

(No Model.)

R. M. DANIELS.
WASHING MACHINE.

No. 360,421.

Patented Apr. 5, 1887.

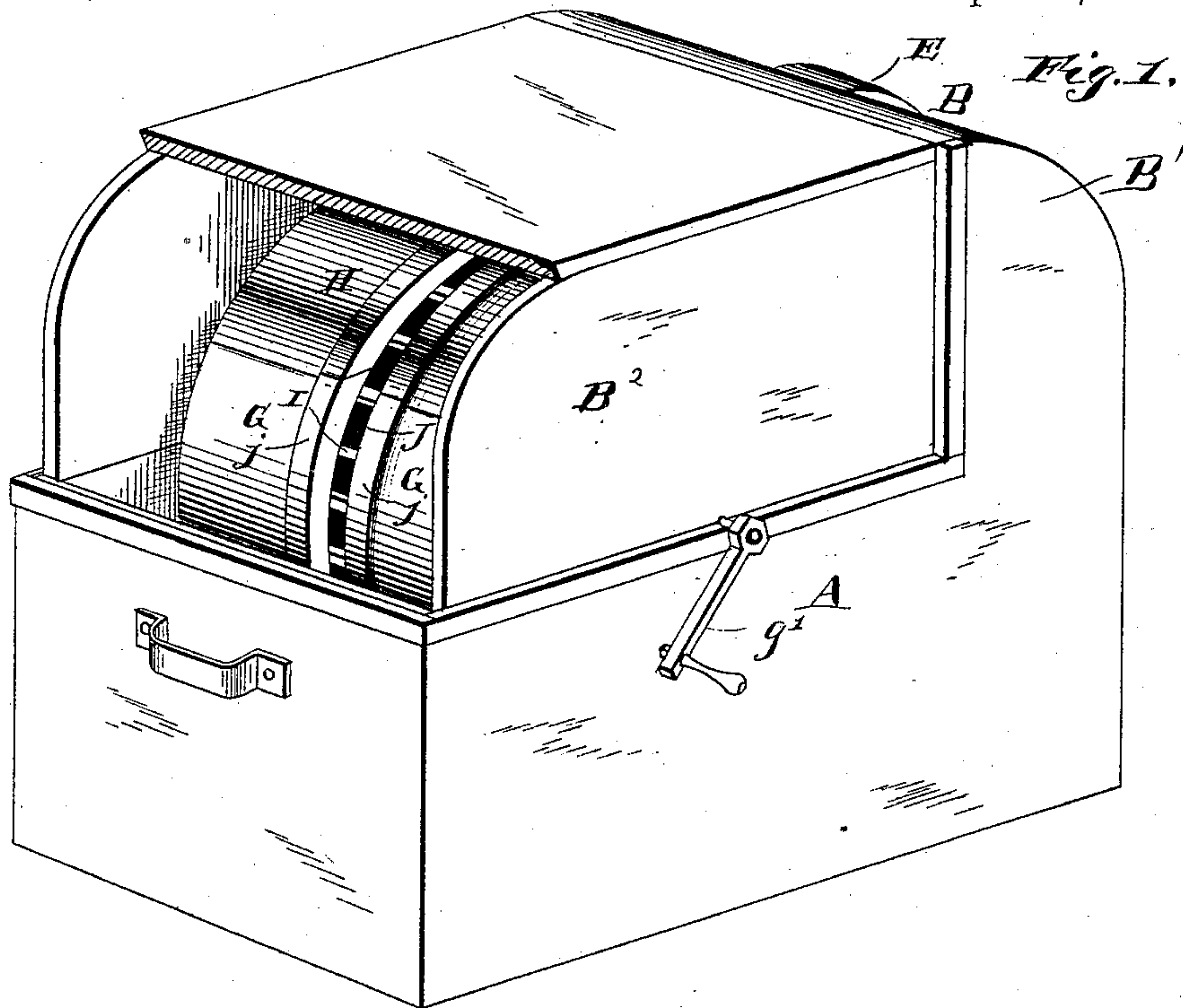


Fig. 2.

