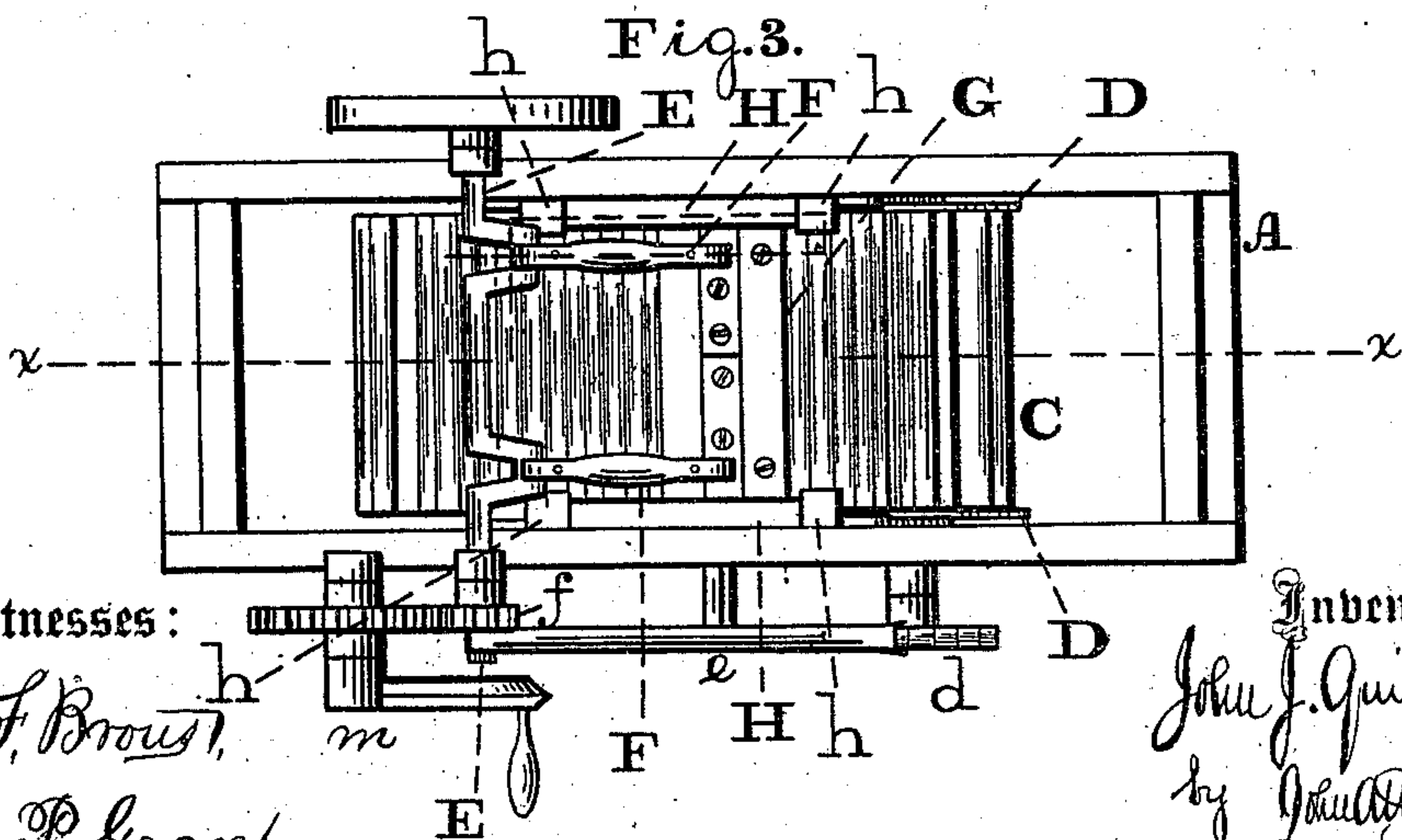
