

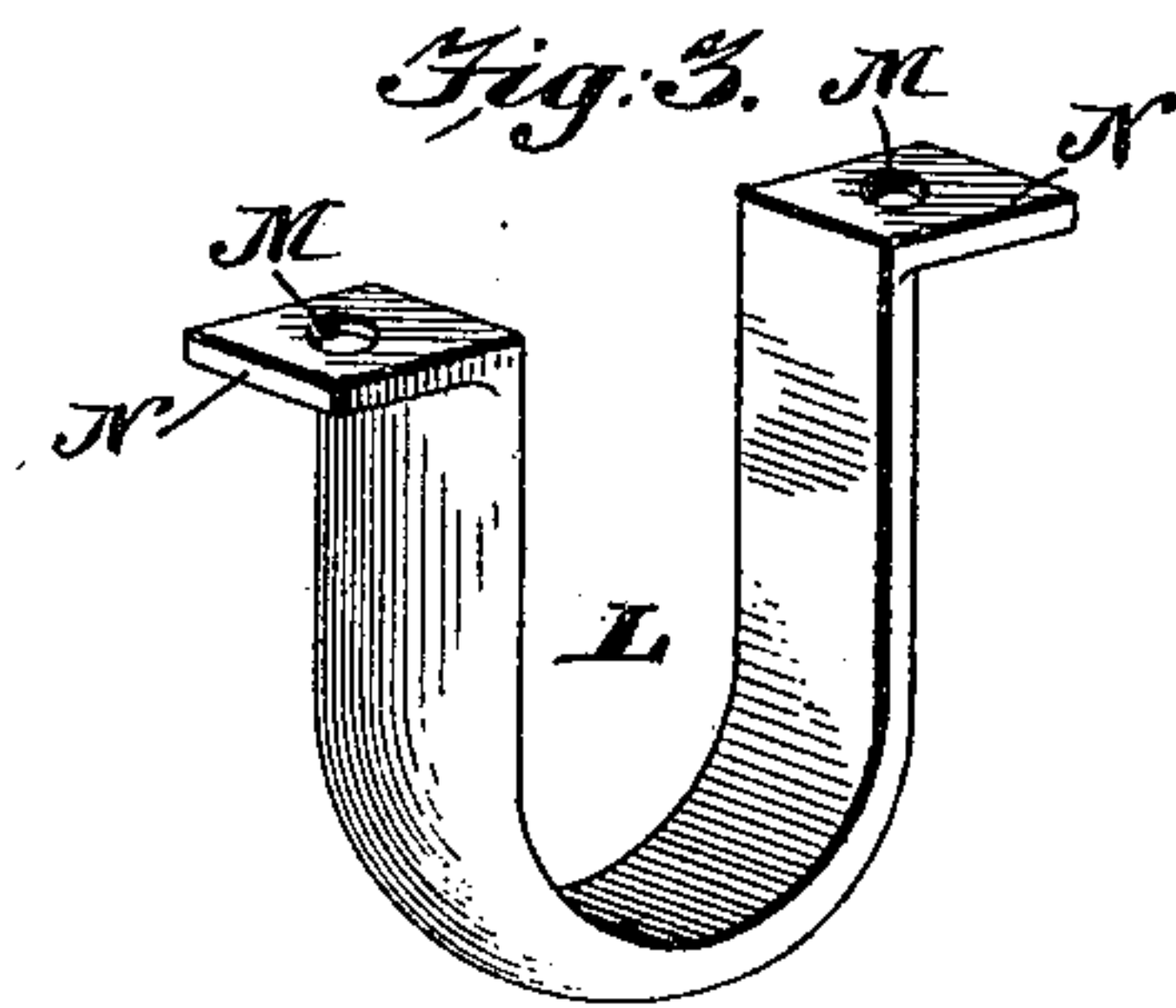
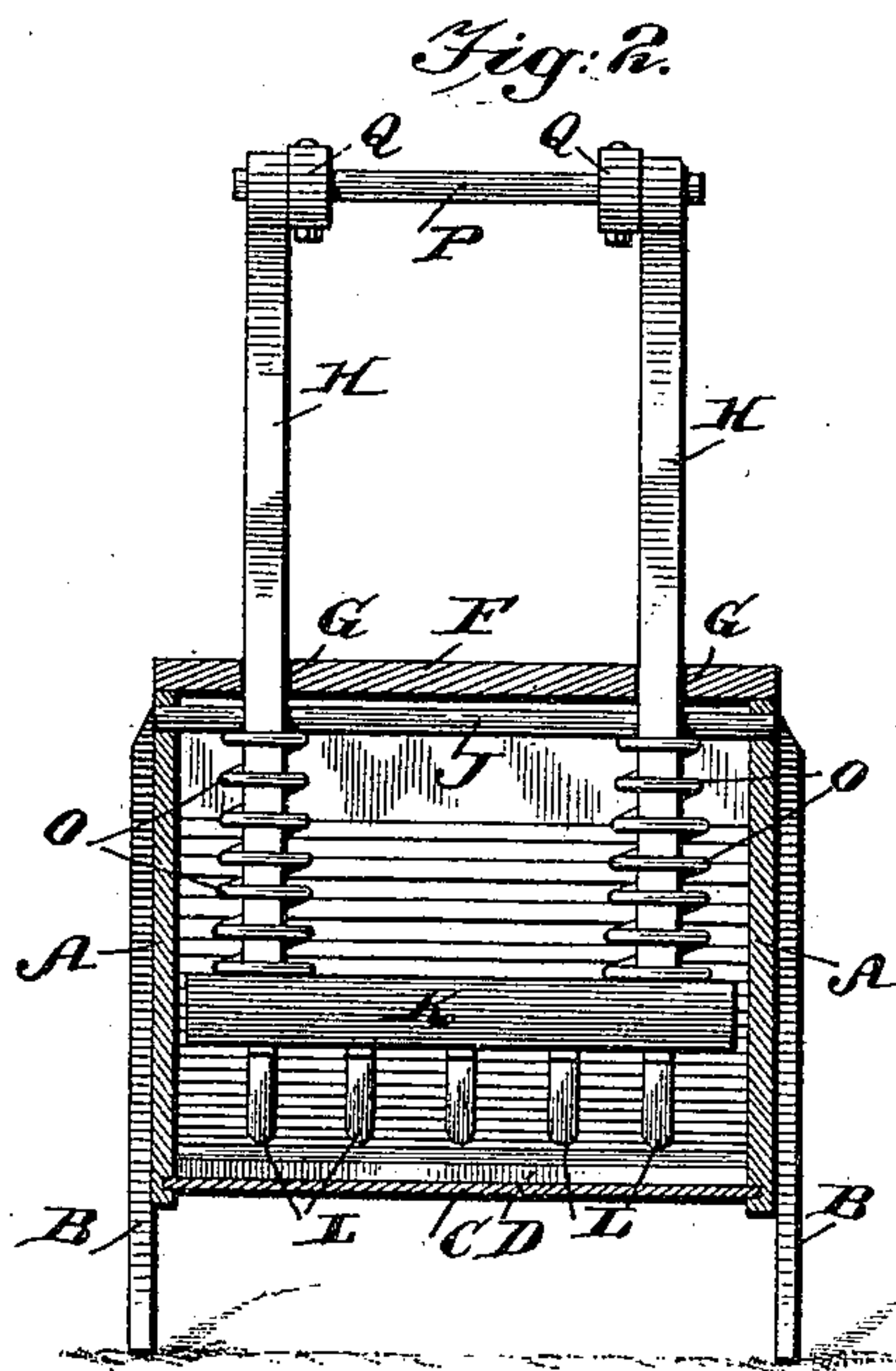
