d* engages with the zigzag channel *f*, there will be as many vibrations to the arm A as there are branches to the zigzag at each stroke of the pitman of the windmill.

Our drawing represents the parts arranged to produce three strokes of the churn-dasher to one of the windmill-pitman.

It will be seen that this attachment can be made and applied at a trifling expense, and that its action is certain and positive. Further, the churn can be readily attached and detached, and any of the ordinary arrangements for connecting the pump-rod with the pitman may be used to connect the stem of the zigzag with the pitman, rendering it readily connected or disconnected with the windmill.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

The attachment herein described for multiplying motion, consisting of a reciprocating slide, B, provided with a zigzag channel, *f*, and working in grooves or guides in the box F, in combination with a pivoted lever, A A', provided with a projection, *d'*, fitting into the channel *f*, when constructed and arranged to operate in the manner substantially as and for the purpose specified.

ELIJAH L. CORIELL.
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Witnesses:

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