

(No Model.)

2 Sheets—Sheet 1.

B. R. TRULL.
Washing Machine.

No. 237,642.

Patented Feb. 8, 1881.

Fig. 1.

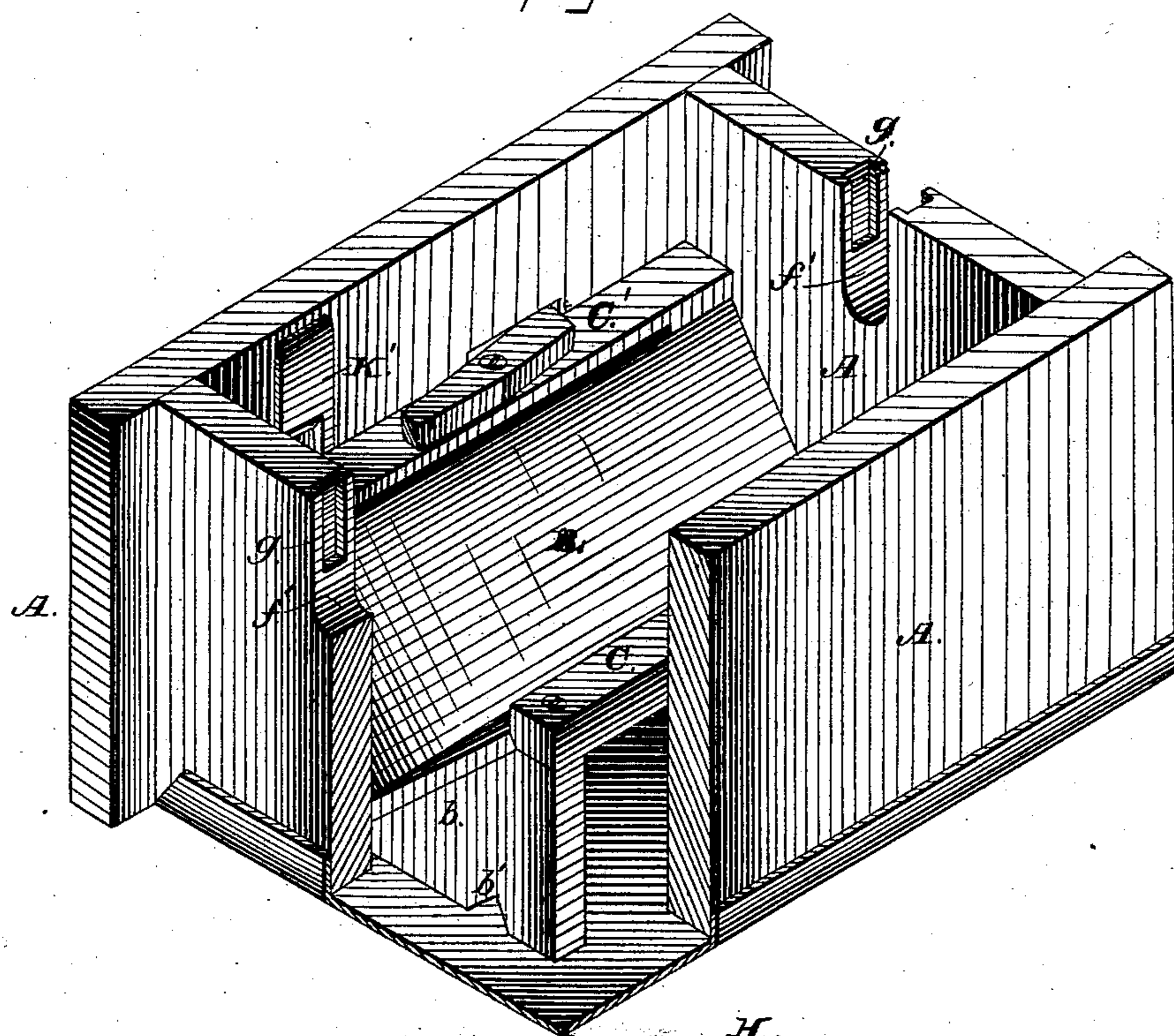
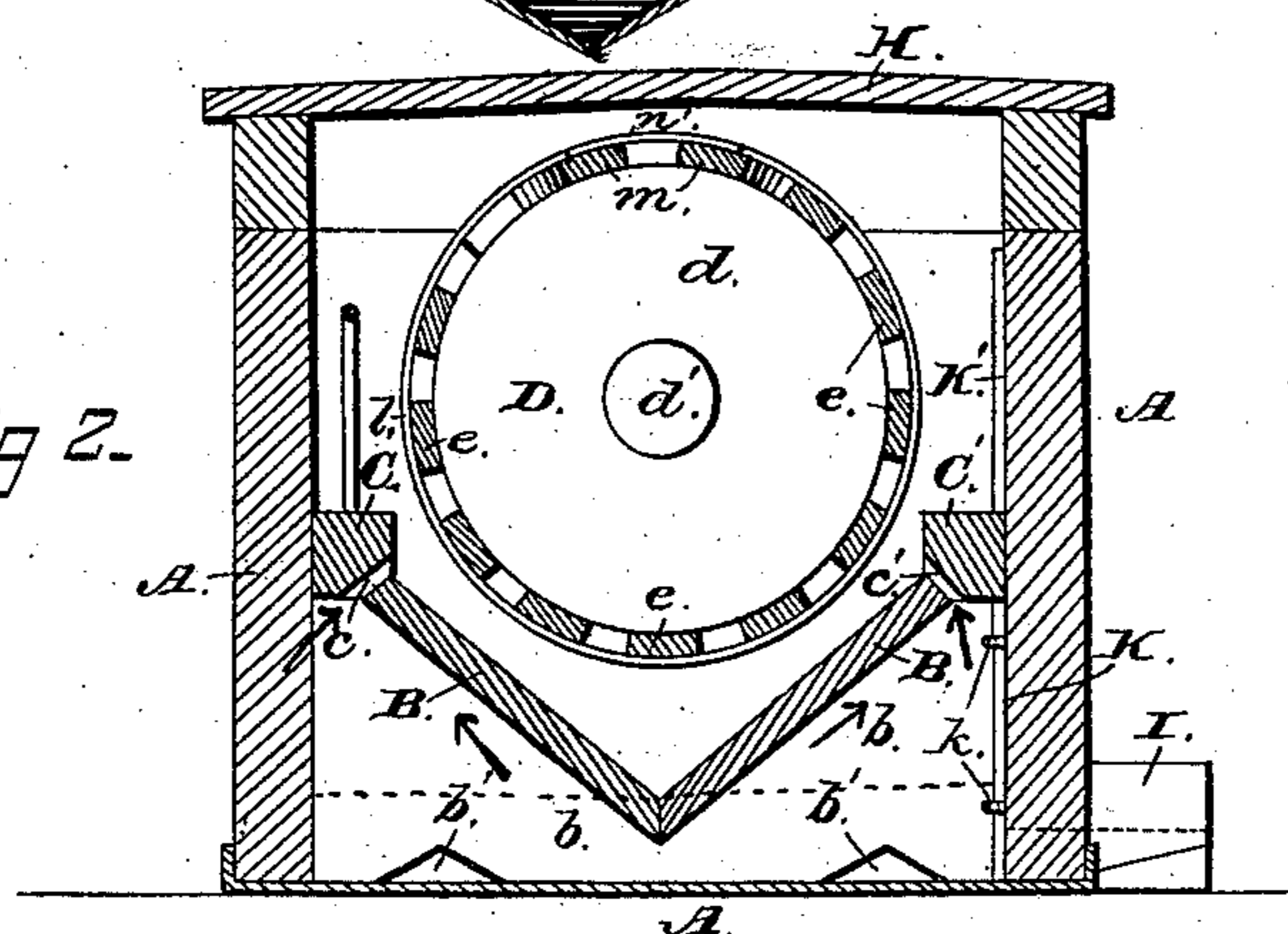


