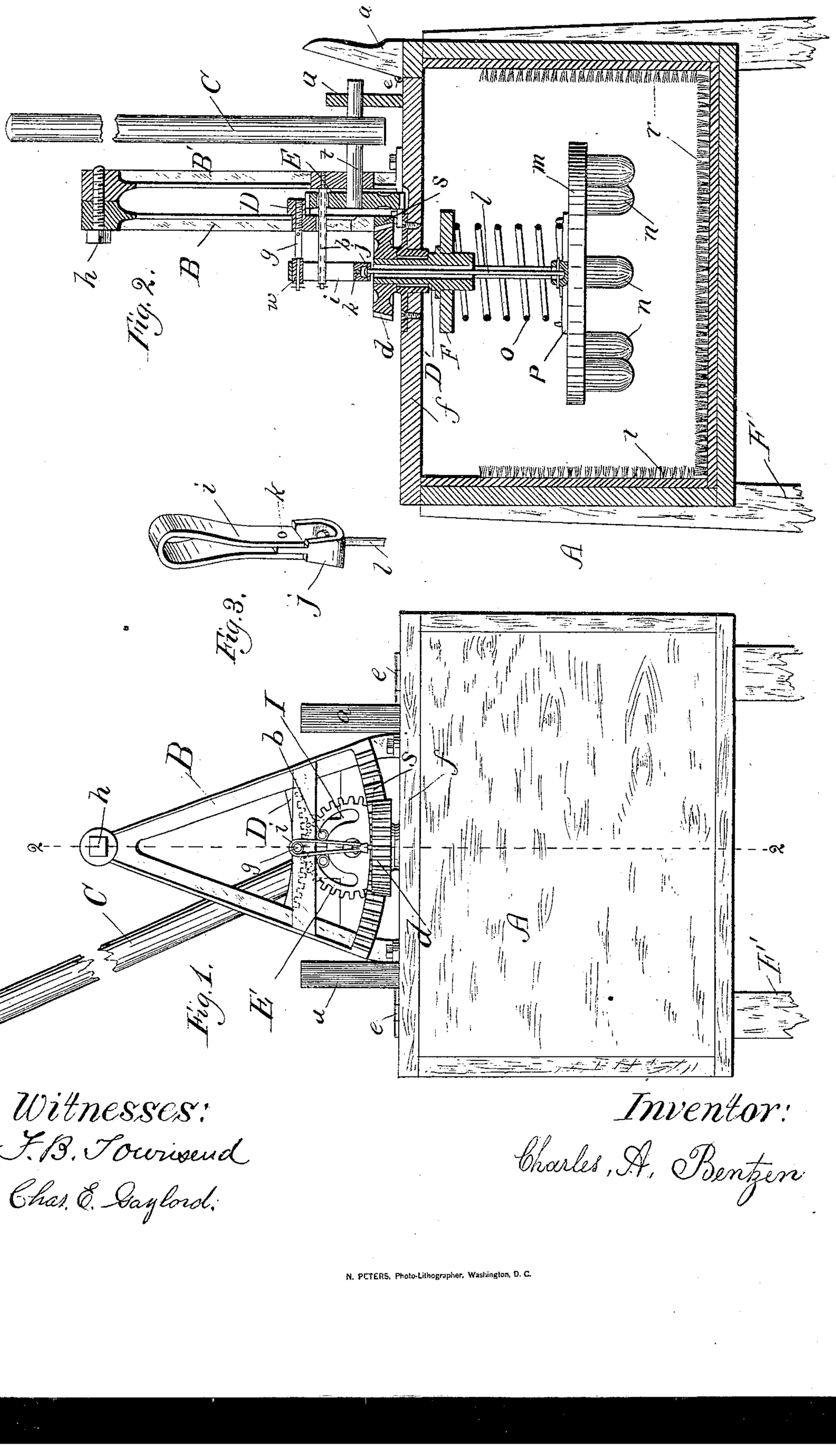
(No Model.)

C. A. BENTZEN.

MECHANICAL MOVEMENT.

No. 271,594. Patented Feb. 6, 1883.



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UNITED STATES PATENT OFFICE.

CHARLES A. BENTZEN, OF CHICAGO, ILLINOIS.

MECHANICAL MOVEMENT.

SPECIFICATION forming part of Letters Patent No. 271,594, dated February 6, 1883.

Application filed July 19, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. BENTZEN, of Chicago, county of Cook, and State of Illinois, have invented certain Improvements in Mechanical Movements, of which the following is a specification.

My invention relates to an improvement upon a mechanical movement for operating a washing-machine or any other machine to which the same may be adapted, (shown and described in Letters Patent of the United States for a mechanical movement, No. 254,907, issued to me, and dated March 14, 1882;) and my said improvement claimed herein will be hereinafter described with reference to the accompanying drawings, in which—

Figure 1 represents a front elevation of a washing-machine and my improved mechanical movement mounted upon the same; Fig. 2, a vertical section of the same, taken as indicated by the broken lines 2 2 in Fig. 1; and Fig. 3, a detail view of the strap *i*.

A indicates the box or containing-vessel of the washing-machine; *f*, its top or cover, and *e* the hinges upon which it turns; *r*, the rice-root brushes with which the interior of the box is provided; *m*, a disk; *n*, rubbers, with which the lower side of the disk is provided to rub the clothes. P are pins, with which the upper side of the disk is provided, and serve to confine the spiral spring O below; F, a board or collar inclosing a hollow cylinder to confine the spring above; *l*, a connecting-rod, by which vertical motion is imparted to disk *m* from the device.

When the rod *l* is reciprocated vertically the disk *m*, with its rubbers, has the same motion, and when the hollow cylinder is revolved in its bearings on the top *f* of the box the like rotary motion is imparted to the disk *m*. The frame B′, which supports the mechanical device, stands upon the top of the box, and carries the gear-wheel E upon the shaft *t*, which is vibrated by its lever-handle C. The double segmental gear B is pivoted and swings upon bolt *h* in the top of the frame B′, and the teeth of its lower segment gear with those of the horizontal gear-wheel *d*, which is fastened upon hollow journal D′; but its upper segmental gear, D, meshes with said gear-wheel E, which is vibrated by means of the handle-lever C. Both segmental gears D and S are operated simultaneously, the segment S causing horizontal gear *d*, hollow shaft D′, and disk *m* to vibrate through the arc of a circle. In order, however, to impart to the disk *m* a reciprocating vertical motion, the gear-wheel E is provided with concentric curved slot I through it, and two pins, *b*, extend out horizontally from the frame B′ with sufficient space between them for the loop *i*, made of leather or other suitable supple material, the lower portion of which is fastened to the connecting-rod *l*, while the upper portion is hung upon stud *g*, which extends out from the vertical center of the segment-gear D.

The result of the described construction is that when the double segmental gear B is vibrated back and forth alternately the disk *m* is raised and lowered correspondingly, the two pins *b* serving to confine the loop or strap *i* to vertical motion only, the slot I allowing the gear-wheel E to vibrate through a half-circle, or more, while the pins *b* remain stationary.

What I claim as my invention, and desire to secure by Letters Patent, is—

The double segment-gear B, provided with an upper toothed curved bar, D, and a lower toothed curved bar, S, in combination with gear-wheel E, mounted on shaft *t*, the whole adapted to impart simultaneously a vertical reciprocating motion to loop *i*, and a horizontal reciprocating motion to gear-wheel *d*, substantially as described.

CHARLES A. BENTZEN.

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