

(No Model.)

2 Sheets—Sheet 1.

L. BALDAUF.
WASHING MACHINE.

No. 335,735.

Patented Feb. 9, 1886.

Fig. 1.

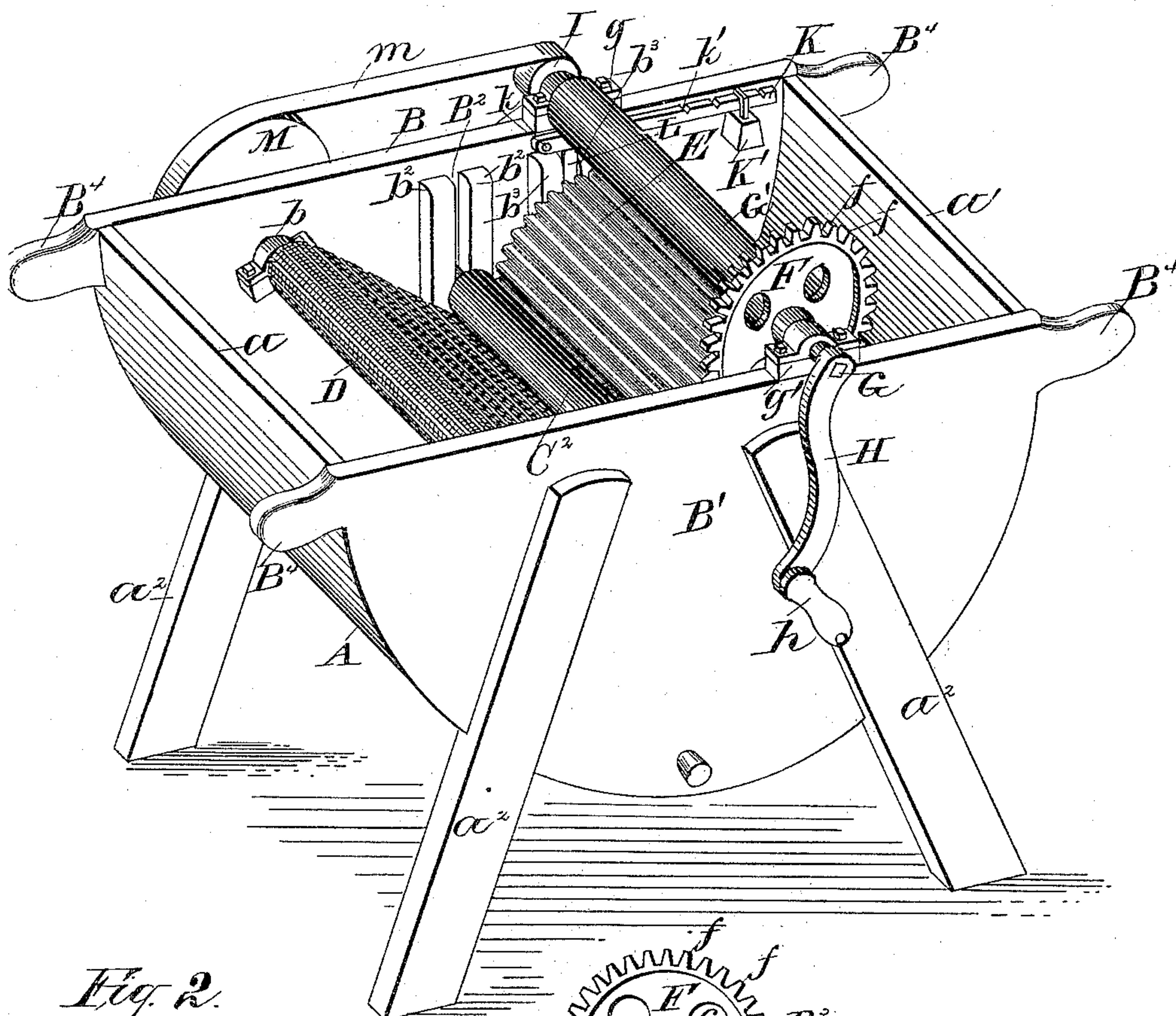
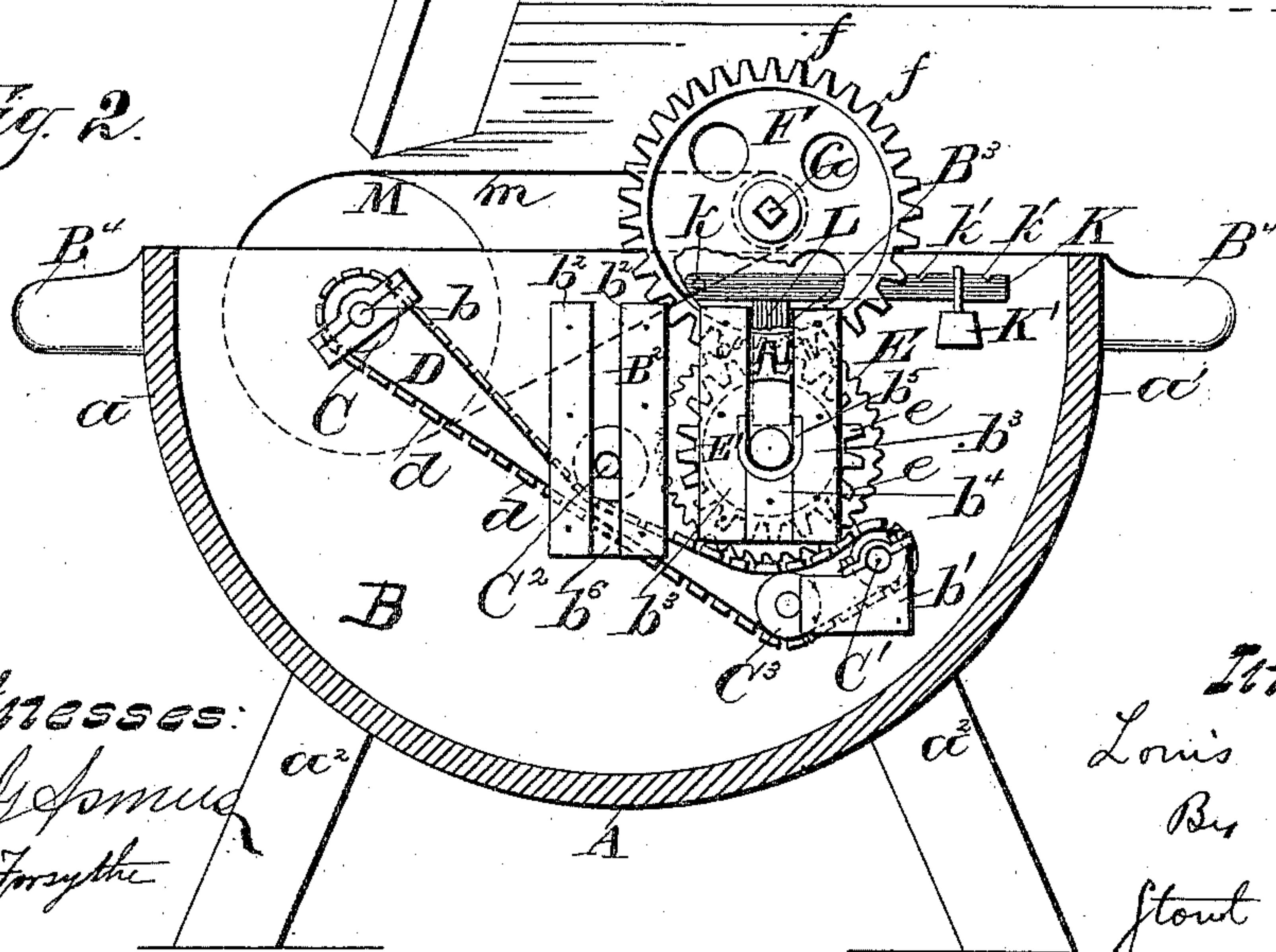


Fig. 2.