Fig 2.



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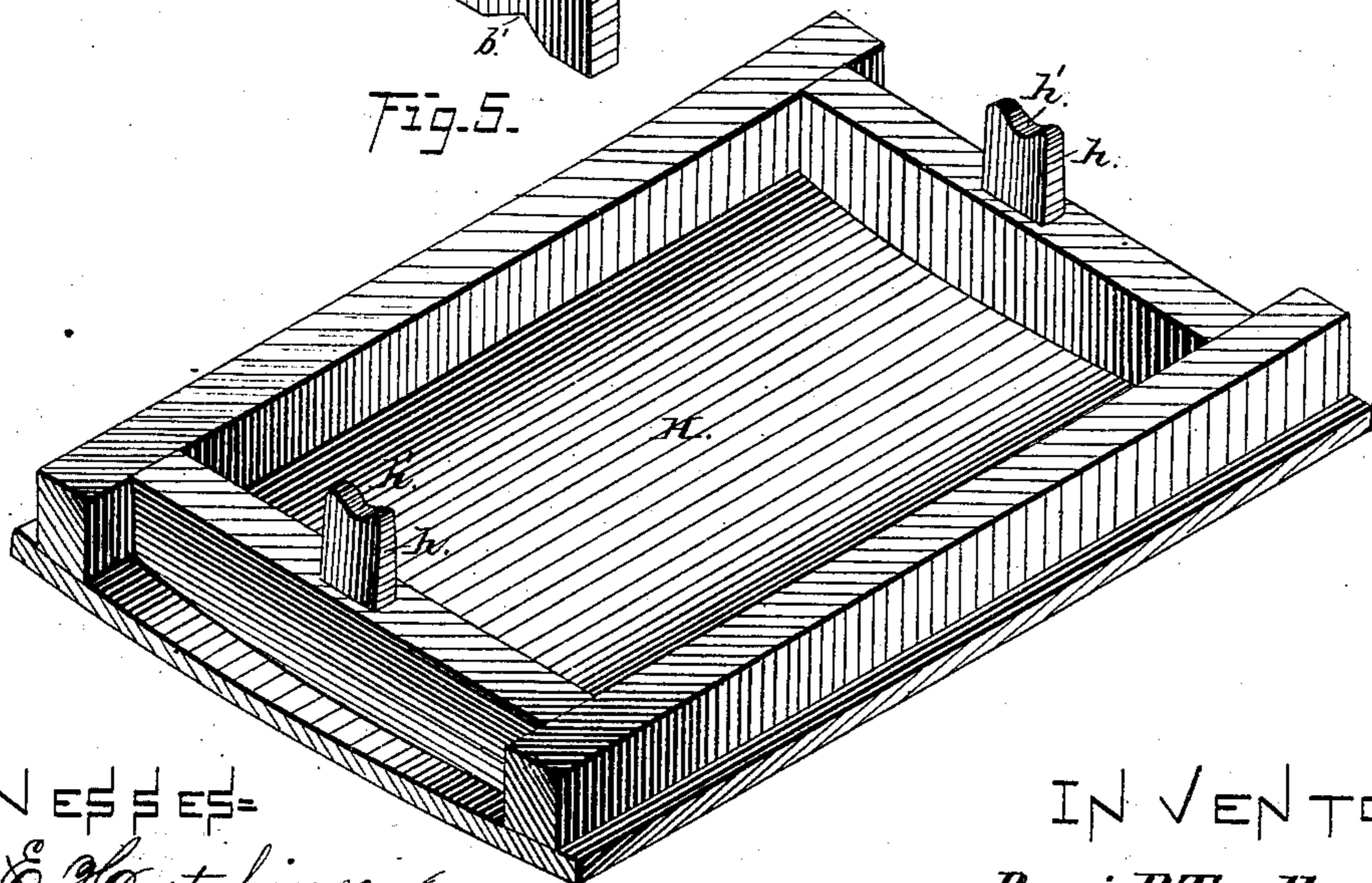