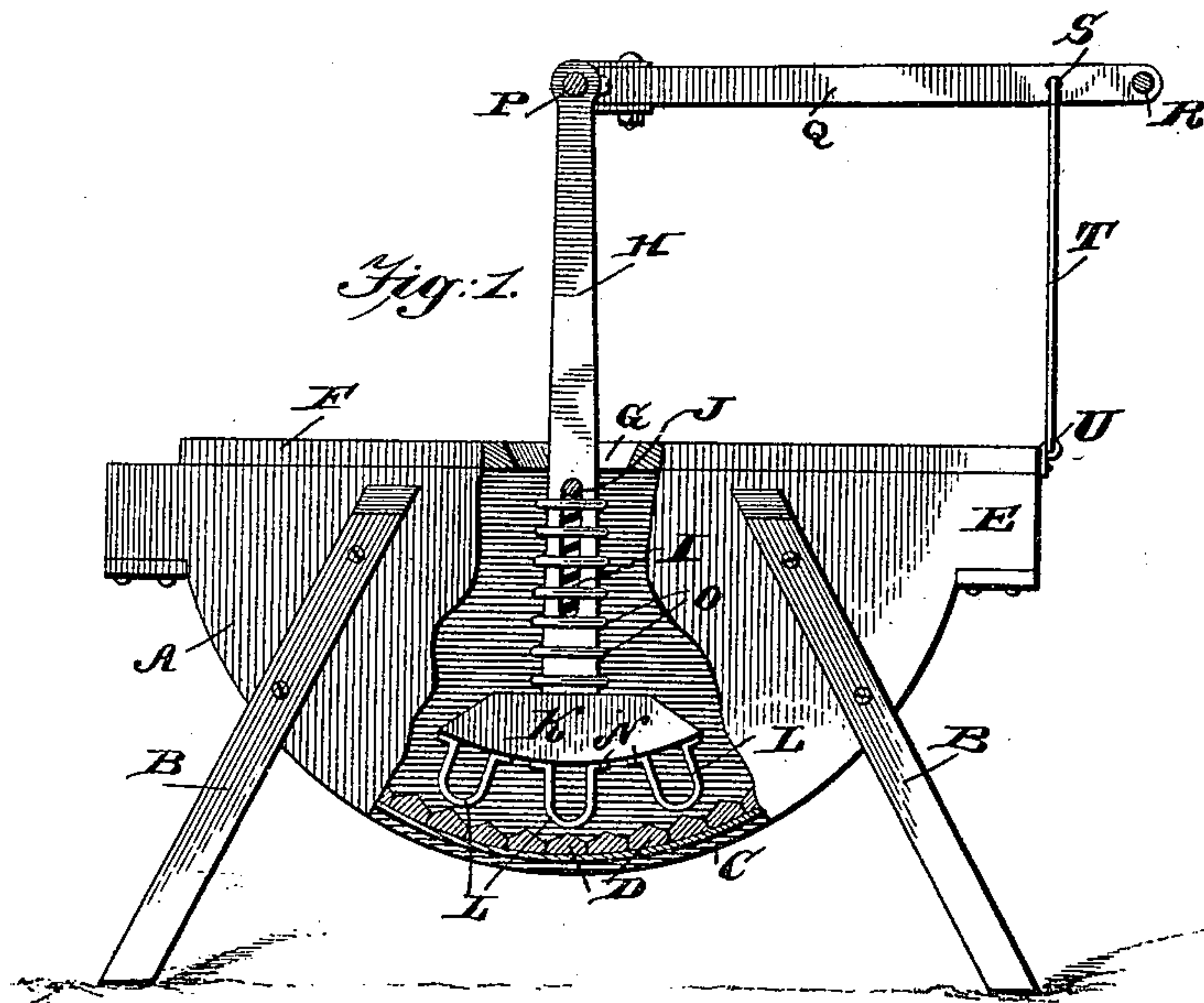
No. 621,351.

