(Model.)

K. ANUNSEN.

WASHING MACHINE.

No. 257,267. Patented May 2, 1882.

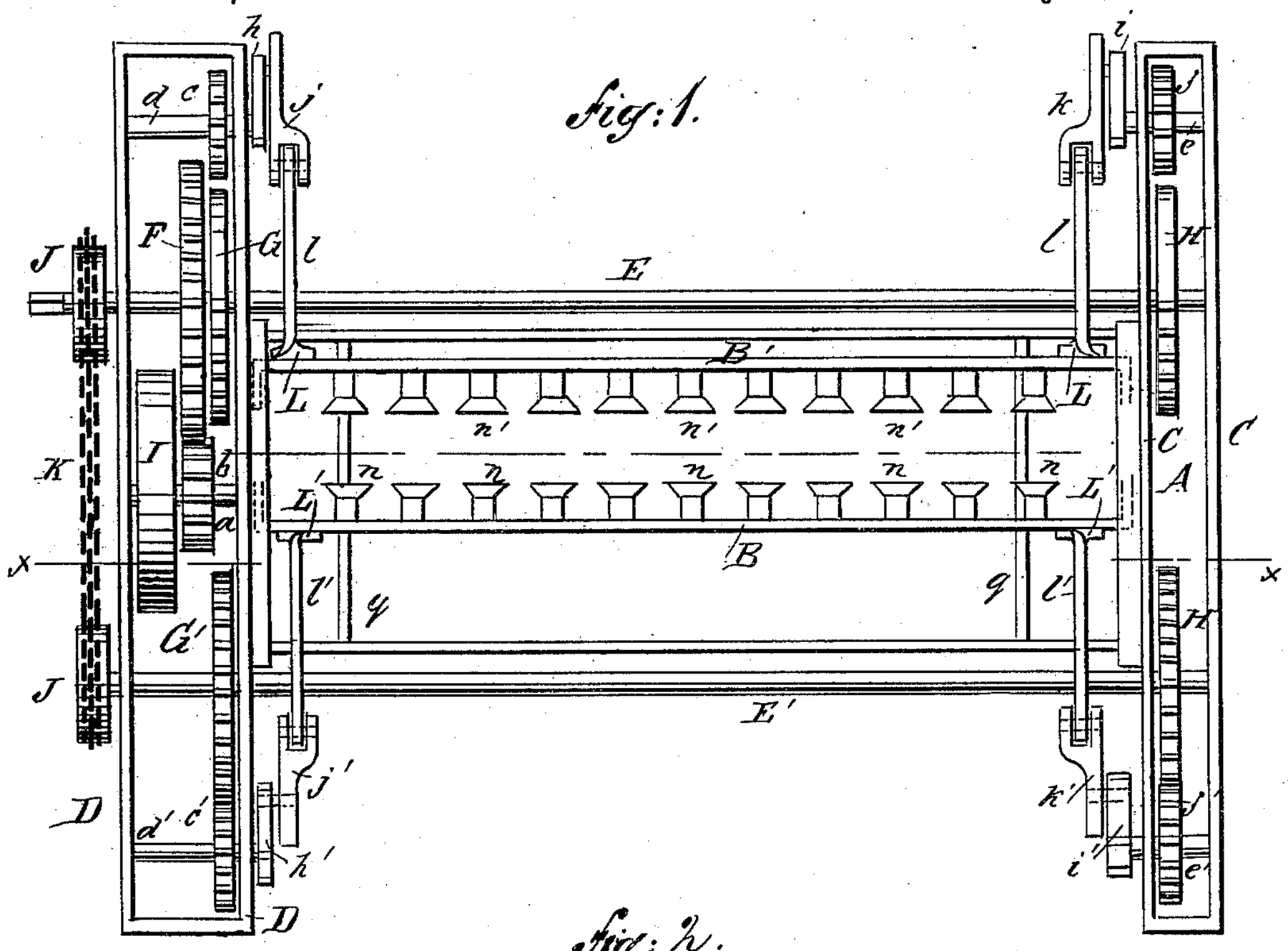


Fig: 1.