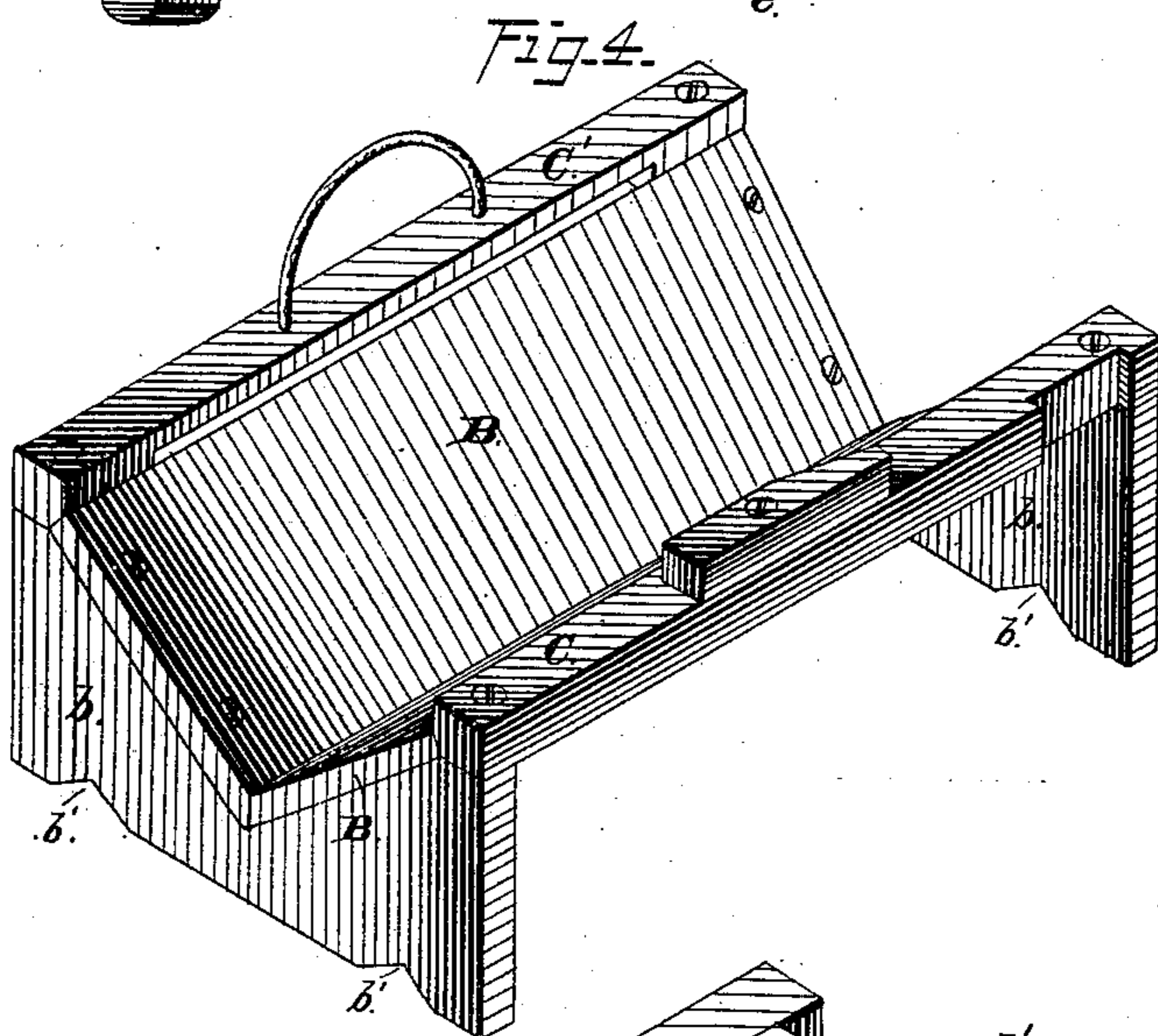
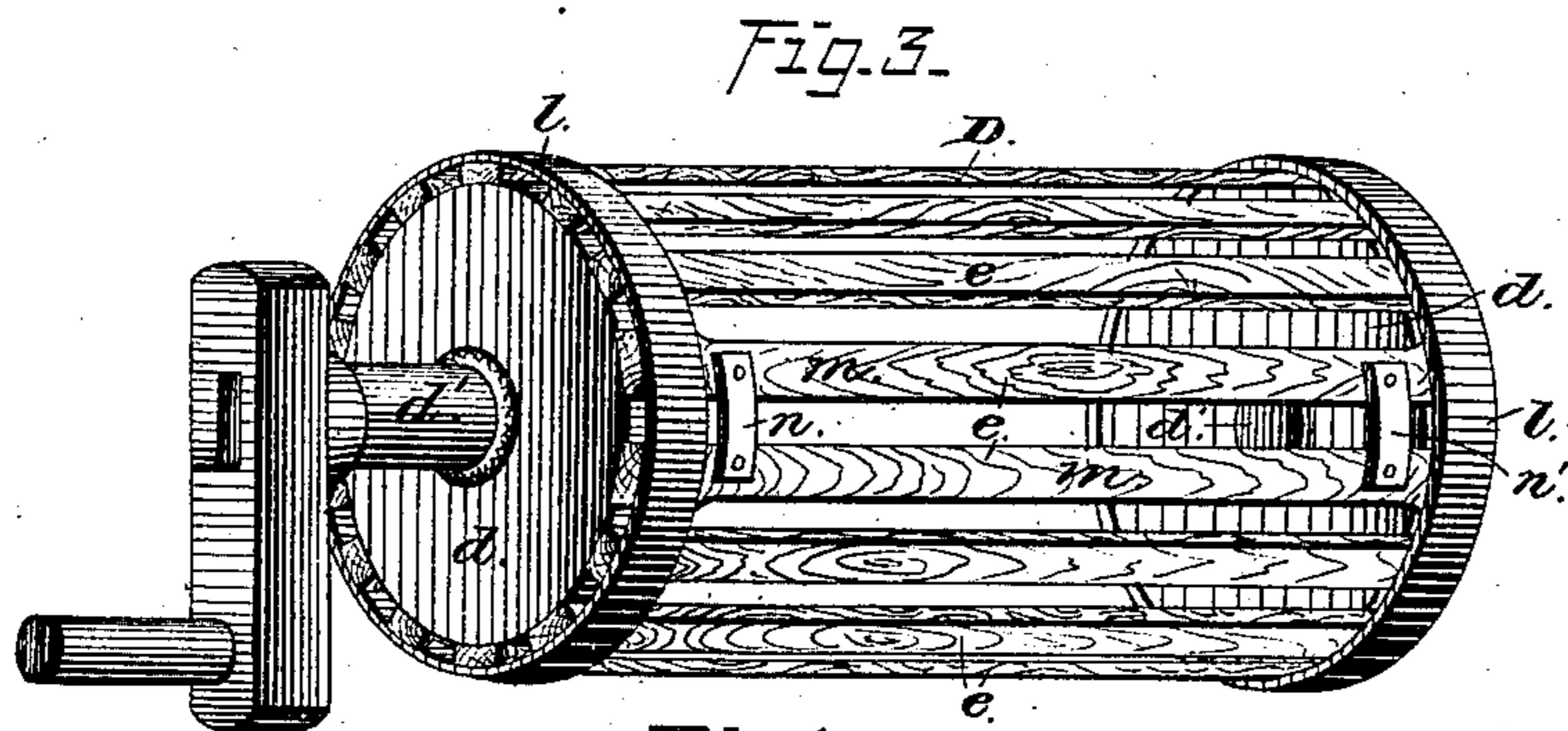
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att'y.