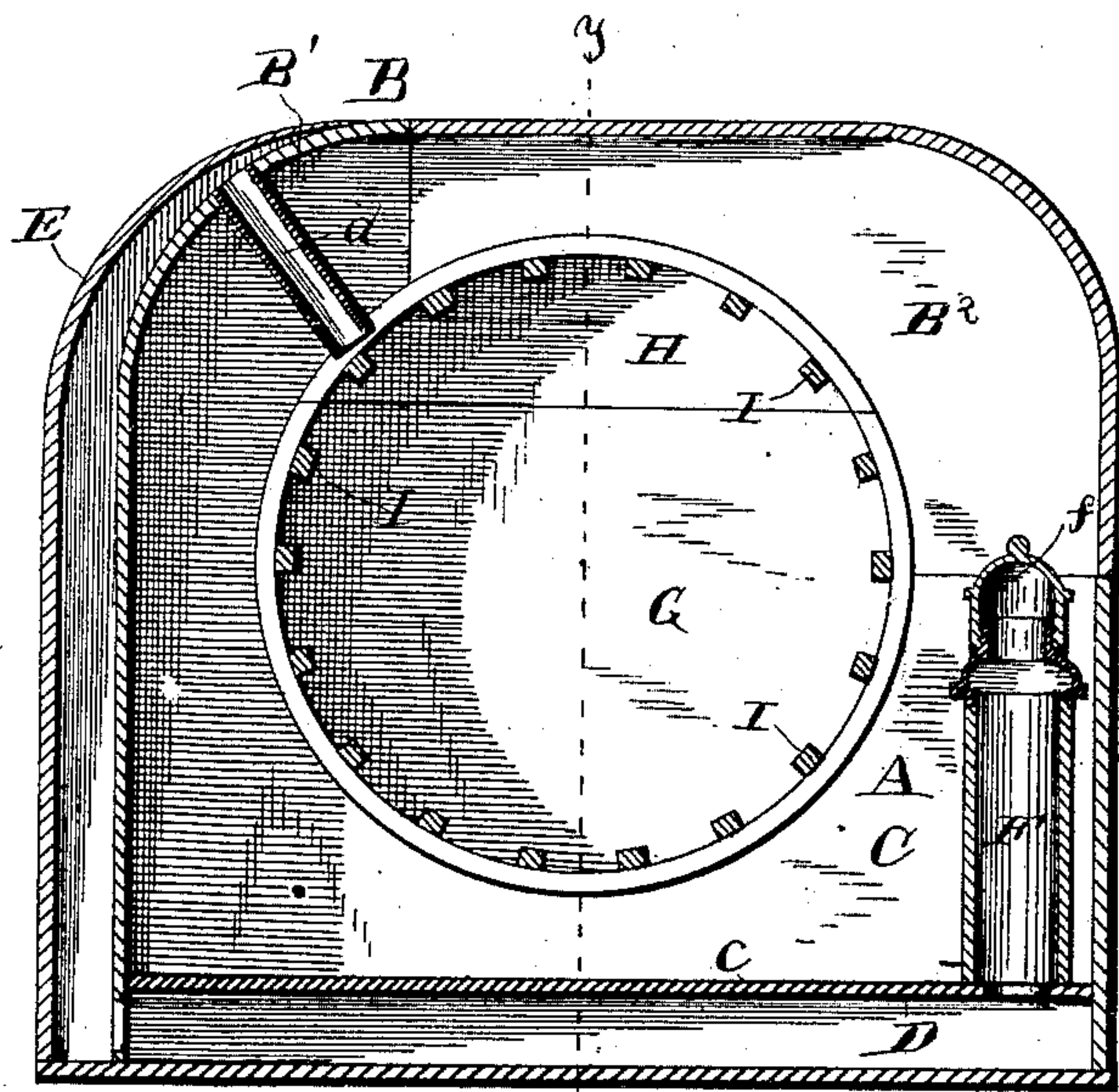
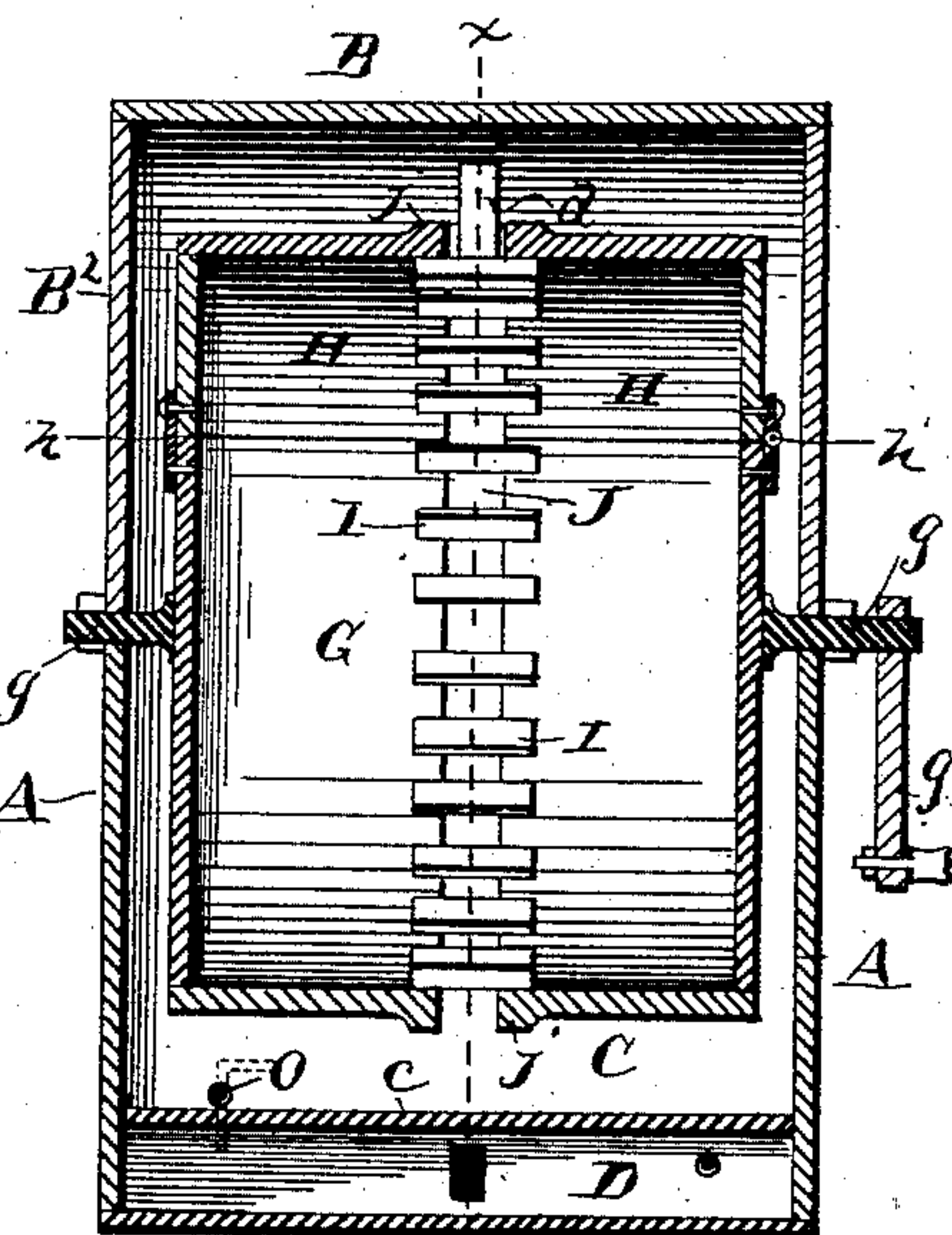