Patented Mar. 21, 1899.

O. P. KVERNUM.  
WASHING MACHINE.

(Application filed June 21, 1897. Renewed Aug. 27, 1898.)

(No Model.)



Witnesses  
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# UNITED STATES PATENT OFFICE.

OLE P. KVERNUM, OF WAUKON, IOWA.

## WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 621,351, dated March 21, 1899.

Application filed June 21, 1897. Renewed August 27, 1898. Serial No. 689,703. (No model.)

*To all whom it may concern:*

Be it known that I, OLE P. KVERNUM, residing at Waukon, in the county of Allamakee and State of Iowa, have invented a new and useful Improvement in Washing-Machines, of which the following is a specification.

My invention relates to washing-machines, and is in the nature of a washing-machine provided with a suitable receptacle for the clothes and a yielding oscillating rubbing-lever.

The object of my invention is to furnish a washing-machine which may be operated by oscillating a lever, which is yieldingly pressed downward upon the clothes placed upon a suitable rubbing-surface in the bottom of the box or body of the machine.

With this object in view my invention consists, first, in a rubbing-lever for a washing-machine provided with a suitable lower rubbing-surface and mounted to oscillate over the clothes contained on the rubbing-surface in the body of the machine.

My invention further consists in a washing-machine in which is provided a box or body with a curved bottom and a suitable rubbing-surface, having a slotted lever with a rubbing-surface at the bottom thereof pivoted by a rod passing through the slot, said lever being adapted to yield upward when passing over a large body of clothes.