UNITED STATES PATENT OFFICE.

BENJAMIN R. TRULL, OF HOMINY CREEK, NORTH CAROLINA.

WASHING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 237,642, dated February 8, 1881.

Application filed June 9, 1880. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN R. TRULL, a citizen of the United States, residing at Hominy Creek, in the county of Buncombe and State of North Carolina, have invented new and useful Improvements in Washing-Machines, of which the following is a specification.

This invention relates to that class of washing-machines in which the articles washed are subjected to the action of one or more jets of hot water or steam, or hot water and steam combined, its object being to promote the efficiency and diminish the cost of construction of this class of machines.

In the accompanying drawings, Figure 1 is a perspective view of the boiler, with a portion of its wall broken away to show the steam and water guides within. Fig. 2 is a cross-section of the machine with the cylinder and lid in place. Fig. 3 is a perspective view of the cylinder detached, and Figs. 4 and 5 are similar views of the water and steam guides and boiler-lid.

The letter A indicates the boiler, which is preferably rectangular in form, and may be made of metal wholly, or may have simply a metal bottom and a wooden upper portion. Within this boiler are arranged the steam and water guides B B and C C', supported by standards b b, having notches b' b' in their lower edges. The guides B B are flat plates, meeting at their lower edges, diverging upwardly toward the side walls of the boiler, and terminating near the guides C C' arranged along the sides of the boiler. These guides C and C' have beveled inner faces, c and c', which are parallel with the upper edges of the guides B B, the elongated slots or spaces between these parallel edges and inclined faces serving as oblique passages for directing the jets of water or steam, or both, upon the articles in the cylinder D. This cylinder consists of the circular heads d d, provided with journals d' d', and connected by slats e, which are separated by spaces of sufficient width to permit the free access of the jets to the interior of the cylinder. The journals of the cylinder are mounted in bearings f formed in the end walls of the boiler at such a height as to permit the cylinder to lie between the guides B B. These bearings form the lower end walls of open slots f' cut in the end walls of the

