(No Model.)

W. F. DURALL.

WASHING MACHINE.

No. 258,033. Patented May 16, 1882.

Fig. 1.

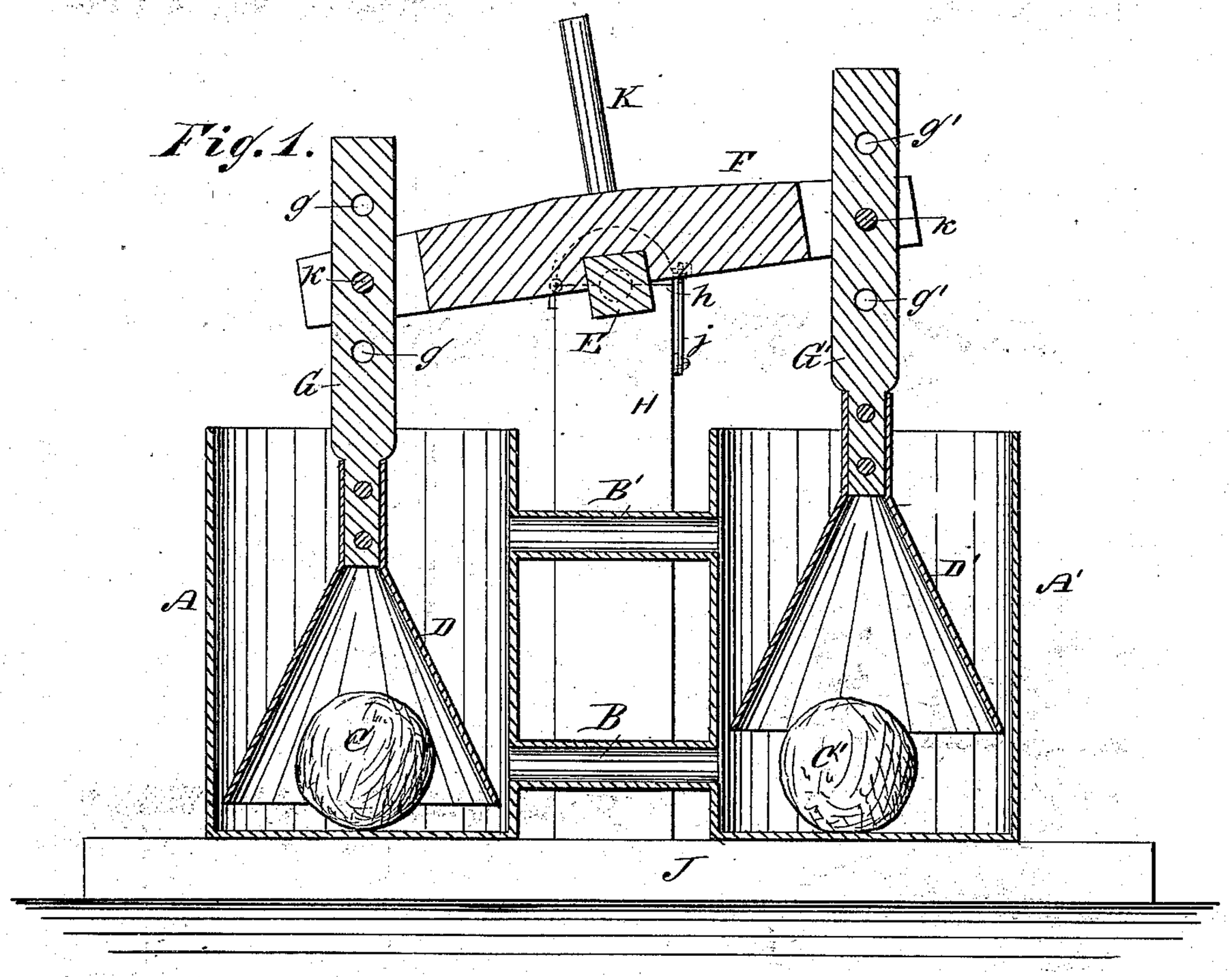
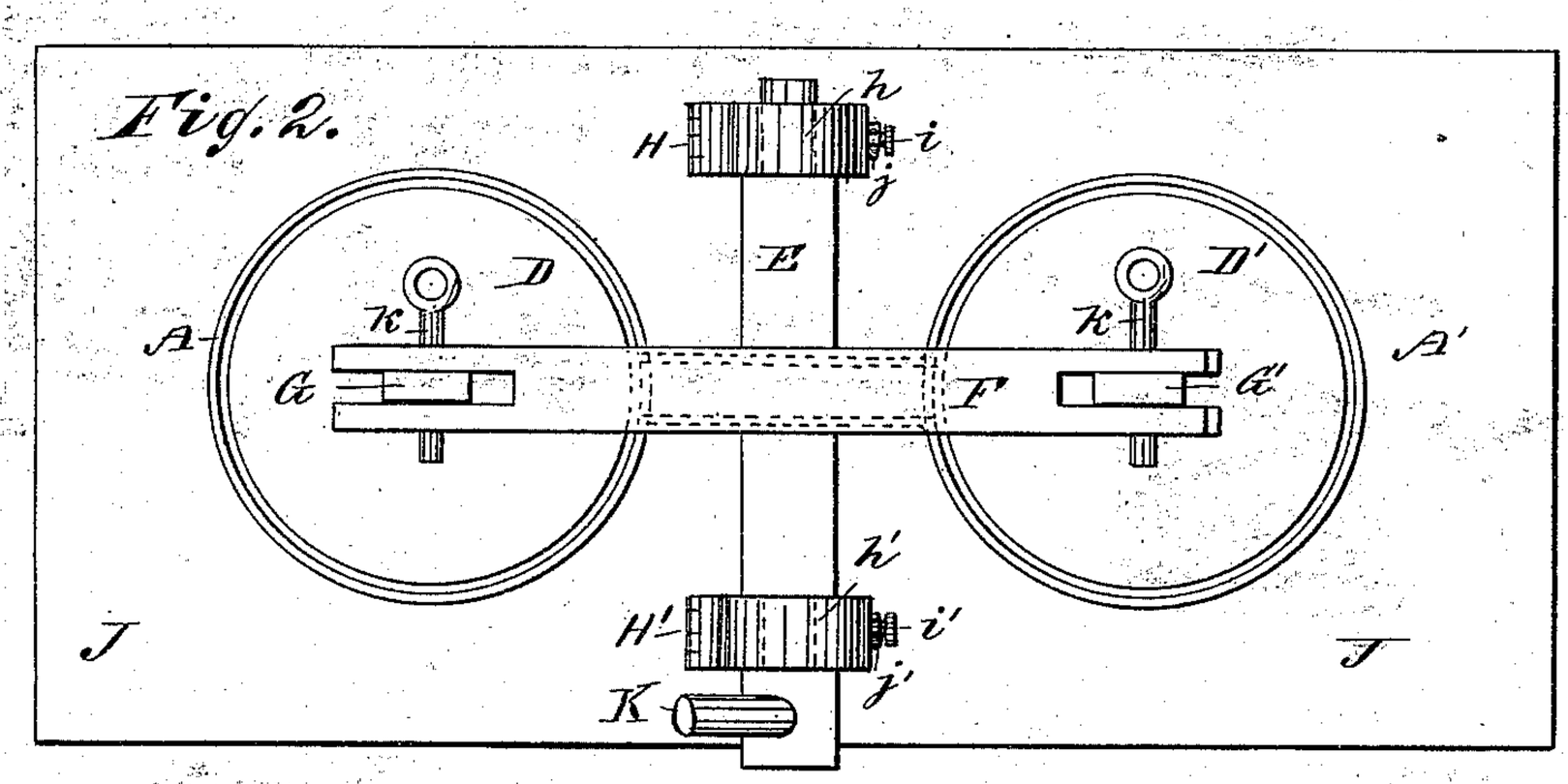