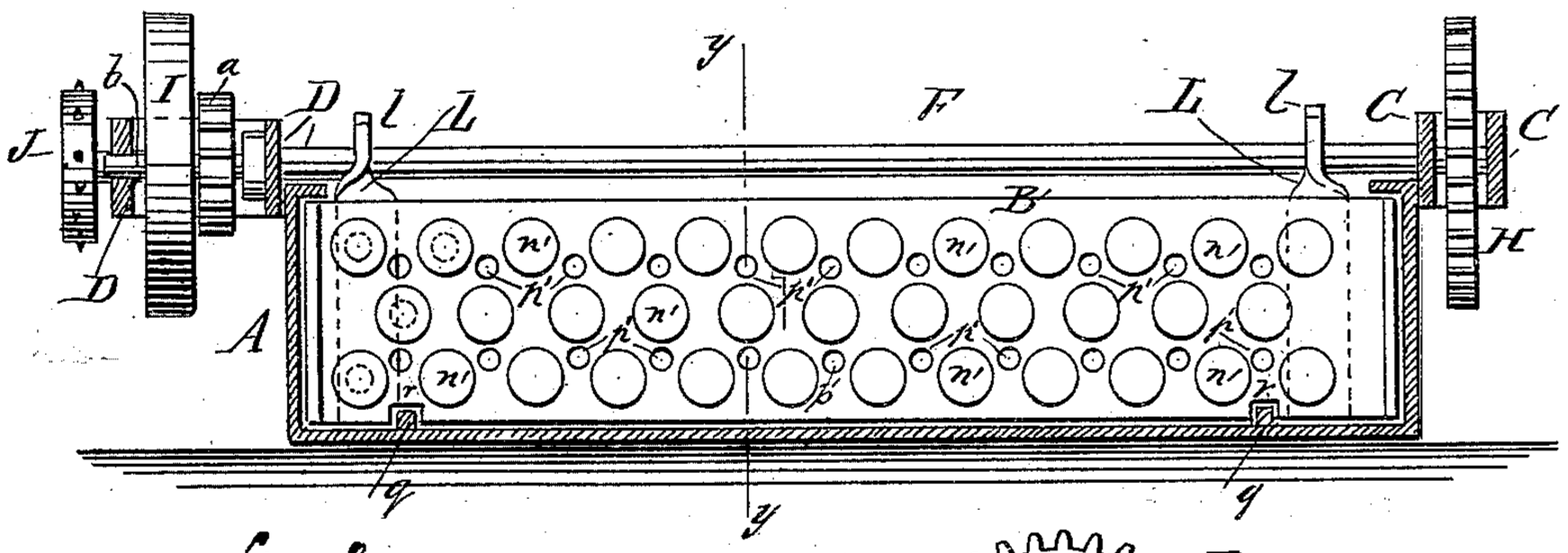


Fig: 2.

