(No Model.)

J. H. ATWATER.

WASHING MACHINE.

No. 255,562. Patented Mar. 28, 1882.

Fig: 1.

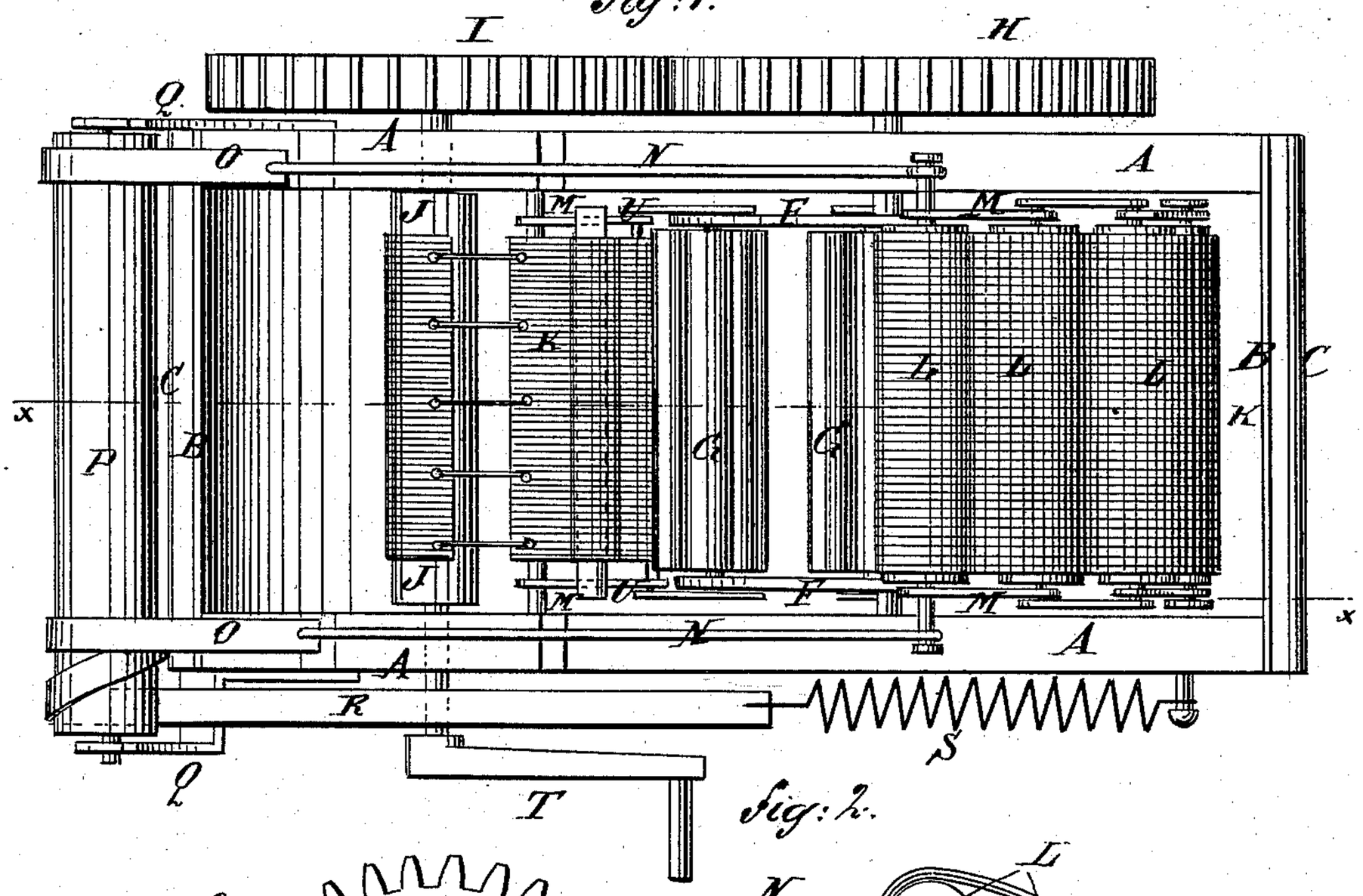
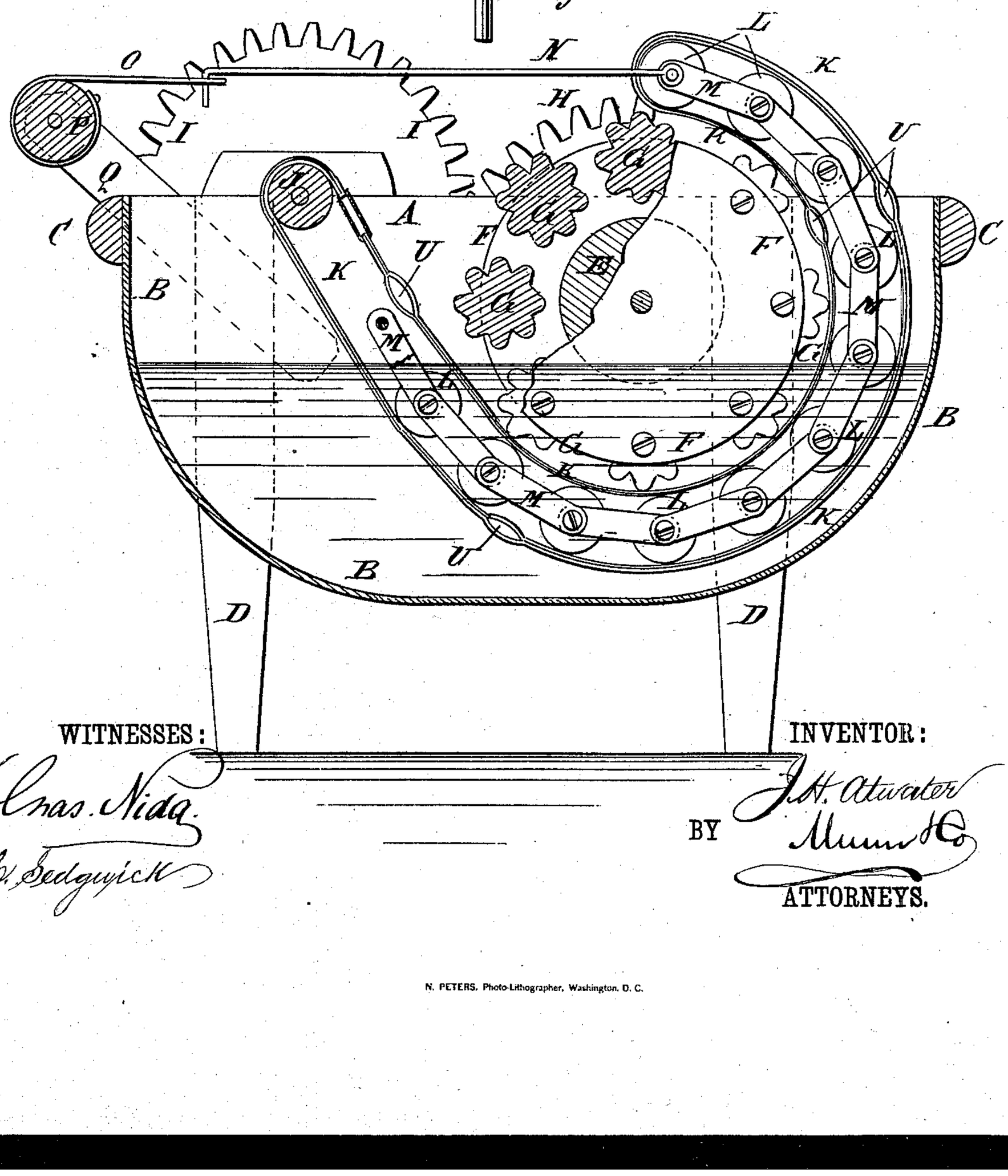