Fig. 3.



Witnesses

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REUBEN MILTON DANIELS, OF APPLETON CITY, MISSOURI.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 360,421, dated April 5, 1887.

Application filed September 21, 1886. Serial No. 214,203. (No model.)

To all whom it may concern:

Be it known that I, REUBEN MILTON DANIELS, a citizen of the United States, residing at Appleton City, in the county of St. Clair and State of Missouri, have invented new and useful Improvements in Washing-Machines, of which the following is a specification.

My invention relates to improvements in washing-machines; and it consists of the peculiar combination and novel construction and arrangement of the various parts for service, substantially as hereinafter fully described, and particularly pointed out in the claim.

The primary object of my invention is to provide an improved washing-machine of simple, cheap, and durable construction, which shall utilize the cleansing property of live active steam to remove the dirt from soiled fabrics, and thereby to a very material extent dispense with the necessity for manual labor to operate the machine. The live steam is constantly supplied to the cylinder of the machine, and is generated while the machine is in use in a separate vessel or chamber from the compartment in which the cylinder and fabrics are arranged, and the water necessary for the steam-generating vessel can be easily and readily supplied thereto.

In the drawings hereto annexed, and which illustrate a washing-machine embodying my invention, Figure 1 is a perspective view. Fig. 2 is a vertical central longitudinal sectional view on the line *x x* of Fig. 3, and Fig. 3 is a vertical transverse sectional view on the line *y y* of Fig. 2.