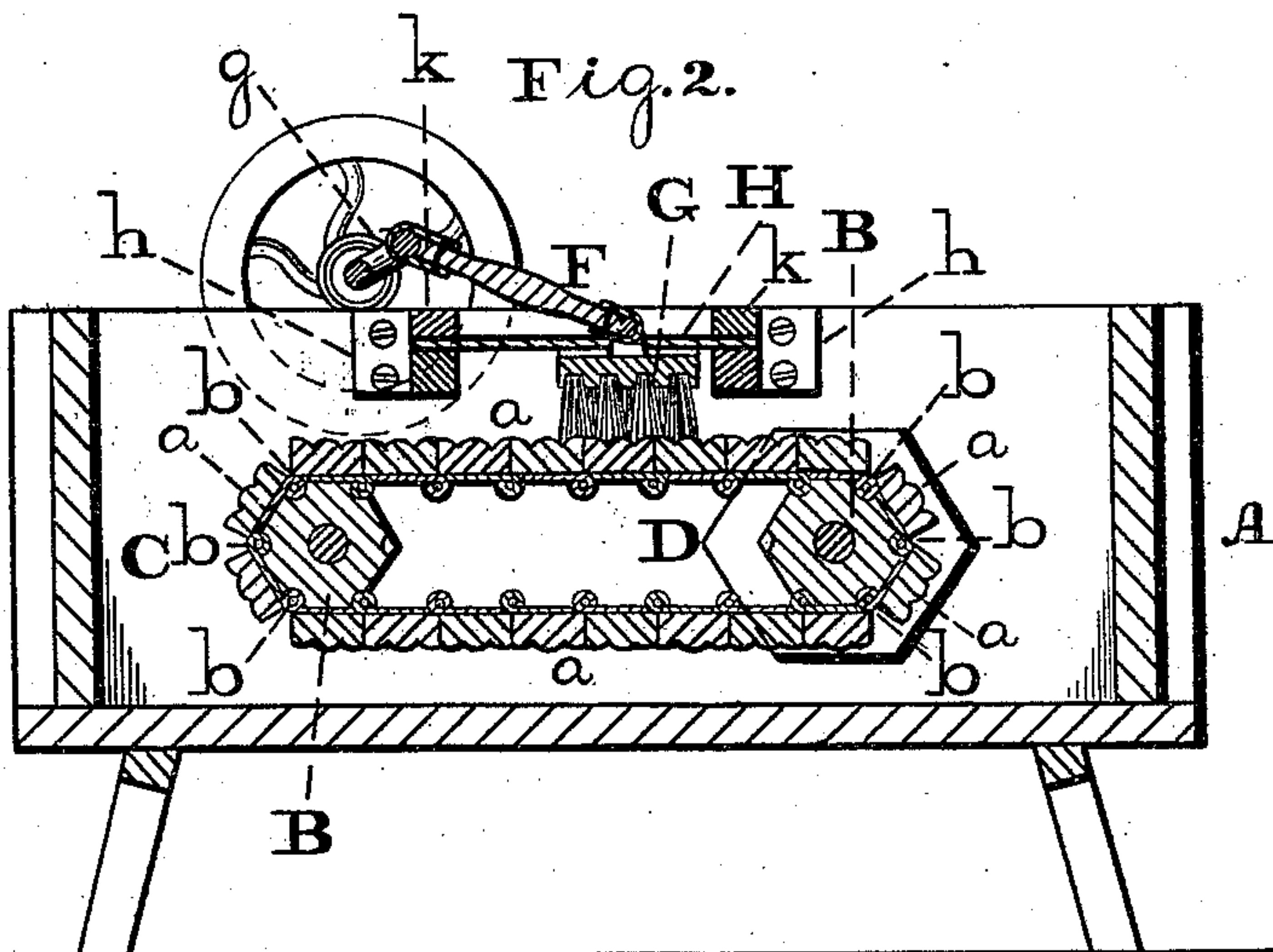