Witnesses:

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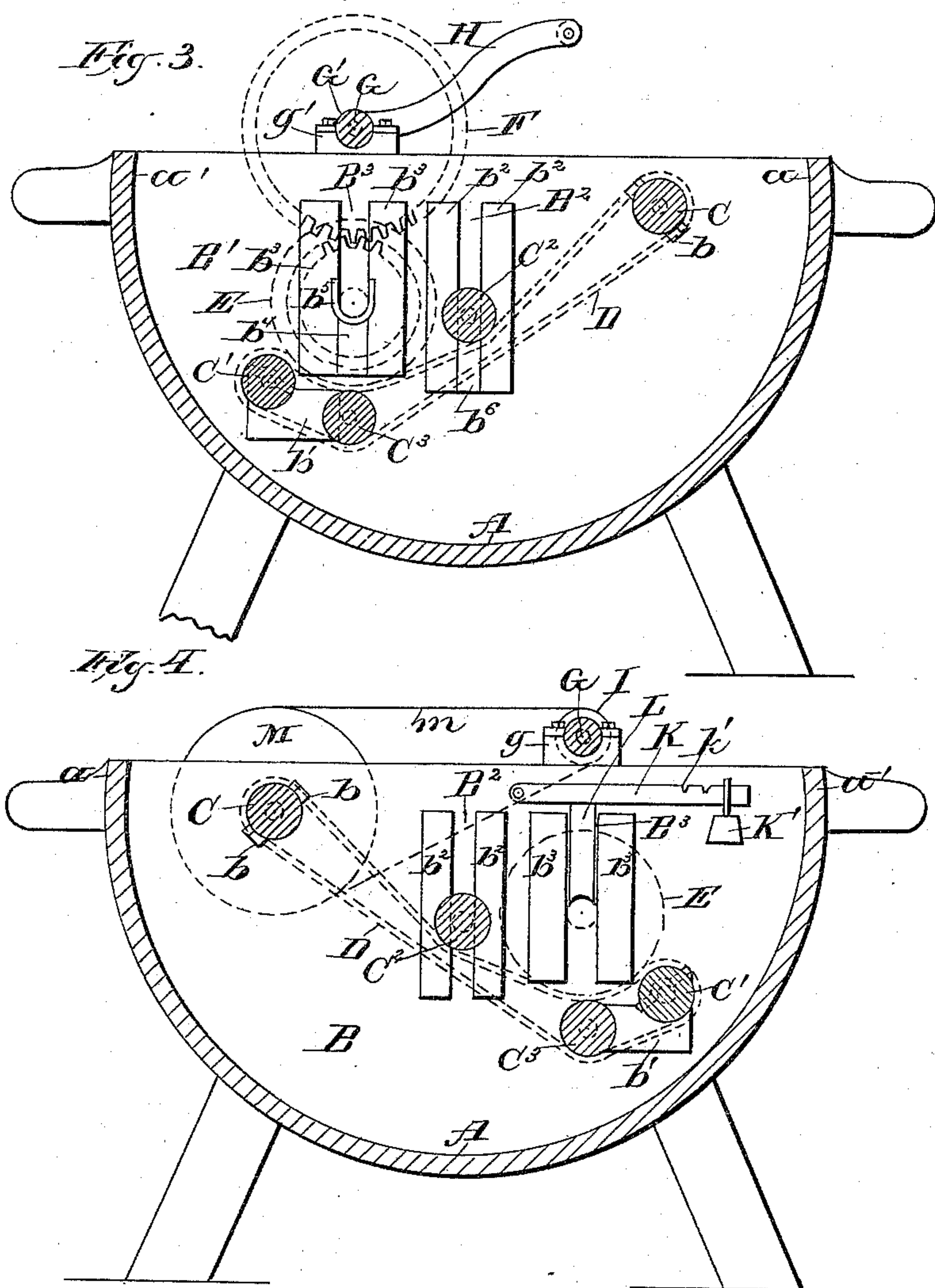
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2 Sheets—Sheet 2.