My invention further consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the claim.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation in connection with the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a view of my improved washing-machine in side elevation, part of the top and sides of the box being removed to illustrate the interior construction. Fig. 2 is a vertical section through the box or body of the machine, with the oscillating lever and its rubbing-surface shown in side elevation. Fig. 3 is a detail perspective view showing one of the metal loops which form the rubbing-surface carried by the oscillating lever.

Like letters of reference will mark the same parts wherever they occur throughout the various views.

Referring to the drawings by letters, A is a box or body of the machine, in which the clothes are to be placed with water and soap. This box or body is supported on legs B B, secured to its sides and in any desirable manner, as shown in Fig. 1. The bottom of the box or body, as shown at C, is curved from end to end and is lined inside with transverse strips D, of wood or other suitable material, laid closely side by side, such strips having their upper corners beveled off and presenting a rubbing-surface resembling a continuous series of notches and ridges. The construction of this rubbing-surface may be varied at will and the bottom of the box furnished with any suitable surface for the purpose. At either the front or the rear of the box, as at E, a wringer may be placed to wring the clothing as it is taken from the body of the washer. This body is covered by any suitably-formed lid F, provided only that it shall be furnished with two slots arranged in a longitudinal direction, as shown at G in Figs. 1 and 2.

H H are levers, one passing through each of the slots G in the top of the box and each provided with a longitudinal slot I, through which and the sides of the box is passed a transverse rod J, which forms a pivotal support upon which the levers H may be oscillated or rocked in the direction of the length of the box, the slots G permitting of such oscillation to a large extent without striking against the lid.

K is a block of wood whose length is nearly as great as the width of the box or body of the machine, supported at the lower ends of the two levers H. This block K has its lower surface curved on about the same arc as the bottom of the box, and secured to the bottom of said block are a number of U-shaped loops L, their curved ends being downward and they being attached by means of screws passing through holes M in horizontal flanges N at their upper ends. A wire spring O is coiled around each of the levers H and has a bearing at its upper end against the under side of the pivot-bar J, and at its lower end upon the top of the block K. The two levers



H are connected at their upper ends by a cross-bar P, to which they are rigidly secured. Two horizontal levers Q are also rigidly secured to the cross-bar P and are connected  
 5 at their outer ends by a cross-rod or round R and provided with a perforation S to receive the upper end of a hook T, pivotally attached to the top of the box at U, whereby the levers may be secured when at rest.

10 In operating my improved washing-machine the clothes are placed within the box upon the rubbing-surface D in the bottom thereof, the levers H and block K being held up, if necessary, while this is done. The U-  
 15 shaped loops L now rest upon the clothing, a suitable mixture of soap and water having been placed within the box, and by grasping the round R and pulling downward thereon the levers H and the block K will be os-  
 20 cillated in the direction of the length of the box, the rubbing-surface moving over and bearing upon the upper surface of the clothing contained in the box. By reason of the provision of the springs O the block K will  
 25 yield upward whenever there is an extra amount of clothing encountered in its oscillation lengthwise of the box, thus preventing the tearing of the clothing, which might occur with an unyielding upper rubbing-sur-  
 30 face. The advantages attending the use of this invention will be obvious from the foregoing description.

The operation of the rubbing-surface of the oscillating block upon the clothes is in close  
 35 resemblance to the rubbing of clothing by hand on a washboard, and the yielding of the

block against the action of the springs will tend to roll and turn the clothes in both directions without injury thereto, such yielding of the block permitting of the washing of 40 either a large or a small quantity of clothes, as may be desired.

While I have illustrated and described the best means now known to me for carrying out my invention, I wish it to be understood that 45 I do not restrict myself to the exact details of construction shown, but hold that any slight changes or variations as would suggest themselves to the ordinary mechanic would clearly fall within the limit and scope of my 50 invention.

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

In a washing-machine, the combination of 55 a box or body, having a curved surface, consisting of transverse strips, a rubbing-block swung upon a pivot lying parallel with said strips, and a rubbing-surface for said block, consisting of a plurality of U-shaped loops, 60 formed of half-round bars secured to the under side of the block in lines at right angles to the strips, the curved sides of the loops being outside, and the flat surface inside, whereby flat-faced flanges are made to fit 65 snugly against the under side of the rubbing-block to receive the fastening-screws, all substantially as set forth.

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Witnesses:

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