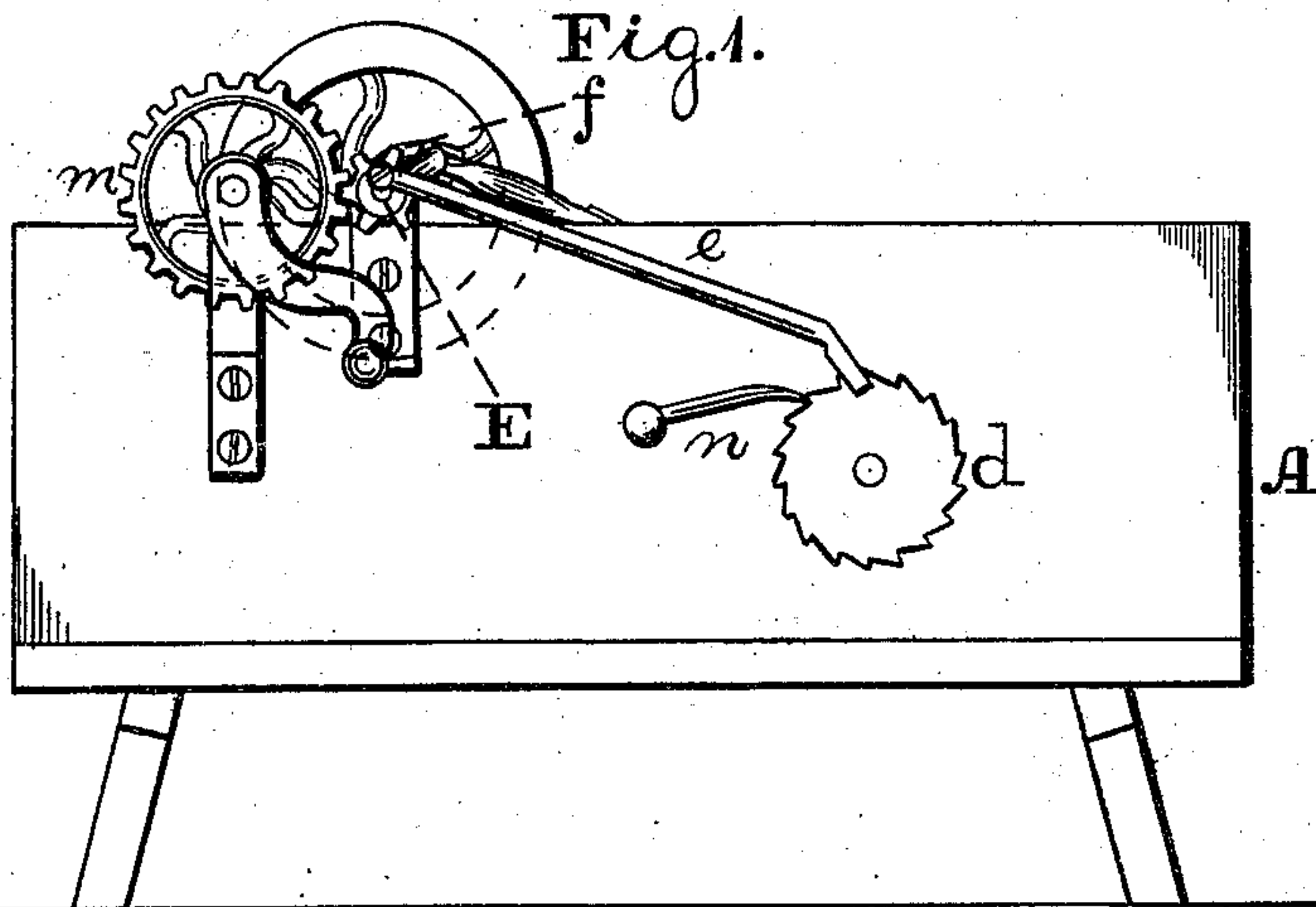