Fig. 2.



WITNESSES:

Theo. G. Hoskin.

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INVENTOR:

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UNITED STATES PATENT OFFICE.

WILLIAM F. DURALL, OF BLANCHARD, IOWA, ASSIGNOR TO HIMSELF AND JOHN D. KITE, OF SAME PLACE.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 258,033, dated May 16, 1882.

Application filed March 7, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM F. DURALL, of Blanchard, in the county of Page and State of Iowa, have invented a new and Improved Washing-Machine, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in both the figures.

Figure 1 is a longitudinal sectional elevation of my new and improved washing-machine, and Fig. 2 is a plan view thereof.

A A′ represent two metallic cylinders in which the water and clothing to be washed are placed. These cylinders are connected together near the bottom by the pipe B, and near the top by the pipe B′.

In the bottom of the cylinders A and A′ are placed the large wooden balls C C′, and in the cylinders above the balls are placed the beaters or agitators D D′, which are adapted to be alternately reciprocated or raised and lowered in the cylinders by any suitable means.

The means I prefer to use for reciprocating the beaters D D′ consist of the rock-shaft E, walking-beam F, secured to the said rock-shaft, and the stems G G′ of the beater, which are connected to the ends of the walking-beam by the pins *k k*. The rock-shaft E is journaled above the cylinders A A′ and about midway between them, in the uprights H H′, which rise from the base-board or platform J upon which the cylinders are supported, and it is provided with the hand-lever K, or similar means for easily and conveniently operating the machine.

The beaters D D′ are made of sheet metal and in the form of inverted funnels, their greatest diameter being somewhat less than the diameter of the cylinders, as indicated in the drawings, and the stems G G′ of the beaters are formed with the series of holes *g g′*, by which the beaters may be adjusted vertically for washings of different sizes.

The upper ends of the uprights H H′ are provided with the hinged caps *h h′*, which form part of the boxes in which the rock-shaft E is journaled. These caps are locked in place for holding the rock-shaft in position for use by means of the pins *i i′*, driven in the caps, and the hooks *j j*, pivoted in proper position to the edges of the uprights H H′, as shown in the drawings, and the caps are adapted to be swung back upon their hinges for releasing the rock-shaft when it is desired to remove the shaft for removing the beaters from the cylinders A A′.

In use the beaters D D′ are removed from and the balls C C′ placed in the cylinders A A′. The water, soap, and clothing to be washed are then placed in the cylinders upon the balls, an equal amount of clothing being placed in each cylinder. The beaters are then to be placed in the cylinders and reciprocated by power applied to the lever K. The down movement of the beaters will cause the water to rush in a stream or strong current alternately from one cylinder to the other through the pipe B, and will compress and squeeze the clothes down in the bottom of the cylinder and upon the wooden balls, and at the same time carry a quantity of air down with them, which will prevent the clothing from being forced to the top of the beaters and will increase the pressure upon the clothes and assist in removing the dirt. The upward movement of the beaters will have a suction action in the cylinders and in the pipe B, which will tend to increase the force of the stream or current through the pipe, and will tend to raise up and divide or separate the garments under the beaters, putting the garments in the most favorable position to receive the impact of the stream or current from the pipe B, and the balls being wooden will also be raised and will assist or tend to lift and divide the clothes, and will act to deflect the stream so as to increase its cleansing effect upon the clothes, and so that the clothes will at each upward movement of the beaters rise to the top of the water in the cylinders, ready to be forced down in and through the body of the water upon each down movement of the beaters. The balls have also a pounding and rubbing or friction action upon the clothes. By this means it will be seen that in my improved washing-machine are combined

the pressure, agitation, pounding, rubbing, and water-impact principles, rendering the machine very efficient and rapid in its action, and besides this the machine is very cheap and also easy to operate.

It will be understood that the pipe B′ near the top of the cylinders serves to admit the water from one cylinder to the other as the beaters are reciprocated, thus preventing the overflow of the cylinders, which might take place if this passage were not provided.

I am aware that it is not broadly new to use two tubularly-connected washing-cylinders with two conical beaters or pounders actuated by the same middle-pivoted lever; but

What I claim as new is—

1. The combination, with two cylinders having a tubular connection, of a reciprocating beater or pounder and a wooden ball in each cylinder, as and for the purpose described.

2. The combination, with two beating or pounding devices, of the two cylinders A A′, connected by an upper tube, B′, as well as by a lower tube, B, as and for the purpose set forth.

3. The connected cylinders A A′, funnel-shaped beaters D D′, wooden balls C C′, in combination with means for reciprocating the beaters, substantially as described.

WILLIAM F. DURALL.

Witnesses:

A. B. CAMPBELL,

G. A. GATLIN.