Fig: 2.



WITNESSES:

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JOHN H. ATWATER, OF MEDFORD, MINNESOTA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 255,562, dated March 28, 1882.

Application filed January 12, 1882. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. ATWATER, of Medford, in the county of Steele and State of Minnesota, 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 a part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a plan view of my improvement. Fig. 2 is a sectional side elevation of the same, taken through the broken line *x x*, Fig. 1.

The object of this invention is to provide washing-machines constructed in such a manner that they will wash the clothes quickly and thoroughly and without injuring them, and will allow any desired part of the clothes to receive an extra amount of rubbing.

The tub of the machine is made with vertical sides A and a curved sheet-metal bottom, B, which is extended upward to form the ends of the tub, and is strengthened by bars C, attached to its ends. The tub A B is supported at a suitable elevation by legs D, attached to its sides.

To the sides A of the tub, near one end, is journaled a shaft or cylinder, E, to the ends of which are attached disks or flanges F. To and between the outer parts of the flanges F, and at a little distance from each other, are journaled the ends of corrugated rollers G. One of the journals of the flanged cylinder E F projects through the side A, and to it is attached a large gear-wheel, H, the teeth of which mesh into the teeth of the large gear-wheel I, attached to the projecting end of a journal of the shaft J. The shaft J is journaled to the sides A of the tub, and around the said shaft is passed an endless apron, K, which also passes around a series of rollers, L. The rollers L are journaled to and connected by a series of links, M, so as to form a flexible chain of rollers. The outer ends of the first links M are pivoted to the sides A of the tub, or to a rod attached to the said sides at a little distance from the shaft J. The flexible chain of rollers L is passed partly around the cylinder of corrugated rollers G, and the journals of the last roller L of the series are pivoted to the ends of two rods, N. The other ends of the rods N have hooks formed upon them, and are hooked into the ends of straps O, which are wound around and are attached to a shaft, P. The shaft P is journaled to brackets or bars Q, attached to the sides A of the tub.

To the shaft P is attached, and around it is wound, a strap, R, which may be a continuation of one of the straps O, and to the other end of the said strap R is attached the end of a spiral spring, S. The other end of the spiral spring S is attached to the side A of the tub.

The mechanism is operated by means of a crank, T, attached to a journal of the shaft J.

U are cross-bars, which are inserted in pockets formed in the endless apron K, or are otherwise attached to the said apron, to keep the apron spread and prevent it from running off the ends of the rollers around which it passes.

In using the machine the clothes to be washed are inserted between the endless apron K and the cylinder of corrugated rollers G, and as the machine is operated the said clothes are carried around the said cylinder of rollers, and are squeezed and rubbed by and between the corrugated rollers G and the smooth rollers L acting behind the apron K. With this construction the corrugated rollers G will travel faster than the endless apron K, so that said corrugated rollers will move forward upon the clothes, and will thus operate more effectively upon the said clothes than they would if the rollers and clothes traveled at the same speed. With this construction, also, the shaft P, the flexible straps O R, and the spiral spring S allow the flexible chain of rollers to adjust itself to the varying thickness of the clothes being operated upon, and at the same time holds the clothes pressed against the cylinder of corrugated rollers G with the necessary pressure. As a quantity of clothes is placed within the machine the tendency is to force the chain of rollers L and the apron K away from the cylinder of rollers G, moving the upper roller, M, to which the rods N are attached, downward, unwinding the straps O from the roller P and winding the strap R upon the said roller P against the tension of the spring S, which thus acts to continue the necessary pressure of the rollers G L upon the clothes between them, thereby producing a thorough cleansing effect upon the varying thickness of material, as above set forth. By

holding the clothes so that they will not be carried forward by the endless apron K any desired part of the clothes may be rubbed to any desired extent.

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

1. A washing-machine constructed substantially as herein shown and described, and consisting of the tub A B, the cylinder of corrugated rollers G, the flexible chain of rollers L, the endless apron K, and a driving mechanism, as set forth.

2. In a washing-machine, the combination, with the tub A B, of the cylinder of corrugated rollers G, the flexible chain of rollers L, the endless apron K, and the crank-shaft J and gear-wheels I H, substantially as herein shown and described, whereby the clothes will be carried between the said rollers and cylinder by the said endless apron and quickly and thoroughly washed, as set forth.

3. The hook-rods N, attached to the flexible chain of rollers L, the straps O, the shaft P, the strap R, and the spiral spring S, combined in a washing-machine, as shown and described.

JOHN H. ATWATER.

Witnesses:
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A. S. BAILEY.