J. J. QUINN.
 WASHING-MACHINE.

No. 174,438.

Patented March 7, 1876.



Witnesses:
 Lewis F. Broun,
 A. P. Grant.

Inventor:
 John J. Quinn.
 by *John A. Debenham*
 atty.

UNITED STATES PATENT OFFICE.

JOHN J. QUINN, OF BURLINGTON, NEW JERSEY.

IMPROVEMENT IN WASHING-MACHINES.

Specification forming part of Letters Patent No. 174,438, dated March 7, 1876; application filed August 2, 1875.

To all whom it may concern:

Be it known that I, JOHN J. QUINN, of the city and county of Burlington and State of New Jersey, have invented a new and useful Improvement in Washing-Machines; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a side view of the device embodying my invention. Fig. 2 is a vertical section thereof in line *x x*, Fig. 3. Fig. 3 is a top or plan view thereof.

Similar letters of reference indicate corresponding parts in the several figures.

My invention consists in an endless wash-board, having an intermittent motion, and constructed to hold the clothes while being washed, the board being formed of slats of rigid material hinged to each other, so as to dispense with bands or belts, form an unyielding surface, and prevent the opening of the slats when the clothes or articles are grasped or held, the latter feature being insured by the angular form of the rollers around which the board passes, said rollers also preventing slit of the board. It also consists in spring-bars for confining the brush or rubber in position, and allowing it to conform to inequalities in the thickness of the clothes or articles to be washed, said bars and the springs therefor being confined in brackets secured to the tub, said brackets forming receptacles and supports for both the bars and springs. It also consists in a guide for the endless board. It also consists in mechanism for conveniently operating the movable parts of the machine.

Referring to the drawings, A represents the tub or box within which are mounted angular rollers B B, around which passes an endless wash-board, C, which consists of a series of fluted or corrugated slats, *a*, which are hinged to each other on their under side, so that when they reach the rollers B they will open, as shown at *b b*. The shaft of one roller carries a ratchet-wheel, *d*, which receives intermittent motion by means of a pawl, *e*, connected to a pinion, *f*, on the driving-shaft E, which is

mounted on the tub A, and is formed with cranks *g*, to which are jointed pitmen F, which are attached to the head of a brush, G, whose rubbing-face, consisting of bristles, sweeps over the wash-board C. To the inner sides of the tub A there are connected brackets *h*, within which are fitted bars H, which extend horizontally and longitudinally and rest on the head of the brush. Pieces of rubber or springs *k* are interposed between the bars and upper portions of the brackets and bear against said bars, so that the brush will be held to its work, and permitted to rise and fall, due to inequalities in the thickness of the clothes or articles to be washed.

When the crank-shaft E is operated, in the present case a handled gear-wheel, *m*, is employed therefor, reciprocating motion is imparted to the brush G, and, by means of the pawl *e* and ratchet *d*, intermittent motion is imparted to the endless wash-board C. The article to be washed, at a proper portion of its length or width, will be inserted in one of the spaces *b* between the slats *a*, so that when, by the movement of the board C, the slats close, the article will be grasped thereby, and thus passed under the rubber G, where it is subjected to a scrubbing action, there being no danger of release from the board. The scrubbing or washing is thorough, and continues until the article passes from under the rubber or brush, and when it reaches a position over the roller toward which it is moving the slats open, thereby permitting the article to fall into the tub.

It will be seen that the slats *a* are formed of rigid material, hinged to each other, so that when the article to be washed is grasped or seized by the closing slats, it will be held most tightly, and without danger of release, until it has fully cleared the brush or rubber. The bars H confine the brush or rubber in position, and, owing to the springs *k*, the brush may rise and fall, due to inequalities in the thickness of the articles to be washed. The embracing-plates D guide the board C, and thus preventing the latter moving irregularly, rubbing laterally, or binding with the tub. The crank-shaft carrying the pawl *e* communicates power directly to the ratchet-wheel *d*. The angular form of the rollers B prevents slipping

of the endless board C. The backward movement of the ratchet *d*, and consequently of the endless board C, is prevented by a stop-pawl, *n*, suitably applied.

I am aware that an endless board has been constructed of slats attached to a belt or band. In my invention the slats are formed of rigid material hinged to each other, thus serving to dispense with belts and bands, forming an unyielding surface, so that all parts of the clothes are subjected to the brush or roller, and preventing "give" of the board, whereby, when the clothes are grasped between the slats, inopportune opening thereof does not occur, since said slats do not yield at any point. The angular form of the rollers also assist in preventing opening of the slats, and also prevent slip of the board.

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

1. The endless wash-board C, consisting of a series of slats, *a*, hinged to each other, and formed of rigid material, whereby bands or belts are dispensed with, and the board has

an unyielding surface, substantially as and for the purpose set forth.

2. The brackets *h*, receiving the ends of the bars H and the springs *k*, substantially as and for the purpose set forth.

3. The combination, with the endless wash-board, of the plates D, secured to and rotating with the roller B, and embracing the sides of said board, substantially as and for the purpose set forth.

4. The main shaft E, formed with cranks *g*, and carrying the pinion *f*, in combination with the pitmen F, pawl *e*, and with the rubber G, and endless board C, substantially as and for the purpose set forth.

5. The endless wash-board C, formed of a series of slats, *a*, hinged to each other, and constructed of rigid material, and the angular rollers B, in combination with the rubber G, bars H, and springs *k*, substantially as and for the purpose set forth.

JOHN J. QUINN.

Witnesses:

JOHN A. WIEDERSHEIM,
EDW. LEE.