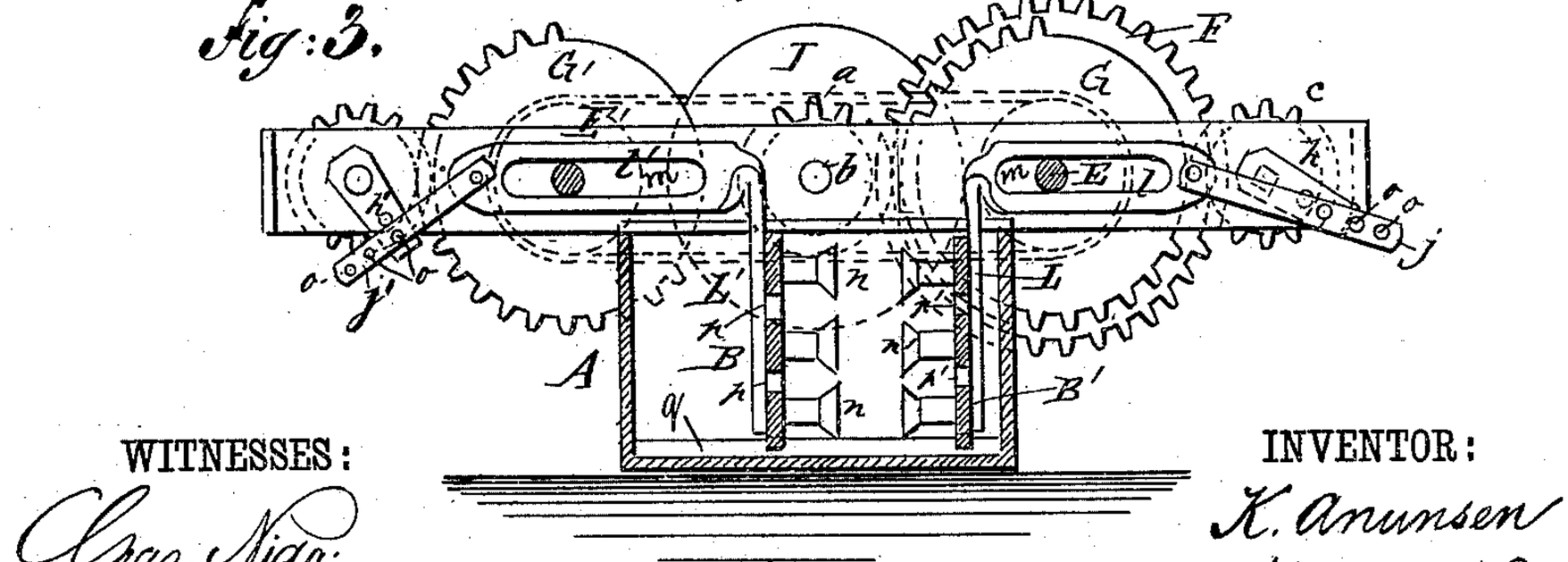
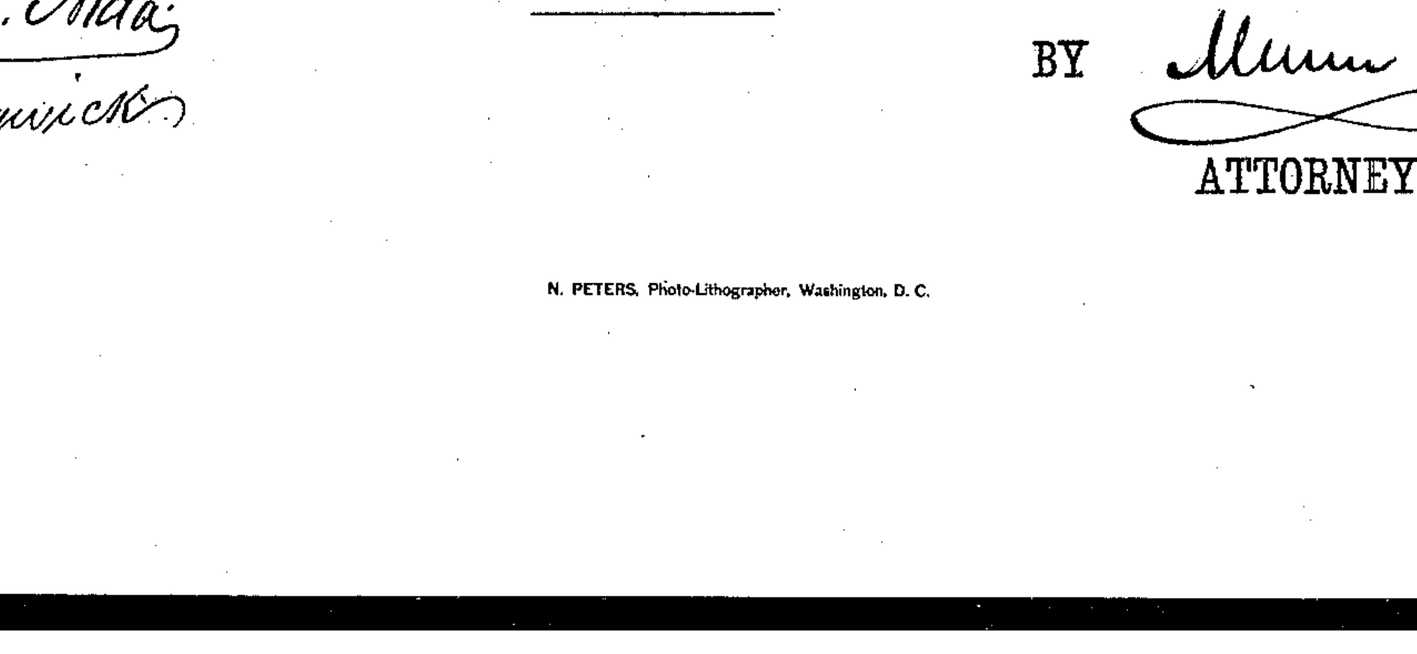


Fig: 3.



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UNITED STATES PATENT OFFICE.

KITTIL ANUNSEN, OF WINCHESTER, WISCONSIN.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 257,267, dated May 2, 1882.

Application filed December 20, 1881. (Model.)

To all whom it may concern:

Be it known that I, KITTIL ANUNSEN, of Winchester, in the county of Winnebago and State of Wisconsin, have invented a new and useful Improvement in Washing-Machines, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improved washing-machine. Fig. 2 is a sectional elevation of the same, taken on the line *x x* of Fig. 1; and Fig. 3 is a sectional elevation taken on the line *y y* of Fig. 2.

This invention relates to that class of washing-machines which have two reciprocating boards; and it consists principally in giving the boards an alternately-reciprocating movement across the suds-box, whereby the clothes will be squeezed and moved from side to side of the said suds-box.