boiler, and having grooves g in their vertical walls to receive the studs h projecting downward from the opposite ends of the lid H, and having in their ends curved recesses h', which fit snugly upon the top of the journals d'. These studs prevent lateral movement of the lid, and owing to the manner in which their edges are accommodated close joints are formed at said edges to prevent the escape of steam and water. Around each end of the cylinder is a metal band, l, which serves to brace the slat-fastenings and form holders and guides for the removable sliding door m, which, in the present instance, is composed of two slats connected by cross-bars n n'. The ends of these slats are of such a thickness as to fit snugly between the bands l and the edges of the cylinder-heads, but may be moved longitudinally between them to permit the insertion and removal of the door, as illustrated in Fig. 3. I thus avoid the use of hinges and latches for the door.

The letter I indicates an outlet-spout leading from an opening in the lower part of one of the boiler-walls. This opening is controlled by a gate, K, moving in guides k k on the inner surface of the wall, and having an upward extension, K', by which it may be operated.

The operation of the invention is as follows: The parts being placed together, as illustrated in Fig. 2, the boiler is filled with water to a level indicated by the dotted line, Fig. 2, and a proper quantity of soap is thrown into it. It should be stated that the guides B B and C C' are somewhat shorter than the boiler, so that one of the standards b stands at a little distance from the end wall, sufficient to allow water falling upon the guides B B to flow therefrom to the bottom of the boiler, where it spreads through the notches b'. Soap cut fine may also be thrown upon the guides and washed into the boiler by the water. The water and soap having been introduced, the clothes should be placed in the cylinder and the door closed and the lid placed upon the boiler. The heat of the stove or furnace, then acting upon the bottom of the boiler, heats the water and converts a portion of it into steam, and the steam and hot water rising in the boiler are directed by the guides B B and C C', in the direction of the arrows, to the passages be-

tween said guides, through which they pass in the form of flat jets or sheets, which are forcibly thrown upon the cylinder, which, by means of the crank, is kept revolving, and between the
 5 slats upon the clothes, the force of the jets tending to drive the clothes to the center of the cylinder, while the centrifugal action of said cylinder throws them outward. They are thus kept stirred up and subjected to the action
 10 of the steam and water, so as to be thoroughly cleansed.

Owing to the sharp central angle at which the guides B B meet, there is no appreciable resistance to the rise of the water and steam,
 15 but the whole mass is divided equally, half going one way and half the other.

On the guide C' is pivoted a latch or button, *o*, one end of which takes into a notch in the wall of the boiler when the said latch is turned
 20 to the position shown in dotted lines, Fig. 4. To the other guide, C, is attached a bail or handle, by which the whole may be lifted from the boiler when desired.

I am aware that a boiler washing-machine
 25 has been provided with a rotary cylindrical clothes-cage and a flat false bottom, from the space beneath which passages lead up alongside the cage for discharging steam and water into the same, and I do not claim such a machine.
 30 It is a distinctive feature of my machine that the false bottom is not flat, but is composed of two upwardly and laterally diverging plates, which meet near and above the center line of the true bottom of the
 35 boiler, and serve as oblique guides for dividing and guiding the water and steam with facility

to the passages which direct it upon opposite sides of the cylinder in sheets.

What I claim is—

1. The combination, in a washing-machine, 40 of the boiler A and the revolving cylinder D, of the inclined guides B, supported by standards *b*, and meeting at their lower edges and diverging upwardly, and the guides C C', having the beveled faces *c c'*, which, in connection 45 with the upper edges of the inclined guides, form the oblique walls of elongated passages or slots, which direct the water in sheets upon the cylinder, substantially as described.

2. The combination, in a washing-machine, 50 with the boiler A and revolving cylinder D, of the removable steamer provided with means for raising the same from the boiler, and consisting of the inclined guides B B, supported by standards *b*, and meeting at an angle at 55 their lower edges and diverging upwardly, and the guides C C', having the beveled faces *c c'*, which, in connection with the upper edge of the inclined guides, form the oblique walls of the elongated passages or slots which direct 60 the steam in sheets upon the cylinder, the said guides being shorter than the length of the boiler, so as to leave a space between the end of the steamer and the boiler, substantially as described. 65

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

BENJAMIN R. TRULL.

Witnesses:

M. H. MORGAN,
 J. R. HYATT.