T. Courser

Washing Machine

No. 70,170. Patented Oct. 29. 1867.

Fig: 1

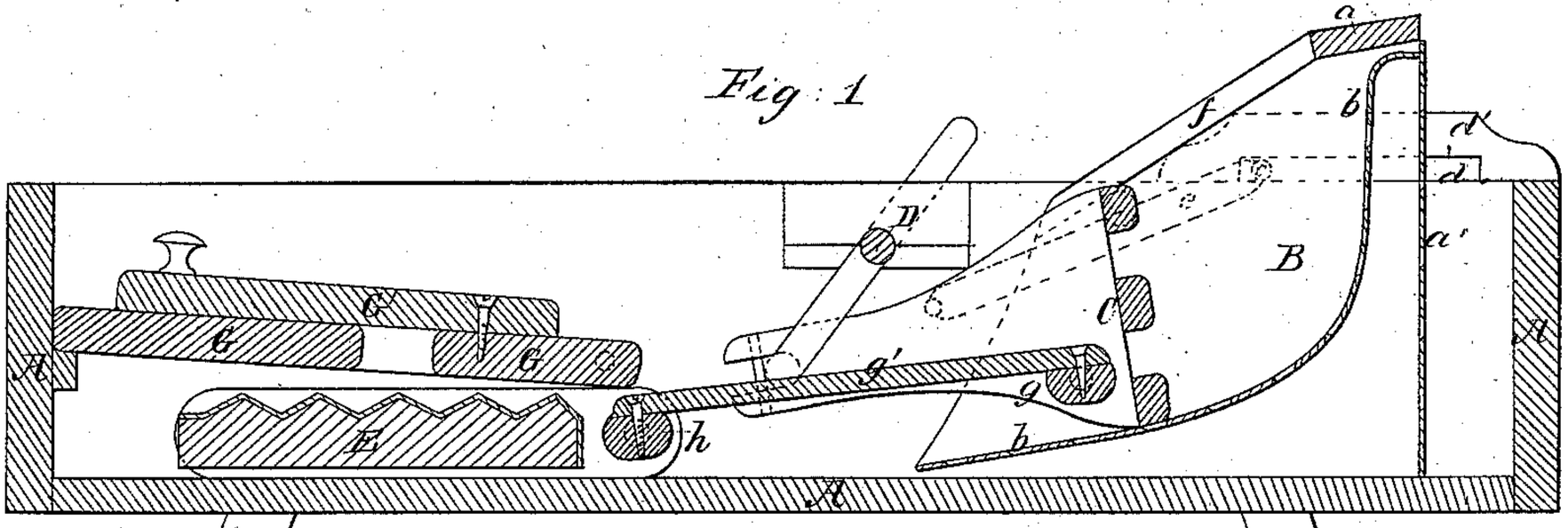


Fig: 2.