L. BALDAUF.
WASHING MACHINE.

No. 335,735.

Patented Feb. 9, 1886.



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UNITED STATES PATENT OFFICE.

LOUIS BALDAUF, OF MEQUON, WISCONSIN.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 335,735, dated February 9, 1886.

Application filed June 6, 1884. Serial No. 134,059. (No model.)

To all whom it may concern:

Be it known that I, LOUIS BALDAUF, of Mequon, in the county of Ozaukee, and in the State of Wisconsin, have invented certain new and useful Improvements in Washing-Machines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to washing-machines; and it consists in certain peculiarities of construction, as will be more fully set forth hereinafter, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of my improved device, and Fig. 2 is a front elevation of the same with the side nearest the crank removed, but showing all the inside attachments in the place they would occupy on said side when in use. Fig. 3 is a longitudinal vertical section, showing the arrangement of the interior bearings on one side of the wash-box, and Fig. 4 is a similar view showing the arrangement of the interior bearings on the other side.

A is the rounded bottom of my machine, made continuous, so as to form likewise the ends a and a' ; and $B B'$ represent the sides, the whole forming the wash-box, which for convenience is mounted upon suitable legs, $a^2 a^2$, and has handles $B^4 B^4$, preferably formed solidly with the sides $B B'$.

Suitable bearings or boxes, $b b'$, are secured upon the inside of the sides B and B' , the boxes b being arranged near the upper part of said sides, at one end, and the boxes b' being disposed near the lower part of said sides, at the opposite end. These boxes receive the journals of the rollers or revolving shafts $C C'$, around which passes the endless apron D , bearing exterior slats or strips, d , placed transversely thereon and secured thereto at slight distances apart. Secured to about the center of the inner side of each of the sides $B B'$ are vertical pieces $b^2 b^2$, forming a vertical passage or way, B^3 , between them, and in these ways the journals of an idler or loose roller, C^2 , have vertical play, the journal of this idler next the side B' resting on a short strip, b^6 , between the pieces $b^2 b^2$, while the other end of the loose roller C^2 has no similar support for its journal; but the said loose roller presses down and rests

directly on the apron D . Another idler or loose roller, C^3 , is sustained within the folds of the apron D at its lowest part, the side edges of the lower boxes, b' , bearing against the journals of the idler C^3 , thereby limiting its forward motion. Just forward of the strips $b^2 b^2$ are other vertical pieces, $b^3 b^3$, secured in like manner to the twin surfaces of the sides $B B'$, and forming vertical ways B^3 between them. On the side B' these pieces $b^3 b^3$ have a short piece, b^4 , between them, all three pieces $b^3 b^4 b^3$ being flush at their lower edges, and above this short piece rests the metallic U-shaped bearing b^5 , which receives one journal of the ribbed or corrugated rubbing-cylinder E . This cylinder is preferably a wooden shell covered with zinc, in corrugations or in independent little cylinders placed close together, all around its periphery, and the other journal of this cylinder rests between the strips $b^3 b^3$, which are secured to the other side piece, B' ; but on that side there is no strip b^4 nor U-shaped bearing b^5 , and hence this end of the corrugated cylinder presses down and rests directly on the apron D , in similar manner to the loose roller or idler C^2 already described.

On that head of the cylinder E which is next the side B' there is rigidly secured the pinion E' , having long teeth or cogs $e e$, which are adapted to mesh with the similarly-long teeth or cogs $f f$ of the large operating-pinion F , secured on the shaft G , which latter is mounted in suitable boxes or bearings, $g g'$, on the sides $B B'$ of the wash-box, the said shaft G extending entirely across the machine, and in the same vertical plane as the journals of the cylinder E . This shaft G is fitted with a crank, H , having handle h at one end, outside of the box g' , and at the other end, outside of the box g , with a pulley, I , while a sleeve, G' , preferably of wood, envelops the said shaft between the box g and the large pinion F .