Referring to the drawings, in which like letters of reference denote corresponding parts in all the figures, A designates the inclosing shell or case, which is rectangular or of any other desired form, and B designates the top or cover, which is made in two sections, B' B². The section B' is made curved in form and forms part of the shell or case, while the section B² is also curved in form and removably fitted on the upper edges of the shell and within an upwardly-extending guard-flange thereon. The removable section of the cover is thus securely held in place and fitted against the edges of the rigid section B' very closely, to prevent the escape of steam from the machine, and said section can be easily removed to per-

mit free access to the main chamber or compartment C of the shell and to the cylinder located therein.

The chamber of the shell or case is divided into two compartments, C D, of unequal area or size by a horizontal partition, *c*, which is arranged longitudinally of the shell and near its lower end, the said partition forming the bottom of the main compartment C.

The smaller compartment, D, is arranged beneath the larger compartment, and it forms the steam chamber in which the steam is generated and supplied to the larger main chamber, C, and the drum located therein.

E designates the steam-supply pipe, which is arranged exterior to the shell or case and at one end thereof. This pipe is rigidly affixed to one of the end walls of the shell, and its upper end terminates at a point near the upper inner extremity of the rigid section B' of the top. The lower extremity of the supply-pipe is in communication with the steam-space of the chamber D, to receive and conduct the steam from said chamber, and the upper end of the said pipe discharges the steam into a short discharge-nozzle, *d*, which projects into the main compartment C for a short distance, and is rigidly affixed to the rigid section of the cover.

Water is supplied to the cylinder by means of a vertical supply-pipe, F, that is located in one corner of the main compartment, C, and rigidly affixed in place therein. The lower end of the said vertical pipe opens into the steam-chamber D, and the upper end of the pipe is securely closed by a cap, *f*, that effectually prevents the escape of steam from the chamber D into the chamber C.

G designates the rotary cylinder, which is located in the main chamber C of the machine, and it is provided with trunnions *g* at its center, which are journaled in suitable openings or bearings in the side walls of the shell, so as to support the cylinder therein and permit it to rotate, one of these trunnions being extended beyond the case and having a crank or other suitable handle, *g'*, affixed thereto.

The cylinder is provided with a hinged section, H, which is held closed by a catch, *h*, so that the clothing or fabrics can be readily

placed in and removed from the cylinder, and on its inner side and at its periphery it has a series of equidistant ribs, I, which extend for a short distance toward the axis of the cylinder, and serve to carry the fabrics around with the cylinder and constantly expose new surfaces thereof to the action of the steam.

The cylinder is further provided at its center with a circumferential groove or slot, J, which opens into or communicates with the chamber of the cylinder, and into this channel or groove projects the free end of the discharge-nozzle d, so as to directly supply the steam to the fabrics in the cylinder from the steam chest or chamber.

j designate vertical ribs or flanges, which are arranged on the outer periphery of the cylinder and on opposite sides of the central channel therein, and the free end of the discharge-nozzle is fitted between the ribs, which thus serve in a measure to aid in discharging the steam into the cylinder and prevent it from being wasted in the chamber C.

This being the construction of my invention, the operation is as follows: Water is supplied to the steam-chamber, and a suitable quantity is placed in the compartment C, after which the machine is placed on a stove to convert the water into steam in the steam-chamber.

The clothes, having been well soaped, are placed in the drum or cylinder, and the drum is then turned or rotated a few times to thoroughly immerse the fabrics in the water of the chamber C. The live steam is constantly sup-

plied from the chamber D to the drum, and acts directly upon the fabrics therein to thoroughly and rapidly cleanse them, the drum being turned a few times once in a while until the fabrics have been cleansed.

The main compartment or chamber has a discharge cock or nozzle, O, of any approved pattern, opening into the same, so that the dirty water therein can be readily emptied after the washing has been completed.

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

In a washing-machine, the combination of a main compartment or chamber, a steam-chamber located beneath the same and entirely separate therefrom, a water-supply pipe fixed in the main chamber and in communication with the steam-chamber, a rotary drum or cylinder having the circumferential channel in communication with the chamber thereof and the projecting ribs on opposite sides of the said channel, a steam-supply pipe opening into the steam-chamber and extending to the cover of the machine, and a discharge-nozzle fitting between the ribs of the cylinder, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

REUBEN MILTON DANIELS.

Witnesses:

J. R. DAVIDSON,
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