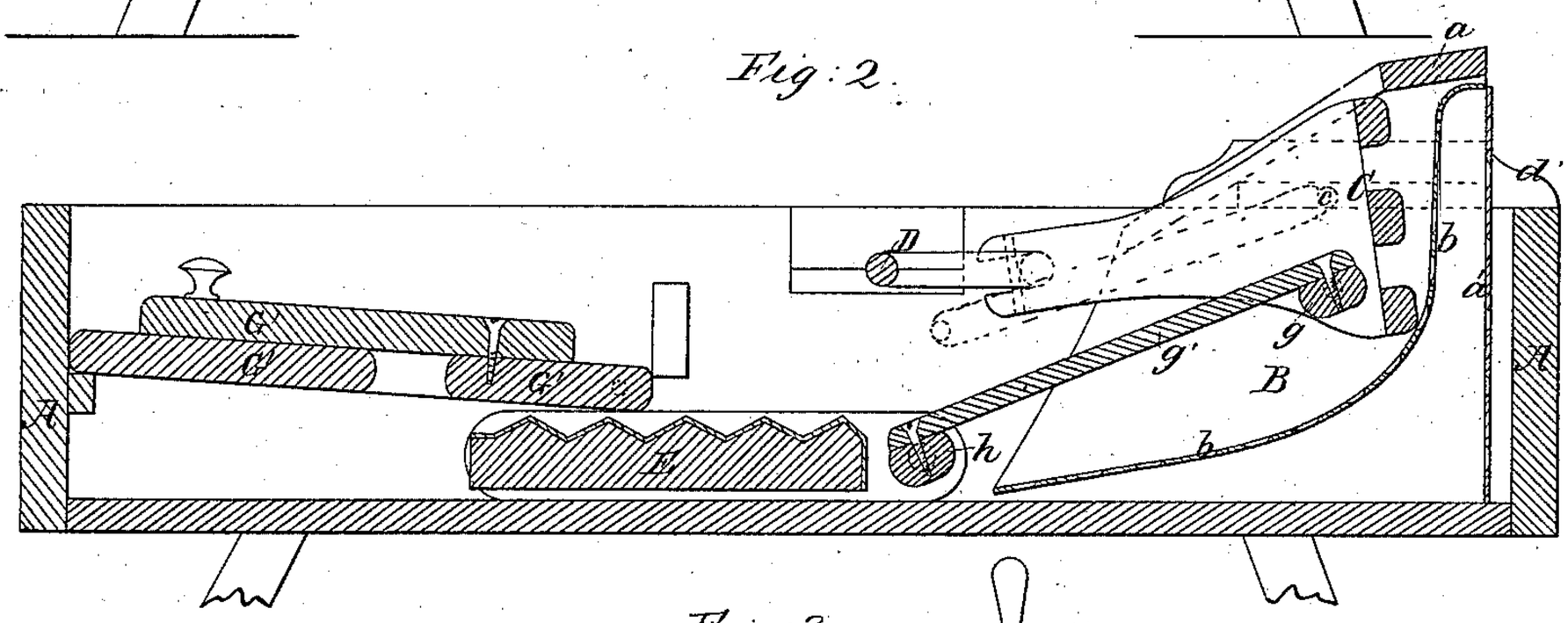
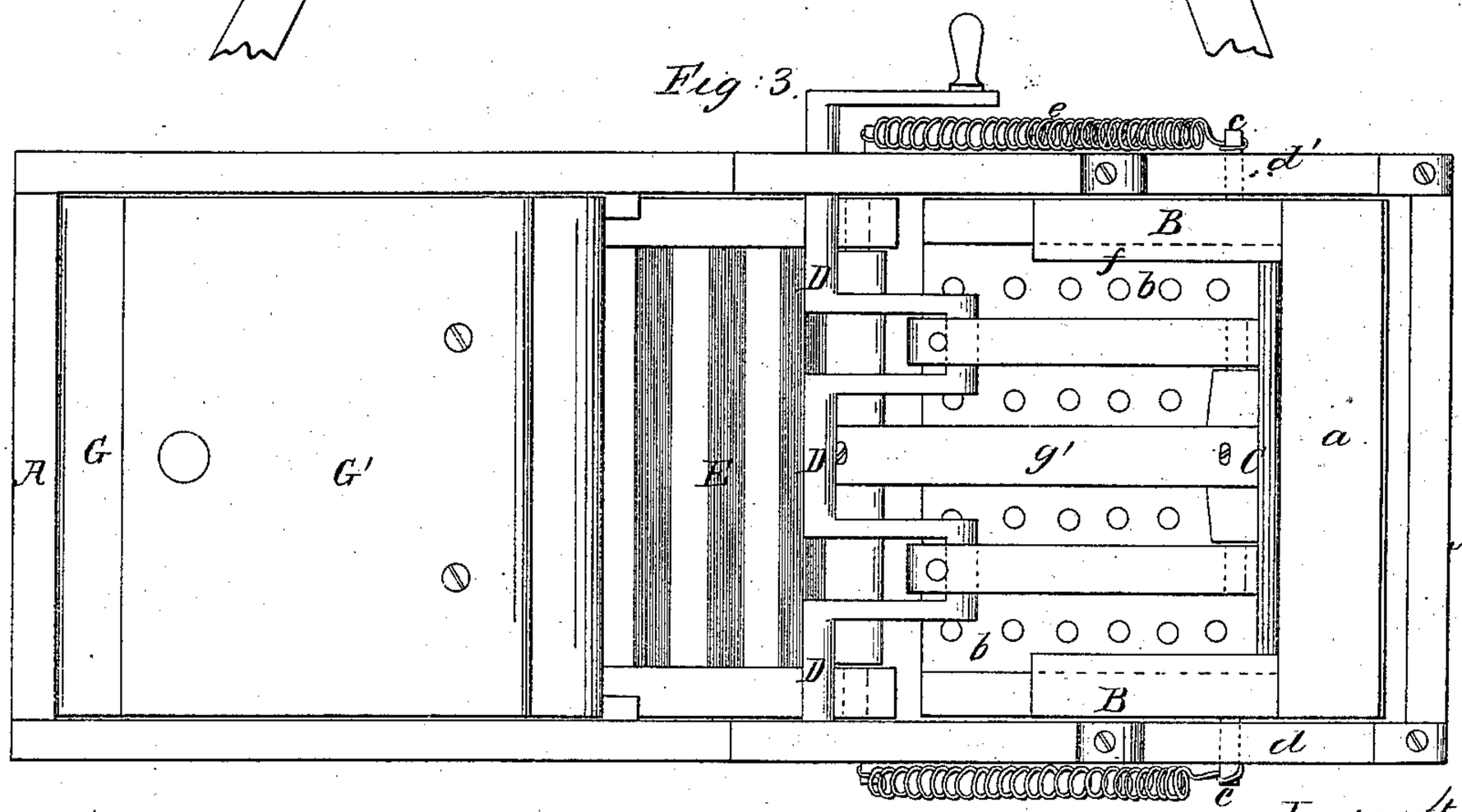


Fig: 3.



Witnesses,
B. S. Campbell
Edwd Schafer

Inventor,
Thomas Courser
per Munn, Merwick & Lawrence,
attys

United States Patent Office.