K is a lever pivoted at k to the side B of the box, just inside and below the top edge thereof, and the upper side of the free end of this lever has a series of notches, $k' k'$, cut therein, in which may be adjustably supported the weight K' , while between its weighted and pivoted ends this lever bears upon the top of a movable strip or piece, L , the lower end of which bears upon that journal of the cylinder

E next the side B, the said strip L being supported between the strips b^3 b^3 on that side of the wash-box, and adapted to have vertical play in the way B^3 between said strips.

5 One journal of the roller or revolving shaft C, already described, extends through the side B of the wash-box, and its outer end receives the large pulley M, which is connected by a suitable belt, m , with the small pulley I
10 on the end of the shaft G.

The operation of my device will be readily understood from the foregoing description of its construction. The box is partially filled with warm soapy water or "suds," and the
15 soiled clothing is placed on the upper surface of the apron D. Then the crank H is turned, which communicates motion through the pinions F and E' to the rubbing-cylinder E, (to which, as stated, the pinion E' is rigidly attached,) and also communicates motion to the
20 apron D, through the pulley I on the end of the shaft G, the belt m , and the pulley M on the end of the journal of the revolving shaft or roller C, over which the said apron turns. The clothing
25 passes between the upper surface of the apron at its lowest point and the adjacent surface of the rubbing-cylinder E, the idler C² serving to compress the clothing and keep it down flat, so as to pass between the apron and cylinder.
30 The teeth of the pinions F and E' are made long, as stated, and the object of their extra length is to provide for the vertical play or rising of the cylinder E on account of the thickness of the clothing passing under it, without
35 allowing the said pinions to get out of mesh. When there are any particularly dirty spots on the clothing, it will not be necessary to again pass the same under the cylinder; but by either slipping one end of the belt m off one of its
40 pulleys M or I, or by simply holding the said belt with the left hand, the movement of the apron is thereby stopped, and the cylinder E can be either revolved or reciprocate over the soiled spots for whatever length of time may
45 be necessary. The strips b^6 and b^4 prevent one end of the idler C² and the cylinder E from dropping down on the apron D to interfere with its revolution, while the pressure of these parts at their other ends insures that they shall
50 bear sufficiently on the clothing, and to prevent this end of the cylinder E from being raised too high, (by any extra thickness of clothing,) so that there may not be sufficient pressure for

proper cleansing of said clothing, the strip L is provided, on which any desired pressure 55 may be applied by the weighted lever K, and this pressure may be adjusted or changed from time to time by shifting the weight K' from one to the other of the notches k' .

The interior of the wash-box is preferably 60 lined with zinc or galvanized metal, so that there is nothing about my device to rust or injure the clothing washed therein.

It is not necessary that the shaft G should extend all the way across the machine, as in- 65 stead two short shafts may extend into a solid roller, G', instead of a long shaft running through a sleeve; but in either case the sleeve or roller G' serves to protect the clothing from accidental contact with the metal shaft, and also 70 serves to limit the upward movement of the lever K.

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

1. In a washing-machine, the combination of 75 the wash-box with the rollers C C', idlers C² C³, apron D, corrugated rubbing-cylinder E, shaft G, crank H, pinions E' F, pulleys I M, and belt m , substantially as set forth. 80

2. In a washing-machine, the combination, with the wash-box having guide-strips b^3 b^3 , apron D, rollers C C', and rubbing-cylinder E, having pinion E', with long cogs e , of the shaft G, having pinion F, with long cogs f , whereby 85 the said pinions are kept in mesh when the cylinder E and apron D are forced apart by extra thicknesses of clothing, substantially as set forth.

3. In a washing-machine, the combination, 90 with the wash-box having guide-strips b^3 b^3 , apron D, rollers C C', and rubbing-cylinder E, having pinion E', with long cogs e , of the shaft G, having pinion F, with long cogs f , strip L, pivoted lever K, with notches $k' k'$, and 95 weight K', substantially as shown and described, and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, 100 in the presence of two witnesses.

LOUIS BALDAUF.

Witnesses:

H. G. UNDERWOOD,
H. J. FORSYTHE.