The invention also consists in providing the alternately-reciprocating boards with headed pins for compressing the clothes and with numerous holes to permit the passage of water as the boards are reciprocated; of the mechanism employed for moving the said boards, and also of the details of construction and the combination and arrangement of parts, all as hereinafter more fully described and claimed.

In the drawings, A represents the suds-box, and B B′ represent the boards. Upon the ends of the suds-box are secured the parallel plates C C and D D, in which are formed the bearings for the mechanism for reciprocating the boards.

E represents the main crank-shaft, to which power is applied for operating the machine. This shaft carries the continuous cog-wheel F and the mutilated cog-wheel G at one end and the mutilated cog-wheel H at the other. The cog-wheel F meshes with the pinion *a* upon the short shaft *b*, which shaft also carries the fly-wheel I. The mutilated cog-wheel G meshes with and imparts intermittent motion to the pinion *c* upon the short shaft *d*. The mutilated cog-wheel H meshes with and imparts intermittent motion to the pinion *f* upon the short shaft *e*. The short shafts *d* and *e* are provided at their inner ends with the cranks *h* and *i* and with the adjustable connecting-rods *j* and *k*, which connect the cranks with the horizontal portions *l l* of the angle plates L L, which are bolted or otherwise secured to the board B′. The horizontal portions of the plates L L are slotted, as shown at *m* in Fig. 3, so as to move upon the shaft E for moving the board B′. Upon the opposite side of the suds-box is journaled the shaft E′, which receives its motion from the shaft E through the medium of the sprocket-wheels J J and the endless chain K. This shaft is provided at its ends with the mutilated cog-wheels G′ and H′, which mesh with and impart intermittent motion to pinions *c′* and *f′*, placed upon the short shafts *d′* and *e′*. These shafts are provided with the cranks *h′* and *i′* and with the connecting-rods *j′* and *k′*, which connect with the slotted arm *l′ l′* of the angle-plates L′ L′ of the board B in the same manner as in the case of the angle-plates of the board B′ just described.

The cogs on the mutilated cog-wheels correspond in number with the cogs on the pinions with which they mesh, so that the pinions will be given a complete revolution with each revolution of the mutilated wheels, and the mutilated wheels are so arranged upon the shafts E and E′ that the point of rest of the boards will be at the completion of their backward movement, and also so that the boards will be reciprocated alternately—that is to say, the arrangement is such that the movement of the boards will be this: Take the board B′. This board, having reached the limit of its backward movement, will remain at rest while the board B finishes its forward movement, and will remain at rest until the board B recedes some distance. The board B′ will then follow the board B. When the latter reaches the end of its rearward movement it will remain at rest while the board B′ approaches and begins to recede, when the board B will follow in like manner reciprocally, so that the clothes placed between the boards will be squeezed by the boards and then moved to the opposite side of the suds-box, squeezed again, and then again moved in the box. This action is a very effective action in removing the dirt from the clothes.

The boards B and B′ are provided with the

series of headed pins *n* and *n'*, which come against the clothes, and the boards are formed with the series of holes *p p'*, which permit the passage of the water through the clothes and the boards as the boards are moved in the suds-box.

The bottom of the suds-box is formed with the rails *q q*, upon which the boards move, the boards being formed with the notches *r r* for fitting over the rails, as shown clearly in Fig. 2.

The connecting-rods *j j'* and *k k'* are formed with the series of holes *o*, by means of which the boards may be adjusted to suit the quantity of clothes placed between the boards to be washed.

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

1. In a washing-machine, the alternately-reciprocating boards B B', in combination with the suds-box A and means for reciprocating said boards, substantially as and for the purpose set forth.

2. In a washing-machine, the shafts E E', provided with the mutilated cog-wheels G G' and H H', in combination with the pinions *c c'* and *f f'*, shafts *d d'* and *e e'*, cranks *h h'* and *i i'*, connecting-rods *j j'* and *k k'*, slotted angle-plates L L', and the boards B B', the shafts E E' being connected by the endless chain K, substantially as described.

3. In a washing-machine, the alternately-reciprocating boards B B', provided with the head-pins *n n'* and perforations *p*, in combination with the suds-box A and means for reciprocating the said boards, substantially as and for the purpose set forth.

4. In a washing-machine, the alternately-reciprocating boards B B', provided with the slotted angle-plates L and the grooves *r* in their lower edges, in combination with the suds-box A, provided with the rails *q* in its bottom, the shafts E E', and means for reciprocating said boards, substantially as set forth.

KITTIL ANUNSEN.

Witnesses:
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