THOMAS COURSER, OF BURLINGTON, IOWA.

Letters Patent No. 70,170, *dated October* 29, 1867.

IMPROVED WASHING MACHINE.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, THOMAS COURSER, of Burlington, in the county of Des Moines, and State of Iowa, have invented a new and improved Washing Machine; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a longitudinal section taken centrally through the machine, showing the plunger about to make its forward stroke.

Figure 2 is a similar view of the same parts, showing the plunger in the position it takes at the completion of its forward stroke.

Figure 3 is a plan view of the machine, with the several parts arranged in the positions indicated in fig. 2.

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

The first part of my invention consists in the combination of an oscillating and reciprocating plunger, with a reciprocating concave, which is held up to the plunger-head during its forward or acting stroke, by means of springs, said parts being so constructed and operated as to raise the articles above the surface of the water in the wash-box, then squeeze them and turn them over at every forward stroke of said plunger, as will be hereinafter described.

It also consists in combining with a plunger, which receives its motions from a crank-shaft, and cleanses articles by squeezing and turning them, a rectilinear reciprocating wash-board, arranged beneath a pressure-board having a movable or hinged cover, for the purpose of cleansing articles by rubbing them, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents an oblong rectangular wash-box, which may be made of any suitable capacity, and which is mounted upon legs, as shown in the drawing, fig. 1. In one end of this box A is a rectilinear reciprocating box, B, supported upon the bottom of the wash-box, and caused to slide forward and backward, as will be hereinafter described. The box B consists of two vertical side boards, connected together at top by a narrow board, *a*, and at its back by a perforated plate, *a'*, through which water is allowed to circulate freely. This box B is designed for receiving a concave plate, *b*, which is suitably perforated to allow water to flow freely through it, and which rises from a point near the bottom of the wash-box to a point just below the covering-board *a*, as shown in figs. 1 and 2. From the sides of the box B pins *c c* project, and pass through slots *d d* formed by the guides *d' d'*. To the ends of said pins springs *e e* are connected, which hold the box B in the position indicated in fig. 1, when not acted upon by the plunger C. The pins and guides referred to keep the box B down in place, and prevent it from tilting during the operation of cleansing articles placed between the plunger and concave. The plunger C consists of a slatted head applied to two longitudinal parallel arms, which latter are connected to the crank-shaft D, as shown in figs. 1, 2, and 3. The plunger-head works between the sides of the box B upon the concave *b*, and it is kept down in place by means of ledges *f f*, on the inclined edges of the sides of said box, beneath which ledges the rounded extremities of the topmost slat of the plunger head project. As the crank-shaft D is rotated, the plunger-head will be moved forward and upward to the position indicated in fig. 2, carrying before it the articles put between it and the concave. This forward and upward movement of the plunger will raise the articles above the surface of the water in the wash-box, and at the same time press the box B backward. Just before the plunger completes its forward stroke the crank-shaft will raise its rear ends or arms, and cause it to forcibly compress the articles against the concave bed *b*. The plunger then recedes and allows the springs *e e* to return the box B to the position shown in fig. 1, at the same time allowing the articles to roll back into the water, to be again forced upward and compressed or squeezed by the plunger in its next forward stroke. Between the plunger-arms is a rock-shaft, *g*, to which a rod, *g'*, is secured, which extends back, and is secured rigidly to a rock-shaft, *h*, which is pivoted between the longitudinal side bars of a wash-board, E. This wash-board is constructed with an upper corrugated rubbing surface, covered, if desirable, with sheet metal to protect it from rapid wear. The wash-board E slides longitudinally upon the bottom of the wash-box A, and receives its motions from the plunger C, as described. Above this wash-board is a pressure-board, for holding the articles down upon it during the operation of cleansing them, which board consists of a stationary portion, G, and a hinged or movable portion, G'. By raising one

end of the hinged portion of the pressure-board, articles can be introduced between it and the rubbing surface of the wash-board.

The object of employing the two cleansing devices above described in one wash-box is to complete, by a rubbing action, the work which cannot be completely done by a compressing and squeezing action. Very much of the dirt can be removed from the articles by the operation of the plunger upon them, which will in no manner injure the finest fabric, after which the articles are subjected to the rubbing surfaces of the wash-board to complete the work of cleansing. For some purposes the plunger and its concave will answer the purpose. For some articles the wash-board will be used alone, but for very filthy articles both the plunger and wash-board will be required. For these reasons both are combined in one machine, and so as to receive motion from one crank-shaft.

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

1. The combination of an elastic yielding box, B, carrying a concave, *b*, with a plunger, C, which receives motion from a crank-shaft, D, substantially as described.

2. The combination of a wash-board, E, pressure-board G G′, and plunger C, with the concave bed *b* arranged to operate substantially as described.

3. So constructing and arranging the plunger C, and combining it with a concave bed, *b*, that the clothes are raised out of the water and compressed at every forward stroke of said plunger, substantially as described.

THOMAS COURSER.

Witnesses:

M. E. GILLETTE,

A. G. BARHYDT.